



# **Communication on Progress 2013**

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## **GC Advanced Level**

# Content

CEO Statement .....	3
IRPC's Conformity to the Ten Principles .....	4
GC Advanced Level Criteria.....	4
<i>Implementing the Ten Principles into Strategies &amp; Operations</i> .....	9
Criterion 1.....	9
Criterion 2.....	10
<i>Robust Human Rights Management Policies &amp; Procedures</i> .....	11
Criterion 3.....	11
Criterion 4.....	13
Criterion 5.....	15
<i>Robust Labour Management Policies &amp; Procedures</i> .....	17
Criterion 6.....	17
Criterion 7.....	19
Criterion 8.....	21
<i>Robust Environmental Management Policies &amp; Procedures</i> .....	22
Criterion 9.....	22
Criterion 10.....	24
Criterion 11.....	26
<i>Robust Anti-Corruption Management Policies &amp; Procedures</i> .....	27
Criterion 12.....	27
Criterion 13.....	29
Criterion 14.....	31
<i>Taking Action in Support of Broader UN Goals and Issues</i> .....	32
Criterion 15.....	32
Criterion 16.....	35
Criterion 17.....	37
Criterion 18.....	38
<i>Corporate Sustainability Governance and Leadership</i> .....	39
Criterion 19.....	39
Criterion 20.....	40
Criterion 21.....	41

## CEO Statement

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Under our business philosophy, IRPC fully recognizes the importance of sustainability development and take into account all dimensions, covering the business itself, society and the environment in shaping our business strategies to ensure commitment to comply with globally- and nationally-standardized measures. IRPC not only is legally abided by human rights and labour laws, but also voluntarily engages ourselves and uplift our standards in keeping with well-respected international human rights and labour principles such as Universal Declaration of Human Rights (UDHR). Moreover, IRPC follows and reports the Communication on Progress (COP), using the framework of the GC Advanced Level, the updated version on 1 March 2013.

As signatory of the UN Global Compact, IRPC reports its business performance as well as good governance implementation in this COP. The COP is intended to report IRPC's business performance as well as good governance implementation during January to December 2013. This report combines IRPC's Sustainable Development Report 2013, which is based on GRI G 3.1 Level A, and also the Annual Report 2013, as appeared in following sections, to fulfill completeness of the report. In short, performance, issues and risks, as defined by the GRI principles, are reported with completion.

The report has reflected IRPC's value in good governance to achieve the sustainability development. IRPC will do whatever it takes to ensure all stakeholders are treated fairly on an ethical basis. Therefore, IRPC will continually support UN's broader issues as well as relative issues initiated by other parties wherever and whenever possible. This will surely enhance the ultimate balance of the business growth and societal co-existence for mutual happiness.



**Mr. Sukrit Surabotsopon**  
**President**

# IRPC's Conformity to the Ten Principles

UNGC Principles	IRPC in Compliance with Conventions
<p><b>Human Rights</b></p> <p><b>Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and</b></p> <p><b>Principle 2: make sure that they are not complicit in human rights abuses</b></p>	<p>IRPC incorporates principles into our corporate policies, strategies and procedures to ensure effective protection and respect of human rights.</p> <p>IRPC complies with Thai laws and international treaty in respect of human rights. As a world corporate citizenship, it acts under internationally-standardized human rights principles i.e. the Universal Declaration of Human Rights (UDHR) towards all groups of stakeholders (as applicable) throughout corporate value chain. As a business enterprise, IRPC adopts principles concerning non-discrimination, non-slavery, safeguard of life and property, non-inhuman acts, fair employment, safe workplace, rights to form labour association, provision of employee's quality of living, in accordance with and not limit to Articles 2, 3, 4, 5, 23, 24 and 25 of the UDHR.</p> <p>We respect such laws and rights not only as a way of treating our employees but also assisting to uplift the quality of live in the vicinity around IRPC's plants in all locations. In addition, we extend these principles to contractors, business partners and sub-contractors.</p>



## Labour

**Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;**

**Principle 4: the elimination of all forms of forced and compulsory labour;**

**Principle 5 : the effective abolition of child labour; and**

**Principle 6 : the elimination of discrimination in respect of employment and occupation**

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IRPC respects provisions of labour laws, supports of labour relations, and strictly compliances with Thai Labour Law.

*Compulsary:* IRPC strictly complies with Thai Labour Law, which is aligned with international conventions regarding labour, for example, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. Our HR Department is in charge of ensuring our compliance. IRPC has defined the work rule and provided standardized welfare, as regulated by the Department of Labour Protection and Welfare. In additions, there is an employer committee, of which the President is the chairman representing the employer.

*Voluntary:* IRPC regularly supports the budget and activities of the unions. Currently, there are 8 unions under IRPC group. Say, employee and executive unions, which belong to IRPC and its subsidiaries two unions each. Meetings are held regularly as occasions when unions meet with the management. Furthermore, IRPC provides support for labour skill enhancement, accurate performance assessment system, career advancement, training and education and so on.

## Environment

**Principle 7: Businesses should support a precautionary approach to environmental challenges;**

**Principle 8: undertake initiatives to promote greater environmental responsibility; and**

**Principle 9: encourage the development and diffusion of environmentally friendly technologies**

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Environmental issue is one of our primary concerns, as it appears as one of IRPC's business philosophy. IRPC put its best effort to manage, protect and improve the quality of the environment. IRPC practices along national standards, such as those regulated by the Department of Industrial Works. Moreover, we also conform to universal standards such as ISO26000, ISO14001, OHSAS and others as well as international conventions regarding to the Environment, for example, United Nations Framework Convention on Climate Change (UNFCCC), which Thailand, as a member state, already ratified.

IRPC's key concerns and performance can be classified as follows:

- Environmental Management
- Climate Change/ Carbon Reduction
- Energy Efficiency

The Company has defined the Quality, Safety, Occupational Health, and Environment (QSHE) policy. It has set up environmental preventive, monitoring and protective measures to ensure maintaining in good conditions. IRPC's actions can be listed as below:

- Setting up QSHE policy and monitoring measures
- Setting up protective measures
- Improving equipment
- Defining work procedures
- Setting Energy Consumption Index as KPIs

IRPC's operational objectives in 2013 are as followed:

- Reducing Energy Intensity Index (EII)
- Aiming at achieving Top Quartile Ranking for all plants with regards to energy efficiency by 2020
- Reducing GHG emission by 1% on average per annum, compare to base year 2008
- Reducing water usage by 10% throughout the industrial area using 3R strategy (Reduce, Reuse and Recycle).
- Increasing sales volume of environmentally friendly products

## Anti-Corruption

**Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery**

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The Board of Directors highlights the importance on ethical business conduct. Therefore, it has defined policy and procedures to ensure transparency. It stipulated the Corporate Governance Policy, which is incorporated in the CG Handbook provided to all employees. Recently, in 2013 It also issued the Anti-Corruption Policy as well as Anti-Corruption Best Practices. Moreover, the organizational structure comprises main functions, e.g. the Office of Corporate Internal Audit, that ensures transparent and ethical business conduct.

IRPC fully supports all schemes of Anti-Corruption, international and legal frameworks such as UN Convention against Corruption.

IRPC is a duly certified membership of the Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) Council on 4 April 2014. The CAC declaration is a project governmental supported by the Office of the National Anti-Corruption Commission (NACC) in coordination of eight leading private sector partner organizations; namely, the Thai Institute of Directors (Thai IOD), the Thai Chamber of Commerce (TCC), the Joint Foreign Chambers of Commerce (JFCCT), the Listed Companies Association, Thai Bankers' Association, the Federation of the Thai Capital Market Organizations, the Federation of Thai Industries and the Tourism Council of Thailand. The declaration is based on principles from the Transparency International. The project has also received since its inception the full support of the US-based Center for International Private Enterprise (CIPE) with an objective to fight against entire corruption.

# GC Advanced Level Criteria

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## ***Implementing the Ten Principles into Strategies & Operations***

Criterion 1: The COP describes mainstreaming into corporate functions and business units

Criterion 2: The COP describes value chain implementation

## ***Robust Human Rights Management Policies & Procedures***

Criterion 3: The COP describes robust commitments, strategies or policies in the area of human rights

Criterion 4: The COP describes effective management systems to integrate the human rights principles

Criterion 5: The COP describes effective monitoring and evaluation mechanisms of human rights integration

## ***Robust Labour Management Policies & Procedures***

Criterion 6: The COP describes robust commitments, strategies or policies in the area of labour

Criterion 7: The COP describes effective management systems to integrate the labour principles

Criterion 8: The COP describes effective monitoring and evaluation mechanisms of labour principles integration

## ***Robust Environmental Management Policies & Procedures***

Criterion 9: The COP describes robust commitments, strategies or policies in the area of environmental stewardship

Criterion 10: The COP describes effective management systems to integrate the environmental principles

Criterion 11: The COP describes effective monitoring and evaluation mechanisms for environmental stewardship

## ***Robust Anti-Corruption Management Policies & Procedures***

Criterion 12: The COP describes robust commitments, strategies or policies in the area of anti-corruption

Criterion 13: The COP describes effective management systems to integrate the anti-corruption principle

Criterion 14: The COP describes effective monitoring and evaluation mechanisms for the integration of anti-corruption

## ***Taking Action in Support of Broader UN Goals and Issues***

Criterion 15: The COP describes core business contributions to UN goals and issues

Criterion 16: The COP describes strategic social investments and philanthropy

Criterion 17: The COP describes advocacy and public policy engagement

Criterion 18: The COP describes partnerships and collective action

## ***Corporate Sustainability Governance and Leadership***

Criterion 19: The COP describes CEO commitment and leadership

Criterion 20: The COP describes Board adoption and oversight

Criterion 21: The COP describes stakeholder engagement

## Implementing the Ten Principles into Strategies & Operations

### Criterion 1: The COP describes mainstreaming into corporate functions and business units

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>The Board, executives and employees of IRPC and its subsidiaries are gearing towards business growth along with corporate responsibility for society and environment. IRPC incorporates the execution of sustainability into its corporate strategies by formulating good corporate governance policy, reinforcing implementation in all corporate functions as well as placing responsible units.</p> <p>With highlights in sustainability aspect, IRPC has defined its business philosophy of sustainable growth. The Company places high importance on sustainability development. It thus creates mechanisms and mainstreams into business processes through strategic planning, risk management and materiality assessment, covering Corporate Governance (CG); Quality, Safety, Occupational Health and Environment (QSHE); and, Corporate Social Responsibility (CSR). These elements are corporate functions, with duty to formulating policies, ensuring implementation, monitoring and reporting.</p> <p>Other initiatives in sustainability development</p>	<ul style="list-style-type: none"> <li>- Chairman Statement, P.5</li> <li>- Caption 4. Affiliates and Subsidiaries, in CG Report, P. 47</li> <li>- CG Report, P.43-63</li> <li>- QSHE Report, P.142-149</li> <li>- CSR Report, P.150-153</li> </ul>	<ul style="list-style-type: none"> <li>- CEO Statement, P.4-5</li> <li>- Sustainability Management of IRPC, P. 17-23</li> <li>- Business Philosophy, P.21</li> <li>- The Progress of IRPC's Eco-Industrial Zone Development, P.12-15</li> </ul>

## Criterion 2: The COP describes value chain implementation

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC identifies "Supply Chain Management" and highly prioritize it in Materiality Assessment. Through all value chain, IRPC analyzes stakeholders' expectation when mapping business plan and assess risk. Materiality assessment is conduct, applying GRI Reporting Principles, across all IRPC' s value chain through the stakeholders perspective</p>		<ul style="list-style-type: none"> <li>- Enterprise Risk Management, P.22</li> <li>- Materiality Assessment, P.23</li> </ul>
<p>IRPC values systematic and transparent and systematic procurement process, fair supplier management based on the principles of business' stability and partner's reliability. IRPC formulated the "Code of Conduct on Procurement" and defined conditions of procurement selection in the Approved Vendors List (AVL), which are the process of screening to ensure compliance with the Company's rules and regulations, etc.</p>	<ul style="list-style-type: none"> <li>- Business Partners, P.54</li> </ul>	<ul style="list-style-type: none"> <li>- Supply Chain Management, P.34-37</li> </ul>
<p>It communicates the sustainable management policy, approach and materiality to business partners, including suppliers, regularly via newsletters and meeting.</p>		<ul style="list-style-type: none"> <li>- Channels of Participation, P.23</li> </ul>

## Robust Human Rights Management Policies & Procedures

*“IRPC complies with Thai laws and international treaty in respect of human rights. As a world corporate citizenship, it acts under internationally-standardized human rights principles i.e. the Universal Declaration of Human Rights (UDHR) towards all groups of stakeholders (as applicable) throughout corporate value chain. As a business enterprise, IRPC adopts principles concerning non-discrimination, non-slavery, safeguard of life and property, non-inhuman acts, fair employment, safe workplace, rights to form labour association, provision of employee’s quality of living, in accordance with and not limit to Articles 2, 3, 4, 5, 23, 24 and 25 of the UDHR. IRPC incorporates these principles into our corporate policies, strategies and procedures to ensure effective protection and respect of human rights.”*

### Criterion 3: The COP describes robust commitments, strategies or policies in the area of human rights

IRPC’s Implementation	Reference	
	Annual Report 2013	SD Report 2013
As all business units of IRPC group are located in Thailand, IRPC complies with laws – not only Thai laws but also international treaty - in respect of human rights in taking care of all stakeholders. IRPC stipulated the corporate governance policy, code of conduct, and best practices, and incorporated in CG Handbook. The Code of Conduct (CoC) also covers human rights and labour. The Handbook is initiated and issued by IRPC’s highest authority -- Chairman, Chairman of CG Committee and the President.	- CG Report, P.43-63	
As a world corporate citizenship, it acts under internationally-standardized human rights principles i.e. the Universal Declaration of Human Rights (UDHR) towards all groups of stakeholders (as applicable) throughout corporate value chain. As a business enterprise, IRPC adopts principles concerning non-discrimination, non-slavery, safeguard of life and property, non-inhuman acts, fair employment, safe workplace, rights to form labour association, provision of employee’s quality	- QSHE Report, P.142-149	- Employees’ Readiness, P.66-71 - Occupational Health and Safety, P.72-77 - Community Relations and Development, P.84-93

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>of living, in accordance with and not limit to Articles 2, 3, 4, 5, 23, 24 and 25 of the UDHR. IRPC incorporates these principles into our corporate policies, strategies and procedures to ensure effective protection and respect of human rights.</p> <p>With focuses on achieving excellence, according to the DELTA project, in 2013 IRPC has set to achieve Operational Excellence, Commercial Excellence and Human Resource Excellence. The Company has set the Human Capital Excellence Roadmap 2013-2020, with 3 main objectives to enhance human capability development, employee engagement improvement, and creating human resource excellence culture. The Roadmap consists of 6 strategies, dividing into 11 guidelines.</p>		<p>- Human Excellence Framework for 2013-2020, P.68</p>



**Criterion 4: The COP describes effective *management systems* to integrate the human rights principles**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC has stipulated code of conduct on human rights – COC 1. Human Rights and Treatment of Employees, which is incorporated in the CG Handbook, P.44. (Policy and COC can be found in <a href="http://www.irpc.co.th">www.irpc.co.th</a>). Management system, mechanisms, risk assessment, communication and programs and performed in accordance with each key stakeholder group as follows:</p> <ul style="list-style-type: none"> <li>- Safety of lives and properties of staff, staff of suppliers: Through process safety &amp; personal safety, aiming at Zero Accident, and creating behaviour-based safety culture.</li> <li>- Human resources management: Leadership development, skill and knowledge development, equality treatment (regardless of gender), and education, for instance, orientation, management training on QSHE and career, etc.</li> <li>- CSR and stakeholder management: Community is among IRPC's top priority. IRPC fully recognizes the significance of appropriate environmental and community risk management to minimize negative impacts whereby maximize the safety of the surrounding communities.</li> <li>- Customers Relationship Management: Customers' expectations and concerns are taken into account. Feedback and complaints are gathered in the system to analyze for further improvement.</li> </ul>	<ul style="list-style-type: none"> <li>- QSHE Report, P.142-149</li> <li>- Risk to safety of life of employees and contractors, P.115-116</li> <li>- Human Resource Management Performance, P.109-110</li> <li>- Social Performance, P.110-112</li> <li>- Environment and Communities Risks, P.117</li> </ul>	<ul style="list-style-type: none"> <li>- Occupational Health and Safety, P.72-77</li> <li>- Employees' Readiness, P.66-71</li> <li>- Community Relations and Development, P.84-93</li> <li>- Customers Relationship Management, P.38-39</li> </ul>

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
- Consumers: IRPC continuously invent new innovation, improve R&D and creates environmentally-friendly plastic products to minimize the climate change effect, and hygienic products such as antibacterial plastic for safe use. This way, human rights of end-users are respected.		- Key Initiatives: Environmentally friendly plastic products, P.28; and, Antibacterial Plastic, P.29

**Criterion 5: The COP describes effective *monitoring and evaluation mechanisms* of human rights integration**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>Monitoring system: The system of integration of human rights through IRPC's activities across all key stakeholder groups through all supply chain collects data through quantitative and qualitative metrics. Most crucial part of the system is the IRPC's Corporate KPIs, drawing on feedback from internal and external parties. The Corporate KPIs are used in driving the organization from the management down to all functions.</p> <p>Leadership review of results: The Board oversees all areas of the organization's performance, together with periodical progress reporting system as appropriate, including the human rights areas. Issues under human rights area are such as social responsibility, safety and human resource management, etc.</p> <p>Process to deal with incidents: During crisis which may impact on safety of life and property of IRPC's human resources, IRPC has set up and follows the business continuity management plan (BCM).</p> <p>Grievance mechanisms: IRPC provides a grievance process through command line and grievance channels according to the Company's Regulations. Moreover, whistle-blowing channels are provided for complaints and grievance concerning human rights, labour, corruption and unlawful act, etc.</p>		<ul style="list-style-type: none"> <li>- KPI Indicators 2013, P.22</li> <li>- External Evaluation, P.20</li> <li>- IRPC Sustainability Approach, P.20</li>   <li>- Board of Director's responsibilities, P.18-19</li>   <li>- Enterprise Risk Management, P.22</li> <li>- Materiality Assessment, P.23</li>   <li>- Channel of complaint of the violation of human and labour rights, P.71</li> <li>- Anti-Corruption Policy, P.64-65</li> </ul>

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>- Outcomes of integration of human rights principles: Reported aspect in relations to human rights are as following:</p> <ul style="list-style-type: none"> <li>- People</li> <li>- Safety</li> <li>- Environment</li> <li>- Philanthropy</li> </ul>		<p>- Performance Summary, P.94-111</p>

## Robust Labour Management Policies & Procedures

*“IRPC respects provisions of labour laws, supports of labour relations, and strictly compliances with Thai Labour Law, which are aligned with international conventions regarding labour, for example, the International Labour Organization’s Declaration on Fundamental Principles and Rights at Work.”*

### Criterion 6: The COP describes robust *commitments, strategies or policies* in the area of labour

IRPC’s Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>As all business units of IRPC group are located in Thailand, IRPC complies with laws – not only Thai laws but also international treaty - in respect of labour. IRPC stipulated the corporate governance policy, code of conduct, and best practices, and incorporated in CG Handbook. The Code of Conduct also covers labour rights. The Handbook is signed by IRPC’s highest authority -- Chairman, Chairman of CG Committee and the President.</p>	- CG Report, P.43-63	
<p>As employee, human capital, is an invaluable resource to the organization, IRPC is committed to develop employees’ capability in pursuit of IRPC’s Human Capital Excellence Roadmap 2013-2020.</p>		- Employees’ Readiness, P.66-71
<p>In enhancing labour rights among business partners and suppliers, IRPC has defined the IRPC Sustainable Procurement Management Manual in accordance with the Procurement Policy and Strategy. Its objective is to set guidelines for the procurement management in the environmental, social and governance dimensions, covering concerns on quality, trading</p>		

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
conditions, labour law, environmental law, etc. (Detailed manual can be accessed via <a href="http://www.irpc.co.th/pdf/Procurement-Manual.pdf">http://www.irpc.co.th/pdf/Procurement-Manual.pdf</a> )		

**Criterion 7: The COP describes effective *management systems* to integrate the labour principles**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC has stipulated code of conduct on labour rights, which is incorporated in the CG Handbook. (Policy and CoC can be found in <a href="http://www.irpc.co.th">www.irpc.co.th</a>).</p> <p>Management approach and mechanisms are incorporated in the Human Capital Excellence Roadmap 2013-2020, consisting of 6 strategies, equals to 11 guidelines, to achieve 3 objectives: improve Capabilities, build Engagement, and nurture Culture.</p> <p>Enterprise risk management is conducted to assess risks that may pose negative impacts to the company. It also includes human resource plan during crisis.</p> <p>Assessments in the area of labour, performance assessment, is conducted. Under the CoC 1. Human Rights and Treatment of Employees, it is stated that "an assessment system, performance awards, and rewards and punishment based on fairness, without bias and accountable." In practice, employees' competency assessment is conducted as a basis for remuneration.</p> <p>For the allocation of responsibilities and accountability within the organization, the Corporate Human Resources department, under the Corporate Human Resources and Administration, is mainly in charge of human resources of the organization. However, it is IRPC's policy that all management has responsibility to take care of their subordinates.</p>	<p>- Organization Structure, P.42</p>	<p>- Employee Readiness, P.66-71</p> <p>- Management Approach/ Human Excellence Framework for 2013-2020, P.68</p> <p>- Enterprise Risk Management, P.22</p> <p>- Materiality Assessment, P.23</p> <p>- Employees' Competency Assessment and Remuneration, P.70</p> <p>- Employee Readiness, P.66-71</p>

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC respects labour rights by enhance dialogues with unions. Employee unions and executive unions were set up. IRPC regularly supports the budget and activities of all unions.</p> <p>Internal awareness-raising and training on the labour principles for management and employees. Orientation is held to communicate with new recruits about their rights. Also, training sessions are held for staff and management about their rights and responsibilities to comply with the Company's regulation and law.</p> <p>Active engagement with suppliers to address labour-related challenges</p> <p>Grievance mechanisms: IRPC provides a grievance process through command line and grievance channels according to the Company's Regulations. Moreover, whistle-blowing channels are provided for complaints and grievance concerning labour, human rights, corruption and unlawful act, etc.</p>		<ul style="list-style-type: none"> <li>- Labour Promotion, P.52</li>   <li>- The numbers of training hours of the employees, classified by level and gender, 2013/ Performance, P.71</li>   <li>- Supply Chain Management/ What's Next, P.36</li>   <li>- Channel of complaint of the violation of human and labour rights, P.71</li> <li>- Anti-Corruption Policy, P.65</li> </ul>



**Criterion 8: The COP describes effective monitoring and evaluation mechanisms of labour principles integration**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>Monitoring system: The system of integration of labour Most crucial part of the system is the IRPC's Corporate KPIs, drawing on feedback from internal and external parties. The Corporate KPIs are used in driving the organization from the management down to all functions.</p> <p>System to track and measure performance is based on performance metrics, using the Operation Development System (ODS) and Operator Training Simulator (OTS) and competency assessment, etc.</p> <p>IRPC's dialogue with employees are through meetings scheduled in compliance with the law to receive comments and recommendations from employee unions and executive unions. At present, the President is the chairman of the committee, representing the employer.</p> <p>Active engagement with suppliers to address labour-related challenges</p> <p>Outcomes of integration of labour principles are reported in "People," Performance Summary.</p>	<p>- Labour Promotion, P.52</p>	<p>- KPI Indicators 2013, P.22</p> <p>- External Evaluation, P.20</p> <p>- IRPC Sustainability Approach, P.20</p> <p>- Operation Development System (ODS) and Operator Training Simulator (OTS)/ Employees' Competency Assessment and Remuneration, P.70</p> <p>- Supply Chain Management/ Management Approach, P.35</p> <p>- What's Next, P.36</p> <p>- Performance Summary, P.99-104</p>

## Robust Environmental Management Policies & Procedures

*“IRPC conforms to international conventions regarding to the Environment, for example, United Nations Framework Convention on Climate Change (UNFCCC), which Thailand, as a member state, already ratified.”*

### Criterion 9: The COP describes robust commitments, strategies or policies in the area of environmental stewardship

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
IRPC introduces and applies environmental-friendly technology. It has also set up preventive measures for new projects, benchmarking to an international standard quality system in Petrochemical and Refining Industry.		- Environmental Management, P.43
In regards of environmental issue, IRPC has set clear commitments, strategies and policies to be aligned with national and international standards. The QSHE policy has been stipulated, as IRPC Group's efforts to establish constant development to forge operational excellence. The full written QSHE policy can be viewed on the Intranet.	- QSHE Management Report, P.142-149	
With concerns on climate change, IRPC has complied with United Nations Framework Convention on Climate Change (UNFCCC), for instance. In practice, IRPC implemented the Pollutant Release and Transfer Registers (PRTR). The initiative is launched by the Department of Industrial Works (DIW), Ministry of Industry and Japan International Cooperation Agency (JICA). Furthermore, IRPC Group promotes Green House Gas (GHG) Reduction in accordance with ISO 14064-1 toward Low-Carbon Industry Project.	- QSHE Management Report, P.143	
In dealing with vendors, IRPC has put in place risk management process for customers by conducting assessment		- Supply Chain Management/ Management

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>covering environmental regulations in addition to other aspects including social and governance. Moreover, selection of business partners is in compliance with regulations of Green Procurement, based on the Approved Vendor List.</p> <p>In enhancing environmental concerns among business partners and suppliers, IRPC has defined the IRPC Sustainable Procurement Management Manual in accordance with the Procurement Policy and Strategy. Its objective is to set guidelines for the procurement management in the environmental, social and governance dimensions, covering concerns on quality, trading conditions, labour law, environmental law, etc. (Detailed manual can be accessed via <a href="http://www.irpc.co.th/pdf/Procurement-Manual.pdf">http://www.irpc.co.th/pdf/Procurement-Manual.pdf</a> )</p> <p>Goals of environmental management covers energy reduction &amp; efficiency, GHG emission, and water management, etc.</p> <p>Outcomes of environmental management</p>		<p>Approach, P.35 - What's next, P.36</p> <p>- Management Approach, P.55</p> <p>- Climate Change Risk Assessment and Adaptation, P.55-63 - Performance Summary, P.96-97 - Environment, P.106-111</p>

**Criterion 10: The COP describes effective *management systems* to integrate the environmental principles**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
IRPC has conducted environmental risk and impact assessments through Corporate KPIs, enterprise risk management and materiality assessment.		- 2013 Corporate Key Performance Indicators/ Enterprise Risk Management/ Materiality Assessment, P.22-23
Climate change risk assessment and Adaptation consists of physical risk and market risk.	- Environmental and Community Risk, P.117	- Climate Change Risk Assessment, P.56-57
Lifecycle impact of products is ensured to be environmentally friendly through determined R&D process in response to global trends. Meanwhile, the production process is aimed to reduce pollution and GHG, promote energy efficiency and enhance resource management, etc.		- Product Specialty, P.26-29 - Environmental Management, P.43-47 - Climate Change Risk Assessment and Adaptation, P.55-63
Responsibilities of environmental management are designed at the corporate level. The Quality Safety Health and Environment (QSHE) unit has roles and responsibilities to engage in environmental management, monitoring and control. However, it is duty of all functions to implement such environmental management at the operational level so as to achieve the target set.	- Organization Structure, P.42	
Internal awareness-raising has been fostered through cultivation of Behavior-Based Safety (BBS) culture, training and other communication activities.	- Cultivation of QSHE Awareness and Culture, P.146 - Strengthening the QSHE Culture, P.147	

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>Grievance and communication channels are managed through complaint management.</p> <p>Other outstanding best practices IRPC have put in place are as follows:</p> <ul style="list-style-type: none"> <li>- IRPC's sustainable operation strategies: incorporating Green Process, Green Logistics, Low Carbon and Energy Efficient Products</li> <li>- Eco-Industry</li> <li>- QSHE management system, incorporating the Pollutant Release and Transfer Registers (PRTR), carbon footprint, GHG reduction, volatile organic compounds (VOCs) management, and energy conservation, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Complaint Management, P.146</li> <li>- Key QSHE moves, P.143-146</li> </ul>	<ul style="list-style-type: none"> <li>- Complaint Management, P.45</li> <li>- IRPC's sustainable operation strategies, P.57-61</li> <li>- The Progress of IRPC's Eco-Industrial Zone Development, P.12-15</li> </ul>

**Criterion 11: The COP describes effective *monitoring and evaluation mechanisms* for environmental stewardship**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
Environmental management is undertaken systematically under 4P scheme (Process, Partners, People, and Professional). QSHE management system, incorporating the Pollutant Release and Transfer Registers (PRTR), carbon footprint, GHG reduction, volatile organic compounds (VOCs) management, energy conservation, and Eco-Industry etc.	- Key QSHE moves, P.143-146	
The result of the implementation of IRPC Group can be monitored via QSHE management system. Monitoring and improvement results of the environmental governance are reported directly to the Corporate Governance Committee and further to the Board of Directors every quarter and at once should any significant incidents occur.	- Corporate Governance Committee, P.46 & P.59	
Concerning the incident handling process, IRPC has set up the business continuity management plan (BCM). Furthermore, in case of crisis which may cause environment damage such as oil spill, preventive and respond plan has been set up. Moreover, the VOCs monitoring program is set to monitor and report inspection results to the Emergency Control Center (ECC) in order to allow immediate response execution.		- Enterprise Risk Management, P.22 - Materiality Assessment, P.23 - Oil & Chemical Spills and Respond Plan, P.48-53 - Monitoring Measures, P.46
Outcomes of environmental management		- Performance, P.47 - Climate Change Risk Assessment and Adaptation, P.55-63 - Performance Summary, P.96-97 - Environment, P.106-111

## Robust Anti-Corruption Management Policies & Procedures

*“IRPC fully support all schemes of Anti-Corruption, international and legal frameworks such as UN Convention against Corruption. IRPC is a duly certified membership of the Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) Council on 4 April 2014. The CAC declaration is a project governmental supported by the Office of the National Anti-Corruption Commission (NACC) in coordination of eight leading private sector partner organizations; namely, the Thai Institute of Directors (Thai IOD), the Thai Chamber of Commerce (TCC), the Joint Foreign Chambers of Commerce (JFCCT), the Listed Companies Association, Thai Bankers' Association, the Federation of the Thai Capital Market Organizations, the Federation of Thai Industries and the Tourism Council of Thailand. The declaration is based on principles from the Transparency International. The project has also received since its inception the full support of the US-based Center for International Private Enterprise (CIPE) with an objective to fight against entire corruption.”*

### Criterion 12: The COP describes robust commitments, strategies or policies in the area of anti-corruption

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
IRPC has always concerned on transparency and ethical business conduct. As a result, reports in regards with anti-corruption and bribery are disclosed to stakeholders.	- Report of the Audit Committee, P.38-39 - Internal Controls, P.40-41 - Anti-Corruption, P.64-65	- Anti-Bribery and Corruption, P.30-33
IRPC's organization structure consists of the Office of Corporate Internal Audit, reporting audit result directly to the Audit Committee and to the Board of Directors, respectively.	- Organization Structure, P.42	
IRPC's Board of Directors highly values ethical business conduct with good governance. Therefore, IRPC formally stipulated the Anti-Corruption policy and guidelines since 11 <sup>th</sup> of November 2013 and 18 <sup>th</sup> December 2013, respectively for the Board, executives, and all employees among IRPC, subsidiaries, associates and other companies within its control to implement with all stakeholders of IRPC Group. (Detailed policy can be accessed via <a href="http://www.irpc.co.th">www.irpc.co.th</a> )	- Anti-Corruption, P.64-65	- Anti-Corruption and Anti-Bribery Policy, P.32

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
IRPC fully support all schemes of Anti-Corruption, international and legal frameworks such as UN Convention against Corruption. At the national level, IRPC become a signatory of the Collective Action Coalition Against Corruption (CAC) on 3 <sup>rd</sup> January 2013 and become a fully certified member on 4 <sup>th</sup> April 2014. The CAC Declaration is based on principles from the Transparency International and received full support of the US-based Center for International Private Enterprise (CIPE).	- Anti-Corruption, P.64-65	



**Criterion 13: The COP describes effective *management systems* to integrate the anti-corruption principle**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
IRPC's Board of Directors highly values a management style marked by knowledge, experience, righteousness and ethics. Therefore, IRPC formally stipulated the written policy of Anti-Corruption policy and guidelines since 11 <sup>th</sup> of November 2013 and 18 <sup>th</sup> December 2013, respectively, as a guideline for the Board, executives and all employees to comply with.	- Anti-Corruption, P.64-65	
IRPC will establish explicit processes of dealing with fraud, that is, risk assessment of fraud and regular monitoring and review, so as to keep up with changes in businesses and relevant legislation.	- Internal Control, P.40-41 - Anti-Corruption, P.64	- Anti-Corruption and Anti-Bribery Policy, P.31
The Company has internal control system as internal checks and balances. The Internal Audit department takes responsibility for internal control and auditing company's performance. Sufficiency and efficiency of IRPC's internal control is reported annually and disclosed in the Annual Report.	- Report of the Audit Committee, P.38-39 - Internal Control, P.40-41	
In enhancing anti-corruption scheme towards business partners and suppliers, IRPC has defined the IRPC Sustainable Procurement Management Manual in accordance with the Procurement Policy and Strategy. Its objective is to set guidelines for the procurement management in the environmental, social and governance dimensions, covering concerns on quality, trading conditions, labour law, environmental law, etc. The manual defines the Code of Conduct in conflicts of interest, confidentiality of information, and social and environmental responsibility. (Detailed manual can be accessed via		

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p><a href="http://www.irpc.co.th/pdf/Procurement-Manual.pdf">http://www.irpc.co.th/pdf/Procurement-Manual.pdf</a> )</p> <p>As recognizing significance, IRPC has communicated Anti-Corruption to create awareness and understanding. IRPC has communicated through various channels as well as organizing training sessions for directors, management and employees.</p> <p>The Board has set up whistleblowing and complaint-making channels from internal and external party about wrongdoings, unlawful acts and fraud. At the same time, whistle-blowers are protected under protective measures.</p>	<p>- Anti-Corruption, P.65</p>	<p>- Communication to Create Understanding in Corporate Governance and Business Ethic/ What's Next, P.32-33</p>

**Criterion 14: The COP describes effective *monitoring and evaluation mechanisms* for the integration of anti-corruption**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>The Board as well as the Audit Committee have regularly monitored and reviewed the corporate transparency and business conduct in order to keep up with relevant legislations.</p> <p>IRPC establishes process of monitoring and control mechanism by defining policy as well as management process on conflicts of interest and connected transactions. Moreover, the Company provides channels of communication opened for complaints and grievance on issues regarding unlawful acts, fraud, wrongdoings against the Company's regulations or Code of Conduct.</p> <p>In relations to auditing procedure, IRPC has the Internal Audit department as an independent unit that audits business conduct of the Company. Moreover, IRPC has an independent external auditor to audit financial performance and issue assurance of the Company. In 2013, IRPC and subsidiaries appointed PricewaterhouseCoopers ABAS Ltd. as the external auditor.</p> <p>In addition, IRPC conducted the self-assessment form for anti-corruption measures under CAC's criteria. According to the CAC Declaration, IRPC expects to gain external assessment once in every three years.</p> <p>Number of IRPC's proven ethical violation incident is zero every year since 2010-2013. Yet, IRPC targets zero incident in 2014.</p>	<p>- Report of the Audit Committee, P.38-39</p> <p>- Internal Control, P.40-41</p> <p>- Monitoring and Control Mechanism and Conflicts of Interest, P.59-60</p> <p>- Anti-Corruption, P.64-65</p> <p>- Auditor's Fee, P.48</p> <p>- Anti-Corruption, P.65</p>	<p>- Management Approach, P.31</p> <p>- Performance, P.33</p>

## Taking Action in Support of Broader UN Goals and Issues

### Criterion 15: The COP describes core business contributions to UN goals and issues

IRPC aims to develop good governance practices in all areas in order to achieve sustainable development. The Company contributes its full efforts to support a variety of sustainable goals as widely as possible. Therefore, it supports UN goals as well as other internationally-recognized standards to raise higher standards for sustainability implementation. Currently, IRPC complies with ISO and attempts to raise its standards to meet with the Dow Jones Sustainability Indices (DJSI) and Global Reporting Initiative (GRI). (See Message from the President, Annual Report 2013, P.88)

UN Goals in IRPC's support, as applicable to IRPC Group:

IRPC's Implementation	Principles	Reference	
		Annual Report 2013	SD Report 2013
- Peace & Security: through activities such as public hearing, the "Som Soem Toem Suk" Project, and more others.	Human Rights		- MANSAFCON: Management Safety Committee, P. 72
- Human Rights: Safety of employee and contractor			- Occupational Health and Safety, P.72-77
- Safety of Products: guarantees through labels and safety documents in compliance with The Global Harmonized System of Classification and Labeling of Chemicals (GHS) and registration of chemical substance in compliance with Registration Evaluation and Authorization of Chemicals (REACH) in 2012.			- Management Approach, P.26
- Innovation of hygienic plastic pallets for safety of users: BANBAX is an innovation of antibacterial plastic, tested and approved by Japan's JIS Z 2801 standard.			- Antibacterial Plastic
- Children's Rights		- Scholarships for employees' children, Promotion of Education and Savings for Employees and Families, P.56	
- Gender Equality			- People in Performance Summary, P.99-104

IRPC's Implementation	Principles	Reference	
		Annual Report 2013	SD Report 2013
- Promotion of Ethics, Religion, Traditions		- Promotion of Ethics, Religion, Traditions, and Organizational Culture, P.55	
- Health: IRPC regularly provides mobile medical service and support municipal hospital, among others.		- Health for Employee, P.52-55	
- Humanitarian Assistance to vulnerable groups such as disabled persons, HIV, and victims from natural disasters, etc.		- Employees' voluntary work, P.56-57 - CSR after Process, P.152	- Education for employees and families to reduce the risk of infecting AIDs and TBs, P.77
- Education		- Promotion of Education and Savings for Employees and Families, P.56	- Key Initiatives, P.69-71 - Training Hours, People, Performance Summary, P.104
- Employment and Decent Working Conditions - Procurement Guideline covering lawful employment of suppliers	Labour	- Employees, P.54-57 - Human Resource Management Performance, P.109-110	- Employee Readiness, P.68-71 - Occupational Health and Safety, P.72-77 - People, Performance Summary, P.99-104
- Partnership Development Plan for Automotive: adopting ISO/TS16949, a certified standard for quality of products used in the automotive industry.			- What's Next, P.36
- Green Product: Receiving carbon Reduction Label from Thailand Greenhouse Gas Management Organization (TGO)	Environment		- Management Approach, P.26
- Sustainable Ecosystems and Biodiversity: Eco-Industry Zone - Green Industry project: achieving ISO 14001 - QSHE management system: in compliance with ISO and OHSAS standards			- Oil & Chemical Spills and Respond Plan, P.48-52 - The Progress of IRPC's Eco-Industrial Zone Development, P.12-15
- Energy Efficiency			- Key initiatives, P.56-63

IRPC's Implementation	Principles	Reference	
		Annual Report 2013	SD Report 2013
- Water Quality & Water Management	<b>Anti-Corruption</b>		- Environment, P.40-43 - Key initiatives, P.56-63
- Air Quality			
- Waste Management			
- Pollution Reduction			
- Anti-Corruption		- Anti-Corruption Promotion, P.52 - Anti-Corruption, P.64-65	- Anti-Bribery and Corruption, P.30-33
- Internal system and enterprise risk management: in compliance with the Committee of Sponsoring Organizations of the Treadway Commission (COSO) ERM and ISO 31000 Risk Management			- Enterprise Risk Management, P.22
- Corporate Governance: CG principles adopting those regulated by the Stock Exchange of Thailand and Organization for Economic Co-operation and Development (OECD).			- IRPC Sustainability Governance, P.18

**Criterion 16: The COP describes strategic social investments and philanthropy**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC and its subsidiaries are committed to business growth on the basis of corporate governance and sustainable stewardship of society and the environment, under the organization of "Care, Share, Respect". The Stewardship, therefore, are performed through social contributions in the form of both monetary and non-monetary assistance.</p> <p>IRPC has defined the policy on social and environmental responsibility along with the CSR Roadmap as integrated parts of the corporate sustainability strategy.</p> <p>Key social contributions and philanthropy are as follows:</p> <ul style="list-style-type: none"> <li>• "Som Soem Toem Suk" Project: Students from IRPC Technological College and employees of IRPC Group put their skills to work in repairing electrical appliances and toys, etc. by gearing at 20 primary schools in Rayong and around the Phra Pradaeng Oil Depot.</li> <li>• IRPC partnered with the Prostheses Foundation of HRH the Princess Mother in a prostheses-fabricating unit at the Chaiyaphum Songkroh Foundation on November 25-27, 2013. Each year, IRPC has donated to the foundation BANBAX polymers (as an innovation that effectively inhibits and kills bacteria) as a core raw material for prostheses.</li> <li>• "1 Help 9" Project: IRPC jointly ran the project with the Office of National Education Standards and Quality Assessment (Public Organization). The project is an</li> </ul>	<p>Social and Environmental Responsibility, P.150</p> <p>Social and Environmental Responsibility, P.150-153</p>	

<p>innovation in the development of new-dimension education with objectives to raise high standards of education, to develop the educational quality assurance system and to apply IRPC's strengths to the improvement of educational institutions. Outcomes will be summarized in 2014.</p> <ul style="list-style-type: none"> <li>• Water allocation in Nhong Pla-Lhai and drought prevention measures: the provision of a shared public water source between IRPC, other private entities and communities.</li> <li>• Other key initiatives</li> </ul> <p>Social contributions on the development of society and the environment in 2013 can be summarized as follows:</p> <ul style="list-style-type: none"> <li>• Environmental protection expenditures through environmental operations cost 154 Million Baht approximately.</li> <li>• Philanthropy in social contribution cost 101 Million Baht approximately.</li> </ul>		<p>- Physical Risk, P.56</p> <p>- Community Relations and Development, P.84-93</p> <p>- EN30, Environmental Protection Expenditures and Investment and Fines, P.111</p> <p>- Community and Social Development, P.86-87</p> <p>- EC1, Philanthropy, P.111</p>
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**Criterion 17: The COP describes advocacy and public policy engagement**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC always adheres to the principles of sustainability development with considerations to the economy, society and environment. In case of gaining social license and trust from the communities, IRPC had improved educational, health, and living quality of the communities through various project. Outstanding and explicit projects as public engagement in relation to UN goals – such as climate change and sustainable development – are as follows:</p> <ul style="list-style-type: none"> <li>- Carbon Reduction: IRPC ensures that all products are environmentally conscious. All types of plastic pallets received carbon reduction label from TGO.</li> <li>- Pollutant Release and Transfer Registers (PRTR): IRPC's petroleum business has joined a pilot project of PRTR since 2012. The PRTR is a voluntary project, by the Department of Industrial Work in collaboration with Japan International Cooperation Agency (JICA) to prepare reports on pollutant released and transferred to the environment.</li> <li>- Green Industry: IRPC joined Green Industry Project initiated by The Ministry of Industry. In 2013, IRPC achieved level 3, Green System, out of 5 levels of the project.</li> </ul>		<ul style="list-style-type: none"> <li>- CEO Statement, P.4-5</li> <li>- Product Specialty, Management Approach, P.26</li> <li>- Pollutant Release and Transfer Registers (PRTR), P.45</li> <li>- Green Industry Project, P.57</li> </ul>

**Criterion 18: The COP describes partnerships and collective action**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC develops and implements various partnership projects to succeed in sustainable development. Outstanding projects are as follows:</p> <ul style="list-style-type: none"> <li>- Carbon Reduction: IRPC ensures that all products are environmentally conscious. All types of plastic pallets received carbon reduction label from TGO.</li> <li>- Pollutant Release and Transfer Registers (PRTR): IRPC's petroleum business has joined a pilot project of PRTR since 2012. The PRTR is a voluntary project, by the Department of Industrial Work in collaboration with Japan International Cooperation Agency (JICA) to prepare reports on pollutant released and transferred to the environment.</li> <li>- Green Industry: IRPC joined Green Industry Project initiated by The Ministry of Industry. In 2013, IRPC achieved level 3, Green System, out of 5 levels of the project.</li> <li>- Partnership Development Plan for Automotive: adopting ISO/ TS16949, a certified standard for quality of products used in the automotive industry.</li> </ul>		<ul style="list-style-type: none"> <li>- Product Specialty, Management Approach, P.26</li> <li>- Pollutant Release and Transfer Registers (PRTR), P.45</li> <li>- Green Industry Project, P.57</li> <li>- What's Next, P.36</li> </ul>

## Corporate Sustainability Governance and Leadership

### Criterion 19: The COP describes CEO commitment and leadership

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
Mr. Sukrit Surabotsopon, IRPC's CEO has demonstrated leadership on sustainability and commitment to the UN Global Compact as well as other international bodies in relation to sustainability. IRPC adheres to the principles of sustainable development with considerations to the economic, society and environment. As it intends to achieve the vision of becoming "A leading petrochemical complex in Asia by 2020", Delta project has been initiated in order to exalt the organization excellence in 3 dimensions (Operational Excellence, Commercial Excellence and Human Resource Excellence)	- Message from the President, P.88-89	- CEO Statement, P.4-5

**Criterion 20: The COP describes Board adoption and oversight**

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC's sustainability development is to create excellence in every aspect of the operations by balancing between business operations with benefits of community and protecting the environment. Therefore, the Board of Directors plays vital role and responsibility of setting strategy, overseeing and ensuring implementation of sustainable development on a basis of good governance.</p> <p>- The Board's composition</p> <p>- The Board's roles and responsibilities</p> <p>- The Board's performance in 2013</p>	<p>- Management Structure, P.156-171</p> <p>- Assessment of the Board, CG Report, P.61-62</p>	<p>- IRPC Sustainability Governance, P.18-19</p>

## Criterion 21: The COP describes stakeholder engagement

IRPC's Implementation	Reference	
	Annual Report 2013	SD Report 2013
<p>IRPC has put in place stakeholder engagement through various activities and initiatives. There are 8 main stakeholder groups, ranging from shareholders/ investors, customers/consumers, business partners, competitors, creditors, employees, society/community, and environment.</p> <p>With goodwill of being good corporate citizenship, IRPC intends to operate strictly on the principal to create social license and trust by conducting environmental and health impact assessment and allowing stakeholder engagement. At times when a new project is under development, IRPC will carry out feasibility studies covering economic, social, and environmental aspects. The findings then will be presented to the multilateral committee, comprising of representatives from relevant government agencies, luminaries, local representatives, community representatives and IRPC representatives.</p>	<p>- Promotion of the Roles of Stakeholders in 2013, CG Report, P.52-57</p>	<p>- Materiality Assessment, P.23</p> <p>- New Project Development, P, 78-83</p>

# EX CEL LENCE FOR SUSTAINABILITY



2013 Corporate Sustainability Report

# Content

- 04 CEO Statement
- 06 Business Context
- 12 The Progress of IRPC's  
Eco-Industrial Zone Development
- 16 Sustainability Management  
of IRPC

## ECONOMICS

- 26 Product Specialty
- 30 Anti-Bribery and Corruption
- 34 Supply Chain Management
- 38 Customer Relationship  
Management

## ENVIRONMENT

- 42 Environmental Management
- 48 Oil & Chemical Spills and  
Respond Plan
- 54 Climate Change Risk  
Assessment and Adaptation

## SOCIETY

- 66 Employee Readiness
- 72 Occupational Health and Safety
- 78 New Project Development
- 84 Community Relations and  
Development
- 94 Performance Summary
- 112 Awards and Recognitions
- 114 GRI Content Index &  
UNGC Global Compact
- 125 Readers' Feedback

## 12 Highlighted Materialities in 2013

1



Economic and  
Financial Performance

Page 94

2



Supply Chain  
Management

Page 34

3



Green and Specialty  
Products

Page 26



Energy Efficiency and  
Climate Change

Page 54

7



Environmental  
Management

Page 42

8



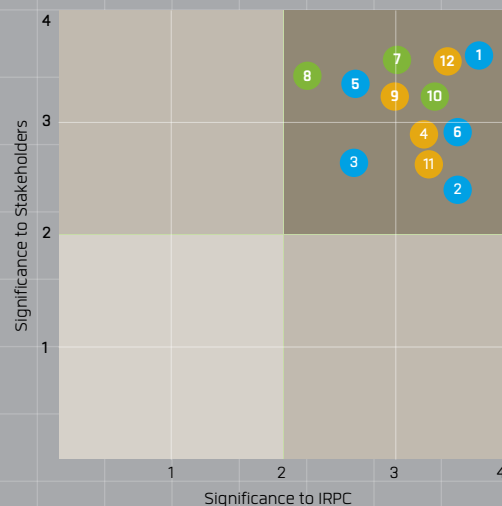
New Project  
Development

Page 78

9



IRPC carried out materiality assessment by applying GRI Reporting Principles for defining report content into use to identify and prioritize each materiality. IRPC has arranged several workshops with relevant functions to review and prioritize materiality,



4



## Employees' Readiness

Page 66

5



## Anti-Bribery and Corruption

Page 30

6



## Customer Relationship Management

Page 38



## Oil and Chemical Spills and Response Plan

Page 48

10



## Occupational Health and Safety

Page 72

11

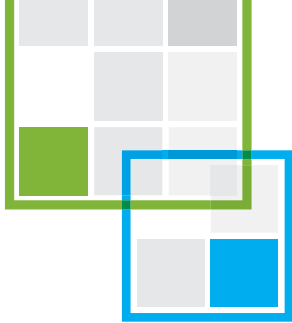


## Community Relations and Development

Page 84

12





## CEO STATEMENT



IRPC always adheres to the principles of sustainability development with considerations to the economy, society, and environment under the corporate good governance guidelines. In 2013 IRPC had encountered challenges in terms of the economic deceleration, oil price volatility, Baht value, and the competition from several capacity expansions in the region, yet with collaborations and dedications to the fullest ability of all IRPC's personnel, IRPC, as a result, ended the financial year with profits. In terms of project implementation, especially Phoenix project had successfully achieved target and generated more income than the previous year. The most important project is the Upstream Project for Hygiene and Value Added Products or UHV project expected to commercially complete in the 3<sup>rd</sup> quarter of 2015, which, as a result, will increase the Propylene production by more than 300,000 tonnes and change the production structure as well as create added value to the products.

IRPC recognizes the importance of research and development of environmentally friendly specialty products, which will create added value and build long term competitiveness to the company. For example, Green ABS product, in which IRPC was the 1<sup>st</sup> company in the world to successfully manufacture and, for the 1<sup>st</sup> time, has turned to become a process licensor for Green ABS product.

In case of providing care and gaining social license and trust from the communities, in 2013, IRPC had improved educational, health, and living quality of the communities through various projects, such as building construction projects at Pluakket temple school and Tapong health promotional hospital. In addition, IRPC is determined to improving IRPC's industrial area along with taking care of the communities, society, and environment as well as continuously pacing towards becoming the Eco-Industrial Zone in 2017

IRPC intends to achieve the vision of becoming "A leading petrochemical complex in Asia by 2020", therefore, Delta project has been initiated in order to exalt the organization to excellence by improving and increasing the capability throughout the organization. The operation is divided into 3 main aspects, which are

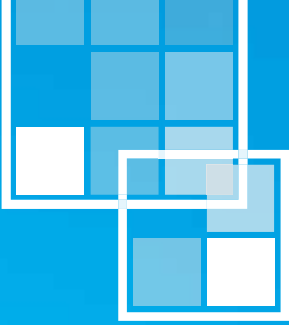
- Operational Excellence: improving the production operation as a whole as well as creating trust and elevating QSHE to be comparable to the global leading companies
- Commercial Excellence: creating added value from the business operations and generating new income as well as entering a market for specialty products, which have higher value.
- Human Resource Excellence: improving working efficiency of all IRPC's personnel, whom is considered the most important component in driving the operations in line with the strategy and objectives.

IRPC, for the first time, had participated in the Dow Jones Sustainability Indices assessment (DJSI) under the Emerging Market universe and delightfully received the assessment score within the top 15% of all assessed Oil & Gas companies and was included in The Sustainability Yearbook, published by RobecoSAM in January 2014. The result of the assessment reflected the commitment and dedication in implementing sustainability guidelines into the management and business operation. Nonetheless, IRPC intends to continue improving its' business operations in order to achieve a top 10% scoring in the Oil & Gas industry and be listed as a member of DJSI within 2020.

I, personally, am determined to transforming IRPC into "A leading petrochemical complex in Asia by 2020" as well as leading the organization to excellence in terms of social, environmental, and stakeholder responsibility on the foundation of the corporate good governance. I have to thank all IRPC's employees and stakeholders, whose supports are of critical to the sustainability development of IRPC and I strongly believe that IRPC's operational guidelines will assist the company to steadily overcome a fierce competition and the volatility of economic condition as well as to strengthen the business operations, create understanding, collaboration, mutual benefits with the communities, and most importantly, IRPC, Rayong's natives, and Thai society can eventually co-exist together harmoniously in a balanced and sustainable environment.



Sukrit Surabotsopon  
President



# Business Context

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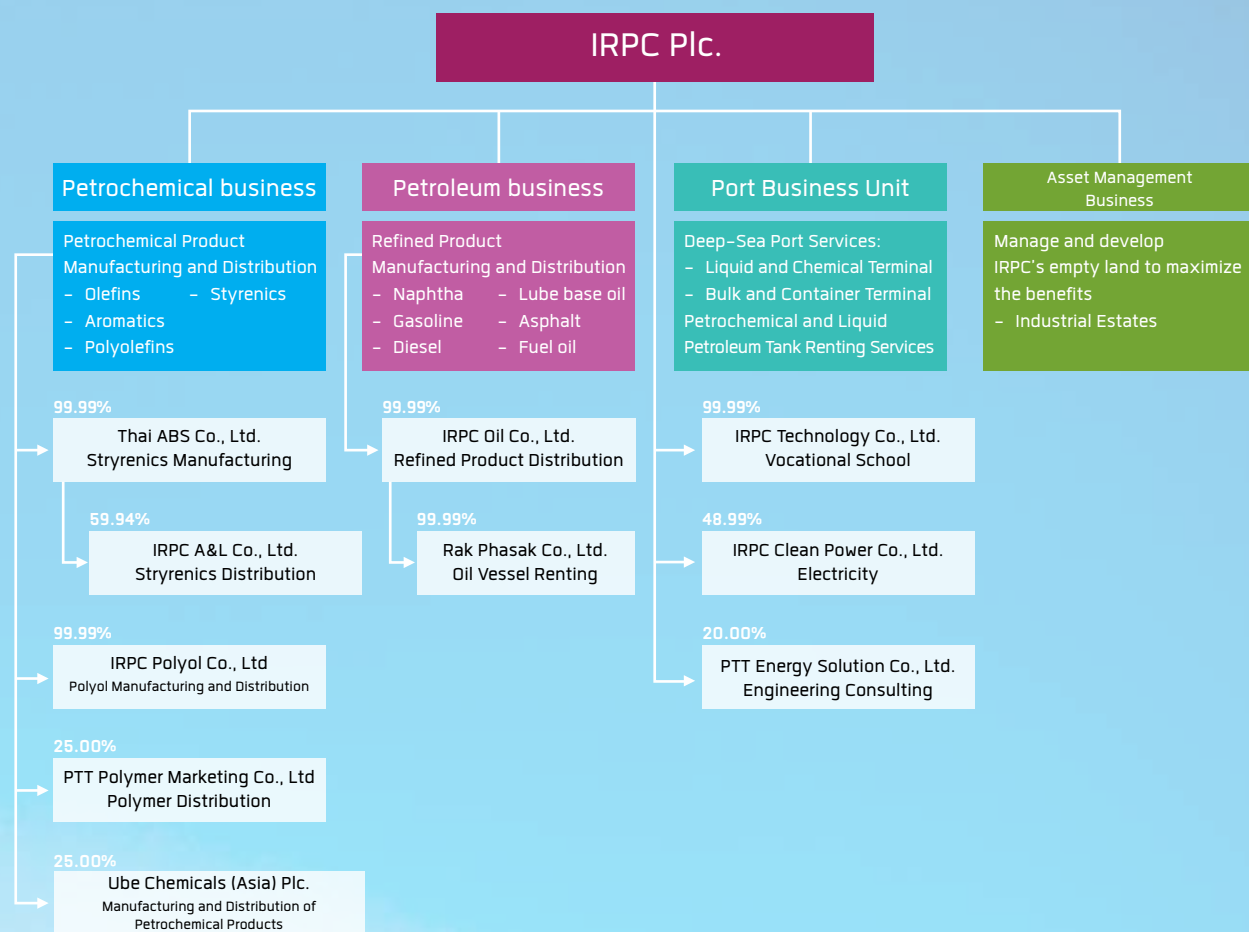
IRPC Public Company Limited or “IRPC” has been operating in Thailand for the past 24 years, registered as an entity in 1978, transformed to a public company limited on the 10<sup>th</sup> of October 1994, and became listed in the stock market of Thailand on the 17<sup>th</sup> of March 1995, with the operational headquarter, which is an industrial area under IRPC’s management equipped with basic infrastructures, include deep sea ports, tank farm, and power plant, necessary to support business operations, located in Rayong province.

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# Business Structure and Shareholding







## Petroleum Business

IRPC's refinery has 215,000 barrels per day capacity, the 3<sup>rd</sup> biggest refinery in Thailand. There are several petroleum products include Naphtha, Gasoline, Diesel, and LPG. Moreover, IRPC has a lube base production plant with 320,000 tonnes per annual capacity, which is the biggest in the country, and asphalt production plant with 600,000 tonnes per annual.

In 2013, IRPC had completed a multi-product pipeline project, which is a co-invested project with PTTGC to improve the quality of diesel (10,000 barrels per day) to meet with the EURO IV standard and produce 15,000 barrels of Jet A-1 daily. Moreover, VGO unit had been modified to accommodate a 3 million liters per day production of BHD (Bio-Hydrogenated Diesel), which is a special graded diesel used to produce a high quality synthetic diesel combined with a EURO V standard diesel to be marketed as a premium graded diesel.

## Petrochemical Business

Upstream petrochemical products include Olefins, Aromatics, 828,000 and 367,000 tonnes per annual in production capacity respectively, which will be used as feeds for downstream products, include Polyolefins (HDPE, PP) with 615,000 tonnes per annual, Styrenics (ABS/SAN, EPS, PS) with 307,000 tonnes per annual, to supply to plastic manufacturers to manufacture the finished products.

In 2013, IRPC had increased an additional 60,000 tonnes per annual in EBSM capacity, totaling to 260,000 tonnes per annual, to be used as feeds in the production of ABS/SAN, which also had 60,000 tonnes per annual in additional capacity to accommodate the production of Green ABS, in which IRPC was the first in the world to successfully produce.

## Port Business and Tank Farm

IRPC's port is located in the proximity of the refinery plant in Rayong province. IRPC's port offers mooring service with functional facilities to the customers. The main port, for liquid and chemical terminal to unload petrochemical, petroleum, and gas products, is 1,623 meters in length, divided into 6 wharves with vessel handling capacity ranging from 1,000 to 250,000 DWT (deadweight tonnage). The bulk and container terminal is 900 meters in length and 44 meters in width with vessel handling capacity ranging from 8,000 to 150,000 DWT, offering unloading and transferring of bulk goods and product storage tanks, which can store up to 2.7 million tonnes of products in more than 200 tanks. IRPC also has 5 oil depots include Rayong, Phra Padaeng (Bangkok), Ayutthaya, Chumphon, and Mae Klong (Samut Sakhon).

In 2013, VTMS (Vessel Traffic Management System) was installed to manage water traffic for safety purposes and enhance security as ISPS code, communicate and record information on cargo ships for safety monitoring and situation controls. IRPC also carried out Ship to Ship prevention plan, which is a safety measures that are actually practical and approved by the government agencies. The STS prevention plan consists of both hard side and soft side prevention measures, which focus on cost reduction and sea transportation risk. Additionally, in term of storage tank business, IRPC's tank farms at Phra Padaeng was developed into a central storage and product distribution channel and basic chemical to accommodate a domestic industrial growth by tank rental service for product storage and strategic reserve according to law for external customer





## Asset Management Business

A business unit that manages the company's asset, 10,000 rais of empty plots of land, under the brand "RECO" in Rayong and other provinces to support core businesses of IRPC, PTT group's companies, and external investors. The future business expansion, which will focus on businesses that are friendly to the communities and environment, comprises of Rayong industrial estate (Ban Khai), located in Ban Khai district, Rayong province, and IRPC's Eco-Industrial Zone (EIZ), located in Muang district, Rayong province, which is a project that is fully replete of necessary infrastructure, includes CHP1, which reduces CO<sub>2</sub> emission up to 400,000 tonnes per annual, improves a transmission system for a better stability of power supply in an industrial area, as well as accommodate upcoming projects of both IRPC and external customers.

In 2013, IRPC had worked collaboratively with Industrial Estate Authority of Thailand and Plastics Institution of Thailand in developing Ban Khai industrial estate into the first plastic park in Thailand, which will be a manufacturing base for high value plastic products, such as plastics for medical equipment, auto and aircraft parts, etc. Finally, 1,867 rais of land in IRPC's industrial area will be developed into an Eco-Industrial Zone, that is environmental and community conscious in order to create sustainable development.

## Business Strategy

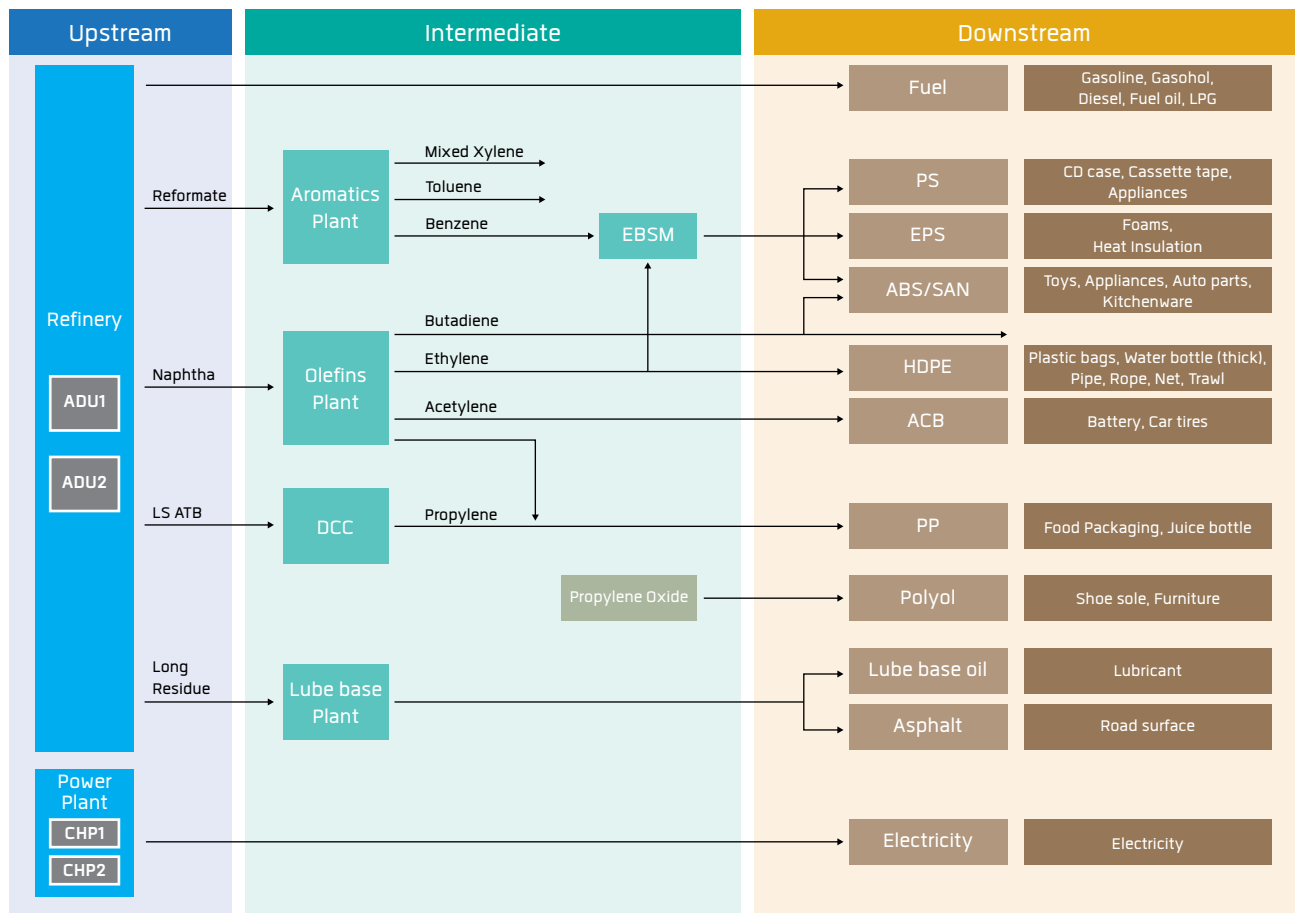
IRPC's vision is to become "A Leading Integrated Petrochemical Complex in Asia by 2020" under a theme of "Excellence". There are 4 operational guidelines, which are 1 Operational Efficiency Improvement to save cost and enhance competitiveness, 2 Asset Utilization Enhancements, 3 Product & Service Improvement, 4 Capacity & Product Expansion. These 4 guidelines are reflected in the implementation of several mega projects, such as Phoenix project, which began in 2009 and will be completed in 2014. An Upstream Project for Hygiene & Value Added Product (UHV) is the star project under Phoenix to increase Propylene's production capacity from 412,000 to 732,000 tonnes annually. UHV project was granted EHIA approval in the early of 2013, the construction phase has progressed more than 52% and anticipated to commercially complete in the 3<sup>rd</sup> quarter of 2015, which will result in an increase in the company's revenue and profit. Moreover, in order to ensure that IRPC will achieve its vision by 2020, Delta project has been initiated with objectives to improve production efficiency to move towards operational excellence, create added value in terms of marketing by focusing on increasing sales of specialty product and/or products with higher margin as well as expanding and

penetrating into new markets to create more opportunities, which will enable IRPC to become commercial excellence. Lastly, yet the most important is human resource management. IRPC plans to improve its' organizational structure to promote operational efficiency, develop an international standard human resource supporting system, promote and encourage competency and capability improvement for all employees in order to become human resource excellence. Moreover, there are tools and supporting systems, such as Performance Planning & Monitoring, Superb Products Portfolio Management, Technology Driven Growth, Business Structure & Work Process, Leadership and Culture Development, as well as Excellence Capital Discipline as shown in the picture below.





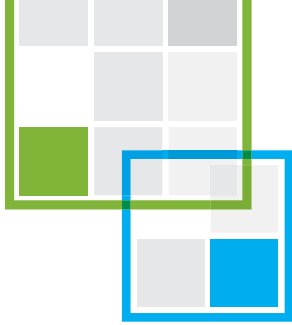
## Integrated Refinery and Petrochemical Business



Leading Integrated  
Petrochemical Complex in Asia  
by 2020







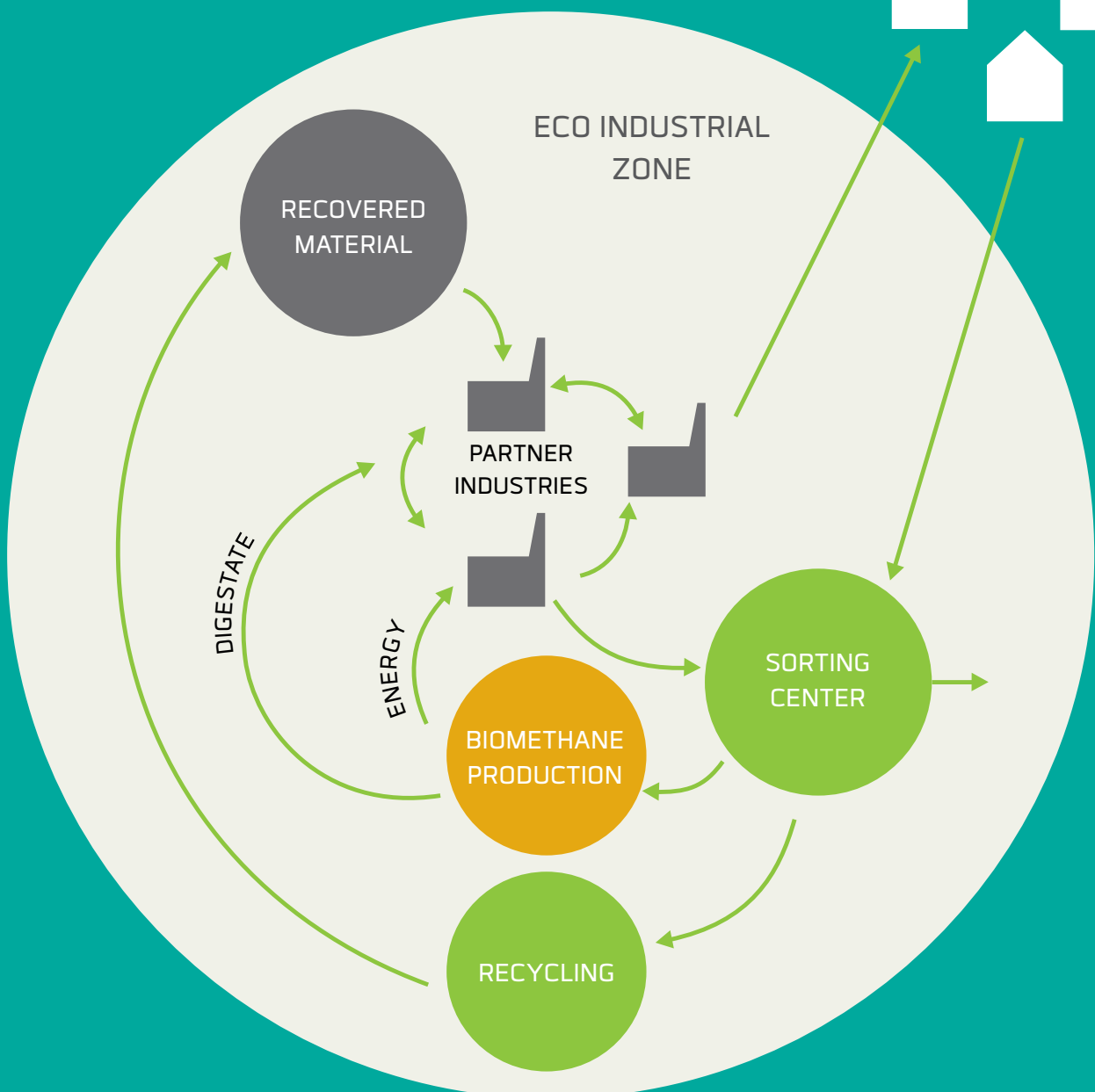
# The Progress of IRPC's Eco-Industrial Zone Development



IRPC's Eco-Industrial Zone (EIZ) demonstrates the implementation of sustainable development principles into practice on 5,754 rais of land mass (9.2 square kilometres). The guidelines have been set up as principles for all operators within the industrial area using 5 dimensional eco-industrial development guidelines, which consist of physical, economic, environmental, management, and social

dimensions, as a framework in order to move closer towards growth with the community, a well-balanced environmental development, and a sustainable development with collaboration from all stakeholders such as government sectors, industrial operators, local authorities and local public sector.

## INDUSTRIES, BUSINESSES & MUNICIPALITIES



Industrial ecology is a system that “modifies the use of energy and material to generate minimal waste and the output of one process acts as a substrate of another process”. Industrial ecology enables the industry to reduce loads to the environment by focusing on a structure that emphasizes on flows of materials and demonstration of responsibility towards surrounding environment (source: Frosch RA, Gallopoulos NE. Strategies for manufacturing. Scientific American 1989; 261(3): 94-102.) Industrial ecology can be built upon the centralized physical infrastructure and a suitable material management process.





IRPC had initiated the EIZ development since 2012. Currently, there are 36 registered plants from several industrial operators participate in the development of the area, 24 of which are from within IRPC group, and other 12 are from the outside of IRPC group.

In 2013, the operational guidelines and strategies have been prepared with a focus on 4 operational guidelines, which were proactive management, operational excellence, creation of added value for stakeholders, and strategic communication.

## Proactive management

emphasizes on environmental quality monitoring and communications with all stakeholders include industrial operators, local government entities and communities through multilateral committee in order to move closer towards eco industry. CSR in process committee, which is also a working team, is responsible for an actual field works to regularly follow up and provide suggestions regarding the operations. Moreover, IRPC has set up the industrial area coordination committee and EIZ coordination meeting with internal operators, who are in-between a project construction phase in order to prevent any potential community impacts that may arise.





## Operational excellence

is to create collaboration between all operators to develop a clean production process within the area mainly focusing on the disposal of industrial waste, air, water and electricity through several projects such as energy conservation. IRPC also takes part in a project by Department of Industrial Works (DIW) to promote the use of industrial waste, in which IRPC's waste water treatment plant 1 and 2 were selected as pilot plants, to work collaboratively with DIW to set up guidelines on the disposal of industrial waste and landfill minimization in order to achieve an objective of becoming eco industrial.



## Creation of added value for stakeholders

is the operations through projects that focus on creating shared value as well as encouraging all industrial operators to participate in CSR-DIW project and green industry to ensure that all sectors are genuinely responsible for the society. Currently, 20 plants had received CSR-DIW award, which approved that these plants operated accordingly to the CSR-DIW standards. Moreover, 10 plants, which continuously complied with industrial operators' social responsibility standard, had been awarded with CSR-DIW Continuous award.



## Strategic communication

primarily focuses on communicating and reporting to all stakeholders to inform a performance result through various channels such as eco industrial exhibition and lecture, meetings government agencies and public forums for surrounding community, etc. IRPC had additionally organized plant visits for local communities and interested parties in order to ensure their confidence towards all operations within the industrial area.





# Sustainability

## Management of IRPC



### Sustainability Context

IRPC's sustainability development is to create excellence in every aspect of the operations by focusing primarily on the operational, marketing and sales, and human resource excellence by balancing between business operations with benefits of community and protecting the environment. However, sustainable business practices must be integrated as part of business process and corporate good governance

## IRPC Sustainability Governance

IRPC's board of director set CG policy for board of director, executives, and all employees to abide to. Also, IRPC has in place a IRPC Corporate Governance Handbook, regulated by the Stock Exchange of Thailand and Organization for Economic Co-operation and Development (OECD), with the contents that cover board's composition, qualification, assignation, independency, roles and responsibilities, establishment of provisional committee, board meetings, performance assessment, remuneration of board and CEO, ethics of board, executives, and employees, disclosure and transparency, audit committee and external auditor, risk management, rights and shareholders' equality, responsibility to stakeholders, whistle blowing policy, and succession plan.

### Board's composition

IRPC's board of director, 2013, consists of 17 directors, 8 of which were independent directors, 1 executive director, who is IRPC's CEO, and Chairman, who is non-executive. A suitable candidate must go through a nomination process set by the Nomination and Remuneration Committee, and be presented to the board to approve before being voted for an official appointment in the annual shareholder meeting.

A nomination approach is disclosed in the AGM's invitation. Each director has qualification, knowledge, diversified experience that could benefit the company's management. Directors are selected from a list of luminaries with expertise in such particular fields as energy, petroleum and petrochemical, legal, politic, social development, security, and accounting & finance to offer diverse and wider perspectives when the board's considerations are needed. A third of the board members completes serving term on the AGM meeting day and could, again, be reappointed, yet not more than 3 consecutive terms.

### Board of Director's responsibilities

The board of director is, appointed by shareholders, primarily responsible for overseeing the business operation and efficiency based on corporate good governance. The Board appoints 4 sub-committees, each responsible for screening specific tasks and ensuring efficiency, which are Audit Committee, Executive Committee, Nomination and Remuneration Committee, and Corporate Governance Committee, while, the CEO is the highest ranked executive, with the respective hierarchical governance structure, to exercise policies and guidelines as set by the board.

The board oversees the company through policies and

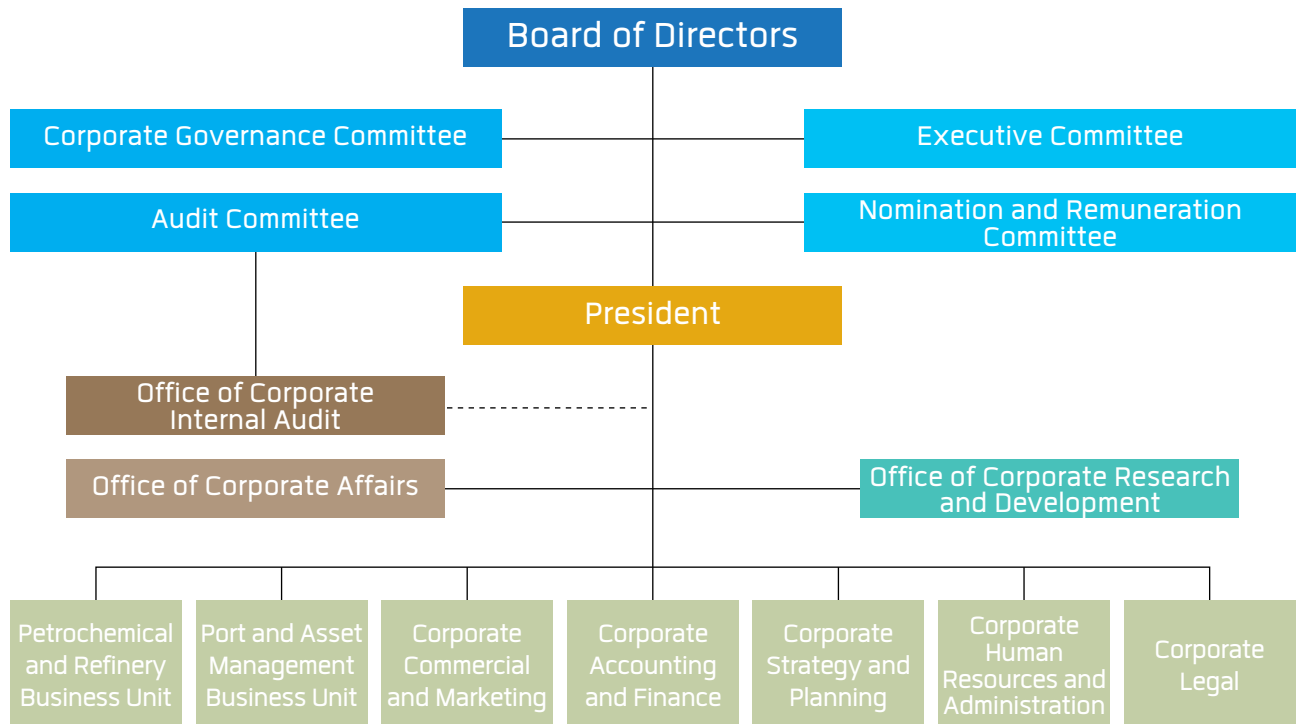
	Name	Sex	Current Position	Board/Sub-committees	Appointed Date
1	Mr. Chainoi Puankosoom	♂	◆	Executive Committee	5 April 2013
2	Mr. Cherdpong Siriwit	♂	○	Audit Committee, Corporate Governance	8 April 2009
3	Mr. Wichit Plangsriskul	♂	○	Corporate Governance	5 April 2013
4	Gen. Udomdej Sitabutr	♂	○		5 April 2011
5	Mr. Surong Bulakul	♂	■	Nomination and Remuneration Committee, Executive Committee	21 May 2013
6	Mr. Woothisarn Tanchai	♂	○	Nomination and Remuneration Committee, Executive Committee	8 April 2009
7	Mr. Watcharakiti Watcharothai	♂	■		5 April 2011
8	Mr. Saran Rangkasiri	♂	■	Executive Committee	15 October 2013
9	Mr. Kritsda Udyanin	♂	■		15 December 2011
10	Mr. Songpop Polachan	♂	■	Nomination and Remuneration Committee	5 April 2013
11	Mr. Narongkorn Chawalsantati	♂	○		15 December 2011
12	Lt. Gen. Preecha Wanarat	♂	○	Audit Committee	13 February 2012
13	Mr. Jade Thanawat	♂	○	Corporate Governance	5 April 2012
14	Mr. Triumph Jalichandra	♂	○	Audit Committee	22 May 2012
15	Mr. Woravit Chailimpamontri	♂	■		19 February 2013
16	Miss Sopawadee Lertmanaschai*	♀	■		16 March 2010
17	Mr. Sombat Nrawuttichai	♂	■		29 January 2014
18	Mr. Sukrit Surabotsopon	♂	●		1 October 2013

◆ Chairman      ○ Independent Director      ● Executive Director      ■ Director      ■ President

Note: \*Resigned since 24 December 2013

Find Definition of Independent Director in Corporate Governance Manual [http://www.irpc.co.th/pdf/CG/MANUAL\\_CG\\_2556.pdf](http://www.irpc.co.th/pdf/CG/MANUAL_CG_2556.pdf)

## Organizational Structure



control mechanism and ensures that the business operations are in line with policies and strategies, which cover economic aspect, social responsibility, and safety and environment, using the organizational structuring mechanism, responsibility setting for subcommittees and executives to align with the company's policy in order to ensure efficiency in the performance review, as well as create balance and mobility in granting approvals for the business plans, investment plans, annual budget, risk management, internal audit, corruption prevention measures, financial report, accounting, taxation, and other important matters, include corporate's performance assessment in terms of finance, social responsibility, and safety and environment, QSHE standard setting, human resource management, and laboring policy, etc.

**In addition, details on the board and subcommittees including scope, roles and responsibility, and meeting participation of each director are fully provided in IRPC's annual report 2013.**

### The board of director's assessments

IRPC's CG handbook states that the board conducts self-assessment at least once a year. Each director receives and fills in an assessment form in December of every year. Results will be evaluated, collected and reported in the CG Committee meeting and BOD meeting respectively to inform of the performance and later improve on the result for better efficiency. There are 4 types of assessment: 1) the committee performance assessment; 2) individual

performance assessment; 3) cross performance assessment; and 4) sub-committee performance assessment. The topics of the assessments are intended for both the board as a whole and also on individual level. As for Audit Committee, not only the committee performance assessment, according to the charter of IRPC's Audit Committee promulgated on the 1<sup>st</sup> of January 2010, individual performance assessment is also required. In 2013, the result of the committee assessment was "Excellent" with averaged score of 96.74%, while other assessments also received "Excellent" having scored more than 85%.

As a result, The good and the bad, comments, and experiences are used as information to improve efficiency, for example, the improvement in regulations, structure, CG guidelines, participation of a director in relevant courses and studies, etc.

### The board of direct and executives' compensation

The nomination and remuneration committee is responsible for setting up structure and composition of the director's compensation as equitably and suitably as possible in line with the performance in order to retain the director with the company or comparable to other companies in the same industry. Compensation structure and composition is of transparency and needed to be approved by the board and further by the shareholders, whose role is to approve



the compensation of the director in the AGM meeting. The compensation for both executive and non-executive includes 1. Monthly compensation and meeting allowances, which is comparable to other companies in the same industry, 2. Bonus (In 2013 AGM meeting, the board decided not to receive bonus for the year 2012).

IRPC disclosed information on the compensation of the board individually and executives in an overall picture (CEO and SEVPs) in IRPC's annual report.

## External Evaluation

- Rated "Excellence" with the score of 96 in the AGM assessment 2013 by Thai Investor Association and received Green meeting certificate by Thai Business Council for Sustainable Development (TBCSD) and Thai Environment Institute.
- Rated "Excellence" 5 star level" with the score of 95 in the corporate governance assessment for listed companies 2013 by the Thai Institute of Directors (IOD) for 5 consecutive years (2009-2013)

## IRPC Sustainability Approach

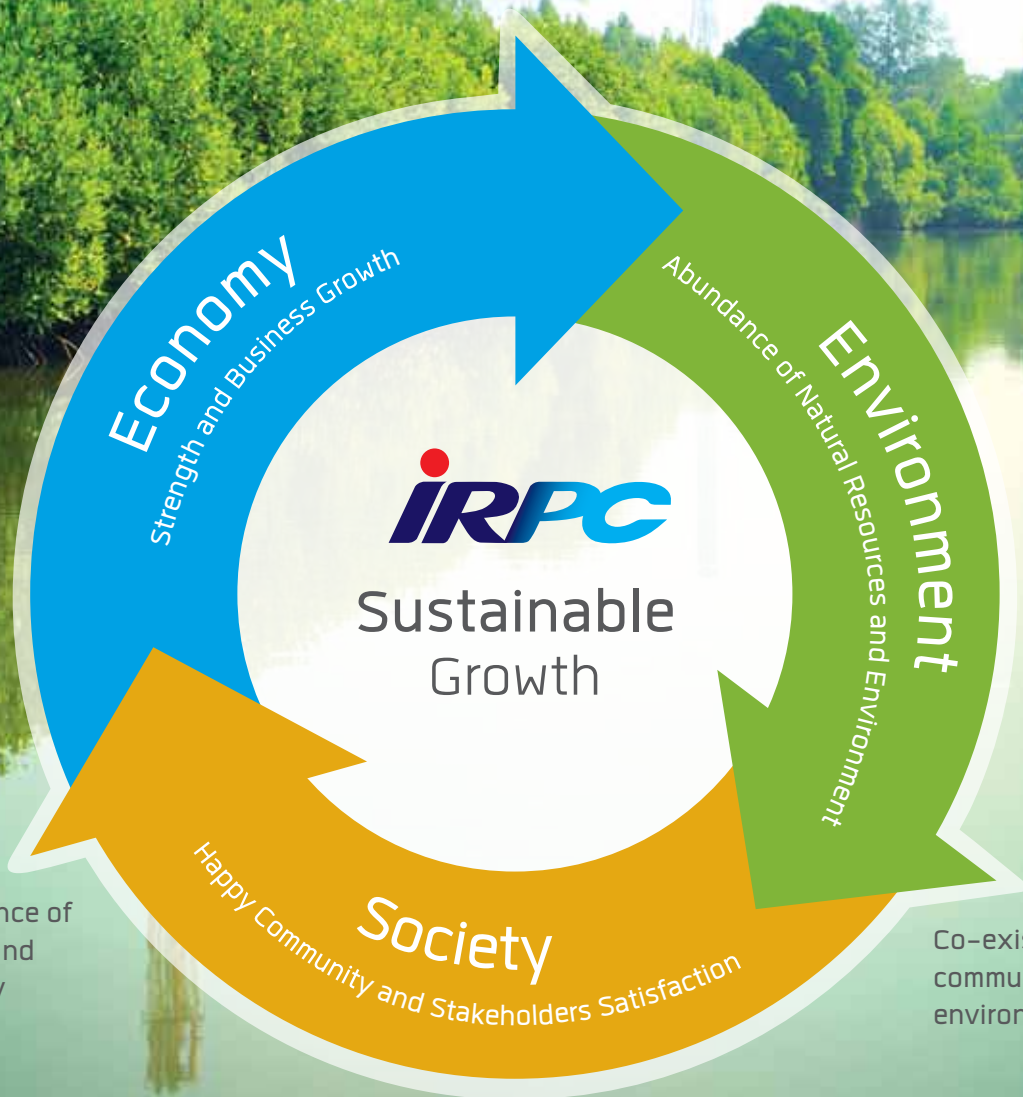
IRPC append sustainability into business operation from business philosophy to create sustainable growth based on the strong foundation and business growth, abundance of the natural resources and environment, happy community and satisfied stakeholders.

In order to effectively implement this philosophy, IRPC has set the objective to become a listed company in the Dow Jones Sustainability Index (DJSI), which is an assessment of companies' sustainability performance and benchmark the result against leading company in the same industry both regionally and globally, by 2020. Also, Key Performance Indicators had been set up to cover economic, environmental, and social dimension through strategic planning process, which was derived from presenting work plans to executives to gain approval, and later present to the company's board of director. In 2013, IRPC had set key performance indicators for economic aspect in terms of EDITDA and ROIC, social and environmental aspects in terms of community satisfaction. Nevertheless, more specific indicators on social and environmental aspects were set for line and departmental level. Additionally, corporate performance indicators were set to focus on good corporate governance (CG score), to satisfy stakeholder such as customer (customer satisfaction), shareholder (AGM score), and employees (employee engagement) as well as the indicators that focus on controlling the internal operation to achieve targets and creating growth through learning and research and development.



# Business Philosophy

Co-existence of  
business and  
environment



## 2013 Corporate Key Performance Indicators

KPI Indicators 2013	
<b>Financial Perspective</b>	
1. EBITDA	
2. EBITDA Margin	
3. ROIC	
<b>Stakeholder Perspective</b>	
4. Customer Satisfaction	
5. Shareholder Satisfaction : AGM Score	
6. Corporate Good Governance : CG Score	
7. Employee Engagement	
8. Community Satisfaction	
<b>Internal Process Perspective</b>	
9. % Plant Availability	
10. Project Progression : Phoenix	
11. Project Progression : UHV	
12. Commercialization : Build & Sustain Land	
<b>Learning &amp; Growth Perspective</b>	
13. IRPC Health Check : IHC-Execution	
14. Innovation Items	
15. R & D Intensity Index	

The progress monitoring of both corporate and functional indicators is carried out continuously in a monthly meeting both at department and line levels as well as in a monthly management meeting and later report to the company's board of director. Moreover, there is a conformity assessment against all regulations via several systems both internally and externally, such as QSHE management system in compliance with ISO and OHSAS standards, internal audit system by COSO, etc.. Finally, IRPC disclosed information regarding business sustainability management through various channels such as annual report, stock exchange of Thailand's 56-1 form, Sustainability report and the company website.

## Enterprise Risk Management

IRPC communicate enterprise risk management policy to all level of employee to upheld using the framework of The Committee of Sponsoring Organizations of the Treadway Commission (COSO) ERM and ISO 31000 Risk Management - Principles and Guideline. Each function is responsible for risk management according to roles and responsibilities. Risk management division is responsible for analysing, monitoring, and supporting as well as reporting the result of risk management, on a quarterly basis, to Risk Management Committee (RMC) and Audit Committee (AC), whose responsibility is to approve the implementation of policies into practise and ensure appropriate and adequate risk management.

IRPC's risk management process is a process, in which has been derived from IRPC's strategic and business plans, to identify, analyze, and assess risk that may impact targets, including project risk. Risk analysis and identification are done on both internal and external factors that may pose any negative impact to the organization economically, socially, and environmentally. Appropriate risk management tools, namely, Value at Risk, Cost & Benefit Analysis, Quick Win Analysis, have been implemented to suit the characteristic of each risk.

In addition to the corporate risk management process, IRPC has also implemented business continuity management (BCM) in line with ISO 22301:2012 in order to prevent and alleviate a severity of impact resulted from the incident that may interrupt the operations as well as to use as guidelines to prepare readiness in case of crisis, such as fire, riots, floods, epidemic, etc. Towards the end of 2013, as a result of political unrest, employees were not able to enter the office building's premises; therefore, IRPC has activated business continuity plans include emergency and crisis management plan, work area recovery plan, and human resource plan, etc. As a result, IRPC's business, without any interruption, is still in normal operation.

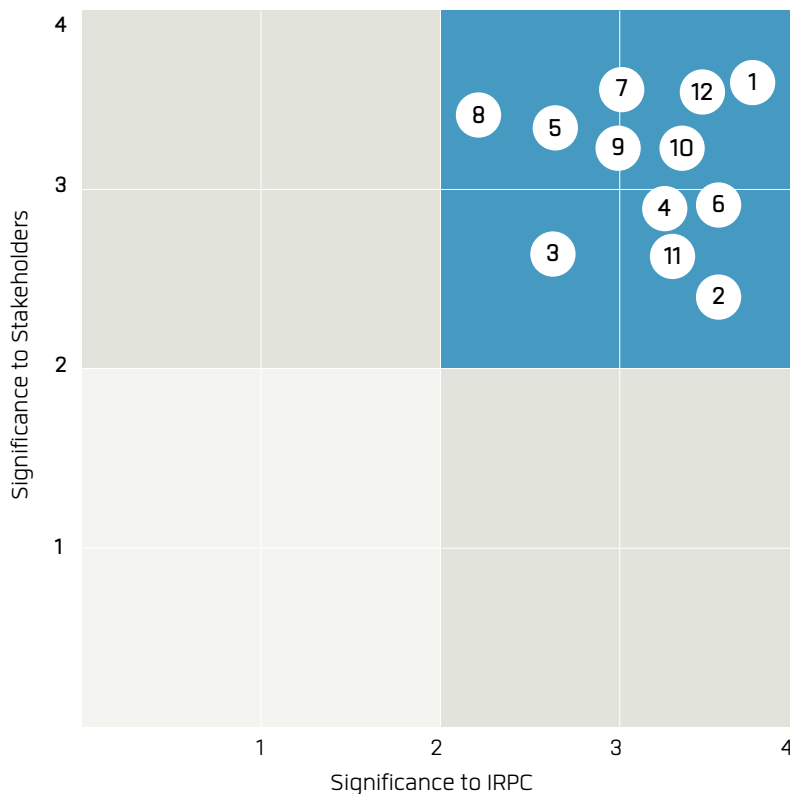


## Materiality Assessment

IRPC carried out materiality assessment by applying GRI Reporting Principles for defining report content into use to identify and prioritize each materiality. IRPC has arranged several workshops with relevant functions to review and prioritize materiality, in terms of economic, social and environmental aspects, considering from the company's and stakeholder's perspectives.



Stakeholders	Shareholders/ Creditors	Customers/ Consumers	Partners	Employees	Communities
Channels of participation	<ul style="list-style-type: none"> <li>AGM meeting</li> <li>Shareholder</li> <li>Analyst meeting</li> <li>Investor meeting</li> <li>Quarterly journal to shareholder</li> <li>Shareholder's Plant visit</li> </ul>	<ul style="list-style-type: none"> <li>Annual customers survey</li> <li>Customer service contact</li> </ul>	<ul style="list-style-type: none"> <li>Newsletter</li> <li>Meetings</li> </ul>	<ul style="list-style-type: none"> <li>Employees' Magazine "I-Aun"</li> <li>Electronic newsletter</li> <li>CEO meets employees</li> <li>Unions</li> </ul>	<ul style="list-style-type: none"> <li>Community relation activities</li> <li>Environmental and social impact study joined meetings</li> <li>Open house activity</li> </ul>
Materiality	<ul style="list-style-type: none"> <li>Ongoing Return on investment</li> <li>Adequate information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>Products with quality and meets the needs</li> </ul>	<ul style="list-style-type: none"> <li>Fair compensation</li> <li>Transparent procurement process</li> </ul>	<ul style="list-style-type: none"> <li>Good welfare and wages</li> <li>Career path</li> <li>Safety and Health care</li> </ul>	<ul style="list-style-type: none"> <li>Environment and health</li> <li>Local economic improvement</li> </ul>



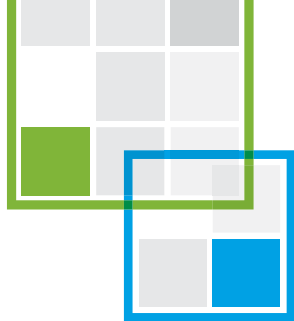
1. Economic and Financial Performance
2. Supply Chain Management
3. Green and Specialty Products
4. Employees' Readiness
5. Anti-Bribery and Corruption
6. Customer Relationship Management
7. Energy Efficiency and Climate Change
8. Environmental Management
9. New Project Development
10. Oil and Chemical Spills and Response Plan
11. Occupational Health and Safety
12. Community Relations and Development



Economics Aspect

IRPC is determined to becoming "A Leading Petrochemical Complex in Asia in 2020" by developing the organization to excellence with responsibility towards the society, community, and environment as well as being able to meet all stakeholders' expectation based on the foundation of corporate good governance

As a result of risk factors with potential impacts, for example, oil price volatility, and the economic sensitivity, therefore, IRPC had initiated Phoenix project to build strength and Delta project to develop and improve capability throughout the organization.



Focuses on the research and development of environmentally friendly products that meets the customers' needs and, at the same time, increase value of the products

# Product Specialty



## ■ Our Commitment

IRPC is determined to research and develop specialty products that are environmentally friendly, meet customers' needs, respond to the global trends, and as a result, create value added to the company.

## Management Approach

In 2013, IRPC laid out guidelines for specialty product research and development as followed

- Focuses on researching and developing environmentally friendly specialty products in line with the global megatrends such as renewable energy, plastic pallets for auto parts that enhance efficiency of the vehicles, environmentally friendly plastic pallets for construction material, etc.
- Closely listens to comments from the customers and partners to develop and improve products that meet the needs and create value added to the customers and partners.
- Guarantees product safety through labels and safety documents in compliance with The Global Harmonized System of Classification and Labeling of Chemicals (GHS)

and registration of chemical substance in compliance with Registration Evaluation and Authorization of Chemicals (REACH) in 2012 to communication safety information of the products in regards to the international standards.

- Ensures that all products are environmentally conscious. All types of plastic pallets received carbon reduction label from Thailand Greenhouse Gas Management Organization (TGO).

To achieve these following objectives

- The revenue from specialty products is to contribute at least 30% of total revenue.
- Success of research and development, as shown in R&D Intensity Index (RII), continuously increase in every year



## Case Study Innovative Organization

IRPC has carried out an innovation award program regularly on an annual basis to encourage employees to share creative ideas and technical knowledge for innovation both in term of processes and products, which qualify as specialties. In 2013, there were 158 projects competing for the award, 4 successful projects, which are HN for Blend BGH91, Value added for C4 Raffinate 3, Bio-Hydrogenated EURO V Diesel, and Novel HA2PO catalyst and process for UHMWPE grade U510D, are in the final. In 2013, IRPC had allocated 180 million Baht in research and development budget or an equivalent of 22% of the company's net profit. There are 78 employees in the office of research and development. In 2013, 25 new products, from research and development, had been launched, while 46 items are during the patent registration process

IRPC set the key indicator to measure an annual success of research and development in the form of R&D Intensity Index (RII). In 2013, RII showed score of 378, which was higher than a 300 target.

Research and development  
Intensity Index (RII)





## Key Initiatives

### Environmentally friendly plastic products

GRENOVO product line is IRPC's innovation, which introduces the use of natural material as part of the plastic production. These products include Green ABS, in which synthetic rubber is replaced by a natural rubber. IRPC was the first to succeed in Green ABS production. A total of 1.2-3.0 million tonnes of liquid rubber is used annually, which helps generate more income to the farmers and at the same time, reduce cost of importing synthetic rubber of around 255 million Baht per annual as well as reduce GHG emission of 0.7 tonne of CO<sub>2</sub> equivalent per year. Since 2010 to 2013, IRPC had sold more than 400 tonnes of Green ABS or 25 million Baht in revenue.

Wood Plastic Composite is a plastic product with a mixture of sliver, blending together outstanding properties of plastic and wood perfectly. IRPC focuses on developing products that can be used in consumer packaging and furniture. In case of consumer packaging, all requirements from Food Contact EU Regulation (FDA) had already been passed. 8.5 tonnes of wood plastic composite were sold during 2010-2013 with accumulated revenue of 0.58 million Baht.



## Antibacterial Plastic

BANBAX is an antibacterial product, which uses nanotechnology to combine antibacterial substance into plastic during production process, enabling the substance to work thoroughly and could not be washed out. This can be seen as an innovation that IRPC has been focusing on to meet the needs of the consumers, who are health conscious. The product had been tested and approved by Japan's JIS Z 2801 standard and can be mixed with many types of plastic, including Polyethylene, Polypropylene, ABS, and Polystyrene. The product has a high impact resistance and can be used expansively in various industries, including packaging, furniture, sanitary ware, home appliances, baby diapers, and toys, depending on the needs of usage. In 2013, IRPC had successfully launched the product into market as well as being able to establish a connection with 20 new customers. Since 2010-2013, more than 1,000 tonnes of antibacterial plastic had been sold, creating approximately 95 million Baht in revenue. This is certainly a new business frontier for IRPC with an opportunity to grow in the future.



## What's Next

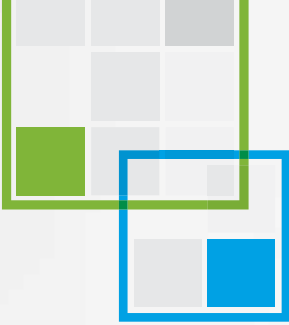
In 2014, IRPC will continue to carry on projects as followed

- GRENOVO Product development plan, which includes Green ABS and Wood Plastic Composite, aims to increase productivity to achieve quality and quantity required by the customers.
- BANBAX product development plan, not only plastic pallets, yet IRPC is committed to developing the product in powder form in order to expand its customer base to a group of customers, who specialize in compounding work, to meets the customers' diverse needs.



## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
Revenue from petrochemical products (Million Baht)	37,157	37,221	40,748	43,550	47,000
Revenue from specialty products (Million Baht)	9,893	12,255	13,814	14,833	16,450
Ratio of revenue from specialty products to petrochemical products (%)	26.6	32.9	33.9	34.1	35.0



#### ■ Our Commitment

IRPC is focused and determined to creating awareness and understanding to all employees in running the business with fairness and against corruption

# Anti-Bribery and Corruption

## Management Approach

IRPC implements business ethic as a framework to operate fairly and has in place IRPC Corporate Governance Handbook to magnify the meaning of business ethic to create understanding for the board of director, executives, and all IRPC's employees as well as to show the spirit in the operation to all stakeholders. The contents of the guidelines include aspects on human resource management, financial and accounting reporting, internal audit, conflict of interests reporting, giving and receiving gifts, confidentiality, stock purchase, communication technology, QSHE, and procurement.

Communication to create an ethical understanding is always essentially important to IRPC, in which has been included as part of an induction training session for all new recruits to participate in since day one. Also, All employees must sign to acknowledge and accept to conform to the company's provision.

In addition, IRPC's internal audit office is responsible for assessing risk annually using The Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework to identify the area of risk including corruption in all activities and IRPC's subsidiaries in order to ensure adequacy and appropriateness of internal audit procedures.

Moreover, IRPC has in place a complaint management process on a corporate level providing channels to lodge complaints on any illegal activities via the company's secretary, in which IRPC will listen to all complaints with equality, transparency, and attention as well as provide fair treatment to all involved parties. The investigation period is set appropriately, the whistle blower identity will remain anonymous and be protected at all time during and after the investigation.





## Key Initiatives

### Anti-Corruption and Anti-Bribery Policy

IRPC set up policy and guidelines in anti-corruption in addition to the existing regulations regarding business ethic in order for the board of director, executives, and IRPC's employees to adhere and practise until becoming a corporate culture as well as to communicate with all stakeholders. The Anti-corruption policy and guidelines were communicated in the form of company's announcement active since the 11<sup>th</sup> of November 2013 and the 18<sup>th</sup> of December 2013 respectively. The core contents include forms of corruption, organizational structure and responsibilities, anti-corruption measures, channels of complaint, whistle blower protection measures, etc. In 2014, IRPC will focus on communicating and provide trainings for directors, executives, and IRPC's employees as well as reviewing and improving an internal audit on important activities to align with the anti-corruption policy and guidelines in order for IRPC to grow sustainably.

### Communication to create understanding in corporate governance and business ethic

IRPC truly understands how important it is to create an understanding in corporate governance and business ethic because IRPC believes that creating awareness and understanding is the best way possible to prevent any wrong doings. In 2013, IRPC has communicated through ways as followed

- Conducting the campaign to communicate and train employees regarding corporate governance and ethic throughout the year through such channels as monthly email, article in the company's magazine on a quarterly basis.
- Planning with HR in embedding anti-bribery and corruption trainings into the employee training curriculum.

## What's Next

IRPC's action plan for 2014 is as followed

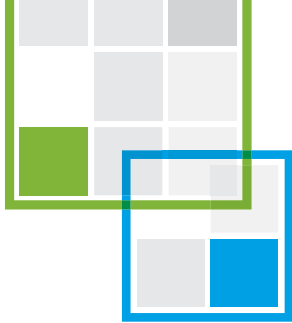
- Train and educate directors, all management level with knowledge in business ethic, anti-bribery and corruption and communicate through lectures or the company's intranet throughout the organization.

## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
Percentages of business functions assessed by the internal audit office	100%	100%	100%	100%	100%
No. of proven ethical violation incident	0	0	0	0	0







Systematic and transparent procurement process,  
fair supplier management based on the principles of  
business' stability and partner's reliability

# Supply Chain Management

## ■ Our Commitment

IRPC is committed to conducting transparent procurements by treating trade partner with equality, righteousness, clarity, integrity, as well as to saving costs from managing supply chain, yet maintaining the quality of products and services with concerns to the environment and society via good relationship with partners.





## Management Approach

IRPC gives the highest priority to a systematic procurement process with transparency and equality in managing vendors. IRPC adheres to the principle of business stability and reliability of vendors by managing contents and boundaries to be within the regulations coupled with conducting assessment suitable for certain vendor depending on type of activity or product. The procurement for raw materials, chemical, machinery, and production equipment is classified into 2 groups as followed

- **Vendors for Raw Material for production:** provide supply of crude oil and other raw material critical to the production process, occupying the highest ratio in costs compared to other partner. IRPC selects vendors based on the market reputation and delivering capability. IRPC also keeps track on the origin of the raw material, for example, inspection of type and origin of crude oil in order to ensure the delivery of the raw material and not purchasing from the country forbidden in the global community account.
- **Vendors for chemicals and general products:** IRPC has in place risk management process for customers by conducting assessment on both activities based and product based vendors covering environmental, social, and governance aspects in order to set up a management guideline to align with risk level with regards of quality, quantity, and product and service delivery, as well as minimum labor laws, environmental regulations, and quality management systems. Vendors must answer self-assessment questionnaire to evaluate capability in various aspects.

Moreover, IRPC also realizes the importance of local procurement and promote supply of local products. When considering costs of product and service based on Total Cost of Ownership (TCO), local suppliers hold advantages in logistic costs, are easier to contact. This also creates jobs and income to the communities.

## Key Initiatives

### PTT P&R Group Procurement Excellent Project

A collaborative project between PTT group's companies in order to increase bargaining power. During 2011-2013, supply chain management could reduce more than 40 million Baht in costs.

### Domestic Crude allocation project

In 2013, IRPC had increased the use of domestic crude up by 6%, resulting in the decrease of imported crude and the increase of 20.5 MUSD in Gross Refinery Margin (GRM)

### Procurement of Chemicals and Raw material

In 2013, IRPC had initiated a project to reduce chemical purchasing costs starting from the chemical used in the production process using pricing strategies such as increase the amount of chemical purchased from certain suppliers, search for new suppliers, for example, new jumbo bag manufacturer, in which IRPC could save 2.7 million Baht in manufacturing costs.



## What's Next

IRPC's action plans for 2014 are as followed

- Plan to move towards becoming procurement excellence, which is a part of HR excellence, to reduce procurement costs by 15 million Baht
- Partnership development plan for Automotive (ISO/TS16949)

To create the understanding of the objective and importance of ISO/TS16949, a certified standard for quality of products used in the automotive industry, and to extend trade boundary, as well as to embrace any comments and suggestions to improve on the performance.

- Annual partner assessment.

Assessment topics include product quality, punctuality in the delivery, price competitiveness, quality control, and compliance to the regulations of Green Procurement. The assessment is done based on the 2013 Approved Vendor List and will be finished in February 2014. vendors will, later, be informed of the results.

- Relationship Management Strategy based on partnership classification

Group of vendors are classified based on the importance as followed

1. Strategic Supplier is a group of vendors that have significant impact to the quality of products and costs, involve in the exchange of technical information and business strategy.
2. Key Supplier is a group of vendors with moderate impact to the quality of products and costs, It is necessary to purchase these products and difficult to find a replacement product.
3. Managed Supplier is a group of vendors that engage in a trade regularly, no significant impact to the business, suitable for framework contacts to reduce procurement process.

- Procurement staff's capability development

To improve capability in all level of procurement staff to have the similar required knowledge and skills as other leading companies, as well as to improve a procurement process that can ensure quality of products and services, adequate costs, and does not pose any risk to the company's operations.

- Increase domestic crude purchase to 17%, GRM is expected to increase by 22.6 MUSD.
- Increase procurement term contract for coals and refined bleached deodorized palm oil (RBDPO) to mitigate procurement risk, especially RBDPO which is an agricultural product.





## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
Procurement value of products and services from local vendors in Rayong (million Baht)	1,625	2,396	2,539	1,594	1,600
Ratio of procurement value of products and services from local vendor to overall procurement (%)	16.10	16.49	19.86	16.22	16.33

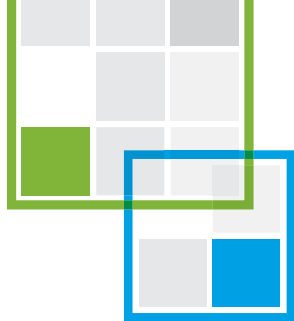
### Crude oil, Raw Material for Petroleum and Petrochemical

No. of rejected vendors in Pre-qualification process	-	-	-	7	-
No. of new vendors selected to do business with IRPC	-	-	-	21	-
No. of all vendors selected to do business with IRPC	-	-	-	107	-
No. of vendor verified via questionnaire	-	-	-	78	-

### Chemicals and general products

No. of rejected vendors in Pre-qualification process	-	-	-	6	-
No. of new vendors selected to do business with IRPC	-	-	-	43	-
No. of all vendors selected to do business with IRPC	-	-	-	842	-
No. of vendor verified via questionnaire	-	-	-	49	-

Remark: Information on the performance of crude oil, raw material, and chemicals were collected for the first time to align with GRI G4



Gives the highest priority on the customers' satisfaction and managed relationship with customers through hearing process in order to continuously improve IRPC's products and service

# Customer Relationship Management



## Our Commitment

IRPC realizes the importance of all comments and feedbacks from the customers and is committed to improving its performance both in term of customer relation and product and service improvement

## Management Approach

IRPC has given the highest priority to all of its customers by placing them as one of the company's key stakeholders and setting customer satisfaction as one of the corporate's performance indicators. IRPC's major customers consist of petrochemical and petroleum customers and responsible functions manage customers based on business groups through customer's voice process and performance improvement. Guidelines are as followed.

- **Petrochemical Customers:** divided into 3 groups, which are domestic, overseas distributors, and plastic processing factories. IRPC's sales representatives are assigned to each of these customers to oversee such issues as regulations, orders, delivery schedule, complaints, and pricing information. Additionally, IRPC has always organized activities for customers in order to create a better relationship between customers, executives, and

IRPC's sales representatives. Activities include plant visits, which can be seen as an opportunity to acknowledge customers' needs and expectation towards the given service. In 2013, IRPC's plants were visited 32 times by the customers.

- **Petroleum Customers:** divided into oil products, lube and downstream products, and aromatics products, which cover both domestic and overseas customers. IRPC has arranged activities for both domestic and overseas customers in order to build good relationship. Moreover, IRPC has also arranged plant visits for customers and at the same time, IRPC's executives, marketing officers, and technical officers would visit customers' plant in order to collaboratively develop and improve better products and services.



## Case Study CRM information technology system

IRPC has developed and implemented IRPC Customer Oriented Network System (ICONS) for petrochemical business and IRPC Relationship Information System (IRIS) for petroleum business, using information technology to support the performance in term of building good relationship with the customers. These systems link all information relevant to the customers to various databases to create reports, in the simplest way, with accurate information. Customers' details, complaints and solutions stored in the system can be further analysed and used to improve and better respond to the customers' different needs. These systems can be used via mobile phone and tablet devices. Initially, when a customer sent any complaint through any of communication channels, sales units and/or technical service team would contact the customer back within 24 hours to inquire about the complaint in more details and later coordinate with units/functions relevant to the particular complaint to analyse causes, solution, and prevention to the arose problem.



The customer would be regularly informed of the progress until the problem is completely solved.

## Key Initiatives

IRPC truly sees the importance of the customers' comments and feedbacks, which will be used to continuously improve products and services. Channels of communication between the customers and IRPC include face to face, telephone, website and e-mail.

## Communication Channels

- Tel: +66(0) 2649 7000
- Website: [www.irpc.co.th](http://www.irpc.co.th)  
[www.irpcmarket.com](http://www.irpcmarket.com) (Petrochemical)  
[www.irpcpetroleum.com](http://www.irpcpetroleum.com) (Petroleum)

An annual customer satisfaction survey by external party through various methods include questionnaire, online survey, and interviews enables IRPC to analyze trends and customers' expectations in order to improve an overall performance of the company.

## What's Next

In 2014, IRPC plans to improve a complaint management system to be able to collect and store any complaints into the database and develop it into a knowledge sharing system with all technical information necessary, in which history and details of the problem can be searched.

## Performance

Customer Satisfaction, 2010–2013

Key performance indicators	2010	2011	2012	2013	Target in 2014
Customer satisfaction (%)	87	86	87	86	88





Environment Aspect

IRPC has the environmental management system in line with ISO 14001 standard, which concerns water quality, air quality, and waste management. IRPC has successfully implemented an up-to-date technology in the operations, prepared prevention and impact mitigation measures in case of oil and chemical spills caused by the production process, storage system, and logistics as well as improved energy efficiency to reduce GHG emission, and assessed business opportunity to adopt to the climate change

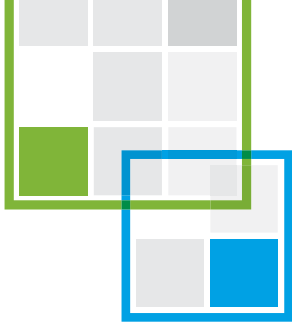




#### ■ Our Commitment

IRPC is determined to becoming excellence in environmental management in order to move towards Eco-Industrial Zone in 2017





# Environmental Management



“Strategy to create strong and sustainable business operations for IRPC under changing circumstances from internal and external factors is truly a challenge and mission that needs to align with roles and responsibilities, and planning for all production plants to be able to co-exist with the communities in harmony. IRPC introduced the production technology that is environmentally friendly and used all sort of equipment to study the impact on the environment and communities as well as prepare preventive measures for new projects and implement an international standard quality system to set up the performance indicators, which include production process improvement with technology that adds value to the product throughout the production chain, efficient use of natural resources, minimize waste released, energy efficiency management to increase stability in production using Energy Management System (EnMS), and the development of the Combined Heat and Power II (CHP 2) project. Moreover, IRPC creates value in the supply chain by using types of chemicals that conform to the European's Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

In order to manufacture products that are environmentally friendly and able to compete with other company, All I have mentioned above were concrete examples of what IRPC has done in the past year, which we wholeheartedly believe that will create sustainable business for IRPC”

Awrapin Kettratanakul  
Executive Vice President of QSHE

## Management Approach

With a corporate philosophy that adheres to the coexistence of business, community, and environment, IRPC recognizes the importance of production processes that use clean energy and are environmentally friendly to create sustainable development. IRPC strictly abides to the QSHE policy as a main principal to create continuous improvement and become operational excellence as well as to respond to both internal and external stakeholders. IRPC's QSHE policy is an integrated policy covering all functions. For example, in an environmental aspect that focuses on controlling water and air pollution, and industrial waste to comply with the legal terms, IRPC has in place continuous process improvement measures and focuses on reducing pollution from its original

sources as well as manages GHG emission to move towards becoming low carbon society and promotes efficient and effective use of resources.

In Addition, IRPC continued to improve work efficiency of all functions by setting 2013 QSHE performance objective to align with performance indicators of each function, which mainly focus on air quality and waste management. IRPC set long term targets to become QSHE excellence in 2017 as followed

- Maintaining the level of air pollution emission per tonne of production
- Zero landfill for non-hazardous waste



## Key Initiatives

### Air Quality Management

#### Reduction of VOCs Discharge

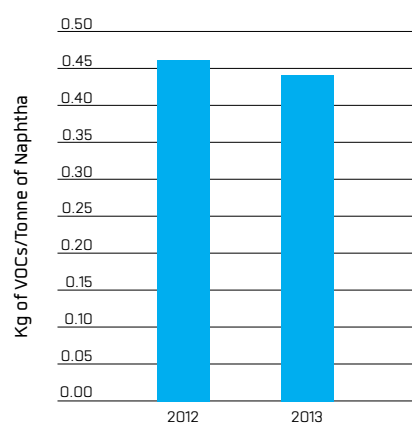
IRPC recognizes the importance of any issues regarding VOCs. Therefore, VOCs Emission Inventory had been continuously prepared in order to evaluate and find ways to better manage the air quality in the area of operations. As a result, it showed that the amount of VOCs released to the atmosphere from the petroleum and petrochemical businesses were decreased by 13% and 6% respectively compared to 2012. This is considered a success built on the implementation of VOCs leakage monitors as well as changes in production process include changing a sampling system to a closed system and installing wet scrubber in a unit involving in chemical unloading to reduce odors and fugitive VOCs

Moreover, IRPC has in place an environmental quality surveillance system, with 5 stationary air quality monitoring stations and 4 mobile stations. The communities will be informed of the performance results via display screens installed around the communities and in front of the industrial park in order to ensure that the air quality is in accordance

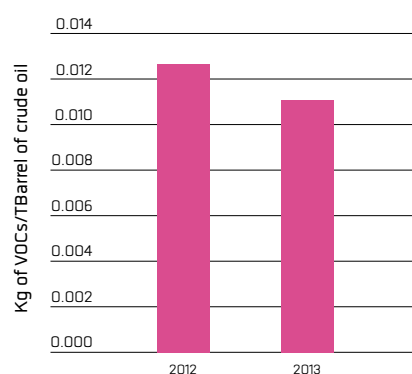
VOCs ventilation rate	2012	2013
Petrochemical business (kg. of VOCs/tonne of naphtha)	0.464	0.437
Petroleum business (kg. of VOCs/barrel of crude)	0.013	0.011

Remark: VOCs ventilation rate of refinery business is in reference to the American Petroleum Institute average of 0.02 kg per barrel and Petrochemical business is of 0.6 kg per tonne

### VOCs Intensity of Petrochemical Business



### VOCs Intensity of Petroleum Business





with the law. Nevertheless, if there were to be any complaints regarding odors, IRPC would bring in E-nose to help analyze types and originated source of odors. As a result, IRPC was able to decrease odor related complaints by more than 50% compared to 2012.

#### Pollutant Release and Transfer Registers: PRTR

Since 2012, IRPC's petroleum business has joined a pilot project to prepare a Pollutant Release and Transfer Registers (PRTR), which is a voluntary project, by the Department of Industrial Work in collaboration with Japan International Cooperation Agency (JICA) to prepare reports on pollutant released and transferred to the environment. IRPC had conducted the preparation of operating manual in accordance to PRTR and sent related personnel to attend system testing training to submit reports of the pilot plants to DIW within the 3<sup>rd</sup> quarter of 2014 to analyze the result and use it to improve and develop a better report, at the same time, IRPC has an opportunity to improve its chemical and substances inventory management as well as to promote the efficient use of chemical, which includes finding prevention measures for material and chemical losses in the production process and reducing pollution released to the environment

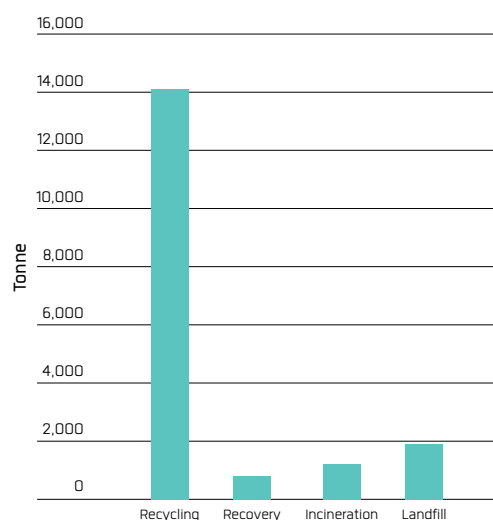
## Waste Management

IRPC has a policy to develop IRPC's industrial park into an eco-industrial zone; one of many main operations is zero landfill for non-hazardous waste. In 2013, Waste management committee had been appointed to oversee an overall picture of waste management and conduct waste flow analysis. These information will be used for monitoring and forecasting the amount of waste being generated in order to enhance a corporate's waste management efficiency as well as implementing 3R-Reduce, Reuse, Recycle strategy in all production units to maximize efficiency in the use of resources and minimize waste generated from the production process. In 2013, 78% of waste generated (except those generated from activities that were not business as usual) were put through recycling process, while, 4% of waste generated were put through other recovering processes, such as burning or being used as feeds in other industries, etc. Currently, only 11% of waste is landfilled.

## Complaint management

IRPC has in place an efficient complaint management, especially odor related, which will be managed in parallel in 3 situations, includes normal situation, during complaining period, and during turn around period, or in case of special activities. IRPC had regularly sent out working teams to visit the communities surrounding the industrial area as well as established a complaint center and field coordination center to explain and create understanding to the communities. IRPC, as a result, has never once violated any environmental regulations

Amount of Waste from production process classified by disposal methods in 2013







## What's Next

In order to achieve a long term target of becoming QSHE excellence by 2017, IRPC set out plans for 2014 as followed

### Monitoring measures

- VOCs monitoring program: installing fence line inspection system on the west side of the industrial area to monitor and report continuous inspection results back to ECC in order for the staff to execute an immediate response
- Air quality forecast program using AERMOD. A pilot study will be carried out at a ventilation tunnel to forecast air quality in real time

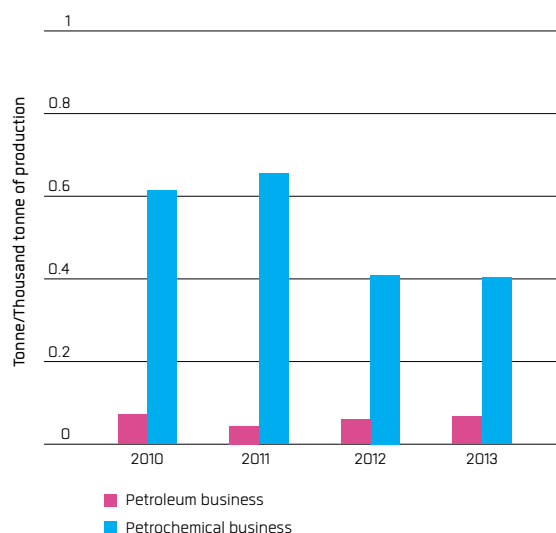
- A program to install 4 additional screens displaying air and water quality results at local government offices in Rayong province
- Geographic Information System (GIS) program in environmental management and communities' health to be used as the database in environmental management and emergency response plan.

### Mitigation Measures

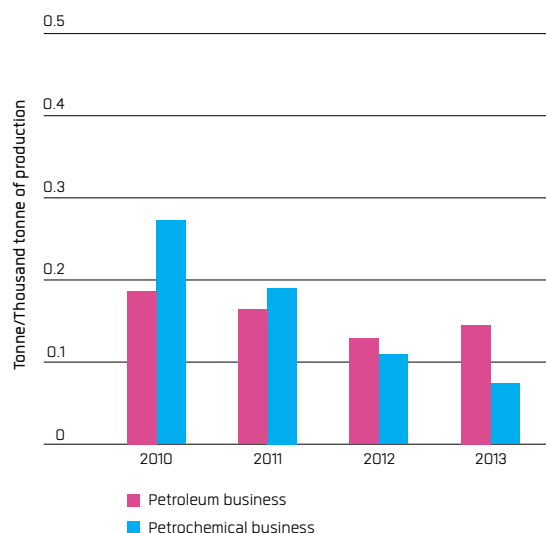
- Installing devices for controlling and reducing the amount of Nitrogen Oxide discharge from CHP1 and 2
- Central waste water treatment system efficiency improvement program

## Performance

### NOx Intensity



### SOx Intensity



Remark: Sulphur Oxide is reported as SO<sub>2</sub>

Key performance indicators	2010	2011	2012	2013	Target in 2014
<b>Air management</b>					
Amount of Nitrogen Oxide released (Tonnes)	3,691	2,776	2,745	4,137	-
Concentration of Nitrogen Oxide in Petroleum Business (Tonnes/Thousand Tonnes of production)	0.07	0.04	0.06	0.07	0.07
Concentration of Nitrogen Oxide in Petrochemical Business (Tonnes/Thousand Tonnes of production)	0.61	0.65	0.41	0.40	0.40
Amount of Sulphur Oxide released (Tonnes)	5,778	2,067	1,357	1,666	-
Concentration of Sulphur Oxide in Petroleum Business (Tonnes/Thousand Tonnes of production)	0.19	0.16	0.13	0.15	0.15
Concentration of Sulphur Oxide in Petrochemical Business (Tonnes/Thousand Tonnes of production)	0.27	0.19	0.11	0.07	0.07
<b>Waste management</b>					
Amount of landfilled non-hazardous waste (Tonnes)	2,591	1,229	1,111	1,903	Decreasing trend

Remark: Sulphur Oxide is reported as SO<sub>2</sub>



# Oil & Chemical Spills and Respond Plan



Prevention of Oil and Chemical spill is important to the operation of IRPC's port business, therefore, IRPC has infused prevention plan and mitigation measures for oil and chemical spill into the corporate's risk management plan as well as educated all relevant employees through the oil spill rehearsal training and focused on building a collaborative network with other PTT group's companies, government agencies, the communities, and the international organizations in order to be able to quickly respond to the situation.

Additionally, IRPC has carried out a project to share knowledge and create awareness for younger generation. We strongly believed that through these operations, we could ensure the confidence of the people and stakeholders and build a sustainable business.

Somboon Sartsin, Vice President of Port Operation

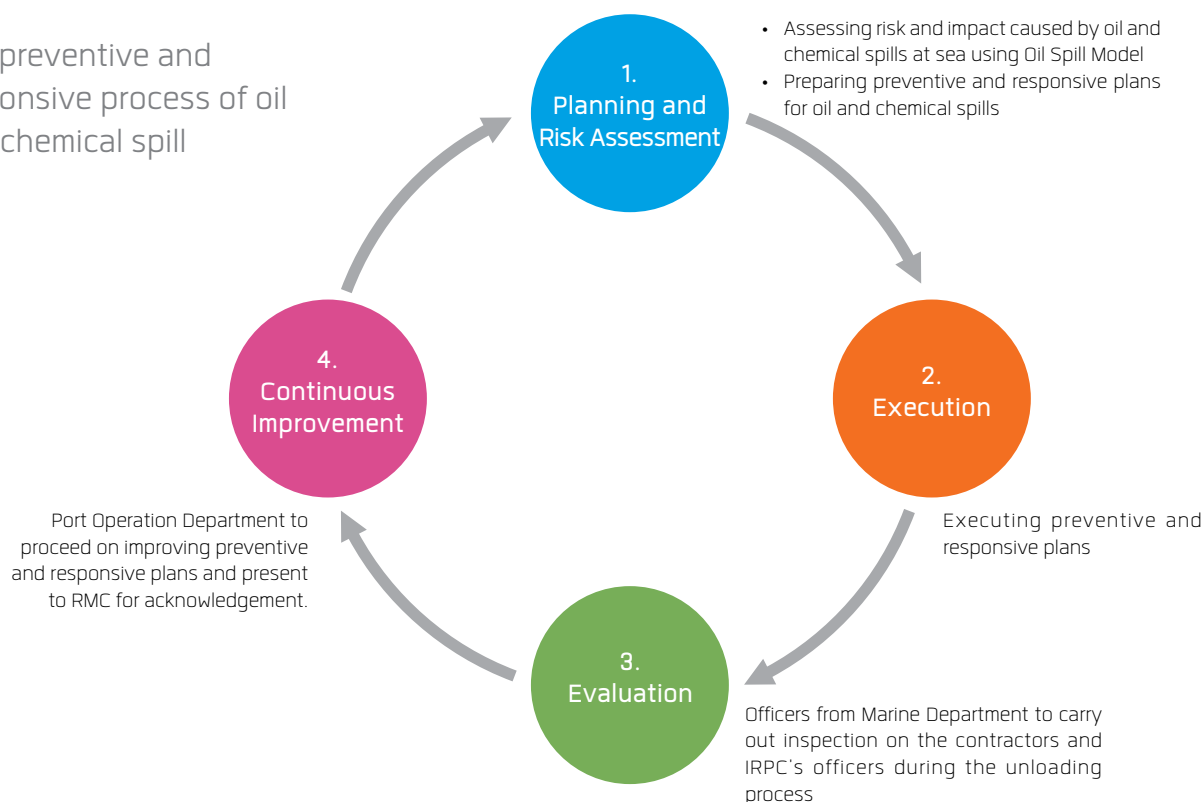




#### ■ Our Commitment

IRPC is operating with the best of today's safety measure aligned with international standards for oil & chemical transportation. This proves IRPC's Operational Excellence to counter the risk of oil & chemical spills in order to maintain license to operate from our stakeholders, which IRPC values most.

## The preventive and responsive process of oil and chemical spill



## Management Approach

IRPC continuously develop and advance our preventive plan and respond plan in the incident of oil & chemical spills from our deep professional experience to operate with providence and conciseness. Preventive and responsive plan are as followed

### Preventive and responsive process for Oil & Chemical Spills

Our process consists of 4 main steps, 1. Risk Assessment and planning 2. Execution, 3. Evaluation and 4. Continuous improvement

IRPC assigns Oil & Chemical Spills to our Corporate Risk Portfolio. The Port operation department is therefore responsible for deployment and execution of measures and risk treatment plan with its best ability. Moreover, the results of Oil Spill model study are submitted to be reviewed by the IRPC Risk management committee (RMC) on a quarterly basis to make sure that the plan will always be effective and aligned with international standards. The Marine department of Thailand also routinely audits our plan and measure.

### Biodiversity Impact Assessment from Oil & Chemical spill incident

In 2013, IRPC investigated and assessed Biodiversity Impact from Oil & Chemical spills. We did this by creating an Oil Spill Model to predict the flow direction of oil and chemical in the event of tides. The result was then used to collect bio-natural resources data such as the aquatics and seabirds

with their habitats in the highly sensitive area that may have impact in case of oil spill. Afterward, we analyzed the data and form responding plans according to Net Environmental Benefit Analysis (NEBA) which evaluate PROs and CONs of different responding plans. The assessment allows IRPC to deal with the incidents at maximum effectiveness and ensure the safety and well-being of lives near the shore line.

### Oil & Chemical spills prevention plan

Oil & Chemical spills prevention plan consist of 3 dimensions, 1. Pipeline, tools and equipment, and lightering ships 2. Operation of IRPC and contractors in the uploading operation and 3. IRPC's Oil Transportation Measures. Details are as followed

#### Pipeline, Tools and equipment, and Lightering ships:

IRPC invested 215 million Baht into oil transportation equipment and set their standards according to Oil Companies International Marine Forum (OCIMF) and International Safety Guide for Oil Tankers and Terminals (ISGOTT). All vessels both of IRPC and contractor include equipment and operators are also trained and certified with PTT Ship Vetting standard. All IRPC ships are equipped with Oil spill detector devices to be able to immediately prevent the dispersion of oil spill, Moreover, IRPC implemented VTMS (Vessel Traffic Management System) to track oil spill and ship location in real time to identify the location of the incident when it happened



All contractors in Oil Transportation operation must meet all criteria according to the Approved Vendor List and are trained in safety and operation procedures before the operation. IRPC will also evaluate each contractor after the operation.

In terms of crude unloading procedures, IRPC has prepared unloading agreement, risk assessment, and safety inspection of ship and equipment. Additionally, Contractors must provide 1 work boat and 1 tug boat with oil dissolution chemical coupled with IRPC's tug boat, which has been installed with buoys. Also, IRPC requires that contractors must provide mooring master and mooring gang to supervise the unloading with IRPC's loading master and marine safety to oversee the whole operation. IRPC will conduct an ongoing risk assessment during unloading process, for example, wind speed, wave height, etc. the unloading operation will be immediately halted if risky events occur. Moreover, IRPC and the contractor to provide 24 hour security, where shift changes every 4 hours.

### Oil and Chemical spill response plan

IRPC prepared oil and chemical spill response plan based on severity and to align with the industry best practice. Plan has been designed to deal with 3 level of severity, which are

**Tier I:** not more than 20 tonnes of spills, in which IRPC is able to efficiently handle. The emergency plan is rehearsed 2 times a year.

**Tier II:** more than 20 tonnes but less than 1,000 tonnes of spills. IRPC already became a member of the Oil Industry Environmental Safety Group Association (IESG) to ensure that when incident occurs, IRPC will be provided with immediate supports in terms of personnel, equipment, and necessary chemicals. In addition, Rayong Oil Spill Exercise, code name "ROSE", was annually organized in collaboration with PTTGC, SPRC, SCG, and PTT Tank Terminal. IRPC Naval Exercise (INEX) is a training with Sornchon 1 of the Royal Thai Navy, once every two year and Thailand Oil Spill Response Exercise (TOREX), which is a national oil spill plan together with other IESG members, Marine Department and the Royal Thai Navy, as well as local agencies, is organized once every three years

**Tier III:** more than 1,000 tonnes of spills. IRPC has become a member of Oil Spill Response Limited (OSR), which is the most trusted company by oil and gas companies around the world in managing oil spill with maximum efficiency. OSR Singapore sends in team of experts, equipment and dissolution chemical to eliminate oil spill in the shortest time possible and reduce impact to social and environment to as low as possible



IRPC set objectives in oil and chemical spill's preventive and responsive operations as followed

- Number of oil and chemical spill incident is "Zero"
- All Employees operate in the unloading of oil and chemical must be trained to prevent and respond to oil and chemical spill and participate all type of spill rehearsals
- All ships owned by IRPC must be installed with equipment that meets Oil Spill Response standard

## Case Study TOREX oil spill rehearsal

On the 8<sup>th</sup>-10<sup>th</sup> of May 2013, IRPC participated in the 7<sup>th</sup> Thailand Oil Spill Response Exercise together with companies in IESG, Marine Department, the Royal Thai Navy, and relevant local agencies. All port operation staff responsible

for supervising unloading process was trained in terms of using the equipment, planning commands, and supporting shore operations. The next rehearsal will be held in 2016



## What's Next

IRPC, as planned for 2014, is intended to achieve zero targets in oil and chemical spill. IRPC requires that all tug boats hired externally, must be installed with equipment that meets Oil Spill Response standard. IRPC also plan to invest 5.5 million Baht on more equipment, such as fast tank, solid boom, skimmer shoreline

## Performance

In 2013, there was no oil and chemical spill incident caused by IRPC. Oil Spill Response standard equipment was installed on every ship owned by IRPC and Oil spill exercise rehearsal was participated regularly as scheduled

## Oil and Chemical Spill Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
No. of oil and chemical spill to sea	1	2	0	0	0
Amount of oil and chemical spill to sea (m <sup>3</sup> )	0.1	0.12	0	0	0

### Remark:

(1) IRPC set target for oil and chemical spill of less than 1 tonne (approx. 1.14 m<sup>3</sup>, in reference to crude oil density of 873.46 kg/m<sup>3</sup> as of American Petroleum Institute standard: 2009). Spill cases occurred within the area that can be controlled using IRPC's equipment is not accounted as case, which is in line with the international standard in oil and chemical spill

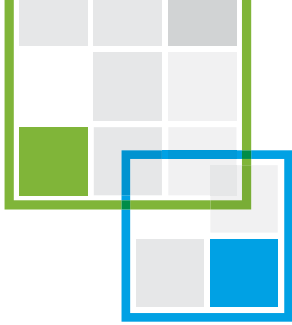
(2) Spill case in 2010, a spill of diesel during the unloading from truck to ship, caused by a disconnection of cable from the truck's dispenser resulting in the spill of 100 liters of diesel on to port's premises, in which IRPC was able to immediately clean up. As a result, IRPC has set up additional measures to inspect dispenser and cable to prevent reoccurrence. There were 2 cases of spills in 2011, 20 liters of bunker oil spilled from the contractor's ship, in which the contractor proceeded to clean up as stated in IRPC's regulations and IRPC, as a result, blacklisted particular contractor. The 2<sup>nd</sup> spill was a 500 kg of slack wax at IRPC's port, which occurred during valve change; presumably that valve was not functioning causing slack wax to disperse. Although the amount of spill was less than 1 tonne, yet supporting team and equipment were required to stop the dispersion of slack wax, the incident was reported as case. Nevertheless, IRPC was able to stop spill in 1 hour, get rid of slack wax stain on the shore line within 4 hours after the incident happened and clean up the shoreline in 1 working day. In order to prevent the same incident from happening, IRPC has set up additional measures to emphasize that all units requested to support could provide what is needed immediately without having to request approval as in normal operations. Approval for more Bleach Boom acquisition in order to quickly confine spills. Moreover, IRPC also increase maintenance for equipment to ensure that all equipment is in the condition readying for deployment, and consider setting up additional supporting team from IRPC's port business units, fireman, and security. As a result of better performance, in 2012 and 2013, there was none oil and chemical spill incident.











Sees the importance of the climate change risk assessment in terms of both, physical and market risks, which could potentially impact the sustainability of IRPC's business

# Climate Change Risk Assessment and Adaptation



## ■ Our Commitment

IRPC is committed to reducing GHG emission from the operations to alleviate impact from the climate change and be prepared to adapt in line to the global megatrends to maintain the competitive advantage by striving to create businesses that are environmentally friendly.

## Management Approach

Climate change has proven to be the most challenging issue in Oil and Gas Industry in term of how to effectively reduce GHG emission, and at the same time, maintain the same level of productivity for both petroleum and petrochemical products to meet the continuously increasing needs. In order to respond to the proposition, IRPC realises the importance of the climate change risk assessment both physical and market risk regarding the impact on IRPC's sustainability. IRPC had carried out risk assessment extensively and the result will be used to prepare the corporate strategies to enhance ability to compete and manage business continuity. Such strategies include efficient water management, energy efficiency, environmental

standard certification, and production of low carbon and energy efficiency products. The operational objectives are as followed

- Reduce Energy Intensity Index (EII) every year
- Achieve Top Quartile ranking for all plants with regards to energy efficiency by 2020
- Reduce GHG emission by 1% on average per annum, compare to base year 2008
- Reduce water usage by 10% throughout the industrial area using 3R strategy-Reduce, Reuse, and Recycle
- Increase sales volume of environmentally friendly products



## Key Initiatives

### Climate Change Risk Assessment and Adaptation

#### I. Physical Risk

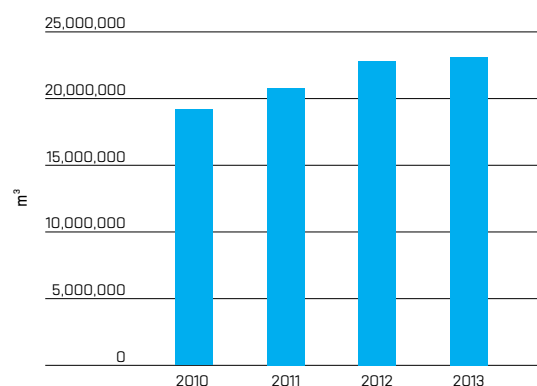
All of IRPC's production facilities are located in Rayong province, in which, there is several industrial plants located near communities that rely on agriculture as a main source of income. In the past, IRPC had encountered drought during summer, which had raised communities' concerns regarding water allocation in Nhong Pla-Lhai, which is a shared public water source between IRPC, other private entities, and communities. To prevent these hindrances from reoccurring, IRPC had implemented drought prevention measures as followed.

- Appoint a representative to participate in East Water war room, which comprises of representatives from agricultural, industrial sectors and communities. Royal Irrigation Department and local government agencies are responsible for monitoring and forecasting the level of the water in the public sources. The working team will meet once every quarter and the outcome of the meeting will be used by IRPC to prepare measures in line with the situation.
- 3R strategy: Reduce-Installing a closed heat exchanger system at CHP1 resulting in 200,000 m<sup>3</sup> reduction of water usage. Reuse-100,000 m<sup>3</sup> of waste water is used to watering trees, and as a result, clean water usage and effluent are significantly reduced. Recycle-2.3 million m<sup>3</sup> of condensate water is put through a polishing process to improve its quality to replace demin water used in the power plant.

- IRPC's reservoirs, which have 5 million m<sup>3</sup> in capacity, can reserve up to 8 months of water for production in case of water shortage and can be used as a dam to store rain water to alleviate flooding in the industrial area during rainy season.
- Proceed on 2R program (Reserve, Responsibility) together with Moo 16 Ban Takard, Moo 2 Ban Lang, Nern Putsa Agricultural park, a small fishing community surrounding the industrial area, and Plauk ket temple by allocating water from the reservoirs and water filtration plant to the communities for consumption and agricultural purposes. In term of responsibility, a communities' water supply is advised upon to encourage the communities to be able to manage water supply more suitably.

Additionally, in 2013, As a result of over expected amount of rainfall and a changed town plan. IRPC, as well as the locals with in the area, had been victimized by an inundation,

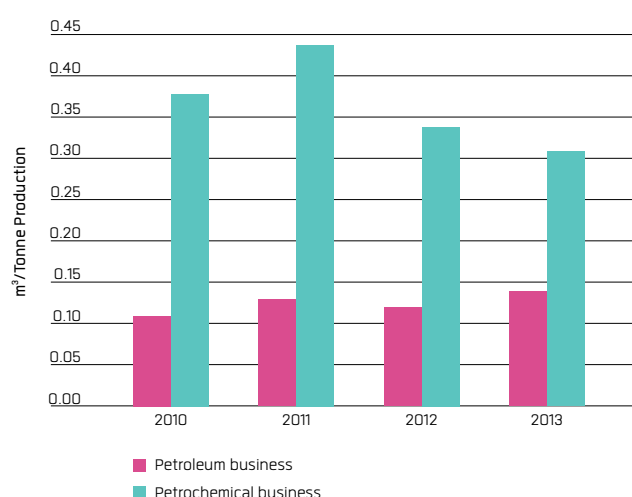
#### Water from Nhong Pla-Lhai supply to IRPC Utility Plant



## Water Withdrawal Intensity



## Wastewater Discharge Intensity



which could not drain fast enough. IRPC had adapted plans to alleviate flooding that may impact operations as followed.

- Towards the end of 2013, IRPC collaborated with Rayong Irrigation Project by providing forklifts and water pumps to help alleviate flooding in Rayong province and supply of sand bags to the effected local communities to prevent an inundation.
- Participate in the East water war room quarterly meeting to discuss flood situation as well as prevention measures within Rayong province.
- Prepare prevention plan both short term, includes reservoir management, and long term, which is during the survey studies and preliminary design to solve flooding around IRPC's industrial area

## II. Market Risk

IRPC recognizes that a change in business direction to become more environmentally friendly in order to alleviate climate change issues is a business opportunity as consumers and trade partners are paying more attention to products and services that are environmentally friendly.

In order for IRPC to adapt and operate sustainably, 3 main strategies have been carried out, including Green Process, focusing on manufacturing process that meets environmental standards and the efficient use of energy. Green Logistics, focusing on reducing GHG emitted from logistics. Market Expansion strategy for low carbon and energy efficient products to be able to manufacture products that meet the customers' and partners' needs in line with the global megatrends

### 1. Green Process

#### 1.1 Green Industry Project



At present, IRPC has joined Green Industry Project by The Ministry of Industry, which assesses the environmental related performance in 5 levels, from level 1, showing Green Commitment, to level 5, which is the highest, building Green Networks.

In 2013, IRPC achieved level 3, Green System, in the assessment. 10 of IRPC's plants have been ISO 14001 certified, which are as followed

- PTK Catalyst production plant
- Compounding Plastic production plant
- Ethyl Benzene Styrene Monomer production plant
- Acetylene Carbon Black production plant
- Atmospheric Distillation Unit 2
- Deep Catalytic Cracking / Vacuum Gas Oil Hydrotreating Unit
- Waste Water Treatment 1 and 2
- Waste Water Treatment 3
- Compounding Plastic production plant
- ABS/SAN production plant

In addition, 10 more plants achieved level 4, Green Culture, in the assessment. Green Culture is when everybody in the organization works together to create environmentally friendly operations. 10 plants namely are:

- HDPE production plant
- PP production plant
- Chemical production plants include BTX, etc.
- Ethylene production plant
- Atmospheric Distillation Unit 1
- Lube Base production plant
- Power plant
- Polyol Compound production plant
- EPS production plant
- PS production plant

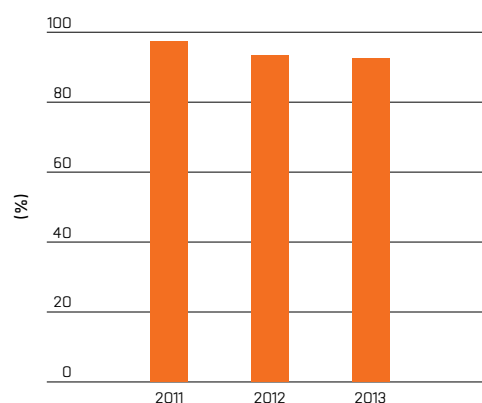
## 1.2 Energy Management System

IRPC is committed to maximize the efficiency of energy used in the production process because IRPC truly understands that production cost is mainly from energy and production process is the main source of GHG production, therefore IRPC has implemented Energy Management System (EnMS) to create a standardized system throughout IRPC's group companies and a conformation for energy managers to

apply to in order to achieve corporate's goal and objective. In 2013, the success from the implementation of EnMS has resulted in 8.1% decrease in Energy Intensity Index (EII) to 91.90 % compared to 2009 base year or equivalent to 5,149,700 gigajoules of energy saved or 2,060 million Baht in cost reduction and GHG emission has been reduced by 600,000 tonnes of CO<sub>2</sub> equivalent.

The better energy efficiency of each business unit in 2013 was the result from the operations of several important projects, such as reduction of power usage in motors in Hydraulic Press, Temperature control in the production units, and an increase of C5 and heavier hydrocarbons in ETP production. As a result of these projects, ETP production unit was able to save 282,000 gigajoules of energy and reduce GHG emission approximately 16,000 tonnes of CO<sub>2</sub> equivalent. Moreover, Variable Speed Drive, which is a device that controls a motor's rotation speed, was installed at PP production plant, and the installation of Hot Oil system to improve production efficiency. As a result, PP production plant was able to save up to 10,300 gigajoules and reduce

Energy Intensity Index (EII)



## GHG Intensity



approximately 700 tonnes of CO<sub>2</sub> equivalents of GHG emission. In addition, IRPC had carried out energy conservation programs in the office buildings include the use of energy saving light bulbs, regularly cleaning up the A/Cs, and installing an automatic lighting switches, etc

As a result of aforementioned commitment, IRPC has received Thailand Energy Award consecutively since 2011. In 2013, IRPC has received 3 types of Thailand Energy Award include award for best energy management team, best award for energy control manufacture, and complimentary award for innovation energy project. Moreover, IRPC also received the Prime Minister's Industry Award 2013 in term of energy management from the Ministry of Industry for Polypropylene production plant.

The success of EnMS has clearly reflected in term of GHG intensity, which shows stability in 2011-2013, especially in petroleum business, the level of GHG emission was successfully maintained at 0.10 tonne of CO<sub>2</sub> equivalent per tonne of production on average. Meanwhile, 0.54 tonne of CO<sub>2</sub> equivalent of GHG was emitted per tonne of production on average for petrochemical business. Additionally, the amount of GHG emitted by IRPC group in 2013 decreased by 0.6% from the previous year.

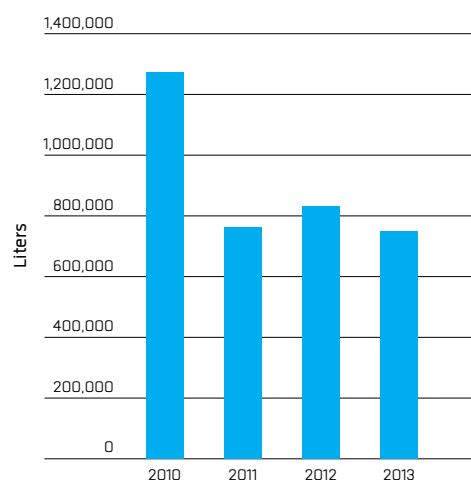
## 2. Green Logistics

IRPC recognizes the importance of logistics management by setting primary objectives, which include the reduction of GHG emission from the beginning of the transportation through to the product delivery, as well as the reduction of resources used in the product packaging during the transportation. In 2013, IRPC had carried out several important programs include ship maneuvering speed control to reduce fuel consumption, and wooden pallets reduction during transportation project

### 2.1 Ship maneuvering speed control project

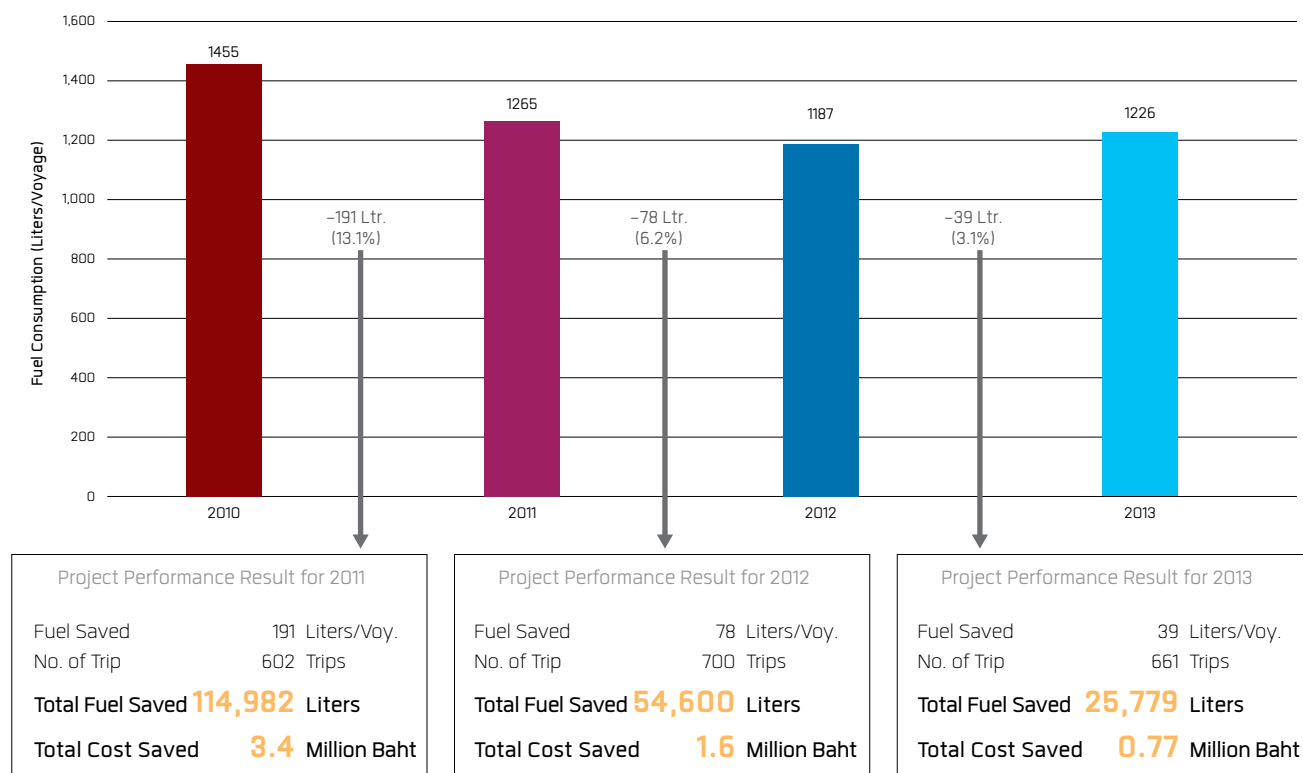
Presently, oil transporting ships of Rak Phasak Co. Ltd., which is a company in IRPC group, travel through Chao Phraya river more than 700 trips and consume approximately 1 million liters of fuel per year. Thus, IRPC has begun to recognize the importance to reduce fuel consumption. Since 2010 onwards, IRPC has been carrying out a program, which sets the speed limits to save fuel consumption, Every oil transporting ship owned by IRPC must travel not exceed 1,200 RPM during freight, and not exceed 900 RPM when empty. These speeds are below those regulated by law, yet the most optimized speeds to cut down fuel consumption. In 2013, fuel consumption was reduced by 25,779 liters or approximately 773,370 Baht, and 70 tonnes of CO<sub>2</sub> equivalent of GHG emission was reduced as a result.

### Amount of Fuel consumed by IRPC's oil transporting ships during 2010-2013





## 2010–2012 fuel consumption performance and step into 2013 (average Ltr./Voy.)



In order to manage the project with more effectiveness, IRPC had set the indicator for Oil Transportation Section, Logistic and Oil Distribution Department in term of fuel consumed in joules during transportations per the amount of oil being transported in liters (J/liter of Diesel transported). Moreover, IRPC had also taken supplementary measures to ensure better efficiency in fuel saving, such measures are speed control measure using GPS for recording maneuvering speed, engine overhaul, and management of oil distribution source/destination. As a result of the project, not only fuel saved, customers' satisfaction was also maintained, number of accident during transportation was decreased, and impact to habitation along the transportation route was, also, reduced.

### 2.2 wooden pallets reduction during transportation project

IRPC had to order a large volume of wooden pallets used in packaging process before transportation. A wooden pallet is made of a hard timber wood such as mango wood and rubber wood. IRPC mainly selects suppliers in Rayong province. IRPC usually faced with at least 10% increase in wooden pallets' price every year, therefore, since 2011 onwards, IRPC had initiated a project to reduce the quantity of wooden pallets used by redesigning the pallet, such as

lower the height of the beam, narrow the width of woods, etc. Every prototype developed was tested for strength and durability by IRPC's engineer before actual production in order to evaluate that a new designed pallet has strength and durability as required by a transportation safety standard. As a result of carrying on this project from 2011-2013, IRPC was able to reduce 27,838 ft<sup>3</sup> of wooden pallets used or approximately 7.3 million Baht. A decrease in wooden pallets used not only help IRPC save costs, it also helps reduce deforestation and a destruction of natural GHG absorber.



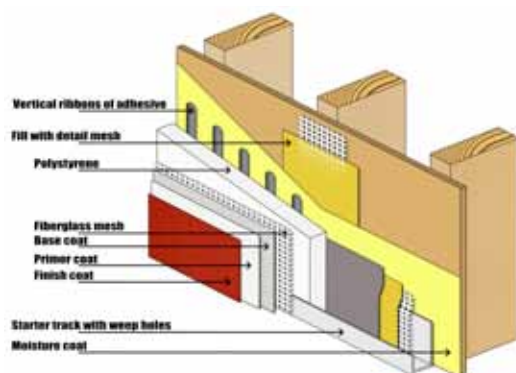
Old (wooden pallets 2.43 ft<sup>3</sup>)



Old (wooden pallets 1.84 ft<sup>3</sup>)

### 3. Low carbon and Energy Efficient products

In 2013, IRPC had successfully distributed low carbon product, which includes Bio-Hydrogenated Diesel (BHD) with EURO V standard and better reduce GHG emission than that of our trade partner, who will, then, add more additives to enhance its property and market it as a premium grade bio diesel. Additionally, IRPC had researched and developed a product innovation for construction, such as Expandable Polystyrene Foam (EPS), a special heat insulation, which reduces 30% of electricity used in the building. Details of each product are as followed



#### 3.1 Hydrogenated Diesel (BHD)

To align with the Ministry of Energy's 2008-2022 Bio-Diesel development plans, which promote the use of Bio-Hydrogenated Diesel, a type of Bio-Diesel produced using hydrogenation and deoxygenation processes, which generate a higher Cetane number than a commonly used process of transesterification. IRPC had begun the production of Bio-Diesel using the existing hydrotreating unit (VGOHTU) since October 2013 with 3 million liters per month of production capacity. Test results show that BHD possesses better properties than that of EURO IV diesel, such properties include lower sulfur and higher Cetane number. Currently, IRPC supplies approximately 1.5-2 million liters per month of BHD to PTT to improve and sell under the brand "Hyforce" in a premium market.

#### 3.2 Expandable Polystyrene Foam: EPS

IRPC's marketing and business development are aware that green buildings are attracting interests from both government agencies and construction industry in Europe as well as comments from a group of customers, who prefer an alternative material with lighter weight, fire proof, weather and heat resistant. It, then, had been suggested that R&D to begin researching and developing a new product that meets the above requirements, in which IRPC had succeeded in developing an EPS prototype, one of the products in Enersav product line, to meet the customers' needs. EPS is highly sturdy, can withstand up to 49 kilograms per  $\text{cm}^2$ , do not absorb moisture, can be used as heat and sound insulation at the same time, 8 times better in attribute than brick and 4 times better than a regular block, helps lower up to 21 degree Celsius of an inside and outside temperature, and helps reduce up to 30% of electricity costs from using A/C. Moreover, EPS has been designed to be applicable to almost every part of the building from walls, roof, foam ceiling, cemented foam fence and the foundation of the buildings. In 2013, IRPC had sold 5,000 tonnes of EPS or approximately 303 million Baht, a 5% increase in added value compared to commodity products.

## What's Next

IRPC has set objectives and action plans to conserve energy and reduce GHG emission to the atmosphere as followed

- Reduce up to 10% of water usage throughout the industrial area using 3R strategy, CHP1 will be introduced as a pilot plant
- Continuously carry on a ship maneuvering speed control project
- Continuously carry on a wooden pallets reduction during transportation project
- Study a feasibility of a wooden pallet repair project
- Plan to conduct a joined feasibility study with other PTT group's companies on a project to reduce empty trips
- Plan on 30% increase from 2013 in production capacity of EPS grade to meet an increasing market's needs and the need of material used in packaging and insulation for both domestic and international markets
- Plan to increase a production capacity to meet increasing needs for BHD with 3-4 million liters per month in targeted sales volume. The existing production capacity can accommodate up to 5 million liters per month
- Plan to conduct a risk assessment and impact from climate change and adaptive approach guidelines for IRPC's business in order to achieve a sustainable growth.

## Performance

### Water Management Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
<b>Water Management</b>					
Water from Nhong Pla-Lhai supply to IRPC utility plant (m <sup>3</sup> )	19,126,788	20,783,016	22,831,785	23,092,460	-
Water withdrawal intensity-Petroleum Business (m <sup>3</sup> /tonne)	0.42	0.43	0.41	0.40	-
Water withdrawal intensity-Petrochemical Business (m <sup>3</sup> /tonne)	4.45	4.28	4.14	3.45	-
<b>Waste water Management</b>					
Total volume of water discharge (million m <sup>3</sup> )	1.46	1.59	1.55	1.75	-
Waste water discharge intensity-Petroleum Business (m <sup>3</sup> /tonne)	0.11	0.13	0.12	0.14	-
Waste water discharge intensity-Petrochemical Business (m <sup>3</sup> /tonne)	0.38	0.44	0.34	0.31	-

## Direct GHG emission (Million Tonnes of CO<sub>2</sub>e)



Remark: Other business refers to IRPC's power plant

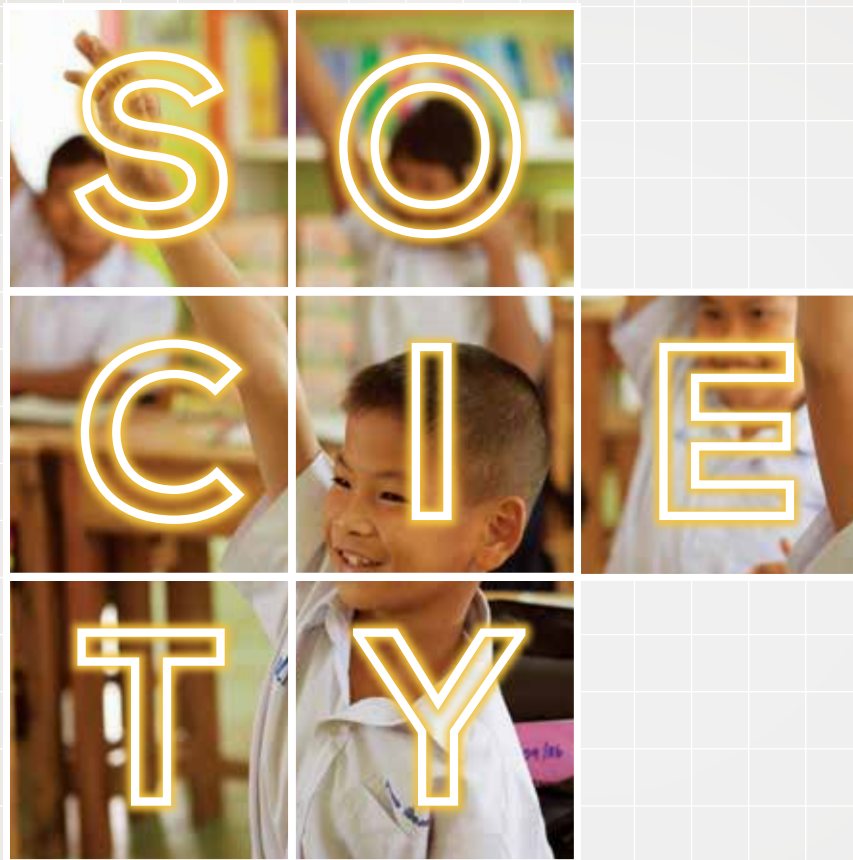
## Performance of Energy Intensity and GHG Intensity

Key performance indicators	2010	2011	2012	2013	Target in 2014
Energy Intensity-Petroleum Business (GJ/tonne throughput)	1.45	1.63	1.40	1.30	maintain target
Energy Intensity-Petrochemical Business (GJ/tonne throughput)	7.75	8.19	8.02	7.89	maintain target
GHG Intensity-Petroleum Business (tCO <sub>2</sub> e/tonne production)	0.13	0.11	0.10	0.10	maintain target
GHG Intensity-Petrochemical (tCO <sub>2</sub> e/tonne production)	0.55	0.47	0.60	0.54	maintain target

## Plastic Sale Volume

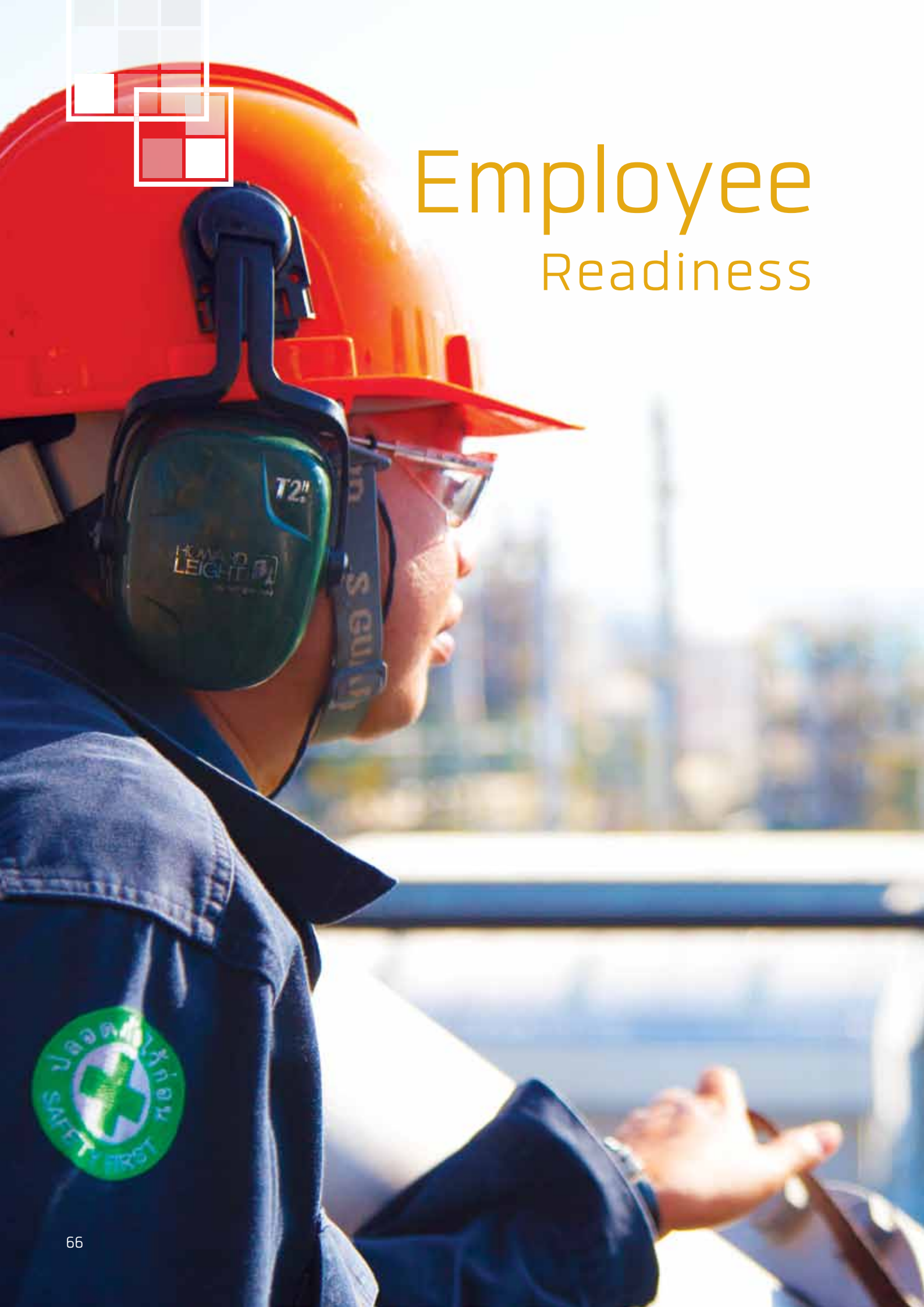
Key performance indicators	2010	2011	2012	2013	Target in 2014
Sales of total plastics (million Baht)	37,157	37,221	40,748	43,550	Sale volume 850,000 Tonnes
Sales of specialty plastics (million Baht)	9,893	12,255	13,814	14,833	Increase sales ratio of specialty to total plastic to 35%





Social Aspect

IRPC operates its businesses based on the principles of good corporate citizenship and realizes the importance of all stakeholders, for examples, a capability development program for employees, which is the most valuable resources in driving the company to achieve its targets, vision. In addition, IRPC also promotes independency to the people in the communities by encouraging them to become self-reliance in everyday life as well as offers an opportunity for the communities to suggest and participate in several of IRPC's project developments in order to achieve the ultimate goal of sustainable growth of the company, community, and Thai society



# Employee Readiness

### ■ Our Commitment

IRPC is truly aware that employees are invaluable resource to the organization. Therefore, we are determined to develop employees' capability in order to drive corporate's sustainable growth to become a leading petrochemical complex in Asia by 2020



IRPC is genuinely aware of the importance of human resource development such as the development of production line staff to be able to self-learn, think rationally, analyse, plan and develop working techniques to align with the actual works as well as applied problem solving experiences into the actual works. IRPC works in collaboration with King Mongkut's University of Technology Thonburi to develop IRPC's Chemical Engineering Practice School (I-ChEPs) for employees on a production line to attend, allowing 15 participants per generation. I had a chance to participate in the 2<sup>nd</sup> generation. I-ChEPs runs for a total of 9 months and with this, I was able to study a theoretical chemical engineering coupling with how to apply knowledge into the actual work, thought process development skills, integrated learning process that allows you to think more systematically, share knowledge and work as a team.

I am proud to be able to join the project and will definitely apply all knowledge and skills; I had gained, into my actual works and do the best I can to improve my work for IRPC.

Suparerk Sawatwichean  
Boardman, Atmospheric Distillation Unit 1 (ADU1)



## Management Approach

In 2013, IRPC had adjusted a human resource development plan to respond to the company's vision of becoming a leading integrated petrochemical complex in Asia by 2020 by improving work efficiency of the employees to propel the company's operations to its true potential. IRPC's

Human Capital Excellence Roadmap 2013-2020 consists of 11 guidelines, 6 strategies to achieve 3 main objectives, which are human capability development, employee engagement improvement, and creating human resource excellence culture, as shown in the picture below

### Human excellence framework for 2013–2020

## How To Enhance Human Capital Excellence

End	Way	Mean
Target Objectives	1. Utilize HR Information	<ul style="list-style-type: none"> <li>Set Up HR information system (HRIS)</li> </ul>
1. Capabilities	2. Leadership	<ul style="list-style-type: none"> <li>Develop 8 key drivers to the best leader/OHI score</li> <li>Clarify Role and Responsibility</li> </ul>
<ul style="list-style-type: none"> <li>Strengthen Business Strategies and Leadership</li> <li>Reinforce Technical and Functional Competencies</li> </ul>	3. Improve Engagement Driver	<ul style="list-style-type: none"> <li>Develop engagement score/OHI score</li> <li>Cross functional team building activities</li> <li>Job evaluation and salary survey</li> </ul>
2. Engagement	4. Manpower Planning	<ul style="list-style-type: none"> <li>Utilize internal staff and demography arrangement</li> <li>MSP as appropriate</li> </ul>
<ul style="list-style-type: none"> <li>Fit &amp; Belonging</li> <li>Economic Interdependence</li> <li>Emotional Reward</li> <li>Trust &amp; Reciprocity</li> <li>Status &amp; Identity</li> </ul>	5. Talent & Successor	<ul style="list-style-type: none"> <li>Implement success profile for development</li> </ul>
3. Culture	6. Performance Based Culture	<ul style="list-style-type: none"> <li>Enhance 4 areas of HR system                             <ul style="list-style-type: none"> <li>Performance management</li> <li>Competency management</li> <li>Career development</li> <li>Remuneration management</li> </ul> </li> <li>Develop OHI Score</li> </ul>
<ul style="list-style-type: none"> <li>Organization</li> <li>Leadership</li> <li>Individual</li> </ul>		

6 strategies and guidelines to achieve 3 objectives are as followed

- Utilize HR information such as the development of human resource information system (HRIS), which takes human resource data through processing and generate information on manpower planning, recruitment, HR management, employees' benefits, compensation, and reporting.
- Leadership Development by strengthening capability in 8 aspects, which are financial knowledge for executives, corporate governance knowledge, leadership skills in performance and growth, building a team, persuasion, listening and servicing skills, emotional intelligence, and recruiting and retaining the right person to the right job as well as clearly identifying roles and responsibilities of each position.
- Improve Engagement Driver by improving employees' engagement factors such as the feelings towards colleagues and personal interests in alignment with corporate's growth strategies, the feelings of being as one with the organization, employees have trust and confidence that they are being equitably treated by the executives, encouraging collaboration between departments and a fair compensation, etc.
- Manpower Planning includes manpower landscaping according to the need of department and organization structure such as supporting manpower for headquarter, production units and core businesses, etc.



- Talent and Successor recruitment by selecting and developing candidates based on personal performance, considering from work experience, result, capability and knowledge and skills
- Building of performance-based culture in 4 aspects includes performance management, competency management, career development and remuneration management.

All 6 strategies mentioned above focus mainly on improving the capability of employees and together bringing the organization to success by having leadership skills, being able to efficiently respond to the business, and feeling more attached to the organization to create corporate shared value and culture

In order to succeed in the implementation of these strategies and become HR excellence, in 2013, IRPC had come up with a short-term project called “Delta”, which comprises of organizational structure improvement, HR system improvement for excellence, and leadership development. These are to be continuously carried out in 2014.

## Key Initiatives

In 2013, IRPC had designed and implemented an online functional & technical competency assessment, Leadership assessment in all aspects, and a 180 degree assessment, which is done every 6 months. The results of the assessments are then fed back to management for improvement. An employee's engagement survey and organization health index (OHI) are used as information to improve HR system and encourage the involvement of the executives in organization development, which is an important mechanism in driving the business to align with the strategies and directions of the company to achieve its objectives. In addition to the aforementioned tasks, IRPC continuously carry out projects to improve employee's capability as followed

### I-ChEPs (IRPC Chemical Engineering Practice School)

IRPC has carried out the I-ChEPs project for 2 consecutive years. This project, for those, who show an outstanding potential, aims to develop an integrated chemical engineering learning process by emphasizing on practical work and assigning projects throughout the course. I-ChEPs is a collaborated project between IRPC and King Mongkut's University of Technology Thonburi to empower the operational leveled employees with knowledge, analytical skills, and abilities to reduce loss and increase production efficiency, and also promote career advancement. In 2013, all participants had completed all regulated criteria and graduated. These employees had shown a significant improvement in several aspects include 44% increase in learning and analyzing skills, 52.5% increase in yield management and 59.7% increase in chemical engineering knowledge.



## Operation Development System (ODS) and Operator Training Simulator (OTS)

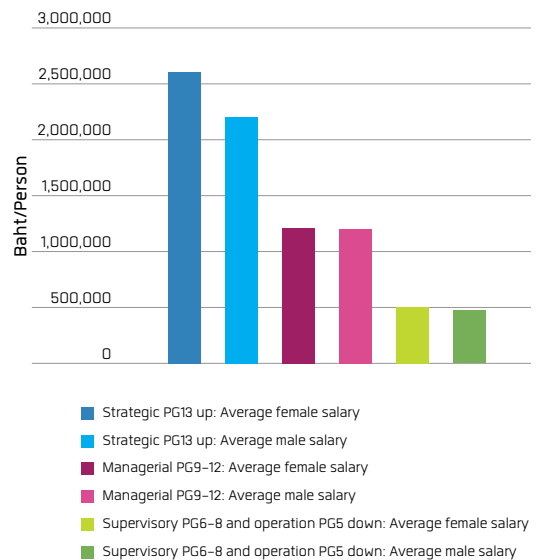
IRPC implemented operation development system and operator training simulator in order to improve capability of a production line staff to operate with more efficiency, less production loss, as well as increase an opportunity to advance in their career. In 2013, IRPC had successfully developed a competency standard and training module, which was initially implemented at our lube base plant, to assess employees' capability and help with gap assessment in order to develop more suitable courses.

## Employees' competency assessment and remuneration

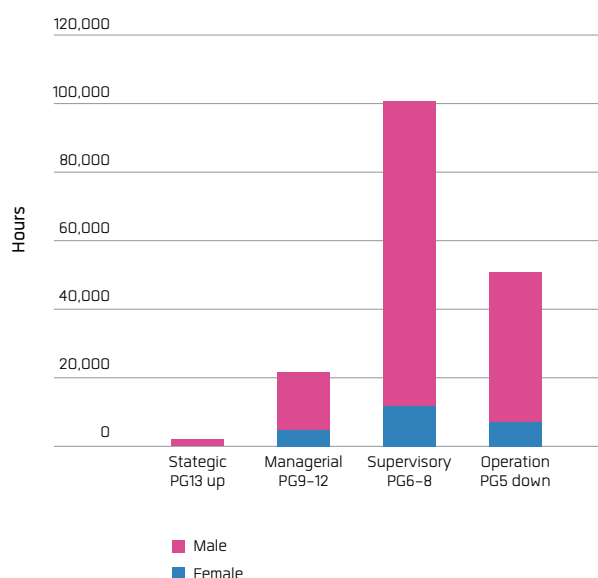
IRPC practice and enforce the same policy of employee benefits and welfare throughout IRPC's group companies with regards to the diversity of employees, working behavior. Moreover, there are benefits and welfare adjustments based on a changing environmental and social conditions and benchmark with other companies in the same industry. Also, comments from employee engagement survey and employee committee are included into consideration. In addition, IRPC has applied performance and behavior based indicators, which reflect individual performance, to

evaluate impartial and acceptable remuneration, as well as a pay for performance incentive to motivate and encourage those, who perform exceptionally, and promote excellence within the organization

An average salary of permanent employees, classified by level and gender, 2013



## The numbers of training hours of the employees, classified by level and gender, 2013



## Channel of complaint of the violation of human and labor rights

IRPC has set a policy stated that all management leveled employees have a responsibility to look after their subordinates and provide any means of communication necessary to listen to all comments regarding work or any questions that may arise regarding individual rights in according to work regulations. IRPC has, in place, a grievance process through command line and grievance channels as stated in the company's regulations.

IRPC has clearly stated regulations regarding complaints and protection of complainants and other involved parties by not holding penalty or disciplinary action against them.

To embed all level of employees with knowledge, understanding, and responsibility to prevents employees from violating others' rights and being violated. IRPC had conducted an orientation to communicate with new recruits about their rights and responsibility according to labor regulations and organized training for both operations and management to inform them of their rights and responsibilities to comply with the company's regulation and law

## What's Next

IRPC plan to proceed with Delta project to improve and tighten up the organization structure, development of HR excellence and leadership development, which would cover the whole organization

## Performance

IRPC had successfully operated accordingly to the HR excellence framework, which has reflected in a 78.98% result of the employee engagement survey, where 87.28% of all employees participated, 85.99% of all female employees, and 87.52% of all male employees. In addition, OHI survey scored 52.6, which is moderate.

In terms of employees' training, due to the characteristic of IRPC's businesses, which are refinery and petrochemical complex, therefore, the number of male employees is significantly more than the number of female employees, which consequently results in more training hours for male employees than that of female employees. In 2013, the numbers of training hours for male employees were 151,248 hours, while 23,761 hours were spent on female employees' training. The numbers of training hours for both male and female employees in PG 6-8, which is a supervisory level, were of the highest compared to other levels. This is according to roles and responsibilities that require certain skills, knowledge, and understanding to be able to supervise tasks to achieve the desired targets.

## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
Total Employee (Person)	5,086	5,186	5,248	5,223	-
New Employee (Person)	179	160	110	100	-
Employee Wages and Benefits (million Baht)	5,229	5,885	5,914	6,749	-
Employee Engagement (%)	78.52	90.76	85.51	78.98	85
Turnover Rate (%)	0.73	1.02	0.90	1.17	-





# Occupational Health and Safety

## Case Study MANSAFCOM: Management Safety Committee

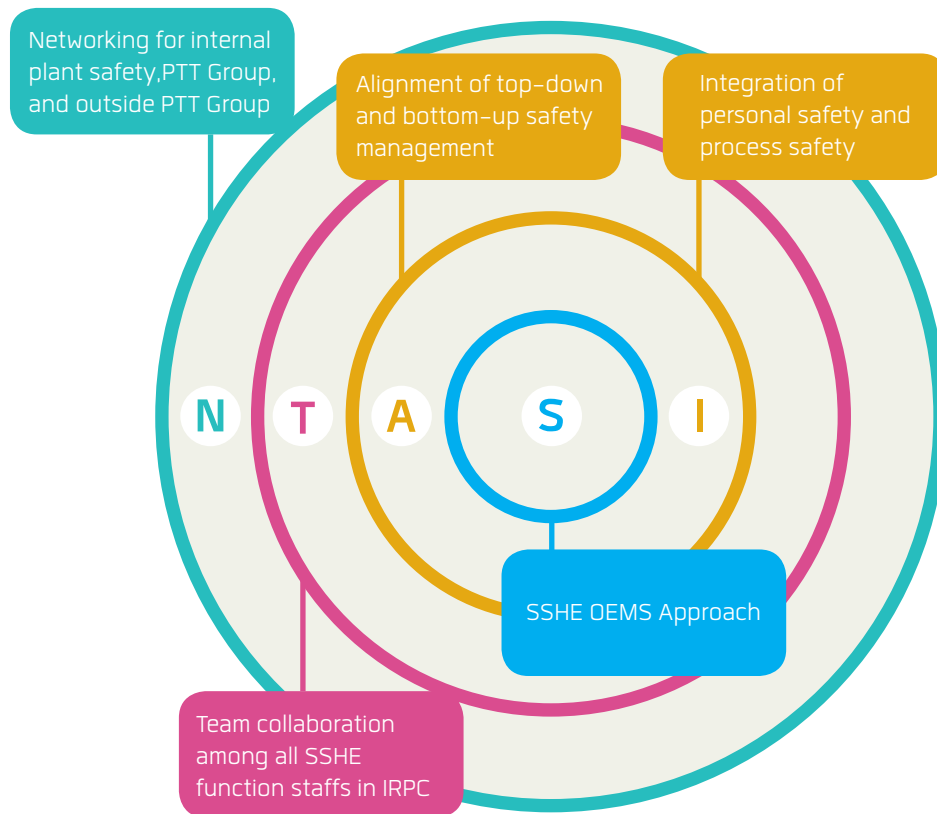
The Management Safety Committee is responsible for setting up policy for safety and health within IRPC's industrial area, which includes all IRPC group's companies and other companies within the area, and inspecting sites on a quarterly basis, as well as arranging a monthly meeting, where the safety and health performance results, and the safety inspection results for both internals and externals are reported and monitored in order to find ways to fix deficiencies. Any regulations regarding safety and health are also approved in the meeting. The Management Safety Committee is also responsible for communicating any changes in laws and regulations throughout the organization, as well as being a channel to receive corporate safety and health related complaints



#### ■ Our Commitment

IRPC is committed to operating with high safety standard in order to become an accident free workplace. Every employee and contractor is truly aware and committed to creating a safety culture throughout the organization.

# Safety Strategy: The SAINT



## Management Approach

In order for IRPC to become a safe workplace, and the employees and contractors to be embedded with a safety culture, IRPC has developed a safety strategy called "SAINT", which consists of 5 operational dimensions, as followed

- **SSHE OEMS** : Applying management system in terms of security, safety, health, and environmental excellence in line with PTT group's OEMS manual
- **Alignment of Top-Down and Bottom-Up Safety Management**
- **Integration of Personal Safety and Process Safety**
- **Networking for Internal Plant Safety, PTT Group and outside PTT Group**
- **Team Collaboration among all SSHE Functions Staffs in IRPC**

SAINT is intended to focus on encouraging the employees and the contractors to operate with a high standard of safety. Safety performance indicators were set for both employee and contractor, which are Lost Time Injury Frequency Rate (LTIFR) and Total Reportable Injury Rate (TRIR), with the objective to reduce these stats to zero.

In terms of contractor's safety, IRPC selects contractors based on the approved contractor list. The selected contractor must attend a safety training before begin the operation, and during the operation, IRPC's personnel will regularly carry out the inspection in order to ensure that the contractor is strictly following the safety regulations, and after the operation is completed, IRPC will conduct an assessment to evaluate the performance and later review the approved contractor list.



## Key Initiatives

The safety and health performance results in 2013 are as followed

### Hearing conservation program

The hearing conservation program began in 2006 and has been continuously carried on with the objective to promote hearing conservation of the employees, who operate in the area with a averaged noise of more than 85 dB(A), in line with the Department of Labor Protection and Welfare's announcement regarding regulations and procedures for the preparation of the hearing conservation in the workplace 2010

The hearing conservation program covers all business units. The program is modeled to comprise of PR news on trainings and knowledge via the company's media, training sessions in the forms of classroom and online for all targeted employees regarding the dangers from noises, an inspection

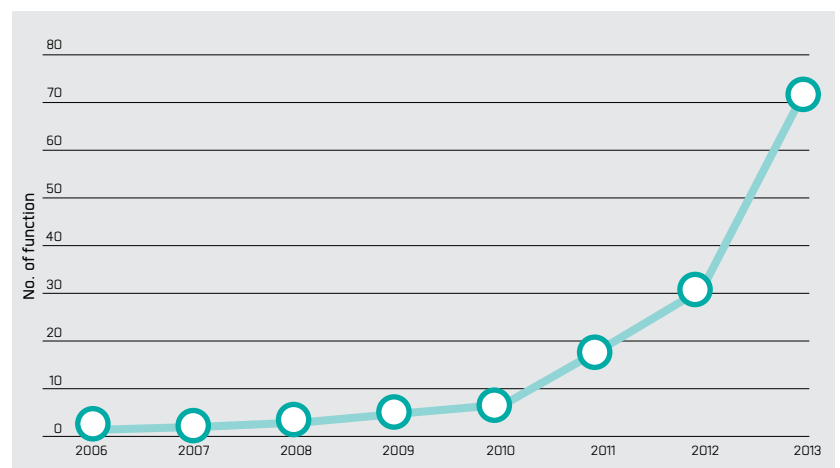
of areas at risk and an assessment of noise exposure in the workplace by the QSHE team in order to find solutions to loud noises, set measures to prevent noise, and conduct an audiometric testing on employees, who were exposed to noise louder than 85 dB(A) for 8 working hours, at least once a year. The progress of the program is regularly reported to the executives. In 2013, there 40 functions attended hearing conservation training resulting in a total of 71 functions has attended since the program started.

### VOCs monitoring Program

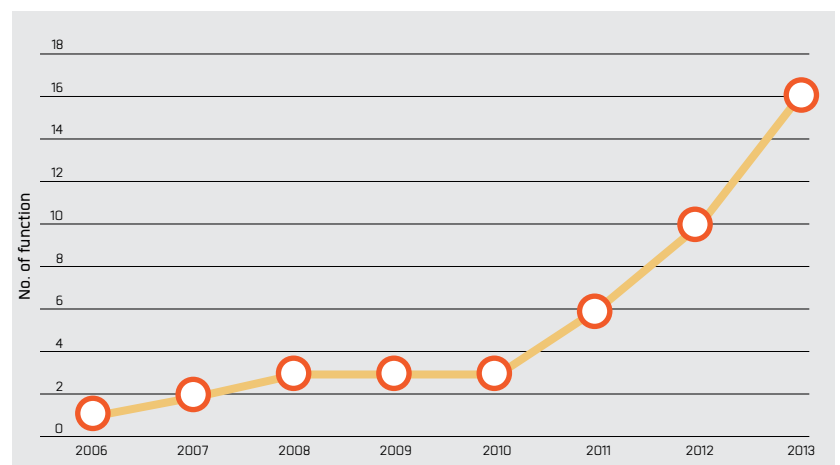
IRPC has given the importance to the employees' health, especially risk from VOCs exposure. IRPC has carried out the VOCs monitoring program since 2006. The program includes the survey of VOCs related work, trainings regarding the dangers of VOCs in the forms of classroom and online, the atmospheric inspection of VOCs in the workplace both stationary and portable types, and the biological health examination for the employee at risk, as well as the



A number of functions attended training in the hearing conservation program, 2006–2013



A number of function attended training in the VOCs monitoring program, 2006–2013





setup prevention and control measures. The progress of the program is consistently reported to the executives. In 2013, there were 6 function attended the VOCs monitoring program resulting in a total of 16 function having attended.

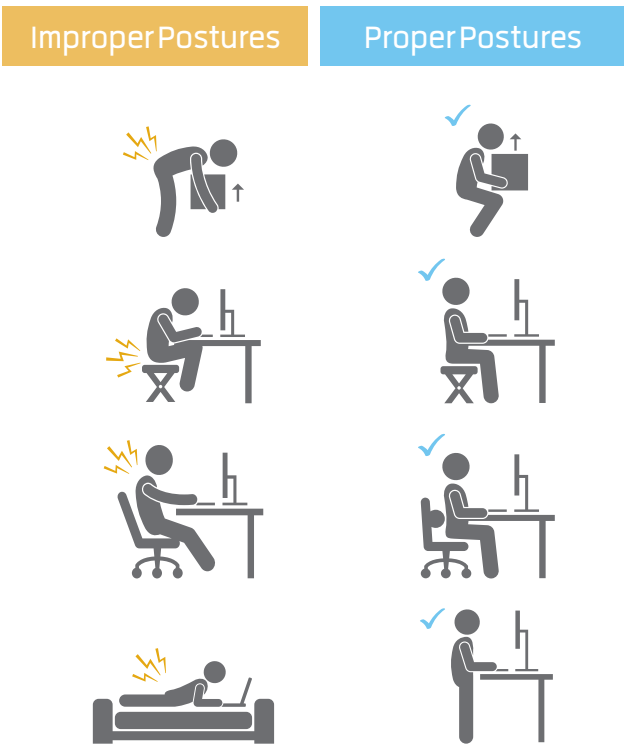
## Lung disease monitoring program

IRPC is aware of the likelihood that the employees be exposed to dust and chemical during the operation. These dust and chemicals may have an impact on their lungs; therefore, IRPC has initiated the lung disease monitor program in 2012 with the objectives to educate the employees about lung disease in the workplace, protections, and to create awareness for targeted group of employee regarding impact of dust and chemical to their lungs. The program includes trainings for the employees, assessments of exposure to particles in the area, and lung capacity testing. Additionally, the program working team also conducts impact analysis, prevention measure monitoring, and measure improvement review, as well as informs progress to the executives. In 2013, there were 4 functions attended in the training resulting in a total of 8 functions attended.

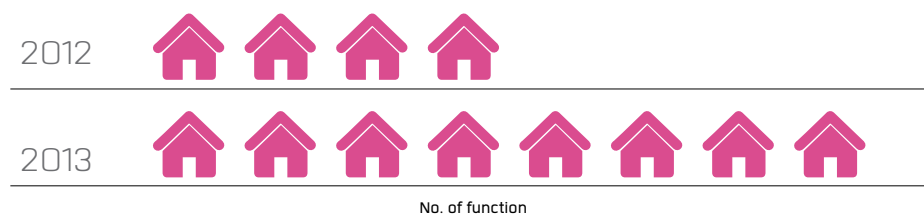


## Ergonomics program

In addition to the safety and health program for the production staff, IRPC is equally concern for the health of the employees, who work in the office as well. The main health issue for those working in the office is of ergonomic issues include injuries from lifting heavy stuff, working in an unnatural postures, inappropriate conditions of desk and chair, etc. The ergonomic program was started in 2012 in order to educate the employees about the ergonomics. Training sessions were arranged for office staff, production staff, and maintenance staff. Moreover, new chairs are to be provided for targeted group of the office staff



A number of function attended training in the lung disease monitoring program, 2012-2013



## Education for employees and families to reduce the risk of infecting AIDs and TBs

IRPC received the AIDs and TBs management platinum award by the Department of Disease Control, Ministry of Public health, and the department of Labor Protection and Welfare, Ministry of Labor, on the 31<sup>st</sup> of March 2010. IRPC had announced “the policy and guidelines to deal with Immunodeficiency, Tuberculosis and chronic diseases for IRPC and subsidiaries” to prevent and mitigate the risk of disease spreading as well as to take care of infected employees. The policy focuses on trainings and PR news to communicate with the employees regarding AIDs, TBs, and other chronic diseases, as well as campaigning to prevent and mitigate the risk of being infected via certain activities. Nevertheless, IRPC does not force blood tests or terminate employment due to HIV infection, yet promote fair treatment, personal secrecy, and provide aids to infected employees

In order to reduce TBs risk, IRPC provided chest x-ray for the employees in the annual health check to screen for TBs. In addition, IRPC allows infected employees to take a special leaves, not considered as sick leaves, and appoints mentors to supervise on taking medication (DOT), as well as arranges teams to assist infected employees and ensures that they receive a proper treatment.

## What's Next

IRPC plans to carry out key initiatives in 2014 as followed

- **Hearing conservation program:** targeting 34 more functions to participate in the program including petroleum business, petrochemical business, and port business. In all participated functions, there were 13 EIA plants. The program includes trainings on the dangers of noise, noise exposure assessment, and hearing capacity tests.
- **VOCs monitoring program:** targeting ABS 1, 2, and 3, Phrapadeang's depot. The program includes training on the dangers of VOCs, VOCs exposure assessment, and detection of VOCs in the body.
- **Lung disease monitoring program:** targeting C11B and ST33 sections. The program includes lung disease in the workplace training, particle exposure assessment, and lung capacity testing.
- **Ergonomic program:** mainly targeting the office staff both at Bangkok and Rayong offices, Production staff and Maintenance staff. The program focuses on sharing ergonomic knowledge.

## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
<b>LTIFR (Lost Time Injury Frequency Rate)</b> (case per million working hours)					
• Employee	0.66	0.61	0.37	0.28	0
• Contractor	1.50	0.37	0.95	0.76	0
<b>TRIR (Total Reportable Injury Rate)</b> (case per million working hours)					
• Employee	1.07	1.23	0.65	0.55	<0.65
• Contractor	2.70	0.44	1.37	1.52	<0.65
<b>Fatality (person)</b>					
• Employee	0	0	0	0	0
• Contractor	1	0	0	0	0



# New Project Development



The work of multilateral committee focuses on a concrete outcome in order for communities and IRPC to co-exist harmoniously. For example, when the committee received a concern from the community regarding the diffusion of coal used in the power plant, IRPC would immediately be informed of this concern. IRPC, then, installed the equipment to prevent the problem reoccurring. The community truly appreciated IRPC's genuinity in solving problems.

I, personally, am grateful that IRPC is sincerely receptive to the suggestions, concerns, and willing to find solutions together through multilateral committee meetings and public sector audit.

Rangsan Kulnil  
Multilateral committee member  
Community Leader, Moo 4, Ta Phong





The work of multilateral committee can efficiently unravel conflicts between the communities and IRPC. I have to admit that IRPC has clearly become much better in problem solving than 10 years ago, due to the introduction of new technology as well as willingness to disclose and continuously communicate with the communities regarding a new project development

Udom Siripakdee  
Multilateral Committee member



IRPC has set up a multilateral committee about 2-3 years ago, designating that committee be comprised of representatives from IRPC, Public sector, and government agencies. Furthermore, information on the upcoming projects is presented in the committee's meeting before being proceeded, which helps ensure the understanding and allows any constructive comments from all sectors.

This actually demonstrate IRPC's transparency in disclosing information, reiterating IRPC's true intention to grow sustainably alongside the communities

Thanit Angkawinijwong  
Multilateral Committee member  
Rayong's Deputy Mayor







### ■ Our Commitment

IRPC intends to operate strictly on the principal to create social license and trust by conducting environmental and health impact assessments, people participation practice guidelines, and social impact assessment in compliance with legal regulations in order to ensure sustainable business operation and community acceptance.

### Management Approach

IRPC believes that stakeholders' trust is a key success factor in business growth, therefore, every time a new project is being under development, IRPC will carry out a project's feasibility studies covering economic, social and environmental aspects and if any particular projects are found to have any social or environmental impact, IRPC will present the findings to the Development capability of the project, community and society surrounding the industrial zone multilateral committee, which is comprised of representatives from relevant government agencies, luminaries, local representatives, community representatives, and IRPC representatives, to discuss and consider a possible solutions. After the solution is achieved, IRPC will carry out an assessment regarding environmental, social, health, bio-diversity, and local economic impacts in line with the Ministry of Natural Resources and Environment's and the Office of Natural Resources and Environmental Policy



and Planning's regulations. Public Participation hearing is organized at least twice as regulated by laws. The first hearing is to set boundary and method to study the impact of the project, while, the second hearing is to present findings, impact prevention and monitoring measures. Lastly, the project is presented to the relevant government agency to gain approval as well as to get additional comments from independent entities before proceeding.

For all approved projects, IRPC implemented and strictly followed the impact prevention and monitoring measures. Furthermore, mitigation and monitoring measures by third party had been set up and the performance results are to be annually reported to the relevant government agencies.

### Case Study Hearing session and complaint management through multilateral committee (CSR in process sub-committee)

Multilateral committee assigned a subcommittee, which consists of local representatives, such as village chiefs and headmen, to carry out an inspection on the complaints, for example, odor problems. The subcommittee is allowed to inspect around plant area and the findings will be presented in a meeting. In 2013, multilateral subcommittee had presented complaint management focusing on the efficient and effective operations, especially odor related complaints. The operation is done in parallel in 3 situations, which are normal, during complaints and during turn around period or any special activities, by regularly sending out working teams to visit the communities, establishing a complaint center to explain and create understanding to the communities. As a result of these operations, number of complaints has been reduced by 50% in 2013 compared to the previous year.





## Key Initiatives

During 2010-2013, IRPC and IRPC's group companies had prepared Environmental Impact Assessment (EIA) and Environmental Health Impact Assessment (EHIA). There are 12 projects, which have been approved by a committee of experts, the Office of Natural Resources and Environmental Policy and Planning. 9 of which had to prepare EIA, while 3 projects had to submit EHIA. Details are as followed

9 Projects with EIA approval are

1. ABS expansion project
2. Multi product pipeline project, co-invested with PTTGC
3. Rayong industrial estate (Ban Khai)
4. Propylene compound project
5. IRPC's industrial area's natural gas pipeline project
6. Combined heat and power project (CHP2)
7. Natural gas pipeline for Rayong's combined heat and power project
8. A new Rayong's office building project
9. UHV project

3 Projects with EHIA approval are

1. EBSM expansion project
2. Propylene Plant project
3. IRPC's industrial park expansion project

For projects with EHIA, after approved by the committee of experts, must, again, be presented to the Department of Industrial Work for further approval. Currently, EBSM expansion and Propylene Plant projects have already been approved, meanwhile, IRPC's industrial area expansion project is currently in process.

## Case Study Combined Heat and Power Project (CHP2)

On the 26<sup>th</sup> of September 2013, Combined Heat and Power Project received EIA approval from the committee of experts. This project used natural gas as fuel to generate electricity with 240 megawatts in capacity. Its' primary objectives are to create stability to the electrical system in the east region and lighten the investment burden of the government sector. The electrical utilities will be in place ready for the industrial plants in the area. Combined Heat and Power project will also help





to increase the efficiency of a centralised power generation management; benefits include better safety in power generation, reduction of air pollution, such as reduction of CO<sub>2</sub>, NO<sub>2</sub>, SO<sub>2</sub> emission and particulate matter smaller than 10 microns (PM-10)

Further to those mentioned above, this project also has in place a water recovery unit, 596 m<sup>3</sup> per day of clean water generated will be used in the cooling tower, meanwhile, waste water will be treated at the centralised water treatment unit. The property of waste water must be within the regulation to be accepted into IRPC's central treatment unit.

## Case Study Upstream Project For Hygiene And Value Added Products (UHV)

IRPC initiated UHV project in order to transform heavy oil, which is high in sulphur, yet low in value, into propylene and other products that can be used in household products, consumers' goods, and other petroleum products. The benefits derived from this project include reducing raw material costs in propylene production, creating added value to the existing raw material, and reducing impact to air quality around the industrial area, since UHV transforms sulphur in the heavy oil into liquefied sulphur, which can be used in other industries. Therefore, Sulphur dioxide generated can be reduced. UHV has a propylene production capacity of 320,000 tonnes per annual and in order to further enhance an environmental friendliness, Ultra Low NOx Burner has been installed to control the amount of Nitrogen oxide released; Electrostatic Precipitator (ESP) and Cyclone have also been installed to control dust particles, and lastly, the installation of CEMs to monitor air quality throughout the production process. Currently, the UHV project has already been approved by the Office of Natural Resources and Environmental Policy and Planning on the 25<sup>th</sup> of April 2013 and is now in the construction phase

## What's Next

In 2014, Polypropylene expansion project (phase II) is in process of EIA preparation to submit to the Office of Natural Resources and Environmental Policy and Planning for approval, and IRPC's industrial area expansion is during a process to get the permission from The department of Industrial Work. (DIW)

- Polypropylene expansion Project (phase II): the 1<sup>st</sup> public participation hearing session is planned during the end of March and the beginning of April 2014. A technical hearing session will be held on the 31<sup>st</sup> of March 2014 and A subgroup hearing session will be held during the 1<sup>st</sup>-4<sup>th</sup> of April 2014
- IRPC's industrial area expansion project had already received comments from the Independent Commission on Environment and Health (ICEH) on the 20<sup>th</sup> of January 2014. The next step is a public participation hearing session organized by DIW. It is anticipated that the first hearing session could be arranged in May 2014 and DIW to consider approval in December 2014

## Performance

During 2010-2013, IRPC and IRPC's group companies had prepared Environmental Impact Assessment (EIA) and Environmental Health Impact Assessment (EHIA) for a total of 12 projects, 9 of which have been approved by committee of experts, 6 of which were approved in 2013. There are 2 projects with EHIA approved by both committee of experts and the DIW. In 2012, during the carrying out period of these projects, IRPC had strictly followed the impact prevention and mitigation measures, the regulated monitoring measures as well as allowing an independent party to carry out an inspection and report back to the relevant government agencies.



IRPC is committed to operating in according to the corporate good citizenship guidelines, where IRPC and the communities can grow sustainably together.

# Community Relations and Development



Poverty and unemployment are the main problems in Takard village. I am grateful that IRPC had supported us with a sustainable way to earn livings, such as a mushroom cultivation program, which is truly what the community needs. **IRPC does not give us fish; instead IRPC teaches us how to fish.** Currently, we have established Baan Takard's mushroom cultivation community enterprise.

Boonruen Krajarngjaeng,  
Chairman of mushroom cultivation group,  
Ban Takard, Moo16, Taphong, Muang, Rayong





## Management Approach

The essence of IRPC's community development is to assist and encourage them to be able to rely on themselves in daily basis, which is one of the CSR strategies (Happy Rayong), IRPC has been using as a framework along with the corporate good citizenship guidelines. IRPC's CSR department takes primary responsibilities to oversee this mission. The Project Capacity and Community and Social Development Committee, IRPC's Industrial Zone Committee is a multilateral committee overseeing environmental and community aspects and the CSR in Process Sub-Committee acting as a subcommittee to carry out a performance inspection to ensure alignment with an environmental impact assessment. These 2 committees are comprised of representatives from IRPC, communities, government agencies, local organizations, and NGOs. Meeting is regularly held monthly to discuss issues, share ideas, and come up with activities or programs to develop the communities surrounding IRPC's industrial area. Furthermore, IRPC has also built up connection with leaders from several sectors, such as teacher connection, provincial health, health care volunteering group, environmental conservation group, and leaders from local authorities to ensure that activities or programs developed could truly elevate the overall quality of livings of the communities including education, health, environmental conservation, and career development for sustainable income.

IRPC has set the performance indicator to measure success of the CSR programs in terms of community satisfaction, which is expected to increase every year.



>100,000 people  
per year

received a better medical service at Tapong  
Tambol Health Promotion Hospital



>160  
students  
per year

at Plauk ket temple  
school receive a better  
education

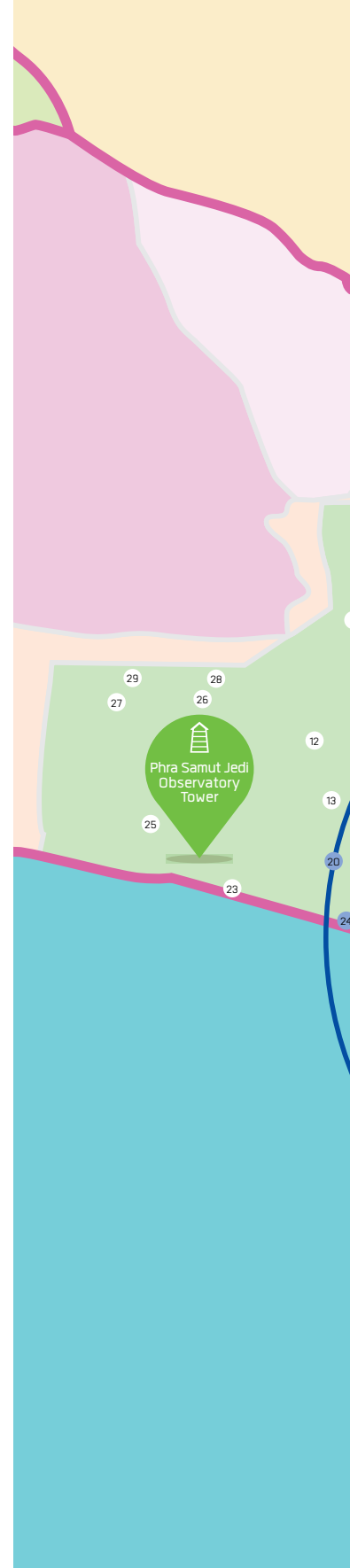
>3  
Million  
Baht

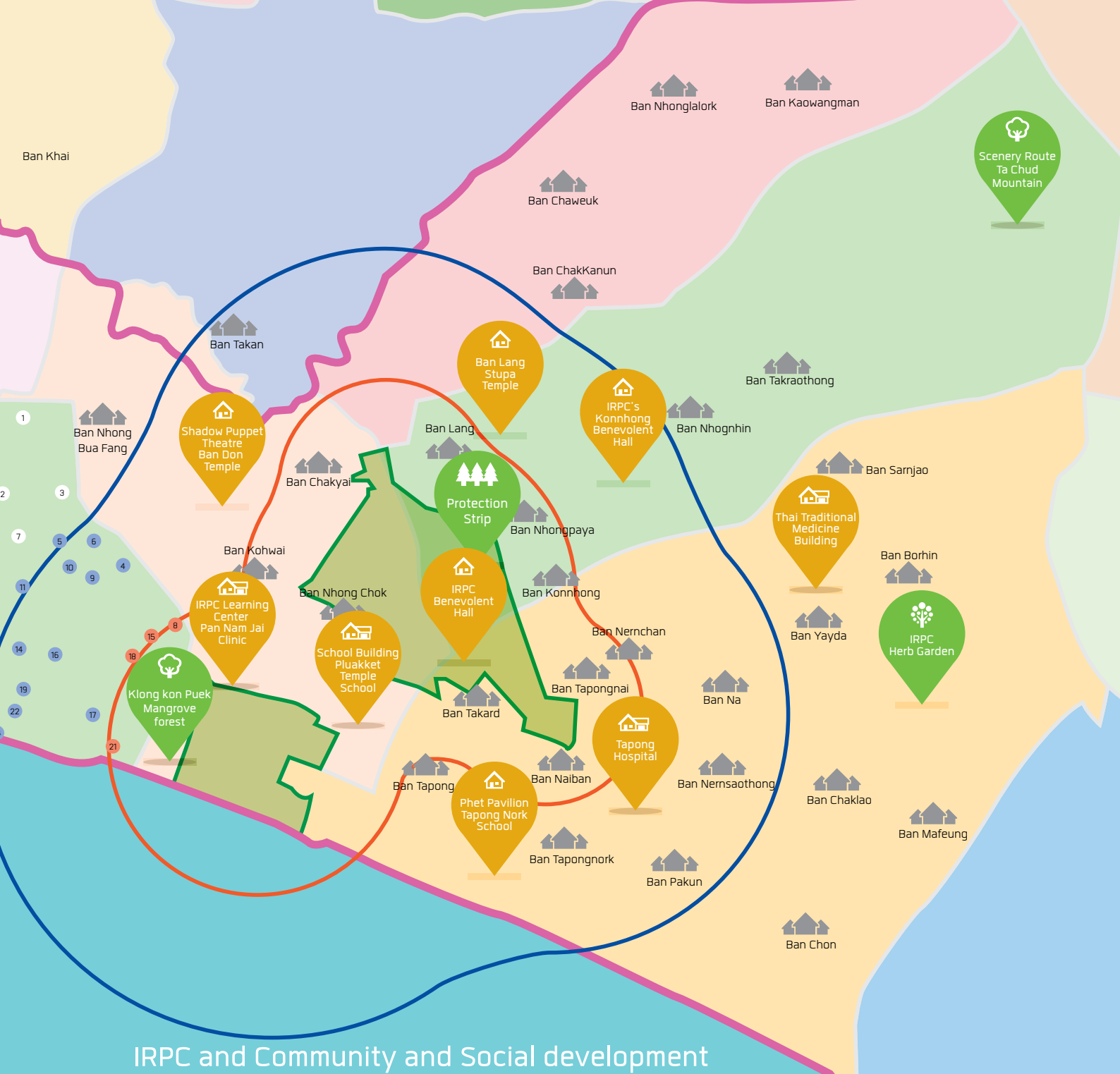
in the incremental  
income for fisherman  
from the Rope  
receiving project



>60,999 people  
visit and purchase goods with

>600,000 Baht  
spent at the souvenir shop,  
IRPC learning Center





#### Community in Rayong's Municipality

- |                      |                   |                        |                   |
|----------------------|-------------------|------------------------|-------------------|
| 1. Kohkloi community | 9. Taksinmaharaat | 16. Kangaumpur-Tangpai | 23. Paknaam1      |
| 2. Chaikrapom        | 10. Saparnraat    | 17. Korpuek-Pakklong   | 24. Paknaam2      |
| 3. Reunchum          | 11. Lungwatkord   | 18. Rimnaam-Taked      | 25. Samutchadi    |
| 4. Tecnern-Kohwai    | 12. Suanwatkord   | 19. Muslim-Pakklong    | 26. Thungtanod    |
| 5. Wapapradoo1       | 13. Bangchak      | 20. Samrit             | 27. Nernphra      |
| 6. Watpapradoo2      | 14. Sanampao      | 21. Leamrungreung      | 28. Kwangkarntang |
| 7. Soonkarnka        | 15. Shongponong   | 22. Banpakklong        | 29. Nhongsanom    |
| 8. Poonchai          |                   |                        |                   |

- Community, Village
- 1 km. radius
- 3 km. radius
- IRPC's Industrial Zone
- Sub-District Administrative boundary
- District Administrative boundary



**65** Million Baht  
in benefits to the communities from IRPC's CSR activities

**>63** households

with more income as a result of IRPC's support in career development and the operation of the community enterprise





## Key Initiatives

IRPC focuses on creating jobs, generating incomes to the communities to alleviate poverty and unemployment, building infrastructure for public health care and education to accommodate an increasing population as well as ensuring that local people receive adequate education and have good health. Details are as followed

### Ban Takard's Mushroom Cultivation Program

Mushroom cultivation program was initiated as one of the CSR-DIW (Corporate Social Responsibility-Department of Industrial Works) programs, where the community had requested IRPC to provide support in mushroom cultivation. Therefore, IRPC has started this program in 2012 and carried on until today, educating people with mushroom cultivation knowledge, product transformation, packaging, and how to establish a community enterprise. As a result, the community is able to cultivate mushroom to feed the families and earn a supplementary income from selling it as well as alleviate poverty and employments, which were the main problems in the community. Moreover, Ban Takard, as a pilot community, can share knowledge to other communities. Currently, Ban Takard's community enterprise has been established with 12 members.

### Rope Receiving Program to develop strong fishing community with IRPC

IRPC's port business promotes local economy through rope receiving employment at IRPC's port. In 2013, IRPC had employed more than 30 people in the communities to operate in rope receiving coupled with fishing. As a result, households in the community were able to generate around 3.2 million Baht in additional income and create an impregnable group of profession and strong community. In addition to the economic benefits, the harbor bridge pylons also became residence for mussels and other marine animals. Evidently, IRPC's port business not only creates zero impact to the environment, it is also a potential fishing source for locals as well. This program leads to the creation of good understanding, which is a key factor leading towards sustainable development in a near future, between IRPC and the community surround IRPC's port

### Ban Nhong Chok's Multi-purpose Cloth Program

Ban Nong Chok's community enterprise produces multi-purpose clothes using tatters in order to generate income to the community. These clothes will be supplied





to the machine cleaning industry. IRPC provides support by purchasing clothes valued over 480,680 Baht in 2013 to promote strength within the community and enable them to have a stable jobs to earn a sustainable income for the family, as well as build a good relationship between the community and IRPC

## OTOP Center, IRPC's Learning Center

Not only implementing policy to create jobs and incomes, IRPC also provides the community enterprise with a space to sell their products in the IRPC's learning center's souvenir shop. In 2013, a total of 84 communities with OTOP products valued around 643,125 Baht, 63 of which were from Rayong with product value of 420,000 Baht, 10 were from other area in the east region with product value of 123,125 Baht, while other 12 were from other regions with product value of 100,000 Baht. Therefore, It is plain to see that IRPC's learning center's souvenir shop is one of the channels to sell the OTOP products.

IRPC also offers support in building and improving infrastructure for public benefits and improve living standard of the people, including health care, education, religion, agriculture, and environment, as followed

## Construction of a new building for Tapong hospital

IRPC had arranged several hearing session with the communities' leaders, for example, hearing session regarding IRPC's business expansion and field visit to improve public health in the community. it has been agreed that an increasing numbers of patient is the problem leading to insufficient number of hospitals in the community, in terms of



vacancy of admitted patients, number of medical personnel, and medical supplies. Therefore, on the 3<sup>rd</sup> of July 2013, IRPC signed the MOU to allocate 12 million Baht in budget to build a new 2 story building, consists of 30 inpatient beds, for Tapong hospital, Rayong province. Currently, the project is during a construction phase, where progress is being closely monitored. IRPC expects that when the building is complete, the hospital will be able to accommodate 100,000 more patients per year around the industrial park from Banlang, Choengnoen, Tapong, Natakhwon, Pae, Samnak-Thong Sub-districts and Rayong municipal.







## Construction of a new building for Plaukket temple school

Plaukket temple school is fenced next to IRPC's industrial park with a total of 160 students. IRPC has visited the school and found that a building for small children was dilapidated and unsafe, shortage of stationery, and academic personnel. In order to elevate the quality of the school education and to accommodate an increasing numbers of students, IRPC allocated a budget of 4,650,025 Baht to build a new 2 story building consisting of 4 classrooms, dean's office, library, and nursing room, and hire 2 new teachers. On the 9<sup>th</sup> of September 2013, The building was officially handed over to the school. The delivering ceremony was honored by Mr. Warawut Pinthong, Rayong's Deputy Governor, communities' leaders, school director, and Mr. Peerapong Achariyacheevin, SEVP, IRPC, as a chairman in the delivering ceremony

## Stupa's renovation at Ban Lang temple

As a result of a hearing session with communities' leaders, IRPC has acknowledged the problem that the stupa at Ban Lang temple is being deteriorated. A stupa is an ancient Khmer art form and a spiritual center for the community surrounding the industrial park, comprising of 7 villages, 2,000 households, and 6,700 people in population. Therefore, IRPC had allocated a budget of 2.2 million Baht for stupa's renovation in order to preserve a historic landmark for younger generations and develop into a tourist attraction spot, which will generate income, employment, and reputation to the temple and the community. Presently, the renovation had already been completed.

## Communities' Agricultural Research Center

IRPC, in academic collaboration with the Faculty of Agriculture, Kasetsart University, had established the IRPC-Kasetsart University's Communities Agricultural Research Centre to develop an agriculture to encourage the communities' participation within Rayong's municipal area and 4 more districts include Natakwan, Tapong, Ban Lang and Choengnoen. The project focuses mainly on research and academic services to solve any problems according to the needs of the farmers as well as improve production system and agricultural harvests, which will eventually lead to development and stability in agriculture. Furthermore, people



with a different profession within the area could sustainably co-exist together. The activities, which has been carried out, are as followed

- 1) **A transfer of agricultural technology:** emphasizes on sharing knowledge for the farmers to appropriately apply into their actual work. 20 sessions with 1,404 participants
- 2) **An agricultural clinic:** emphasizes on solving productivity problems for the farmers. 22 sessions with 300 participants
- 3) **Network development:** emphasizes on communities' participation and a building of a sustainable agricultural development. 815 farmers joined the network
- 4) **An agricultural research:** conducts series of research on 7 agricultural farms in 3 districts (Tapong, Ban Lang, and Natakwan) and applies research findings into practise, as well as, on IRPC's area to promote and demonstrate to the farmers.

All activities mentioned above were started since October 2011 and have been carried on until present, with 19,883,500 Baht in budget for the past 2 years



## Scenery route project in Tha Chud Mountain, Ban Lang Sub-District

Tha Chud Mountain, located on the area of 2,500 rais in Ban Lang sub-district, is a natural attraction with abundance of variety of flora and fauna. In order to promote tourism and conserve natural resources, IRPC, in collaboration with Ban Lang's conservation group, Department of Parks and Forestry, and local authorities, has allocated a budget of 2.4 million Baht to build a scenery route, 2.1 kilometers in length, and flora labels to make easy for tourists and students. At the present, the construction has been finished and flora labels are being prepared, expected to be done by January 2014. As a result of this project, government agencies, communities' leaders, and people in Ban Lang are satisfied with IRPC' commitment to improve the communities coupled with creating a sustainable business.



## What's Next

2014 action plan for 5 aspects of Happy Rayong strategy are as followed

- Safety, Health, and Economic aspect: a construction of a new building for Tapong Tambol health promotion hospital, targeting 25% in progress in 2014, ensure the continuous operation of medical clinic at IRPC's learning center and mobile clinic, and improve health monitoring system for the communities that cooperate with Rayong hospital
- Community development aspect: OTOP center program at IRPC's learning center, targeting sales value of 708,000 Baht
- Strategic communication and management aspect: an open house program to communicate with the community regarding IRPC's performance, Field coordination center to proactively solve all complaints

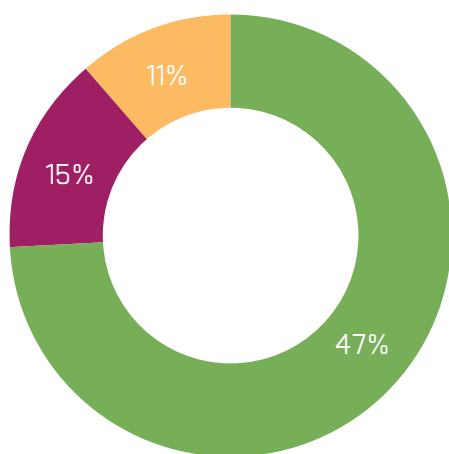
- Environmental conservation aspect: continuously carry on reforestation program around the industrial area, Communities' forestation program, Mangrove forestation program at Kon Puek, Natural education center program at Phra Samut Chedi.
- Environmentally friendly production process: Details in chapter of Environmental Management.

The overall performance of all projects are measured in the form of community satisfaction with 83% target

## Performance

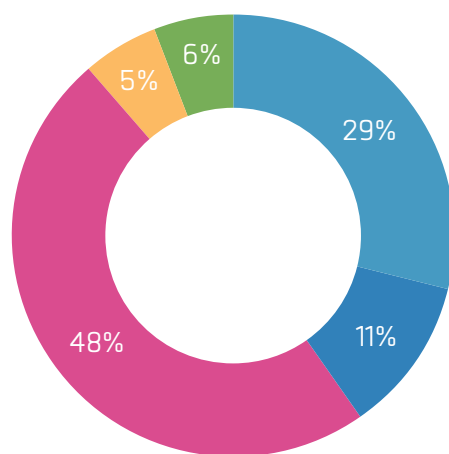
IRPC measured success in social projects in the form of community satisfaction. In 2013, IRPC scored 92.8% in community satisfaction survey, which is higher than 82% target.

The ratio of indirect economic benefits to the community from IRPC's operations in 2013



- OTOF Center at IRPC's Learning Center
- Multi-Purposed Cloth Purchase
- Rope Receiving Employment and Fishery

The ratio of IRPC's budget allocated to construction and infrastructure improvement for public benefits in 2013

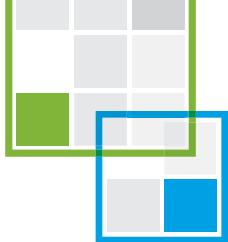


- Community Agricultural Research Center
- Renovation of Stupa at Ban Lang Temple
- Scenery route at Tha Chud Mountain
- Building construction at Tapong health promotional hospital
- Building construction at Plaukhet temple school

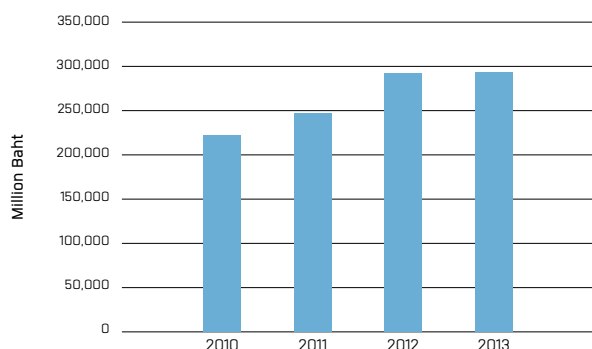
Remark : Mushroom cultivation program is not included due to unavailability of information on sales revenue

## Performance

Key performance indicators	2010	2011	2012	2013	Target in 2014
Cash contribution to Social (Baht)	155,460,058	154,123,422	124,109,082	134,848,855	117,369,422

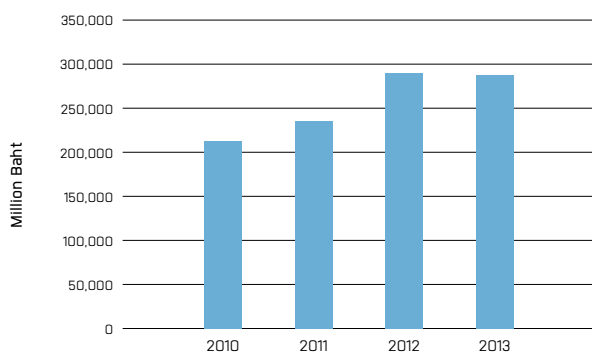


# Performance Summary



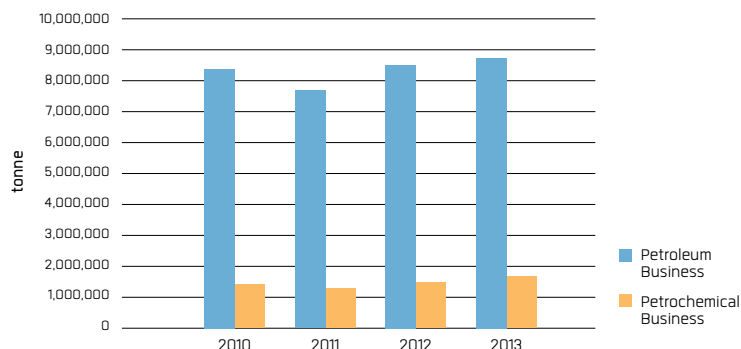
## Sales Revenue

Sales revenue in 2013 was 292,593 Million Baht, 163 Million Baht more than in 2012



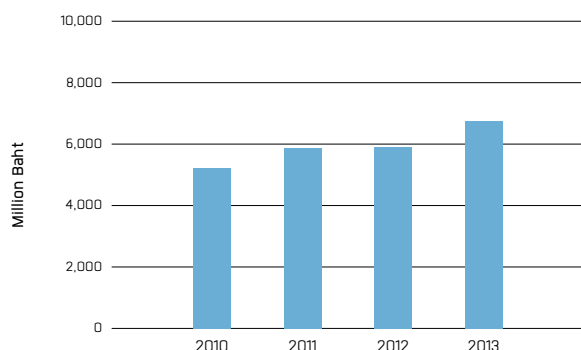
## Operating Costs

Operating costs in 2013 decreased by 2,075 Million Baht compared to 2012



## Annual Production

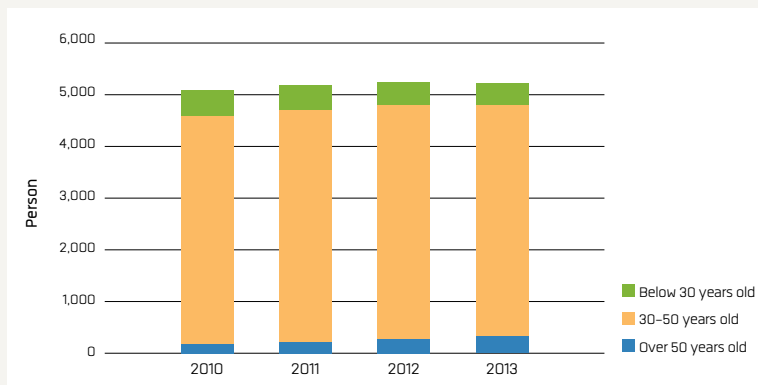
Annual production in 2013 increased by 4.32% compared to 2012



## Employee Wages and Benefits

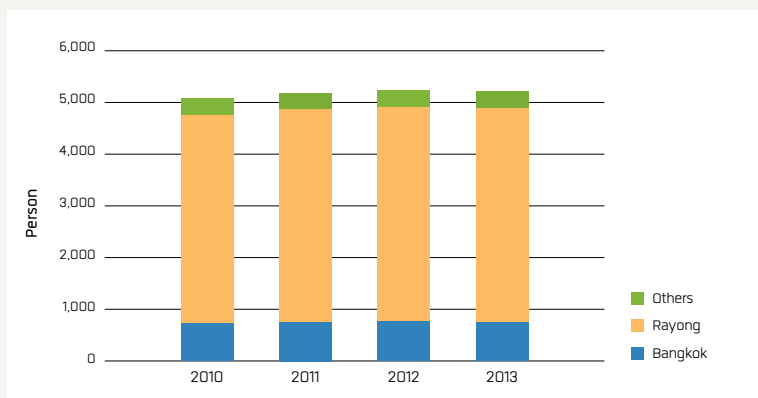
Employees' wages and benefits increased by 835 Million Baht compared to 2012





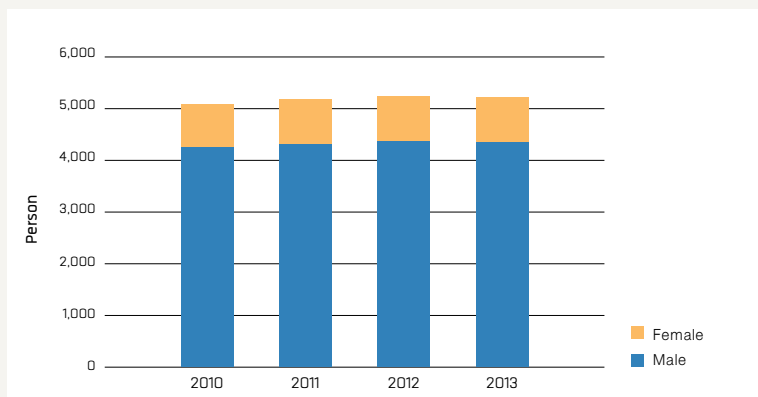
## Employee by Age

Number of employees in 2013 was not significantly different from 2012. 86% of all employees aged between 30-50 years old, which is considered an important workforce to IRPC's operation.



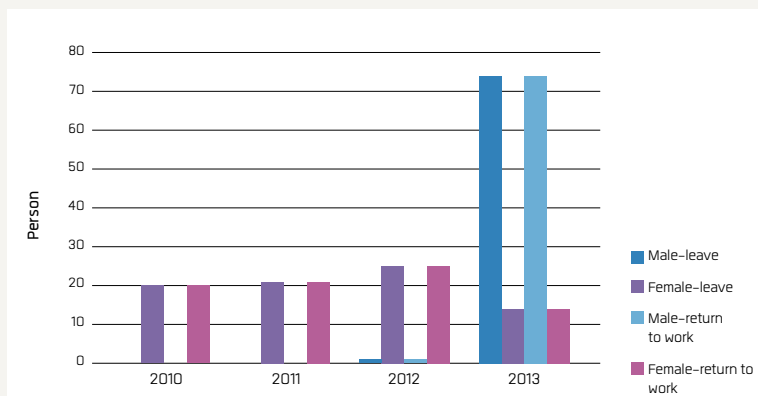
## Employee by Area

80% of all employees work in Rayong province, where refinery units and petrochemical plants are located



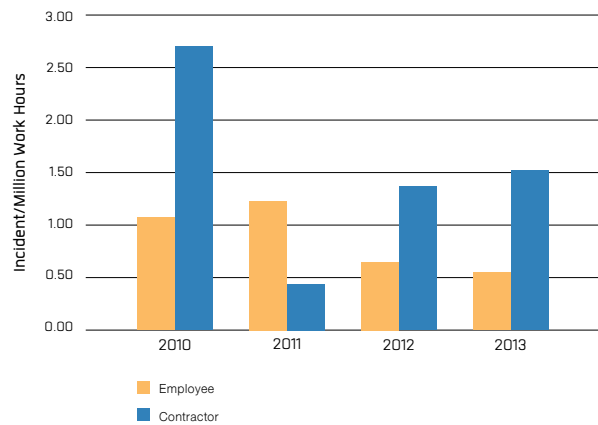
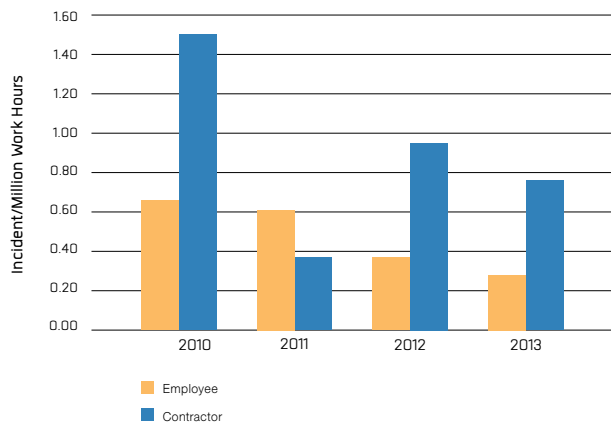
## Employee by Gender

IRPC offers equal opportunity in recruiting both male and female employees, yet due to the nature of IRPC's business, Male employees outnumber female employees. Nonetheless, it is found that the ratio of female employees to male employees has increased in the past few years.



## Parental Leave and Return to Work

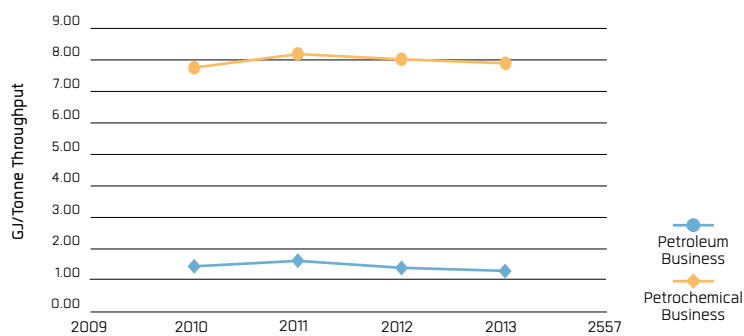
During 2010-2013, all employees, both male and female, taking maternity leaves have returned to work. IRPC began to collect data on male employees taking maternity leaves since the change in labor legislations that allows male employees to take leaves in 2012,



## Lost Time Injury Frequency Rate (LTIFR)

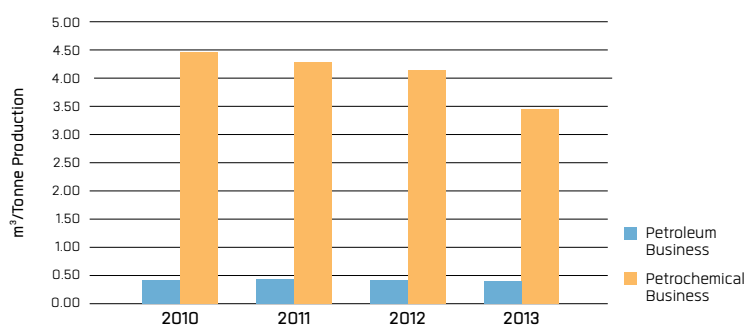
Lost Time Injuries Frequency (LTIFR) in 2013 has decreased continuously compared to 2012 as a result of employees' and contractors' safety awareness program. Meanwhile, Total Recordable Injuries Rate (TRIR) tended to decrease on the employee side, yet show a slight increase on the contractor side, as a result of jobs involving in working in high altitude. IRPC has carried out an investigation and conducted measures and training to prevent reoccurrence.

## Total Recordable Injuries Rate (TRIR)



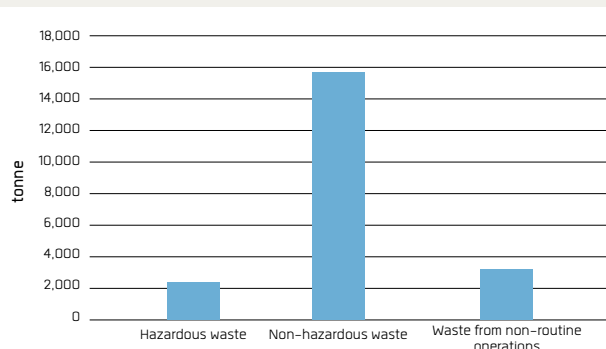
## Energy Intensity

As a result of the energy conservation program and energy efficiency project, in 2013, petroleum and petrochemical businesses showed a 7% and 2% decrease in the energy intensity, which depicts the use of energy per tonne of production, respectively



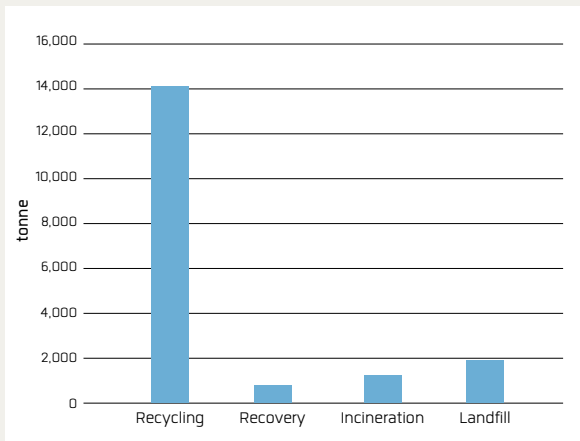
## Water Consumption Intensity

In 2013, Water consumption intensity for petrochemical business showed sign of improvement with 3.45 M<sup>3</sup> per tonne of production of water usage rate. Meanwhile, water usage rate for petroleum business was 0.4 M<sup>3</sup> per tonnes of production, which was similar to the previous year



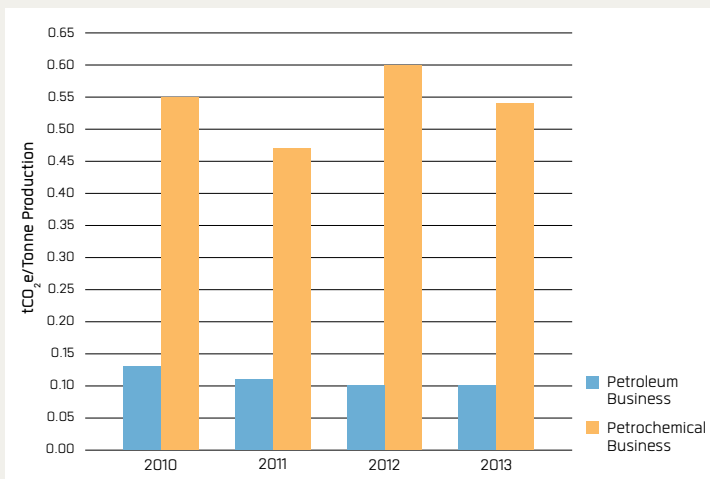
## Waste in 2013

In 2013, IRPC generated a total of 21,238 tonnes of waste, classified into 2,386 tonnes of hazardous waste, 15,642 tonnes of non-hazardous waste, and 3,210 tonnes of waste generated from non-routine operations (during turn around period)



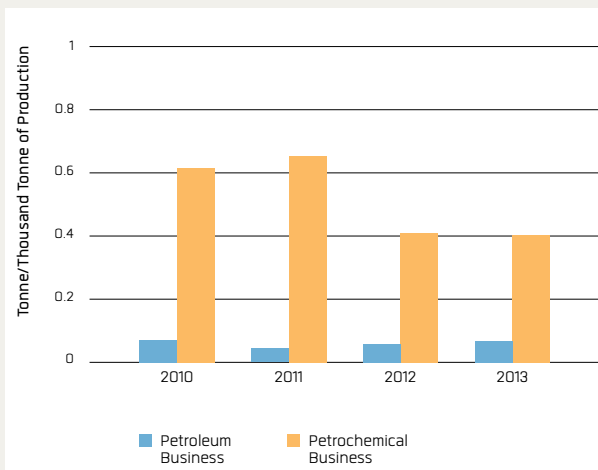
## Waste from Routine Operation by Disposal Method in 2013

In order to reduce environmental impact from landfills, IRPC carried 3R-Reduce, Reuse, and Recycle program to reduce waste generated. It is clear to see that more than 78% of waste generated from all operations (except those generated from non-routine operation) have been reused and 4% have been sent through other forms of recovery, which include burning for energy or being used as feeds in other industries, etc. only 11% of waste is landfilled



## Carbon Intensity

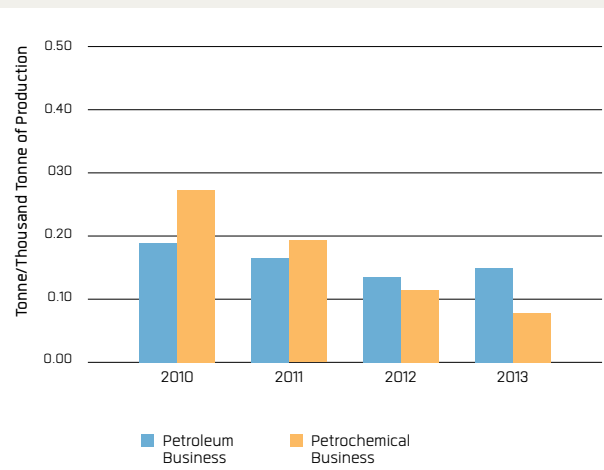
In 2013, Carbon intensity for the petroleum business has reduced by 5%, whereas, reduced by 9% for the petrochemical business when compared with 2012 as a result of the energy efficiency program in terms of a change in the production process and energy conservation program, for example, installation of variable speed drive to control motor rotation speed and save energy used in the motor, temperature control in the production process to be within range, and installation of hot oil to improve efficiency in the production process, etc.



## NOx Intensity

NOx and SOx generated from fuel combustion in the production process. In 2013, the amount of NOx and SOx released per tonne of production in petroleum and petrochemical business showed sign of decreasing due to energy efficiency improvement program, which results in a reduction of energy used per tonnes of production and ,consequently, NOx and SOx released was also reduced.

Remark: the amount of SOx is reported as SO<sub>2</sub>



## SOx Intensity

## REPORTING BOUNDARY

The reporting boundary of this report covers IRPC, subsidiaries, in which IRPC holds more than 50% shares, which includes Thai ABS, IRPC Oil, and IRPC Polyol.



## ECONOMICS

Sales revenue of  
**292,593**  
Million Baht

**9,241**  
Million Baht  
in tax payment

**6,749**  
Million Baht  
in Employees' wages and benefits

GRI	Data	Unit	2010	2011	2012	2013
EC1	Sale Revenues	Million Baht	221,611	246,888	292,430	292,593
	Operating Costs	Million Baht	212,319	235,491	289,770	287,695
	Employee Wages and Benefits	Million Baht	5,229	5,885	5,914	6,749
	Payments to Providers of Capital	Million Baht	3,600	3,666	816	1,632
	Payment to Governments	Million Baht	22,365	9,785	8,189	9,241
EC4	Tax Privileges from the Board of Investment, Thailand	Million Baht	47	212	144	212
	Tax Compensation from Export	Million Baht	175	189	209	203

## Production

GRI	Data	Unit	2010	2011	2012	2013
	Annual Production	Tonne	9,789,908	8,968,382	9,978,631	10,409,243
	Production of Petroleum Business	Tonne	8,372,649	7,684,770	8,505,358	8,732,610
	Production of Petrochemical Business	Tonne	1,417,259	1,283,612	1,473,273	1,676,633

## Supply Chain Management

GRI	Data	Unit**	2010	2011	2012	2013
	Supplier Assessment for Crude Oil, Petroleum and Petrochemical Raw Materials*					
	• Total Number of Supplier in Approved Vendor List (AVL)	Supplier	-	-	-	107
	• Total Number of New Supplier Registered in AVL	Supplier	-	-	-	21
	• Number of Supplier rejected during the Pre-Qualification Process	Supplier	-	-	-	7
	Supplier Assessment for Other Raw Materials and Chemicals*					
	• Total Number of Supplier and Contractor in					
	- Supplier-Approved Vendor List	Supplier/ Contractor	-	-	-	431
	- Contractor-Approved Contractor List	Supplier/ Contractor	-	-	-	411
	- Total Number of New Supplier Registered in AVL					
	- Supplier-Approved Vendor List	Supplier/ Contractor	-	-	-	17
	- Contractor-Approved Contractor List	Supplier/ Contractor	-	-	-	26
	- Number of Supplier rejected during the Pre-Qualification Process					
	- Supplier-Approved Vendor List	Supplier/ Contractor	-	-	-	6

GRI	Data	Unit	2010	2011	2012	2013
	- Contractor-Approved Contractor List		-	-	-	0
HR2	Human Right Screening					
	• Supplier of Crude Oil	Supplier/ Contractor	-	-	-	78
	• Supplier and Contractor of Other Raw Materials and Chemicals					
	- Supplier-Approved Vendor List	Supplier/ Contractor	-	-	-	23
	- Contractor-Approved Contractor List	Supplier/ Contractor	-	-	-	26
EC6	• Spending on purchasing of products and services from suppliers and contractors in Rayong	Million Baht	1,625	2,396	2,539	1,594
	• Percentage of spending in Rayong comparing to the total budget	%	16.10	16.49	19.86	16.22

Remark: \* These indicators are not under the GRI G3.1, but they are new indicators based on GRI G4: EN32 and LA14. Indicators relevant to supply chain management are becoming important and has been asked in other sustainability reporting standard e.g. DJSI. Since these are new indicators required by GRI G4, only 2013 data are needed to be reported.

\*\* Suppliers include suppliers, contractors and vendors.

## Customer Relationship Management

GRI	Data	Unit	2010	2011	2012	2013
PR5	Annual customer satisfaction survey results	Satisfaction rate	87	86	87	86
PR8	Number of substantiated complaints received concerning breaches of customer privacy	Case	0	0	0	0
	Total number of identified leaks, thefts, or losses of customer data	Case	0	0	0	0



GRI	Data	Unit	2010	2011	2012	2556
LA1	Total Employee	Person (s)	5,086	5,186	5,248	5,273
	• Male	Person (s)	4,262	4,324	4,382	4,409
	• Female	Person (s)	824	862	866	864
	Total Long-Term Contractors	Person (s)	0	0	0	0
LA13	Total Employee by Area	Person (s)	5,086	5,186	5,248	5,273
	• Bangkok	Person (s)	729	756	771	756
	- Male	Person (s)	320	324	333	324
	- Female	Person (s)	409	432	438	432
	• Rayong	Person (s)	4,038	4,110	4,156	4,199
	- Male	Person (s)	3,647	3,705	3,753	3,792
	- Female	Person (s)	391	405	403	407

GRI	Data	Unit	2010	2011	2012	2556
	• Others	Person (s)	319	320	321	318
	- Male	Person (s)	295	295	296	293
	- Female	Person (s)	24	25	25	25
	Total Employee by Level	Person (s)	5,086	5,186	5,248	5,273
	• Executive (Level 13-18)	Person (s)	68	69	84	81
	- Male	Person (s)	53	54	67	64
	- Female	Person (s)	15	15	17	17
	• Middle Management (Level 10-12)	Person (s)	304	314	338	346
	- Male	Person (s)	243	254	275	282
	- Female	Person (s)	61	60	63	64
	• Senior (Level 8-9)	Person (s)	769	845	951	933
	- Male	Person (s)	632	680	759	745
	- Female	Person (s)	137	165	192	188
	• Employee (Level 7 and below)	Person (s)	3,945	3,958	3,875	3,913
	- Male	Person (s)	3,334	3,336	3,281	3,318
	- Female	Person (s)	611	622	594	595
	Employee by Age	Person (s)	5,086	5,186	5,248	5,273
	• Over 50 years old	Person (s)	183	217	271	329
	- Male	Person (s)	152	117	219	270
	- Female	Person (s)	31	100	52	59
	• 30-50 years old	Person (s)	4,395	4,478	4,516	4,477
	- Male	Person (s)	3,691	3,753	3,784	3,745
	- Female	Person (s)	704	725	732	732
	• Below 30 years old	Person (s)	508	491	461	467
	- Male	Person (s)	419	395	379	394
	- Female	Person (s)	89	96	82	73
LA2	Total Turnover	Person (s)	37	53	47	70
	• Male	Person (s)	28	45	38	57
	• Female	Person (s)	9	8	9	13
	Turnover Rate	%	0.73	1.02	0.90	1.33
	• Male	%	0.55	0.87	0.72	1.08
	• Female	%	0.18	0.15	0.17	0.25
	Turnover by Area	Person (s)	37	53	47	70
	• Bangkok	Person (s)	14	13	14	20
	- Male	Person (s)	5	8	8	9
	- Female	Person (s)	9	5	6	11

GRI	Data	Unit	2010	2011	2012	2556
	• Rayong	Person (s)	20	37	33	49
	- Male	Person (s)	20	34	30	47
	- Female	Person (s)	0	3	3	2
	• Others	Person (s)	3	3	0	1
	- Male	Person (s)	3	3	0	1
	- Female	Person (s)	0	0	0	0
	Turnover Rate by Area	%	0.73	1.02	0.90	1.33
	• Bangkok	%	0.28	0.25	0.27	0.38
	- Male	%	0.10	0.15	0.15	0.17
	- Female	%	0.18	0.10	0.11	0.21
	• Rayong	%	0.39	0.71	0.63	0.93
	- Male	%	0.39	0.66	0.57	0.89
	- Female	%	0.00	0.06	0.06	0.04
	• Others	%	0.06	0.06	0.00	0.02
	- Male	%	0.06	0.06	0.00	0.02
	- Female	%	0.00	0.00	0.00	0.00
	Turnover by Age	Person (s)	37	53	47	70
	• Over 50 years old	Person (s)	5	7	7	10
	- Male	Person (s)	5	7	5	9
	- Female	Person (s)	0	0	2	1
	• 30-50 years old	Person (s)	17	34	24	41
	- Male	Person (s)	14	28	19	32
	- Female	Person (s)	3	6	5	9
	• Below 30 years old	Person (s)	15	12	16	19
	- Male	Person (s)	9	10	14	16
	- Female	Person (s)	6	2	2	3
	Turnover Rate by Age	%	0.73	1.02	0.90	1.33
	• Over 50 years old	%	0.10	0.13	0.13	0.19
	- Male	%	0.10	0.13	0.10	0.17
	- Female	%	0.00	0.00	0.04	0.02
	• 30-50 years old	%	0.33	0.66	0.46	0.78
	- Male	%	0.28	0.54	0.36	0.61
	- Female	%	0.06	0.12	0.10	0.17
	• Below 30 years old	%	0.29	0.23	0.30	0.36
	- Male	%	0.18	0.19	0.27	0.30
	- Female	%	0.12	0.04	0.04	0.06

Remark: \*No data prior to 2012 due to the allowance of male employees to take parental leave in 2012 (announced 17 December 2012)



GRI	Data	Unit	2010	2011	2012	2556
	New Employee Hired	Person (s)	179	160	110	100
	• Male	Person (s)	145	111	98	88
	• Female	Person (s)	34	49	12	12
	New Employee Hire Rate	%	3.52	3.09	2.10	1.90
	• Male	%	2.85	2.14	1.87	1.67
	• Female	%	0.67	0.94	0.23	0.23
	New Employee by Area	Person (s)	179	160	110	100
	• Bangkok	Person (s)	28	48	25	11
	- Male	Person (s)	10	15	16	4
	- Female	Person (s)	18	33	9	7
	• Rayong	Person (s)	145	112	85	89
	- Male	Person (s)	129	96	82	84
	- Female	Person (s)	16	16	3	5
	• Others	Person (s)	6	0	0	0
	- Male	Person (s)	6	0	0	0
	- Female	Person (s)	0	0	0	0
	New Hire Rate by Area	%	3.52	3.09	2.10	1.90
	• Bangkok	%	0.55	0.93	0.48	0.21
	- Male	%	0.20	0.29	0.30	0.08
	- Female	%	0.35	0.64	0.17	0.13
	• Rayong	%	2.85	2.16	1.62	1.69
	- Male	%	2.54	1.85	1.56	1.59
	- Female	%	0.31	0.31	0.06	0.09
	• Others	%	0.12	0.00	0.00	0.00
	- Male	%	0.12	0.00	0.00	0.00
	- Female	%	0.00	0.00	0.00	0.00
	New Employee by Age	Person (s)	179	160	110	100
	• Over 50 years old	Person (s)	2	4	5	2
	- Male	Person (s)	2	2	5	2
	- Female	Person (s)	0	2	0	0
	• 30-50 years old	Person (s)	20	23	15	4
	- Male	Person (s)	13	10	9	1
	- Female	Person (s)	7	13	6	3
	• Below 30 years old	Person (s)	157	133	90	94
	- Male	Person (s)	130	99	84	85
	- Female	Person (s)	27	34	6	9

GRI	Data	Unit	2010	2011	2012	2556
	New Hire Rate by Age	%	3.52	3.09	2.10	1.90
	• Over 50 years old	%	0.04	0.08	0.10	0.04
	- Male	%	0.04	0.04	0.10	0.04
	- Female	%	0.00	0.04	0.00	0.00
	• 30-50 years old	%	0.39	0.44	0.29	0.08
	- Male	%	0.26	0.19	0.17	0.02
	- Female	%	0.14	0.25	0.11	0.06
	• Below 30 years old	%	3.09	2.56	1.71	1.78
	- Male	%	2.56	1.91	1.60	1.61
	- Female	%	0.53	0.66	0.11	0.17
	Employee Satisfaction	%	78.52	90.76	85.51	78.98
LA15	Employee Entitle for Parental Leave*					
	• Male	%	N/A	N/A	100	100
	• Female	%	100	100	100	100
	Number of Employee Taken Parental Leave	Person (s)	20	21	26	88
	• Male	Person (s)	N/A	N/A	1	74
	• Female	Person (s)	20	21	25	14
	Number of Employee Return to Work After Parental Leave	Person (s)	20	21	26	88
	• Male	Person (s)	N/A	N/A	1	74
	• Female	Person (s)	20	21	25	14
	Return to Work Rate					
	• Male	%	N/A	N/A	100	100
	• Female	%	100	100	100	100
	Employee Entitle for Parental Leave Who Still Employed for the Next 12 Months					
	• Male	%	N/A	N/A	100	100
	• Female	%	100	100	100	100
	Retention Rate					
	• Male	%	N/A	N/A	100	100
	• Female	%	100	100	100	100
LA4	Total Employees Covered by Collective Bargaining	%	89	86	86	86
LA10	Training Hours of Male Employees Based in Bangkok	Hours	14,140.00	16,724.50	21,806.00	18,060.50
	• Strategic PG13 Up	Hours	816.00	1,084.50	1,831.00	975.50
	• Managerial PG9-12	Hours	4,380.00	4,349.00	4,060.50	2,760.00
	• Supervisory PG6-8	Hours	5,047.00	6,362.00	9,725.50	9,773.50
	• Operation PG5 Down	Hours	3,897.00	4,929.00	6,189.00	4,551.50
	Training Hours of Female Employees Based in Bangkok	Hours	10,676.00	10,298.00	13,007.00	9,958.00

GRI	Data	Unit	2010	2011	2012	2556
	• Strategic PG13 Up	Hours	482.00	618.00	541.50	123.00
	• Managerial PG9-12	Hours	3,849.00	3,540.50	3,909.00	3,274.50
	• Supervisory PG6-8	Hours	5,274.00	5,049.00	7,255.00	5,617.50
	• Operation PG5 Down	Hours	1,071.00	1,090.50	1,301.50	943.00
	Training Hours of Male Employees Based in Other Areas	Hours	192,500.85	162,073.00	156,636.50	133,187.00
	• Strategic PG13 Up	Hours	2,608.00	2,575.00	1,727.00	1,046.00
	• Managerial PG9-12	Hours	38,245.50	28,189.00	21,872.00	14,065.00
	• Supervisory PG6-8	Hours	88,243.00	65,056.00	81,139.00	79,107.50
	• Operation PG5 Down	Hours	63,404.35	66,253.00	51,898.50	38,968.50
	Training Hours of Female Employees Based in Other Areas	Hours	18,859.50	14,859.00	15,356.00	13,802.50
	• Strategic PG13 Up	Hours	-	-	-	-
	• Managerial PG9-12	Hours	3,667.00	2,129.00	2,165.50	1,492.00
	• Supervisory PG6-8	Hours	7,261.50	5,369.00	6,254.00	6,077.00
	• Operation PG5 Down	Hours	7,931.00	7,361.00	6,936.50	6,233.50
LA14	Equal Remuneration Female/Male					
	Strategic PG13 Up					
	• Average Female Salary (Base Salary Only)	Baht/Person	-	-	-	2,604,160.94
	• Average Male Salary (Base Salary Only)	Baht/Person	-	-	-	2,270,505.74
	Managerial PG9-12					
	• Average Female Salary (Base Salary Only)	Baht/Person	-	-	-	1,213,769.05
	• Average Male Salary (Base Salary Only)	Baht/Person	-	-	-	1,203,528.20
	• Average Female Remuneration (Base Salary and Other Case Incentives e.g. Bonus)	Baht/Person	-	-	-	1,640,343.30
	• Average Male Remuneration (Base Salary and Other Case Incentives e.g. Bonus)	Baht/Person	-	-	-	1,625,359.48
	Supervisory PG6-8 and Operation PG5 Down					
	• Average Female Salary (Base Salary Only)	Baht/Person	-	-	-	506,134.70
	• Average Male Salary (Base Salary Only)	Baht/Person	-	-	-	473,488.10
LA7	Absentee Rate					
	• Male	%	0.39	0.48	0.63	0.46
	• Female	%	0.55	0.60	1.16	0.75

Remark: \*No data prior to 2012 due to the allowance of male employees to take parental leave in 2012 (announced 17 December 2012)

## SAFETY

0  
Fatality

0  
case  
of oil and  
chemical spills  
at the sea

24% reduction  
in LTIFR for  
employee  
and 20%  
for contractor

### Oil and Chemical Spills

GRI	Data	Unit	2010	2011	2012	2013
EN23	Hydrocarbon Spills	Cases	3	7	1	6
	• Petroleum Business	Cases	1	1	0	2
		m <sup>3</sup>	50	0.09	0	1
	• Petrochemical Business	Cases	1	4	1	3
		m <sup>3</sup>	0.2	0.1	1.06	0.01
	• Port Business	Cases	1	2	0	0
		m <sup>3</sup>	0.1	0.12	0	0
	• Other business	Cases	0	0	0	1
		m <sup>3</sup>	0	0	0	0.05

### Process Safety

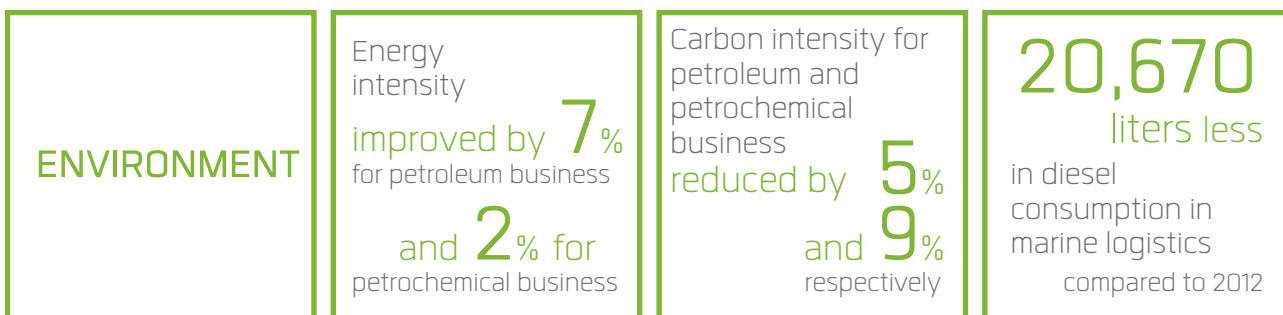
GRI	Data	Unit	2010	2011	2012	2013
OG13	Number of Tier 1 Process Safety Events	Cases	6	11	10	9
	Number of Tier 2 Process Safety Events	Cases	12	17	17	19

### Occupational Health and Safety

GRI	Data	Unit	2010	2011	2012	2013
LA7	Total Recordable Injuries Case (TRIC)					
	• Employee	Cases	6	11	6	3
	• Contractor	Cases	6	6	11	16
	Total Recordable Injuries Rate (TRIR)					
	• Employee	Per million hours worked	1.07	1.23	0.65	0.55
	• Contractor	Per million hours worked	2.7	0.44	1.37	1.52
	Lost Time Injuries Frequency Rate (LTIFR)					431
	• Employee	Per million hours worked	0.66	0.61	0.37	0.28
	• Contractor	Per million hours worked	1.5	0.37	0.95	0.76
	Lost Work Day Case (LWC)					
	• Employee	Cases	3	6	3	3



GRI	Data	Unit	2010	2011	2012	2013
	• Contractor	Cases	2	5	7	6
	Fatalities					
	• Employee	Fatalities	0	0	0	0
	• Contractor	Fatalities	1	0	0	0
	Occupational Illness Frequency Rate (OIFR)					78
	• Employee	Per million hours worked	0	0	0	0
	• Contractor	Per million hours worked	0	0	0	0



## Materials Consumption

GRI	Data	Unit	2010	2011	2012	2013
EN1	Petroleum Business - Crude Oil	Tonne	8,333,040	7,590,783	8,443,110	8,638,824
	Petrochemical Business - Naphtha	Tonne	724,039	601,586	740,741	781,570

## Energy Consumption

GRI	Data	Unit	2010	2011	2012	2013
EN3	Total direct energy consumption	GJ	33,362,081	39,258,292	46,996,100	46,514,605
	• Petroleum Business	GJ	12,166,832	10,757,250	11,923,361	11,313,903
	• Petrochemical Business	GJ	17,207,893	14,656,725	16,997,924	17,645,011
	• Other Business	GJ	9,868,599	18,317,837	23,428,352	24,118,593
	Total direct energy consumption	MWh	9,267,245	10,905,081	13,054,472	12,920,724
	• Petroleum Business	MWh	3,379,676	2,988,125	3,312,045	3,142,751
	• Petrochemical Business	MWh	4,779,970	4,071,312	4,721,645	4,901,392
	• Other Business	MWh	2,741,277	5,088,288	6,507,876	6,699,609
	Direct energy consumption by fuel					
	• Petroleum business					
	Fuel Oil	GJ	3,203,964	3,351,327	2,914,571	2,151,181
	Natural Gas	GJ	0	0	0	0
	LPG	GJ	3,746,437	2,930,538	4,006,012	3,547,694

GRI	Data	Unit	2010	2011	2012	2013
	Diesel	GJ	0	0	0	0
	Gasoline	GJ	0	0	0	0
	Fuel Gas	GJ	731,258	705,236	826,642	936,211
	Coke	GJ	2,032,396	2,032,396	2,302,937	2,344,800
	H <sub>2</sub> S	GJ	0	1,263	167	135
	Steam	GJ	1,025,945	685,187	723,091	1,025,024
	Electricity generated by IRPC Power Plant	GJ	1,426,834	1,051,303	1,149,941	1,308,858
	Others	GJ	0	0	0	0
	• Petrochemical business					
	Fuel Oil	GJ	3,508,453	1,884,055	1,884,877	1,109,462
	Natural Gas	GJ	0	0	0	0
	LPG	GJ	598,974	714,456	1,198,284	952,315
	Diesel	GJ	747,259	811,245	693,898	544,483
	Gasoline	GJ	0	0	0	0
	Fuel Gas	GJ	8,799,261	8,498,805	9,718,756	10,815,465
	Coke	GJ	0	0	0	0
	Propane	GJ	84,371	0	0	0
	Waste Monomer	GJ	20,776	882	0	0
	Recycle Monomer	GJ	20,334	16,131	23,641	0
	Steam	GJ	1,858,628	1,465,472	1,848,535	2,590,111
	Electricity generated by IRPC Power Plant	GJ	1,569,837	1,265,677	1,629,933	1,633,174
	Others	GJ	0	0	0	0
	• Other Business					
	Fuel Oil	GJ	2,554,224	0	0	0
	Natural Gas	GJ	0	12,888,717	18,196,884	19,746,980
	LPG	GJ	0	0	0	0
	Diesel	GJ	0	69,223	1,040	0
	Gasoline	GJ	0	0	0	0
	Fuel Gas	GJ	0	0	0	0
	Coke	GJ	0	0	0	0
	Steam	GJ	0	0	0	0
	Coal	GJ	7,314,375	5,354,008	5,228,391	4,365,879
	Electricity generated by IRPC Power Plant	GJ	0	5,879	2,037	5,733
	Others	GJ	0	0	0	0
	Energy intensity					
	• Petroleum Business	GJ/ Tonne throughput	1.46	1.42	1.41	1.31

GRI	Data	Unit	2010	2011	2012	2013
	• Petrochemical Business	GJ/ Tonne throughput	23.77	24.36	22.95	22.58
	Total electricity sold to other companies outside IRPC boundary e.g. EGAT, PEA	MWh	382,233	363,196	479,458	485,569
	Total steam sold to other companies outside IRPC boundary	Tonne	1,020,344	1,103,830	1,175,711	1,039,163
EN4	Total electricity purchased from other companies outside IRPC boundary e.g. EGAT, PEA	MWh	1,000,163	184,932	4,080	1,838
	Total steam purchased from other companies outside IRPC boundary	Tonne	50,252	3,365	102	0
EN6	Initiatives to provide energy-efficient or renewable energy based products and services, and reductions in energy requirement as a result of these initiatives	GJ	20,819	253,714	1,397,443	263,863
EN29	Total diesel consumed by IRPC owned marine vessels	Litre	1,272,821	761,826	831,056	810,386

## Flared and Vented Hydrocarbon

GRI	Data	Unit	2010	2011	2012	2013
OG6	Volume of flared hydrocarbon					
	• Petroleum Business	m <sup>3</sup>	5,763	2,899	9,021	14,246
	• Petrochemical Business	m <sup>3</sup>	6,522	8,906	3,978	16,852
	• Other Business	m <sup>3</sup>	0	0	118	0

Remark: IRPC is working towards the operational excellence, which aims to reduce losses as much as possible. We recover vented and flared gas e.g. monomer recovery unit at PP plant, flared gas recovery unit, etc.

## Greenhouse Gas

GRI	Data	Unit	2010	2011	2012	2013
EN16	Total direct emissions of greenhouse gas <sup>(1)</sup>	Million tCO <sub>2</sub> e	3.36	2.85	3.41	3.39
	• Petroleum Business	Million tCO <sub>2</sub> e	1.12	0.84	0.87	0.85
	• Petrochemical Business	Million tCO <sub>2</sub> e	0.79	0.61	0.88	0.91
	• Other Business	Million tCO <sub>2</sub> e	1.46	1.40	1.65	1.63
	Total indirect emissions of greenhouse gas <sup>(2)</sup>	Million tCO <sub>2</sub> e	0.510	0.094	0.002	0.001
	GHG Intensity					
	• Petroleum Business	tCO <sub>2</sub> e/Tonne production	0.133	0.110	0.103	0.097
	• Petrochemical Business	tCO <sub>2</sub> e/Tonne production	0.554	0.472	0.598	0.543

Remark: 1. Direct emissions of greenhouse gases from all sources owned or controlled by IRPC, which includes IRPC Power Plant.

2. Indirect emissions of greenhouse gases from the generation of purchased electricity, heat, or steam, which corresponds with energy consumption reported under EN4.

## Air Emissions

GRI	Data	Unit	2010	2011	2012	2013
EN20	Total NOx	Tonne	3,691	2,776	2,745	4,138
	• Petroleum Business	Tonne	596	337	504	588
	• Petrochemical Business	Tonne	871	840	603	677
	• Other Business	Tonne	2,224	1,599	1,638	2,873
	NOx Intensity					
	• Petroleum Business	Tonne/ thousand tonne of production	0.071	0.044	0.059	0.067

GRI	Data	Unit	2010	2011	2012	2013
	• Petrochemical Business	Tonne/ thousand tonne of production	0.615	0.654	0.409	0.404
	Total SOx	Tonne	5,778	2,067	1,357	1,667
	• Petroleum Business	Tonne	1,563	1,261	1,096	1,268
	• Petrochemical Business	Tonne	386	244	161	124
	• Other Business	Tonne	3,829	562	100	275
	SOx Intensity					
	• Petroleum Business	Tonne/ thousand tonne of production	0.187	0.164	0.129	0.145
	• Petrochemical Business	Tonne/ thousand tonne of production	0.272	0.190	0.109	0.074
	Total VOCS					
	• Petroleum Business	Tonne	N/A	N/A	766	684
	• Petrochemical Business	Tonne	N/A	N/A	343	342
	VOC Intensity					
	• Petroleum Business	Kg VOC/ barrel of crude oil	N/A	N/A	0.013	0.011
	• Petrochemical Business	Kg/ tonne naptha	N/A	N/A	0.464	0.437

Remark: (1) IRPC starts tracking its VOC emission in 2012.  
(2) N/A = Not Available  
(3) SOx reported in the Table is in the form of sulfur dioxide (SO<sub>2</sub>).

## Water Consumption and Wastewater

GRI	Data	Unit	2010	2011	2012	2013
EN8	Water withdrawn by source	m <sup>3</sup>	36,646,788	38,303,016	40,351,785	40,612,460
	• Provincial / Municipal Waterworks Authority	m <sup>3</sup>	0	0	0	0
	• IRPC water utility plant	m <sup>3</sup>	19,126,788	20,783,016	22,831,785	23,092,460
	• Salt / brackish water	m <sup>3</sup>	17,520,000	17,520,000	17,520,000	17,520,000
	• Other source	m <sup>3</sup>	0	0	0	0
	Water withdrawn by operations					
	• Petroleum Business					
	Provincial / Municipal Waterworks Authority	m <sup>3</sup>	0	0	0	0
	IRPC water utility plant	m <sup>3</sup>	3,507,929	3,314,126	3,496,699	3,532,909
	Salt / brackish water	m <sup>3</sup>	0	0	0	0
	Other source	m <sup>3</sup>	0	0	0	0
	• Petrochemical Business					
	Provincial / Municipal Waterworks Authority	m <sup>3</sup>	0	0	0	0
	IRPC water utility plant	m <sup>3</sup>	6,313,123	5,490,544	6,104,041	5,776,408
	Salt / brackish water	m <sup>3</sup>	0	0	0	0
	Other source	m <sup>3</sup>	0	0	0	0
	• Other Business					



GRI	Data	Unit	2010	2011	2012	2013
	Provincial / Municipal Waterworks Authority	m <sup>3</sup>	0	0	0	0
	IRPC water utility plant	m <sup>3</sup>	9,305,736	11,978,346	13,231,044	13,783,143
	Salt / brackish water	m <sup>3</sup>	17,520,000	17,520,000	17,520,000	17,520,000
	Other source	m <sup>3</sup>	0	0	0	0
	Water withdrawal intensity					
	- Petroleum business	m <sup>3</sup> /tonne production	0.419	0.431	0.411	0.405
	- Petrochemical business	m <sup>3</sup> /tonne production	4.454	4.277	4.143	3.445
EN21	Total volume of water discharge	Million m <sup>3</sup>	1.46	1.59	1.55	1.75
	- Petroleum business	Million m <sup>3</sup>	0.92	1.02	1.05	1.23
	- Petrochemical business	Million m <sup>3</sup>	0.54	0.57	0.50	0.52
	- Other business	Million m <sup>3</sup>	0	0	0	0
	Chemical oxygen demand (COD) in treated wastewater discharged					
	- Petroleum business	Tonne	64.43	79.54	68.73	77.57
	- Petrochemical business	Tonne	93.88	96.89	88.12	87.54
	- Other business	Tonne	0	0	0	0
	Biochemical oxygen demand (BOD) in treated wastewater discharged					
	• Petroleum business	Tonne	12.25	9.75	3.27	5.69
	• Petrochemical business	Tonne	11.46	8.73	1.44	3.08
	• Other business	Tonne	0	0	0	0
	Wastewater discharge intensity		0.615	0.654	0.409	0.404
	• Petroleum business	m <sup>3</sup> / tonne production	0.110	0.133	0.123	0.141
	• Petrochemical business	m <sup>3</sup> / tonne production	0.381	0.444	0.339	0.310

## Solid Waste

GRI	Data	Unit	2013
EN22	Total waste disposed	Tonne	21,238
	Non-hazardous waste	Tonne	15,642
	Hazardous waste	Tonne	2,386
	Waste from non-routing operation	Tonne	3,210
	Total waste disposed by method	Tonne	18,029
	Reuse	Tonne	0
	Recycling	Tonne	14,121
	Recovery	Tonne	788
	Incineration	Tonne	1,217
	Landfill	Tonne	1,903
	Others	Tonne	0
	Petroleum business: total hazardous waste disposed	Tonne	716

GRI	Data	Unit	2013
	Reuse	Tonne	0
	Recycling	Tonne	37
	Recovery	Tonne	330
	Incineration	Tonne	320
	Landfill	Tonne	29
	Others	Tonne	0
	Petroleum business: total non-hazardous waste disposed	Tonne	193
	Reuse	Tonne	0
	Recycling	Tonne	184
	Recovery	Tonne	0
	Incineration	Tonne	0
	Landfill	Tonne	9

GRI	Data	Unit	2013
	Others	Tonne	0
	Petrochemical business: total hazardous waste disposed	Tonne	1,630
	Reuse	Tonne	0
	Recycling	Tonne	110
	Recovery	Tonne	419
	Incineration	Tonne	855
	Landfill	Tonne	246
	Others	Tonne	0
	Petrochemical business: total non-hazardous waste disposed	Tonne	348
	Reuse	Tonne	0
	Recycling	Tonne	0
	Recovery	Tonne	0
	Incineration	Tonne	42
	Landfill	Tonne	306
	Others	Tonne	0
	Other business: total hazardous waste disposed	Tonne	40

GRI	Data	Unit	2013
	Reuse	Tonne	0
	Recycling	Tonne	0
	Recovery	Tonne	38
	Incineration	Tonne	0
	Landfill	Tonne	2
	Others	Tonne	0
	Other business: total non-hazardous waste disposed	Tonne	15,102
	Reuse	Tonne	0
	Recycling	Tonne	13,790
	Recovery	Tonne	0
	Incineration	Tonne	0
	Landfill	Tonne	1,312
	Others	Tonne	0
	Total waste from non-routine operation	Tonne	3,209
	Petroleum business	Tonne	480
	Petrochemical business	Tonne	470
	Other business	Tonne	2,259

## Environmental Protection Expenditures and Investment and Fines

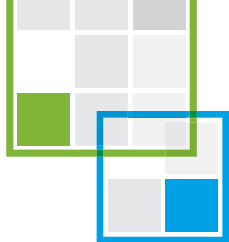
GRI	Data	Unit*	2010	2011	2012	2013
EN30	Costs identified as environmental operations*	Million Baht	-	-	-	154
EN28	Monetary value of significant fines	Million Baht	0	0	0	0
	Number of non-monetary sanctions	Case	0	0	0	0
	Case brought through dispute resolution mechanisms	Case	0	0	0	0

Remark: \*IRPC starts tracking its environmental expenditure and investment in 2013.



## Philanthropy

GRI	Data	Unit	2010	2011	2012	2013
EC1	Cash contribution	Baht	155,460,058	154,123,422	124,109,082	134,848,855



# Awards and Recognitions



## International Awards:

- Asia Outstanding Company on Corporate Governance 2013 award from Corporate Governance Asia Magazine, Hong Kong
- Best Investor Relation award, 3<sup>rd</sup> Asian Excellence Recognition Awards 2013 program by Corporate Governance Asia Magazine, Hong Kong
- Top 50 Public Listed Companies-Thailand by Asian Development Bank (ADB) in partnership with ASEAN Capital Markets Forum in line with OECD guidelines and Corporate Governance Scorecard
- IRPC reported 4 aspects of the operational performance in line with UN Global Compact commitment since November 2011. In 2013, IRPC had uploaded Sustainability report 2011-2012 on UNGC website on the 11<sup>th</sup> of September 2013
- IRPC participated in The Dow Jones Sustainability Indices (DJSI) assessment under emerging market universe for the first time in 2013. As a result, IRPC received the score ranged in the top 15% of Oil & Gas producers and has been included in RebecoSam's sustainability yearbook 2014 issued in January 2014

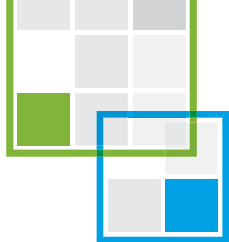
## National Awards:

- Thailand Top Company Awards 2013: CSR of the year by University of the Thai Chamber of Commerce in partnership with Business Plus magazine
- IRPC's Ayutthaya depot, received the award of "The Best Health and Environmental Company Award 2013" by the Occupational Health and Safety Bureau, Department of Labor Protection and Welfare.
- Thailand Energy Award 2013 by the Department of Alternative Energy Development and Efficiency, Ministry of Energy: award for the best energy management team, award for the best energy control manufacture, and complimentary award for innovation energy from ZAKID project
- CSRI Recognition 2013 Awards by the Corporate Social Responsibility Institute, Stock Exchange of Thailand, as A listed company with a focus to develop a socially responsible business, which is a good model in sustainable business
- The Prime Minister's Industry Award 2013 by the Ministry of Industry Thailand for Energy Management for Polypropylene production plant



- Sustainability Report Award 2013 by CSR club, Thai Listed Companies Association supported by the Securities and Exchange Commission, Stock Exchange of Thailand and Thaipat Institute.
- IRPC has been assessed with a good corporate governance survey for listed companies 2013 by the Thai Institute of Director. IRPC received “Excellence” for 5 consecutive years (2009-2013)
- IRPC received “Excellence” in the AGM assessment 2013 by the Thai Investor Association for 4 consecutive years (2010-2013)
- IRPC’s AGM meeting 2013 was certified under the concept of “Green Meeting” by Thailand Business Council for Sustainable Development (TBCSD) and Thailand Environment Institute Foundation
- Polypropylene production plant was rewarded with the certificate in participation of the development of infrastructure to support voluntary GHG reduction activities in Thailand using market mechanisms program by Thailand Greenhouse Gas Management Organization (Public Organization) to move towards a low carbon industry.
- Polypropylene production plant received Thailand Quality Class Award-TQC 2013 by Thailand Quality Award
- Thailand ICT Excellence Award 2012 from IRPC Business Intelligence Project. The winner in core process development category and A consolation prize in Behavior Based Safety Program





# GRI Content Index & UNGC COP

## Approach

This report communicates IRPC's policy, management approach, and economic, social, and environmental aspects of performance spanning from 1<sup>st</sup> January 2013 to 31<sup>st</sup> December 2013. To achieve this, IRPC applies the approach of the Global Reporting Initiative (GRI), G3.1 oil and gas sector supplement. IRPC's assessment of content integrity is against GRI at the A level. IRPC will develop its Sustainability Report for 2014 in accordance with GRI G4, which is the latest version of GRI launched in 2012.

## Scope

Information disclosure of this report is based on IRPC's degree of control over our affiliates. This report therefore covers only operated businesses, namely the Petroleum Business Unit, Petrochemical Business Unit, Port Business Unit, and Asset Management Business Unit, and subsidiaries with more than 50% IRPC ownership. This report encompasses the policy and management approach to sustainability of IRPC Public Company Limited, Thai ABS Co., Ltd., IRPC Polyol Co., Ltd., and IRPC Oil Co., Ltd. For more information, please refer to our annual report.

## Internal Process

Compared with last year, scope of this year's report extends to cover not only IRPC Public Co., Ltd., but also, subsidiaries with more than 50% IRPC ownership. Reviewing and concurring with material issue was the IRPC Corporate Strategic Planning, which ensured accurate and proper content definition and verification of our accuracy.

To download the current and past reports, please log on to **[www.irpc.co.th](http://www.irpc.co.th)**

### For any inquiry, please contact

Corporate Strategic Planning  
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## 1. Strategy and Analysis

Indicator	Description	Page	UNGC Principle	Remarks
1.1	CEO statement	4-5	Statement of Continuing Support	
1.2	Description of key impacts, risks, and opportunities	4-5, 22-23		

## 2. Organizational Profile

Indicator	Description	Page	UNGC Principle	Remarks
2.1	Name of the organization	6	-	IRPC is public company listed in the Stock Exchange of Thailand. For more information about IRPC please visit our website: <a href="http://www.irpc.co.th/other/ir_home_th.html">http://www.irpc.co.th/other/ir_home_th.html</a>
2.2	Primary brands, products, and/or service	7-9	-	
2.3	Operational structure of the organization	7, 19	-	
2.4	Location of organization's headquarters	6, 114	-	IRPC is a public company listed in the Stock Exchange of Thailand. For more information about IRPC, please visit our website: <a href="http://irpc.co.th/en/about.php">http://irpc.co.th/en/about.php</a>
2.5	Number of countries where the organization operates	115	-	IRPC has operation in Thailand only.
2.6	Nature of ownership and legal form	6	-	A list of major shareholders can be found on <a href="http://www.irpc.co.th/ir_home_th.php">http://www.irpc.co.th/ir_home_th.php</a>
2.7	Markets served	8-9	-	
2.8	Scale of the company	7-9, 98-99	-	
2.9	Significant changes (size/structure/ownership) during the reporting period	115	-	No significant change
2.10	Awards	112-113	-	IRPC Awards: <a href="http://www.irpc.co.th/awards.php">http://www.irpc.co.th/awards.php</a>

## 3. Report Parameters

Indicator	Description	Page	UNGC Principle	Remarks
3.1	Reporting period	114	-	
3.2	Date of most recent previous report (if any)	115	-	2012. 'IRPC Sustainability Report 2012' provided on <a href="http://irpc.co.th/imgadmins/download_file/SDReportENwithGRIstatementforweb.pdf">http://irpc.co.th/imgadmins/download_file/SDReportENwithGRIstatementforweb.pdf</a>
3.3	Reporting cycle	115	-	Annual basis
3.4	Contact point	114	-	
3.5	Process of defining report content	23, 114	-	
3.6	Boundary of the report	114	-	
3.7	Limitations on the scope/boundary of the report	115	-	This report covers IRPC group, which IRPC are IRPC Public Co., Ltd., IRPC Oil Co., Ltd., IRPC Polyol Co., Ltd., and Thai ABS Co., Ltd. Major shareholder of IRPC Oil, IRPC Polyol and Thai ABS is IRPC holding 99.99% of share. This report exclude other IRPC's entities, subsidiaries and joint ventures which are not stated above i.e. IRPC A&L, PTT Polymer Marketing, Ube Chemicals, Rak Phasak, IRPC Technology, IRPC Clean Power, and PTT Energy Solution.
3.8	Basis for reporting on other partners	115	-	Suppliers and contractors are reported on supply chain management and occupational health and safety sustainability aspects.
3.9	Data measurement techniques and the bases of calculation	99, 104, 108-109, 111, 114	-	
3.10	Re-statements	94-111, 114	-	IRPC expanded the reporting scope to cover IRPC group in 2013.
3.11	Significant changes (scope/boundary/measurement method) from previous reporting periods	114	-	
3.12	GRI content index	114-123	-	
3.13	External assurance policy and practice	115	-	Financial data are externally audited by Third party. Non-financial data are internally reviewed.

## 4. Governance, Commitments, and Engagement

Indicator	Description	Page	UNGC Principle	Remarks
4.1	Governance structure	17-19	1-10	For more information about our governance, please visit our website: <ul style="list-style-type: none"> <li>• Organization Structure:  <a href="http://www.irpc.co.th/en/cg_organiz.php">http://www.irpc.co.th/en/cg_organiz.php</a> </li> <li>• Board of Directors:  <a href="http://www.irpc.co.th/en/about_board.php">http://www.irpc.co.th/en/about_board.php</a> </li> <li>• Management Team:  <a href="http://www.irpc.co.th/en/about_manage.php">http://www.irpc.co.th/en/about_manage.php</a> </li> <li>• Annual Report:  <a href="http://www.irpc.co.th/en/library.php?typeID=7">http://www.irpc.co.th/en/library.php?typeID=7</a> </li> <li>• Third Party Assessment of Board:  <a href="http://www.irpc.co.th/en/cg_level.php">http://www.irpc.co.th/en/cg_level.php</a> </li> <li>• Roles of Board and Executives:  <a href="http://www.irpc.co.th/en/cg_policy_good.php">http://www.irpc.co.th/en/cg_policy_good.php</a> </li> </ul>
4.2	Whether the chair of the highest governance body is also an executive officer	18	1-10	
4.3	Number and gender of board members that are independent and non-executive	18	1-10	
4.4	Mechanisms for providing recommendations	23	1-10	
4.5	Linkage between compensation of seniors & executives and company's performance	19-20	1-10	In 2013 AGM Meeting, the board decided not to receive bonus for the year 2012 due to the business loss.
4.6	Process in place to ensure conflicts of interest are avoided	31-32	1-10	CG handbook: 4.6 Conflict of Interest ( <a href="http://www.irpc.co.th/pdf/CG/IRPC'CorporateGovernance'Handbook.pdf">http://www.irpc.co.th/pdf/CG/IRPC'CorporateGovernance'Handbook.pdf</a> ).
4.7	Process for determining the composition, qualifications, and expertise of the highest governance body	18	1-10	
4.8	Developed statements of mission or values, codes of conduct and principles	21-22, 31-32		
4.9	Procedure overseeing organization's identification and management of economic, environmental and social performance	18-19, 22, 31	1-10	
4.10	Evaluating board effectiveness	19	1-10	
4.11	Precautionary principle	22	7	
4.12	Principles or external initiatives on economic, environmental and social aspects	116	1-10	International standards: <a href="http://www.irpc.co.th/en/good_working.php">http://www.irpc.co.th/en/good_working.php</a> The annual Communication on Progress can be found on <a href="http://www.irpc.co.th/en/cg_level_unglobal.php">http://www.irpc.co.th/en/cg_level_unglobal.php</a>
4.13	Memberships in associations and national/international advocacy organizations	116	-	IRPC is member in various associations and national/international sustainability organizations such as CSR-DIW, UNGC, Responsible Care. For more details of the standards IRPC adopts please visit our website <a href="http://www.irpc.co.th/other/ir_home_th.html">http://www.irpc.co.th/other/ir_home_th.html</a>
4.14 <sub>COMM</sub>	Stakeholder groups	23	-	
4.15	Basis for identification and selection of stakeholders	23	-	
4.16	Approaches to stakeholder engagement	23, 36, 38-39, 45, 80-81, 85	-	
4.17 <sub>COMM</sub>	Stakeholders' topics and concerns	23, 81	-	

## 5. Disclosures on Management Approach

Indicator	Description	Page	UNGC Principle	Remarks
DMA EC	Economics	8-10, 26-29, 35, 38	1,4,6,7	For more information, please refer to our Annual Report.
DMA EN	Environment	26, 34-36, 43, 50, 55, 58-60, 62, 83	7,8,9	
DMA LA	Labor Rights	68-74, 95	1,3,6	
DMA HR	Human Rights	35, 71, 80-81, 83, 85, 93	1,2,3,4,5,6	For more information, please refer to UNGC COP ( <a href="http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf">http://www.irpc.co.th/pdf/CG/irpc-communication_en.pdf</a> ), and IRPC's code of ethics: <a href="http://irpc.co.th/cg_policy_ethics.php">http://irpc.co.th/cg_policy_ethics.php</a>
DMA SO	Society	31-32, 35-36, 50-52, 74, 80-81, 85, 93	10	IRPC abides PTT Group's CG Policies and Codes of Conduct. Thus, IRPC is a politically neutral organization and does not support any political party, group, or politician at the national, international or global levels. IRPC does not support lobbying on inappropriate, unreasonable, or unethical principles such as utilizing personal relationships or offering paybacks.
DMA PR	Product Responsibility	26, 29, 38-39, 61	1,8	The customer's satisfaction and confidence are of great value to IRPC as much as the sustainable relations with customers and the public. To ensure the delivery of good quality and affordable services, IRPC has established procedures as defined in codes of ethics: <a href="http://irpc.co.th/en/cg_policy_ethics.php">http://irpc.co.th/en/cg_policy_ethics.php</a>

## Performance Indicators

### 6. Economics

Indicator	Description	Page	UNGC Principle	Remarks
EC1 <sub>COMM</sub>	Direct economic value generated and distributed	94, 98	-	
EC2 <sub>COMM</sub>	Implications of climate change	55-62	7	
EC3	Defined benefit plan obligations	70	-	IRPC employees receive compensations and benefits that are above the minimum required by Thai labor laws.
EC4	Financial assistance	98	-	
EC5	Range of ratio of standard entry level wage by gender compared to minimum local wage	70	-	Local minimum wage for workers working in Rayong, where IRPC main operation is located, is at 300 Baht per day ( <a href="http://www.mol.go.th/en/employee/interesting_information/6319">http://www.mol.go.th/en/employee/interesting_information/6319</a> )
EC6 <sub>COMM</sub>	Locally based suppliers	36-37, 60, 99	-	
EC7 <sub>COMM</sub>	Local hiring	95	6	IRPC only has its operation in Thailand and all of its employees are Thai
EC8 <sub>COMM</sub>	Indirect economic impact	86-93	-	
EC9 <sub>COMM</sub>	Describe significant indirect economic impacts	86-93	-	
OG1	Volume and type of estimated proved reserves and production	117	-	Not applicable. This is because IRPC's petroleum business covers petroleum refinery and lubricant production only.



## 7. Environment

Indicator	Description	Page	UNGC Principle	Remarks
EN1 <sub>COMM</sub>	Materials used by weight or volume	106	7,8,9	
EN2 <sub>COMM</sub>	Percentage of recycled materials used	118	7,8,9	Not material. This is because IRPC main raw material is crude oil, which is difficult to be replaced by other recycled materials.
EN3	Direct energy consumption	106-108	8	
EN4	Indirect energy consumption	108	8	Reported electricity and steam purchased from companies outside IRPC boundary i.e. PEA, IPP, SPP. Those electricity and steam providers use different and several kinds of fuel to produce electricity and steam combining with inaccessibility to fuel consumption data of those energy providers, amount of primary fuel consumed to produce electricity and steam IRPC purchased cannot be acquired.
EN5	Energy saved	58-59	8,9	
EN6	Energy-efficient or renewable energy based products/services	61-62, 108		
EN7	Indirect energy consumption reduction	118	8,9	Not material. This is because, in 2013, IRPC purchased electricity about 0.6% of total electricity consumption and none for steam.
OG2	Renewable energy investment	118	-	Not material. This is because IRPC core business is petroleum and petrochemical businesses. However, IRPC is aware of the importance of clean energy. Both IRPC electricity power plants are combined heat and power plants (CHP) and IRPC promotes the use of natural gas..
OG3	Renewable energy generation	118	-	Not material. This is because IRPC core business is petroleum and petrochemical businesses. However, IRPC is aware of the importance of clean energy. Both IRPC electricity power plants are combined heat and power plants (CHP) and IRPC promotes the use of natural gas.
EN8 <sub>COMM</sub>	Water withdrawal	109-110	8	
EN9 <sub>COMM</sub>	Water sources affected by water withdrawal	56-57	8	
EN10	Water recycled and reused	56	8, 9	
EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	118	8	IRPC main facilities are located at IRPC Industrial Estate, where biodiversity is not a concern. However, IRPC is aware that its operation i.e. ship-to-ship lightering and loading/unloading at IRPC Ports may cause an impact on biodiversity. IRPC conducted oil spill model according to international standard. The study covers oil spill patterns, sensitive areas, and potentially impacted marine species. IRPC has developed a prevention and respond plan based on these results. However, results of the study are considered business sensitive and confidential.
EN12	Description of significant impacts on biodiversity	118	8	
EN14 <sub>COMM</sub>	Strategies and plans for managing impacts on biodiversity	50	8	
OG4	Operating sites with biodiversity risk assessment	50	-	
EN16 <sub>COMM</sub>	Direct and indirect GHG	108	8	
EN17 <sub>COMM</sub>	Other relevant indirect GHG	118	8	Not available. IRPC calculates its Scope 1 & 2 GHG based on PTT Group GHG accounting and reporting standard. Scope 3 GHG emission will be included once the latest version of PTT Group GHG standard are officially launched.
EN18 <sub>COMM</sub>	Initiative to reduce GHG	58-60	8	

Indicator	Description	Page	UNGC Principle	Remarks
EN19	Emission of ODS	119	8	Thailand has participated as a party to the Vienna Convention so the Government has prohibited the import and production of CFC, a significant ozone depletion substance, since 2010 and is reducing the import of HCFC aiming to achieve zero production and import of HCFC by 2030. IRPC is in the process of phasing the ozone-depleting substances (ODS) by substituting ODS with non-ODS refrigerants in which we hope to complete the phase-out process in near future.
EN20 <sub>COMM</sub>	NOx, SOx, and other emissions	108-109	8	
EN21	Water discharge	110	8	Wastewater treatment process of IRPC is effectively designed, operated and monitoring to assure qualities of treated wastewater are in compliance with relevant standards, prior to discharging to the industrial estate receiving canal and to the sea.
EN22 <sub>COMM</sub>	Waste	110-111	8	
EN23 <sub>COMM</sub>	Spills	105	8	
OG6	Volume of flared and vented hydrocarbon	108	-	Vented hydrocarbon is not material since IRPC is working towards the operational excellence, which aims to reduce losses as much as possible. IRPC recovers vented and flared gas by, for example, monomer recover unit at PP plant, flared gas recovery unit, etc.
EN26 <sub>COMM</sub>	Initiatives to mitigate environmental impacts of products and services	26-29, 61-62	7,8,9	
EN27	Percentage of products sold and their packaging materials that are reclaimed by category.	119	8,9	Reporting of percentage of packaging materials is not material. Due to highly varied end uses in which IRPC products are consumed, no estimate of the downstream product reclamation rates have been undertaken. IRPC does not directly supply to end-users and our customers receive IRPC products in bulk.
OG8	Benzene, Lead and Sulfur content in fuels.	119	-	IRPC's products are in compliance with environmental laws and regulations. For more information please visit: <a href="http://www.irpcpetroleum.com/en/ProductRefined.aspx">http://www.irpcpetroleum.com/en/ProductRefined.aspx</a>
EN28	Environmental fines and sanctions	111	8,9	No fine and non-monetary sanction for non-compliance with environmental law and regulations in 2013.
EN29	Environmental impact of product and services transportation	108	-	
EN30	Total environmental protection expenditures and investment by type	111	-	

## 8. Labor Practices and Decent Work

Indicator	Description	Page	UNGC Principle	Remarks
LA1	Total workforce	99	6	
LA2	Rate of new employee hires and employee turnover	100-103	6	
LA3	<a href="#">Benefits for employees</a>	69-70, 99		
LA4	Employees covered by collective bargaining agreements	103	1, 3	
LA5	Notice period regarding operational changes	120	3	Reporting on the minimum notice regarding significant operation changes is not material. IRPC keeps employees well informed of operational changes through a variety of channels. Business and functional specific news are communicated through our intranet that can be accessed by any employee in Thai language. In addition, leaders consistently communicate any changes to IRPC employees in a timely and effective manner. While there is no minimum time frame for notifying our employees of significant operational changes, IRPC makes every effort to give a reasonable amount of notice to all employees in the event of a significant change.
LA7 <sub>COMM</sub>	Rates of injury, occupational diseases, lost days, absenteeism, fatality	104-106	1	
LA8	Training regarding serious diseases.	76-77	1	
LA9	<a href="#">Health and safety topics covered in formal agreements with trade unions</a>	72	-	
LA10	Training hours	103-104	-	
LA11	<a href="#">Programs for skills management and lifelong learning</a>	69-70	-	
LA12	<a href="#">Employee performance review</a>	120	-	IRPC mandates the performance review to be conducted on a regularly basis. Individual performance is reviewed against agreed key individual performance indicators set forth. Results are to be used to determine salary and benefits.
LA13	Composition of governance bodies and breakdown of employees	99-100	1, 6	
LA14	Basic salary and remuneration	104	1, 6	
LA15	Return to work after parental leave	103	-	

## 9. Human Rights

Indicator	Description	Page	UNGC Principle	Remarks
HR1	Significant investment agreements and contracts undergone human rights screening	121	1-6	IRPC only conducts business with supplier/vendor/contractor who do not violate human rights. This can be seen that IRPC includes the human right screening during local and international vendor/supplier/contractor screening process. The human right clauses are included in IRPC Approved Vendor List and Approved Contractor List. Find more details in page 25-26. Additionally, human rights are included in the Thai Labour Law and Constitution; thus, all companies residing in Thailand must follow those Law and regulations.
HR2	Significant suppliers and contractors undergone human rights screening	99	1-6	
HR3	Employee training concerning aspects of human rights	121	-	IRPC include human rights in its regular training sessions. The training is provided to new employees during the orientation and to existing employees during the refresher sessions. Hours of training are collected in total; thus, we cannot separate human right training hours from other categories.
HR4	Non-discrimination	121	1,2,6	No incidents of discrimination in 2013
HR5	Freedom of association and collective bargaining	121	1,2,3	There was no case of child labor, forced labor, employee dismissal or any obstruction against the assembling of employees for negotiation process.
HR6	Child labor	121	1,2,5	There was no case of child labor, forced labor, employee dismissal or any obstruction against the assembling of employees for negotiation process.
HR7	Forced and compulsory labor	121	1,2,4	There was no case of child labor, forced labor, employee dismissal or any obstruction against the assembling of employees for negotiation process.
HR8 <sub>COMM</sub>	Security practices	121	-	UNGC Communication on Progress (COP), Page 8 ( <a href="http://www.irpc.co.th/en/cg_level_unglobal.php">http://www.irpc.co.th/en/cg_level_unglobal.php</a> )
HR9 <sub>COMM</sub>	Violation involving rights of indigenous people	121	-	Not applicable. Bangkok and Rayong, where IRPC businesses are located, do not have any indigenous people living in those Provinces according to UN definitions.
HR10	Operations that have been subject to human rights reviews/or impact assessments	121	-	Human rights are included in the public participation hearing, environmental, health, and social impact assessment.
HR11	Grievances related to human rights	121	-	No incident of human rights grievance and violation in 2013
OG9	Operations where indigenous communities are present or affected by activities	121	-	None of our site is involved with indigenous communities according to UN definitions.



## 10. Society

Indicator	Description	Page	UNGC Principle	Remarks
SO1	Impacts of operations on communities	80-83, 85, 93	-	
SO2	Business units analyzed for risks related to corruption	33	10	
SO3	Anti-corruption training	122	10	IRPC communicates the Policies and Code of Conduct via internal magazines and intranet. IRPC is also preparing the anti-bribery and corruption training session for both non- and management employees. It is expected that the training sessions will be held in 2014.
SO4	Response to corruption incidents	31	10	Rules regarding actions in case of failure to comply with CG handbook including corruption are stated in CG handbook. However in 2013, there was no finding with regards to corruption, thus no action was taken.
SO5 <sub>COMM</sub>	Participation in public policy development and lobbying	122	1-10	IRPC abides PTT Group's CG Policies and Codes of Conduct. Thus, IRPC is a politically neutral organization and does not support any political party, group, or politician at the national, international or global levels. IRPC does not support lobbying on inappropriate, unreasonable, or unethical principles such as utilizing personal relationships or offering paybacks.
SO6	Political contribution	122	10	IRPC abides PTT Group's CG Policies and Codes of Conduct. Thus, IRPC is a politically neutral organization and does not support any political party, group, or politician at the national, international or global levels. IRPC does not support lobbying on inappropriate, unreasonable, or unethical principles such as utilizing personal relationships or offering paybacks.
SO7	Actions for anti-competitive behavior	122	-	No legal actions for anti-competitive behaviors, anti-trust, and monopoly practices in 2013.
SO8 <sub>COMM</sub>	Fines and non-monetary sanctions for non-compliance with laws	122	-	No incidents of non-compliance with law and regulations in 2013.
SO9 <sub>COMM</sub>	Operations with potential/actual impacts	82-83	-	
SO10 <sub>COMM</sub>	Preventions and mitigations measures	80-83	-	
OG10	Number and description of significant disputes with local communities and indigenous peoples	122	-	Not applicable. Bangkok and Rayong, where IRPC businesses are located, do not have any indigenous people living in those Provinces according to UN definitions.
OG11	Numbers of sites that have been decommissioned and sites that is in the process of being decommissioned	122	-	No sites were decommissioned in 2013.
OG12	Operations where involuntary resettlement took place, the number of households resettled in each and how their livelihoods were affected in the process	122	-	All IRPC capital projects and operations are located within IRPC property to avoid impacts to communities and resettlement. Thus in 2013, none of our projects or operations has required relocation.
OG13	Number of process safety events, by business activity	105	-	

## 11. Product Responsibility

Indicator	Description	Page	UNGC Principle	Remarks
PR1	Health and safety impacts of products and services	26	1	IRPC business is considered as business-to-business type, meaning that IRPC products are used as raw materials for its clients. Thus, life cycle of product considers from cradle-to-gate. Packaging, marketing, distribution, use, and disposal stages are not material for IRPC.
PR2	Incidents of non-compliance concerning health and safety impacts of products	123	1	No incidents of non-compliance concerning product health and safety impacts in 2013.
PR3	Product information requirements	26	8	
PR4	Incidents of non-compliance concerning products and service information and labeling	123	8	No significant fine for non-compliance with laws, regulations and voluntary codes concerning products and service information and labeling was reported in 2013.
PR5	Customer satisfaction	39, 99	-	
PR6	Programs for adherence to laws related to marketing communications	123	-	IRPC marketing communications are in compliance with Thailand's laws and regulations.
PR7	Incidents of non-compliance with regulations concerning marketing communications	123	-	No significant fine for non-compliance with laws, regulations and voluntary codes concerning marketing communications was reported in 2013.
PR8	Complaints regarding breaches of customer privacy and losses of customer data.	99, 123	1	No complaints regarding breaches of customer privacy and losses of customer data in 2013.
PR9	Fines for non-compliance with laws and regulations concerning the provision and use of products and services.	123	-	No significant fine for non-compliance with laws and regulations concerning products and services was reported in 2013.
OG14	Volume of biofuels produced and purchased meeting sustainability criteria.	61-62	-	

### Note:

Blue text means additional indicators

Subscript COMM means indicators with added commentary in GRI Oil and Gas Sector Supplement

AR: Annual Report (<http://www.irpc.co.th/en/library.php?typeID=7>) [English/Thai]

CG: Corporate Governance Handbook ([http://www.irpc.co.th/pdf/CG/MANUAL\\_CG\\_2552.pdf](http://www.irpc.co.th/pdf/CG/MANUAL_CG_2552.pdf)) [Thai]

CG Policy: [http://www.irpc.co.th/en/cg\\_policy\\_good.php](http://www.irpc.co.th/en/cg_policy_good.php) [English/Thai]

Code of Ethics: [http://www.irpc.co.th/en/cg\\_policy\\_ethics.php](http://www.irpc.co.th/en/cg_policy_ethics.php) [English/Thai]

Code of Conduct: [http://www.irpc.co.th/en/cg\\_policy\\_conduct.php](http://www.irpc.co.th/en/cg_policy_conduct.php) [English/Thai]

UNGC COP: UNGC Communication on Progress 2013 ([http://www.irpc.co.th/pdf/CG/irpc-COMMunication\\_en.pdf](http://www.irpc.co.th/pdf/CG/irpc-COMMunication_en.pdf)) [English]



## Statement GRI Application Level Check

GRI hereby states that **IRPC Public Company Limited** has presented its report "Excellence For Sustainability"(2014) to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A.

GRI Application Levels communicate the extent to which the content of the G3.1 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3.1 Guidelines. For methodology, see [www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf](http://www.globalreporting.org/SiteCollectionDocuments/ALC-Methodology.pdf)

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 21 March 2014

A handwritten signature in black ink, appearing to read "Ásthildur Hjaltadóttir".

Ásthildur Hjaltadóttir  
Director Services  
Global Reporting Initiative



*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 12 March 2014. GRI explicitly excludes the statement being applied to any later changes to such material.

# Readers' Feedback

Please make symbol X in ☐ and provide any additional comments

## 1. Where did you read IRPC Sustainability Report 2013 (Can choose more than 1 answer)

☐ Workplace ☐ Library ☐ Governmental office/academic institution ☐ Others, please specify .....

## 2. Please rate your satisfaction score of IRPC Sustainability Report 2013

Overall satisfaction of the content and format of presentation	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Cover Interestedness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Content Interestedness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Usefulness of information	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Picture Interestedness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Relation to content	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Picture size	<input type="checkbox"/> Too small	<input type="checkbox"/> Good	<input type="checkbox"/> Too big
Improve understanding of content	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Little
Writing Language	<input type="checkbox"/> Difficult to understand	<input type="checkbox"/> Easy to understand	<input type="checkbox"/> Not understand

## 1. Please rate your interest in the contents of IRPC Sustainability Report 2013

CEO Statement	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Business Context	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
IRPC's EIZ Progress	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Sustainability Management of IRPC	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Product Specialty	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Anti-Bribery and Corruption	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Supply Chain Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Customer Relationship Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Environmental Management	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Oil and Chemical Spills and Response Plan	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Climate Change Risk Assessment and Adaptation	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Employee Readiness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Occupational Health and Safety	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
New Project Development	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Community Relations and Development	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Performance Summary	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low
Awards and Recognition	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low

## 4. What additional contents would you like to find in IRPC Sustainability Report 2013?

.....  
.....

## 5. Please specify types of reader's perspective

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## 6. Please provide additional comments to improve our report:

.....  
.....

Please send the form to this address

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DRIVEN FOR  
**EXCELLENCE**



## Contents

**04** *Message from the Chairman*

**06** *Key Performance*

**07** *Financial Highlights*

**08** *Milestones 2013*

**12** *Awards and Recognition 2013*

### **Board Responsibility**

**16** *Board of Directors*

**30** *Executives*

**38** *Report of the Audit Committee*

**40** *Internal Controls*

**42** *Organization Structure*

**43** *Corporate Governance Report*

**64** *Anti-Corruption*

### **Business Structure**

**69** *Business Structure and Shareholding*

**70** *Nature of Business*

**72** *Integrated Refinery and Petrochemical Complex Flow Chart*

**74** *Individual Product Line's Business*

**81** *Revenue Structure*

**82** *Connected Transactions*

**88** *Message from the President*

### **Operating Result**

**98** *Performance Summary*

**118** *Market Overview and Industry Outlook*

**128** *Management Discussion and Analysis (MD&A)*

### **Corporate Responsibility**

**142** *Quality, Safety, Occupational Health, and Environmental Management*

**150** *Corporate Social and Environment Responsibilities*

### **Management Structure**

**156** *Management Structure*

**173** *IRPC Information*

### **Financial Statement**

**179** *Report of Board of Directors' Responsibility for Financial Reporting*

**180** *Auditor's Report*

### **Appendix**

**264** *Abbreviations and Technical Terms*

**268** *Compliance with Corporate Governance*



## ***V i s i o n***

*Leading Integrated Petrochemical Complex  
in Asia by 2020*

## ***M i s s i o n***

*Operational Excellence  
High Performance Organization  
Corporate Social Responsibility  
Value Creation  
Innovation & Create New Business*

## ***V a l u e s***

*Aim High  
Deliver  
Work and Live Happily Together*



*Message from  
the Chairman*



Mr.Chainoi Puankosoom  
Chairman



Dear Shareholders,

It was clear that the policy adopted by IRPC Plc, as assigned by the Board of Directors to the management to map out as strategic plans for continual implementation, has enabled IRPC to cushion the impacts of the global economy's slowdown (particularly in the EU and China) and the rather high volatility of the oil market and the global financial markets this year. Consequently, IRPC managed to recover from the 777-million-Baht loss last year and make an 826-million-Baht profit this year.

The Mercury Removal Unit, on-stream this year, has enabled IRPC to raise the proportion of domestic crude oil sharply at the expense of Middle East crude oil imports. Besides, the greater value assigned to crude oil and product price risk management, evident in the management's more flexible decision-making under the Board's policy framework-which proved timely under dynamic market circumstances-has resulted in a substantial rise in GRM (gross refining margin) of US\$0.80 / barrel this year. Finally, the sale of IRPC's assets not designed for its core businesses (mostly land plots) freed it from interest expenses and profited from their sale by roughly 1,000 million Baht.

The UHV (Upstream Project for Hygiene and Value Added Products) Project is a key project to grow IRPC's income-generating capability over the long term by modifying and enriching the refinery's processes so that it can lower the low-price fuel oil output from 30% to about 10%. To achieve this, fuel oil is converted into propylene and heavy naphtha, both of which are higher-priced. The project also enables IRPC to have a broader choice of crude oil, thus lowering its production cost and enabling it to realize the refinery's nameplate capacity at 215,000 barrels per day.

As a result, the Board and the management value close monitoring of construction progress under this project. And since this project calls for massive investment of some 34,750 million Baht, the Board has approved the management's capital funding through loans from financial institutions and working capital for raw-material sourcing from PTT, which will ensure that IRPC is blessed with adequate capital for project construction and can operate once the project is completed. The Board also approved IRPC's investment restructuring under the CHP II Project by forming a joint venture with Global Power Synergy Co., Ltd., and securing project financing,

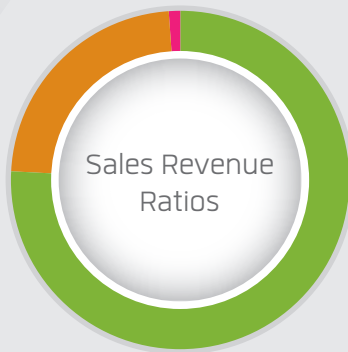
thus easing its investment burden from 13,000 million Baht to just 1,500 million Baht, with its project benefits intact.

As for investment projects, at the year-end the Phoenix Project was on track with 59% progress. The entire project is set for completion in 2015. IRPC has secured adequate capital under a suitable cost of funds and strict financial discipline, in parallel with construction project acceleration, particularly the UHV Project. The Board also defined a policy for the management to investigate and develop personnel capability by setting a goal to capitalize on existing personnel in operating the UHV Project immediately upon completion. Only necessary hiring will be approved, a step toward lowering the operating cost for additional product capacity over the long term.

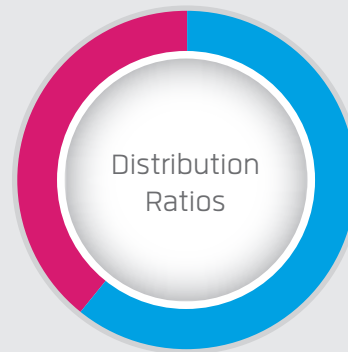
In the area of management, IRPC has a new organizational structure, with reinforced capability. A personnel development system is laid down for excellence. Especially valued is quality, health, and safety operation, with a commitment to lowering social and environmental impacts in tandem with eco-industrial social projects to give IRPC a healthy relationship with the surrounding communities and society. This year we also announced an anti-corruption policy across the company, compatible with our policy on good governance, which focuses on morality and transparency in all stages of work. Finally, we value all stakeholders in an equitable way.

On behalf of the Board, I would like to express my sincere admiration to the management and employees of IRPC and its affiliates, as well as everyone involved, for our notable success this year. I believe that corporate development through the strategies, vision, earnest intention, and dedication of the Board, executives, and IRPC and affiliates' employees will effectively complement the understanding, confidence, and strong support of shareholders, business partners, customers, financial institutions, the mass media, neighboring communities, and all stakeholders. All these factors will certainly raise our competitiveness, helping us to generate profits and growth as planned with robust performance, thus benefiting shareholders in the long term. Thank you.

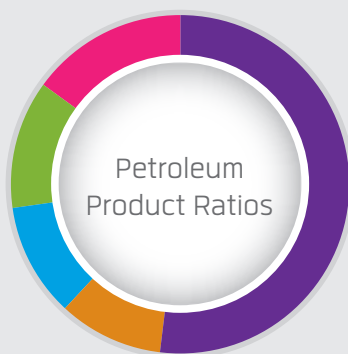
# Key Performance



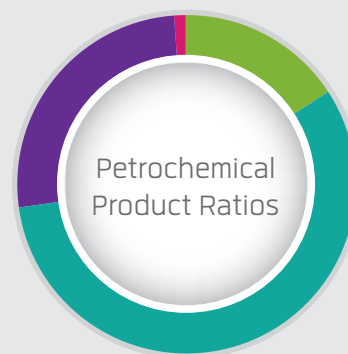
- 76% Petroleum Product
- 23% Petrochemical Product
- 1% Others



- 61% Domestic
- 39% Export

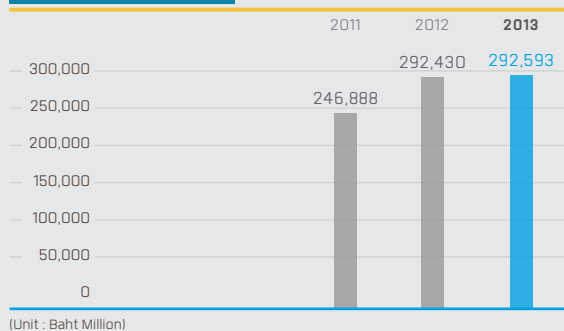


- 52% Diesel
- 10% Gasoline
- 11% Fuel Oil
- 12% Lube Base Oil and Asphalt
- 15% Other Petroleum Product

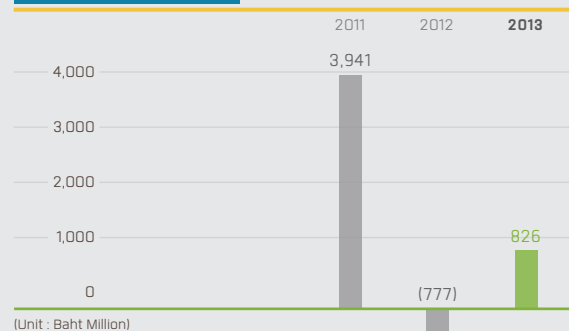


- 16% Aromatics
- 57% Olefins and Polyolefins
- 26% Styrenics
- 1% Polyol

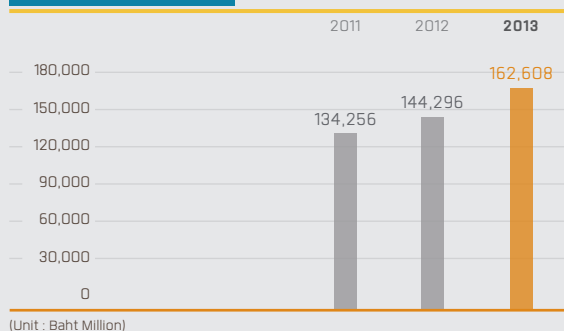
## Sales



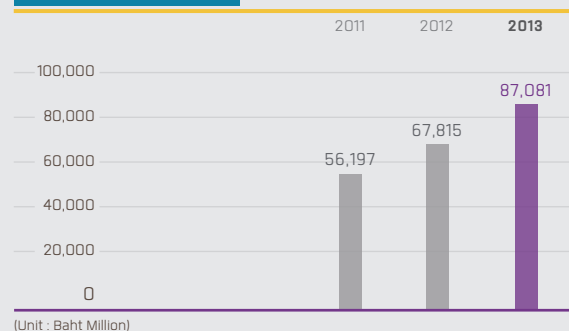
## Net Profit



## Total Assets



## Total Liabilities



# Financial Highlights

(Unit : Million Baht)

	<sup>(1)</sup> 2011	<sup>(2)</sup> 2012	2013
<b>Financial Position</b>			
Current Assets	55,390	54,971	63,772
Total Assets	134,256	144,296	162,608
Current Liabilities	27,593	22,352	49,530
Total Liabilities	56,197	67,815	87,081
Shareholder's Equity	78,059	76,480	75,527
Registered Capital	20,475	20,475	20,475
Paid-up Capital	20,434	20,434	20,434
<b>Operating Performance</b>			
Sales	246,888	292,430	292,593
Cost of Goods Sold	235,491	289,770	287,695
Gross Profit (Loss)	11,397	2,661	4,897
EBITDA <sup>(3)</sup>	10,189	4,125	7,489
Net Profit (Loss)	3,941	(777)	826
<b>Financial Ratio</b>			
Net Profit Margin	1.60%	N/A	0.28%
Return on Assets	3.12%	N/A	0.54%
Return on Equity	5.23%	N/A	1.09%
Net Debt to Equity (time) <sup>(4)</sup>	0.32	0.49	0.50
Dividend per Share (Baht)	0.12	0.08	<sup>(5)</sup> 0.10
Dividend Payout <sup>(6)</sup>	62%	N/A	247%
Book Value per Share (Baht)	3.71	3.74	3.69
Earning per Share (Baht)	0.19	(0.04)	0.04

Note :

(1) Financial Statement 2011 were restated.

(2) Financial Statement 2012 were restated.

(3) EBITDA means Earnings before interest, taxes, depreciation and amortization.

(4) Net Debt means interest bearing debt less cash and short-term investments.

(5) The Board of Directors of the Company's meeting on 18 February 2014, approved a dividend payment for the operating results of 2013 at Baht 0.10 per share. However, the approval for the dividend payment shall be proposed to the Annual Shareholders' Meeting for the year 2014 for the further consideration and approval.

(6) Dividend payout ratio is calculated by dividend per share divided by earning per share. ( the number of shares in the calculation of the earning per share is based on the number of issued and paid-up shares of IRPC subtracted by number of shares owned by subsidiaries)



# Milestones 2013

## January



- Signed an agreement for the purchase and sale of lube base oil with BP, specifically extending a long-term, export and import base oil agreement totaling 88 KTA, worth US\$ 96.8 million



- Signed an agreement for the purchase and sale of lube base oil with Shell, specifically extending a long-term, export base oil agreement totaling 18 KTA, worth US\$ 19.8 million



- Signed an agreement for the purchase and sale of mixed xylenes with Mitsubishi Corporation

## February



- Became PTT Group's first process licensor by launching a Green ABS license for an ABS process relying on natural rubber under the Green Technology



- A joint-venture investigation project among PTT Group companies to further successes and supplement value was launched
- Applied the Total Productive Management (TPM) system under JIMP (Japan Institute of Plant Management) to the improvement of skills among its employees in a move to beef up organizational capability and bolster business sustainability

## March



- Signed a long-term nitrogen delivery agreement with Bangkok Industrial Gas Co., Ltd., for consumption in the IRPC EIZ and promote confidence in the nitrogen gas system, an infrastructural component of the refinery and petrochemical plants

## April



- Signed a 10-year cyclohexane tank service agreement with Ube Chemicals (Asia) Plc, worth 94 million Baht

## June



- Formed IRPC Clean Power Co., Ltd. (IPRC-CP), with a registered capital of Baht 50 million to manage the production of industrial and commercial steam, power, and infrastructure

## July



- Launched the EBSM Upgrading for ABS Specialties Project, under which the capacity was raised from 200 KTA

## October



- Mr. Sukrit Surabotsopon was formally appointed President on 1 October 2013, replacing Mr. Atikom Terbsiri.



- Wrapped up the ABS6 and SAN3 plant construction project, raising IRPC's ABS6 capacity by about 29 KTA and SAN3 by about 33 KTA



- Signed a three-year crude oil tank service agreement for the Rayong depot with Thai Oil Plc for crude storage as required by law
- Constructed and started up the MRU (mercury removal unit) to increase business opportunities due to the 25% higher domestic crude oil run ratio





- With PTTRTI, devised and improved the BHD (Bio Hydrogenated Diesel) process from RPO (refined palm oil) to produce high-quality, green synthetic diesel fuels by blending it with base diesel fuel of the Euro 5 standard. The product is sold as premium-grade diesel.



- Expanded and modified its lube-blending plant to offer blending services to customers, from 1 to 6 million liters per month

## November

- Signed a cooperation agreement with PTT Polymer Marketing Co., Ltd., and PTTRTI on the "Polymer Compounding Synergy Project" to produce polymers with characteristics matching customers' needs in an efficient and timely manner

## December

CHP I (IRPC Combined Heat & Power Plant)



The CHP II Project, under construction.

- Sold shares in IRPC-CP, in which IRPC held 51% shares, to Global Power Synergy Co., Ltd. (GPSC), for extra liquidity and financial strength; for business cooperation with knowhow support in the power industry (GPSC's core business); for maximum efficiency of IRPC-CP's power project development; and for enhanced downstream business potential in IRPC's future power business expansion



- Sold land plots totaling 3,312 rai for Baht 596 million, designed to house RAIST (Rayong Institute of Science & Technology) and RASA (Rayong Science Academy)





### Thailand Top Company Awards 2013 : CSR OF THE YEAR

Recognizing IRPC's business prowess that inspired Thai companies' international competitiveness according to Business Plus Magazine under ARIP Plc in conjunction with the University of the Thai Chamber of Commerce



### National Outstanding Business Operator for Safety, Occupational Health, and Workplace Environment 2013

presented by the Occupational Health and Safety Bureau, Department of Labour Protection and Welfare



### Thailand Energy Awards 2013

Outstanding Energy Management Award, Honorable Mention for Creative Energy (ZAKID Project) and Outstanding Award (Controlled Factory Energy Executive), presented by the Department of Alternative Energy Development and Efficiency, Ministry of Energy



### Corporate Governance Asia Recognition Awards 2013 (Asia's Outstanding Company on Corporate Governance)

Recognizing outstanding value given by the Board of Directors to business conduct facing constant change in circumstances, and IRPC's consistently fair treatment of all stakeholders and awareness of social and environmental responsibility. Presented by Corporate Governance Asia Magazine, Hong Kong



### Thailand Quality Class : TQC 2013

Awards by the Office of the Thailand Quality Awards to the polypropylene plant in recognition of the internationalized operation capability

## Awards and Recognition 2013



## CSRI Recognition 2013

A general award for commitment to improving business through social responsibility, a prototype for sustainable development, presented by CSRI (Corporate Social Responsibility Institute) under SET



## Outstanding Industry Awards 2013 (Energy Management)

Recognizing IRPC's energy conservation efficiency and regard for cost-effective, optimal resource consumption, presented by the Ministry of Industry



## Outstanding Sustainability Report 2013

Recognizing IRPC's ESG (Environmental, Social and Governance) data, which is helpful for investors' decision-making in the form of sustainability report, presented by the Thai Listed Companies Association



## Best Investor Relations by Company in 2013

Recognizing outstanding investor relations practices: transparent, fair disclosure of information to investors and stakeholders in line with corporate governance, presented by Corporate Governance Asia Magazine



## Thailand ICT Excellence Awards

Outstanding Core Internal Process Development (IRPC Business Intelligence Project) and Honorable Mention for Safety Culture Establishment Project, presented by the Thailand Management Association



# BOARD RESPONSIBILITY





## Board of Directors



**Mr.Surong Bulakul**

Director/  
Member of the Executive  
Committee/  
Member of the Nomination  
and Remuneration Committee

**Mr.Woothisarn Tanchai**

Independent Director/  
Member of the Executive  
Committee/  
Chairman of Nomination  
and Remuneration Committee

**Mr.Chainoi Puankosoom**

Chairman/  
Chairman of the Executive  
Committee

**Mr.Songpope Polachan**

Director/  
Member of the Nomination  
and Remuneration Committee



Mr. Sarun Rungkasiri  
Director/  
Member of the Executive  
Committee/



Gen. Udomdej Sitabutr  
Independent Director



Mr. Cherdpong Siriwit  
Independent Director/  
Chairman of Audit  
Committee/  
Chairman of Corporate  
Governance Committee



Mr. Watcharakiti Watcharothai  
Director



Mr. Wichit Plungsriskul  
Independent Director/  
Member of the Corporate  
Governance Committee





Miss Sopawadee Lertmanaschai  
Director

*\* Resigned since  
December 24, 2013*

Mr.Sombat Narawutthichai  
Director

*\* Appointed since  
January 29, 2014*

Mr.Kritsda Udyanin  
Director

Mr.Woravit Chailimpamontri  
Director

Mr.Trumph Jalichandra  
Independent Director/  
Member of the Audit  
Committee



Mr.Jade Thanawat  
Independent Director/  
Member of the Corporate  
Governance Committee

Mr.Narongkorn Chawalsantati  
Independent Director

Lt. Gen.Preecha Wanarat  
Independent Director/  
Member of the Audit Committee

Mr.Sukrit Surabotsopon  
Director/  
Member of the Executive Committee/  
President/  
Secretary to the Board of Directors/  
Secretary to the Executive Committee



## Board of Directors

### Mr.Chainoi Puankosoom

Chairman / Chairman of the Executive Committee

Share Possession (%): None

Age: 63

(Position Starting Date: 5 April 2013)

#### Education/Training

- Bachelor Degree in Higher Accounting, California College of Commerce, USA
- Master of Management (MM), Sasin Graduate Institute of Business Administration, Chulalongkorn University
- Diploma in Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 6
- Capital Market Academy Leader Program, Capital Market Academy, Class 9
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 63/2007
- Financial Institutions Governance Program, Thai Institute of Directors (IOD), Class 3/2011
- Role of the Chairman Program, Thai Institute of Directors (IOD), Class 32/2013

#### Experience

- Director, TISCO Financial Group Public Company Limited
- Advisor, PTT Public Company Limited
- Director, Tipco Asphalt Public Company Limited
- Senior Executive Vice President, Petrochemicals and Refining Business Group, PTT Public Company Limited
- President, PTT Aromatics and Refining Public Company Limited
- President, Rayong Refinery Public Company Limited
- Vice Chairman, the Federation of Thai Industries
- Director, the Federation of Thai Industries
- Chairman, Executive Environment Committee, the Federation of Thai Industries
- Chairman, Petroleum Refining Industrial Club, the Federation of Thai Industries

#### Current Position

- Chairman / Chairman of the Executive Committee, IRPC Public Company Limited
- Chairman, IRPC Oil Company Limited
- Chairman, Thai ABS Company Limited
- Chairman, IRPC Polyol Company Limited
- Acting Director, Energy Fund Administration Institute (Public Organization)
- Director and Audit Committee, Golden land Property Development Public Company Limited
- Director, National Power Supply Public Company Limited
- Chairman, HMC Polymers Company Limited
- Chairman, Director, Rayong Olefins Company Limited
- Member of the Council of Trustees, Petroleum Institute of Thailand
- Director, The Federation of Thai Industries
- Director and Audit Committee, Muang Thai Leasing Company Limited

## Mr.Cherdpong Siriwit

Independent Director / Chairman of Audit Committee  
/ Chairman of Corporate Governance Committee  
Share Possession (%): None  
Age: 67

(Position Starting Date: 8 April 2009)

### Education/Training

- B.A. Economics, (Honor), Thammasat University
- M.A.Economics Georgetown University, USA
- Diploma, the Joint State-Private Sector Course, National Defence College, Class 40
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute, Class 5
- The Civil Service Executive Development Program I, The Civil Service Training Institute, Class 13/1993
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 5
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 8/2004
- Role of the Chairman Program (RCP), Thai Institute of Directors (IOD), Class 10/2004
- Finance for Non-Finance Directors (FND), Thai Institute of Directors (IOD), Class 13/2004
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 104/2008
- Audit Committee Program (ACP), Thai Institute of Directors (IOD), Class 27/2009

### Experience

- Independent Director / Audit Committee / Remuneration Director, PTT Chemical Public Company Limited
- Chairman, PTT Exploration and Production Public Company Limited
- Chairman, Rayong Refinery Public Company Limited
- Chairman, Thai Oil Public Company Limited
- Chairman, PTT Public Company Limited
- Chairman, Ratchaburi Electricity Generating Holding Public Company Limited
- Chairman, Electricity Generating Authority of Thailand (EGAT)
- Permanent Secretary, Ministry of Energy

### Current Position

- Independent Director, IRPC Public Company Limited
- Chairman of Audit Committee, IRPC Public Company Limited
- Chairman of Corporate Governance Committee, IRPC Public Company Limited
- Chairman, Solartron Public Company Limited
- Director / Chairman of Audit Committee, Advance Finance Public Company Limited
- Chairman, Thai Sugar Millers Corporation Limited
- Chairman, Vithai Biopower Company Limited
- Director, Ever Green Plus Company Limited
- Independent Director / Audit Committee, Thoresen Thai Agencies Public Company Limited\*

\* Position Started in 2013

## Gen.Udomdej Sitabutr

Independent Director  
Share Possession (%): None  
Age: 58

(Position Starting Date: 5 April 2011)

### Education/Training

- Armed Forces Academy Preparatory School (AFAPS), Class 14/1973
- Bachelor of Science, Chulachomklao Royal Military Academy (CRMA), Class 25/1978
- Command and General Staff College Course, Command and General Staff College, Royal Thai Army, Class 65/1986
- Diploma, The Joint State-Private Sector Course, National Defence College, Class 51/2008

### Experience

- Chief of Staff, Royal Thai Army
- Commanding General of the 1<sup>st</sup> Army Area, 1<sup>st</sup> Army Area
- Deputy Commanding General of the 1<sup>st</sup> Army Area, 1<sup>st</sup> Army Area
- Commanding General of the 9<sup>th</sup> Infantry Division, 9<sup>th</sup> Infantry Division
- Commanding General of the 11<sup>th</sup> Military Circle, 11<sup>th</sup> Military Circle

### Current Position

- Independent Director, IRPC Public Company Limited
- Deputy Commander in Chief, Royal Thai Army

## Mr.Woothisarn Tanchai

Independent Director / Member of the Executive Committee / Chairman of Nomination and Remuneration Committee  
Share Possession (%): None  
Age: 55

(Position Starting Date: 8 April 2009)

### Education/Training

- Bachelor of Science, Khon Kaen University
- Master of Public Administration, National Institute of Development Administration (NIDA)
- Master of Policy Science (M.P.S.), International Program, Saitama University, Japan
- Public Law Certificate, Faculty of Law, Thammasat University
- Public Director Certification Program, King Prajadhipok's Institute, Class 1

### Current Position

- Independent Director / Member of the Executive Committee, IRPC Public Company Limited
- Chairman of Nomination and Remuneration Director, IRPC Public Company Limited
- Deputy Secretary General, King Prajadhipok's Institute
- Associate Professor at the Faculty of Social Administration, Thammasat University
- Member, Nakhon Ratchasima Rajabhat University Council
- Member of the National Culture Commission
- Advisor, National Decentralization Committee
- Sub-Committee, the Public Sector Development Commission Office of the Public Sector Development Commission
- Member of the Office the Basic Education Commission

## Mr.Watcharakiti Watcharothai

Director  
No. of share: 260,250  
Share Possession (%): 0.00127  
Age: 53

(Position Starting Date: 5 April 2011)

### Education/Training

- Bachelor of Arts (Political Science), Kasetsart University M.P.A. (Master of Public Administration), Roosevelt University, IL, USA
- Honorary Degree of Doctor of Philosophy, Department of Administration, Ramkhamhaeng University
- Diploma, the State Private Political Sector Course, National Defence College, Class 4/2006
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 9/2009
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 121/2009
- Public Director Certification Program, Public Director Institute (PDI), Class 5/2010
- The Program for Senior Executive on Justice, Administration Batch, National Justice Academy, Class 15/2010
- Top Executive Program in Commerce and Trade (TEPCoT) Commerce Academy, Class 5
- Energy Literacy for Sustainable Future, Class 1/2011
- Power of the Kingdom, Chulalongkorn University Executive Program, Class 1

### Experience

- Assistant of Lord Chamberlain, Bureau of the Royal Household

### Current Position

- Director, IRPC Public Company Limited
- Present Independent Director / Member of the Corporate Governance Committee, PTT Public Company Limited
- Grand Chamberlain, Bureau of the Royal Household
- Director, Krisadamahanakorn Public Company Limited
- Committee Member of the Red Cross Fair, Thai Red Cross
- Chairman of Parents & Teachers Association, Rachavinit Prathom School
- Member of the Board of Directors, Rachavinit Mathayom School
- Member of the Board of Directors, Suan Sunanda Rajabhat University
- Member of the Board of Directors, Suan Dusit Rajabhat University
- Sub-Committee of Ratanakosin and Ratanakosin Island's Improvement, Committee of Religion Culture Morality Art and Culture Department

## Mr.Surong Bulakul

Director / Member of the Executive Committee /  
Member of the Nomination and Remuneration  
Committee

No. of share 35,000

Share Possession (%): 0.00017

Age: 58

(Position Starting Date: 21 May 2013)

### Education/Training

- Bachelor of Science in Industrial Engineering and Operations Research, Syracuse University, New York, USA
- Master of Engineering in Operations Research, Cornell University, New York, USA
- Master of Business Administration, Cornell University, New York, USA
- PMD, Harvard University, Boston, USA
- Democratic Politics and Governance for High-Level Administrators Program, King Prajadhipok's Institute, Class 8
- The Joint State-Private Sector Course, National Defense College, Class 4919
- Capital Market Academy Leadership Program, Class 10
- The Program for Senior Executives on Criminal Justice Administration, National Justice Academy, Class 15
- Thai Intelligent Investors Program, Thai Investors Academy, Class 1
- Executive Program, Thailand Energy Academy, Class 2
- Director Certification Program (DCP), Thai Institute of Directors Association (IOD), Class 121/2009

### Experience

- Managing Director, Thai Oil Public Company Limited
- Senior Executive Vice President, International Trading, PTT Public Company Limited

### Current Position

- Director / Member of the Executive Committee, IRPC Public Company Limited
- Member of the Nomination and Remuneration Committee, IRPC Public Company Limited
- Chief Financial Officer, PTT Public Company Limited
- Chairman, Global Power Synergy Company Limited
- Director, Sakari Resources Limited
- Chairman, Thai Listed Companies Association, The Stock Exchange of Thailand
- Committee / Administrative Committee, the Thai Chamber of Commerce
- President, Thailand-Malaysia Business Council, the Federation of Thai Industries
- President, Petroleum Refining Industry Club, The Federation of Thai Industries

## Mr.Sarun Rungkasiri

Director / Member of the Executive Committee

Share Possession (%): None

Age: 56

(Position Starting Date: 15 October 2013)

### Education/Training

- B.Eng. (Industrial Engineering), Chulalongkorn University
- M.S. Management, Polytech Institute. of NY., USA
- NIDA-Wharton Executive Leadership Program 2009, the Wharton School of the University of Pennsylvania, USA
- The Joint State - Private Sector Course, National Defense College, (Class 23)
- Company Secretary Program (CSP), Thai Institute of Directors (IOD), Class 8/2004
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 61/2005
- Finance for Non-Finance Directors Program (FND), Thai Institute of Directors (IOD), Class 19/2005

### Experience

- Senior Executive Vice President, Oil Business Group, PTT Public Company Limited
- Chairman, PTT Retail Business Company Limited (PTTRB)
- Chairman, PTT Retail Management Company Limited (PTTRM)
- Director, Thai Petroleum Pipeline Company Limited (Thappline)
- Executive Vice President, Retail Marketing, PTT Public Company Limited
- Executive Vice President, Commercial & International Marketing, PTT Public Company Limited
- Executive Vice President, Corporate Communication & Social Responsibility, PTT Public Company Limited
- Vice President, Corporate Public Relation, PTT Public Company Limited

### Current Position

- Director / Member of the Executive Committee, IRPC Public Company Limited
- Chief Operating Officer, Downstream Petroleum and Gas Business Group, PTT Public Company Limited
- Director, PTT Global Chemical Public Company Limited\*

\* Position Started in 2013



## Mr.Kritsda Udyanin

Director

Share Possession (%): None

Age: 53

(Position Starting Date: 15 December 2011)

### Education/Training

- B.A. (Economics), Chulalongkorn University
- M.A. (Economics), Thammasat University
- MSc. (Fiscal Studies), University of Bath, UK
- The Civil Service Executive Development Program, the Civil Service Training Institute, Class 45/2005
- Top Executive Program in Commerce and Trade (TEPCoT) Commerce Academy, Class 4
- Capital Market Academy Leadership Program Capital Market Academy (CMA), Class 6
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 50/2006
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 75/2006
- Diploma, the Joint State-Private Sector Course, National Defence College, Class 51/2008
- Public Director Certification Program, Public Director Institute (PDI), Class 7/2010

### Experience

- Financial Policy Advisor (Economist Advisory Level) Fiscal Policy Office, Ministry of Finance

### Current Position

- Director, IRPC Public Company Limited
- Inspector General, Ministry of Finance
- Director, Port Authority of Thailand
- Director, Small and Medium Enterprise Development Bank of Thailand
- Director, National Research Council of Thailand (NRCT)

## Mr.Songpope Polachan

Director / Member of the Nomination and

Remuneration Committee

Share Possession (%): None

Age: 59

(Position Starting Date: 5 April 2013)

### Education/Training

- Bachelor of Science (Geology), Chiangmai University
- Ph.D. (Petroleum Geology), Royal Holloway and Bedford New College, University of London, U.K.
- Top Executive Program in Administrative Justice Development, Administrative Justice Development Institute, Class 3
- Executive Program, Energy Literacy for a Sustainable Future (TEA), Thailand Energy Academy, Class 2
- Diploma, the Joint State-Private Sector Course, National Defence College, Class 50
- Advanced Executive Program, Kellogg School of Management, Northwestern University, USA
- ASEAN Executive Program, New York, USA
- Senior Executive Service Course, Office of the Civil Service Commission, Class 19
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 23/2004
- Finance for Non-Finance Directors Program (FND), Thai Institute of Directors (IOD), Class 9/2004

### Experience

- Director-General, the Department of Mineral Fuels, Ministry of Energy
- Director of Policy and Strategy Coordination, Office of the Permanent Secretary, Ministry of Energy
- Head of Policy and Planning, Mineral Fuel Division, Department of Mineral Resources
- Deputy Chief Executive Office, the Malaysia-Thailand Joint Authority (MTJA)

### Current Position

- Director / Member of the Nomination and Remuneration Committee, IRPC Public Company Limited
- Director-General, the Department of Mineral Fuels, Ministry of Energy
- President of Geological Society of Thailand

## Mr.Narongkorn Chawalsantati

Independent Director

Share Possession (%): None

Age: 57

(Position Starting Date: 15 December 2011)

### Education

- Bachelor of Laws, Ramkhamhaeng University
- Master of Arts Program in Leadership in Society, Business and Politics, Rangsit University
- Diploma in Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 5
- Certificate from Kasetrathikarn Institute, Ministry of Agriculture and Cooperatives: "Executive Program for Development of Agriculture and Cooperatives"

### Experience

- Member of Phetchabun Provincial Administrative Organization
- Member of Parliament, Phetchabun

### Current Position

- Independent Director, IRPC Public Company Limited
- Lawyer

## Mr.Wichit Plungsriskul

Independent Director / Member of the Corporate

Governance Committee

Share Possession (%): None

Age: 62

(Position Starting Date: 5 April 2013 - 31 January 2014)

### Education/Training

- Bachelor of Laws, Ramkhamhaeng University
- Master of Arts (Political Science), Thammasat University
- Diploma in Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 7
- Diploma in Security Psychology, Institute of Security Psychology, Class 82

### Experience

- Director, Thai Rak Thai Party
- Member of Parliament (Party-List), Thai Rak Thai Party
- Member and Secretary to Government Whip
- Committee on Labour
- Chairman, Government Whip Sub-Committee, Criminal Law
- Committee on Consumer Protection
- Chairman, Sub-Committee on Labour, Labour Law
- Chairman, Sub-Committee on Consumer Protection
- Advisor, Deputy Minister of Commerce
- Advisor, Minister of Industry

### Current Position

- Independent Director, Member of the Corporate Governance Committee, IRPC Public Company Limited
- Lawyer

## Lt. Gen.Preecha Wanarat

Independent Director / Member of the Audit Committee  
Share Possession (%): None  
Age: 65

(Position Starting Date: 13 February 2012 - 31 January 2014)

### Education/Training

- Master of Arts Program in Defence Studies, Command and General Staff College, Royal Thai Army
- Bachelor of Science (Army); Chulachomklao Royal Military Academy
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 71/2008

### Experience

- Deputy Secretary-General to the Prime Minister for Political Affairs, The Secretariat of the Prime Minister

### Current Position

- Independent Director / Member of the Audit Committee, IRPC Public Company Limited
- Independent Director / Chairman of the Board / Chairman of Audit Committee, Halcyon technology Public Company Limited
- Chairman, Aiyapura Resort and Spa

## Mr.Jade Thanawat

Independent Director / Member of the Corporate Governance Committee  
Share Possession (%): None  
Age: 66

(Position Starting Date: 5 April 2012)

### Education

- Bachelor of Laws, Thammasat University
- Master of Public Administration, National Institute of Development Administration (NIDA)
- Honorary Degree of Doctor of Philosophy, Department of Political Science, Ramkhamhaeng University
- Honorary Degree of Doctor of Philosophy, Department of Public Administration, North Eastern University
- Diploma, the Joint State-Private Sector Course 2001-2002, National Defense College, Class 44
- Thai Senior Executive Development Program (SEDP) National Graduate Institute for Policy Studies, Japan

### Experience

- Director, Provincial Electricity Authority
- Governor, Khon Kaen
- Governor, Nakhon Nayok
- Governor, Uthai Thani

### Current Position

- Independent Director/ Member of the Corporate Governance Committee, IRPC Public Company Limited
- Professor, College Of Local Administration, Khon Kaen University
- Director, J and K Ruamphattana 2010 Co., Ltd.

## Mr. Triumph Jalichandra

Independent Director / Member of the Audit Committee

Share Possession (%): None

Age: 54

(Position Starting Date: 22 May 2012)

### Education/Training

- Bachelor of Laws, Ramkhamhaeng University
- Barrister-at-Law, Institute of Legal Education Thai Bar Association
- Master of Laws, Bristol University, England

### Current Position

- Independent Director, IRPC Public Company Limited
- Member of the Audit Committee, IRPC Public Company Limited
- Senior Expert Public Prosecutor, Department of Legal Counsel Office of the Attorney General
- Debt Restructuring Committee, Sukhumvit Asset Management Corporation
- Legal Advisor, Government Housing Bank

## Mr. Woravit Chailimpamontri

Director

Share Possession (%): None

Age: 44

(Position Starting Date: 19 February 2013)

### Education/Training

- B.B.A. (Marketing), Bangkok University
- M.B.A. (International Business Management), Schiller International University, London, England
- Certificate of Thailand Government Savings Bank Management Leadership Program, Marshall School of Business, University of Southern California, USA
- Certificate of Housing Finance Program at the Wharton School, University of Pennsylvania, USA
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 100/2008
- Top Executive Program, Capital Market Academy (CMA), Class 8/2009
- Top Executive Program in Commerce and Trade, Commerce Academy, Class 3/2010
- Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 14/2011
- Top Executive Judgment Processing Program, College of Justice, Judicial Training Institute, Class 16

### Experience

- Vice Chairman/ Member of the Nomination and Remuneration Committee, National Credit Bureau Co., Ltd
- President, Government Housing Bank
- Director/Executive Director, Thanachart Fund Management Co., Ltd
- Director / Chairman of Investment Committee, Dhipaya Insurance Public Co., Ltd
- Chairman, G Capital Public Co., Ltd
- First Senior Executive Vice President / Chief of Financial Officer (CFO), Government Savings Bank

### Current Position

- Director, IRPC Public Company Limited
- President & CEO, Government Savings Bank
- Director, MFC Asset Management Public Company Limited



## Miss Sopawadee Lertmanaschai

Director (Resigned since 24 December 2013)

Share Possession (%): None

Age: 60

### Education/Training

- Bachelor Degree of Commerce and Accountancy, Thammasat University
- Bachelor Degree of Laws, Thammasat University
- Master's Degree of Commerce and Accountancy, Thammasat University
- The Wharton Advanced Management Program, University of Pennsylvania, USA
- Advanced Certificate Course in Politics and Governance in Democratic System for Executives, King Prajadhipok's Institute Class 14,
- Capital Market Academy Leadership Program, Capital Market Academy (CMA), Class 2
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 2/2000
- Audit Committee Program (ACP), Thai Institute of Directors (IOD), Class 27/2009
- Successful Formulation and Execution of Strategy (SFE), Thai Institute of Directors (IOD), Class 6/2009
- Monitoring the Internal Audit Function (MIA), Thai Institute of Directors (IOD), Class 8/2009

### Experience

- Secretary-General, Government Pension Fund
- Chairman, Royal Porcelain Public Company Limited
- Director, Thailand Futures Exchange Public Company Limited (TFEX)
- Director, Nok Air Company Limited

### Current Position

- Director, Dhipaya Insurance Public Company Limited
- Director & Public Relations, Federation of Accounting Professions under The Royal Patronage of His Majesty the King
- Director, Pridi Banomyong Institute
- Director and Secretary, Professor Sangvien Indaravijaya Foundation
- Commissioner, the Securities and Exchange Commission
- Director, Sub Performance Assessment Committee, State Enterprise Policy Officer
- Committee of Management Political Development Fund for Civil Factor, Office of the Political Development Council, King Prajadhipok's Institute

## Mr.Sombat Narawutthichai

Director

Share Possession (%): None

Age: 54

(Obtain the Position after Miss Sopawadee on 29 January 2014)

### Education/Training

- Bachelor of Business Administration, Kasetsart University
- Master of Business Administration (Finance), Kasetsart University
- Capital Market Leader Program, Capital Market Academy, Class 2/2006
- Banking and Credit Analysis Training, Kasikorn Bank 1983
- Securities Investment Analyst License No. 4976
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 15/2002

### Experience

- Director, Steering Committee of Corporate Governance Report of Thai Listed Companies (2011-2012), Thai Institute of Directors (IOD)
- Assistant Manager, the Stock Exchange of Thailand, managing Investment Analysts Association
- Deputy Managing Director, Sin Asia Securities Public Company Limited
- Deputy Director, Ayudhya Securities Public Company Limited
- Sub-Committee, Board of the Year Project, Thai Institute of Directors (IOD)
- Sub-Committee of Directors' Discipline, Securities and Exchange Commission
- Expert Advisor, The Federation of Thai Capital Market Organizations (FETCO)
- Member of the Working Group on Investment Instructors' Knowledge Standard and Curriculum, the Stock Exchange of Thailand
- Honorable Advisor, The Federation of Savings and Credit Cooperatives of Thailand Limited

### Current Position

- Director, IRPC Public Company Limited
- Secretary General, Government Pension Fund

## Mr.Sukrit Surabotsopon

Director / Member of the Executive Committee /  
President / Secretary to the Board of Directors /  
Secretary to the Executive Committee

No. of share 5,000,000

Share Possession (%): 0.02447

Age: 55

(Position Starting Date: 1 October 2013)

### Education/Training

- Bachelor of Engineering in Chemical Engineering with 2<sup>nd</sup> Class Honor, Chulalongkorn University
- TLCA Executive Development Program (EDP), Thai Listed Company Association, Class 3/2009
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 132/2010
- Audit Committee Program (ACP), Thai Institute of Directors (IOD), Class 38/2012
- Monitoring the System of Internal Control & Risk Management (MIR), Thai Institute of Directors (IOD), Class 12/2012
- Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 15/2012
- Capital Market Academy Leadership Program, Capital Market Academy, Class 16/2013

### Experience

- Director, Star Petroleum Refining Public Company Limited
- Director, PTT Global Chemical Public Company Limited
- Director, PTT International Company Limited
- Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT Public Company Limited
- Executive Vice President, Subsidiary Planning & Management, Petrochemicals & Refining Business Unit, PTT Public Company Limited
- Assistant Managing Director, Strategic Planning and Business Development, Thai Oil Public Company Limited
- Assistant Managing Director, Business, Thai Oil Public Company Limited

### Current Position

- Director / Member of the Executive Committee / President / Secretary to the Board of Directors / Secretary to the Executive Committee, IRPC Public Company Limited
- Senior Executive Vice President, Downstream Petroleum Business Group, PTT Public Company Limited
- Director, IRPC Oil Company Limited
- Director, Thai ABS Company Limited
- Director IRPC Polyol Company Limited
- Director, IRPC A&L Company Limited
- Director, PTT Polymer Marketing Company Limited
- Director, UBE Chemicals (Asia) Public Company Limited\*

\* Position Started in 2013

### The directors who resigned / retired 2013

- |                                 |   |
|---------------------------------|---|
| 1. Mr. Peeraphol Tritasavit     | tendered his resignation, with effect from 21 January 2013. |
| 2. Mr. Chulayuth Hirunyavasit   | completed his term on 5 April 2013 at the 2013 AGM Meeting  |
| 3. Mr. Prasert Bunsumpun        | completed his term on 5 April 2013 at the 2013 AGM Meeting  |
| 4. Mr. Sirisak Wittayaudom      | completed his term on 5 April 2013 at the 2013 AGM Meeting  |
| 5. Mr. Pailin Chuchottaworn     | tendered his resignation, with effect from 10 April 2013    |
| 6. Mr. Atikom Terbsiri          | tendered his resignation, with effect from 1 October 2013   |
| 7. Mr. Wichai Pornkeratiwat     | tendered his resignation, with effect from 2 October 2013   |
| 8. Miss Sopawadee Lertmanaschai | tendered her resignation, with effect from 24 December 2013 |

## Executives



**Miss Oravan Leelarasamee**

Senior Executive Vice President/  
Corporate Human Resources  
& Administration

**Mr. Wittawat Svasti-Xuto**

Senior Executive Vice President/  
Corporate Strategy & Planning

**Mr. Chansin Treenuchagron**

Senior Executive Vice President/  
Corporate Commercial  
& Marketing



**Miss Duangkamol Settanung**

Senior Executive Vice President/  
Corporate Accounting & Finance

**Mr. Sukrit Surabotsopon**

President

**Mr. Peerapong Achariyacheevin**

Senior Executive Vice President/  
Petrochemical & Refinery  
Business Unit/  
Acting Senior Executive  
Vice President Port &  
Asset Management Business Unit

**Mr. Manit Suthaporn**

Senior Executive Vice President/  
Corporate Legal



# Executives

## Mr.Sukrit Surabotsopon

President

No. of share 5,000,000

Share Possession (%): 0.02447

Age: 55

### Education/Training

- Bachelor of Engineering in Chemical Engineering with 2<sup>nd</sup> Class Honor, Chulalongkorn University
- TLCA Executive Development Program (EDP), Thai Listed Company Association, Class 3/2009
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 132/2010
- Audit Committee Program (ACP), Thai Institute of Directors (IOD), Class 38/2012
- Monitoring the System of Internal Control & Risk Management (MIR), Thai Institute of Directors (IOD), Class 12/2012
- Politics and Governance in Democratic Systems for Executives Course, King Prajadhipok's Institute, Class 15/2012
- Capital Market Academy Leadership Program, Capital Market Academy, Class 16/2013

### Experience

- Director, Star Petroleum Refining Public Company Limited
- Director, PTT Global Chemical Public Company Limited
- Director, PTT International Company Limited
- Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT Public Company Limited
- Executive Vice President, Subsidiary Planning & Management, Petrochemicals & Refining Business Unit, PTT Public Company Limited
- Assistant Managing Director, Strategic Planning and Business Development, Thai Oil Public Company Limited
- Assistant Managing Director, Business, Thai Oil Public Company Limited

### Current Position

- Director / Member of the Executive Committee / President / Secretary to the Board of Directors / Secretary to the Executive Committee, IRPC Public Company Limited
- Senior Executive Vice President, Downstream Petroleum Business Group, PTT Public Company Limited
- Director, IRPC Oil Company Limited
- Director, Thai ABS Company Limited
- Director IRPC Polyol Company Limited
- Director, IRPC A&L Company Limited
- Director, PTT Polymer Marketing Company Limited
- Director, UBE Chemicals (Asia) Public Company Limited

## Mr. Peerapong Achariyacheevin

Senior Executive Vice President, Petrochemical & Refinery Business Unit / Acting Senior Executive Vice President Port & Asset Management Business Unit  
No. of share: 840,000  
Share Possession (%): 0.00411  
Age: 61

### Education/Training

- Bachelor's Degree of Engineering in Electrical Power Technology, Faculty of Engineering, King Mongkut's University of Technology Thonburi
- MBA, Burapha University
- Senior Executive Program (SEP-20), Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Executive Leadership Program, NIDA-Wharton Aresty Institute of Executive Education, the Wharton School, University of Pennsylvania, USA
- Advanced Certificate Course in Politics and in Democratic Systems, King Prajadhipok's Institute, Class 6
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 80/2006
- Understanding the Fundamental of Financial Statements (UFS), Thai Institute of Directors (IOD), Class 2/2006

### Experience

- Senior Executive Vice President, Gas Business Unit, PTT Public Company Limited
- Executive Vice President, Natural Gas Transmission, PTT Public Company Limited
- Executive Vice President, Natural Gas Progressing, PTT Public Company Limited
- Vice President, Natural Gas Distribution, PTT Public Company Limited
- Chairman, Natural Gas Distribution, PTT Public Company Limited
- Director, PTT International Company Limited
- Director, Business Services Alliance Company Limited
- Director, PTT Utility Company Limited

### Current Position

- Senior Executive Vice President, Petrochemical & Refinery Business Unit, IRPC Public Company Limited
- Acting Senior Executive Vice President, Port & Asset Management Business Unit, IRPC Public Company Limited
- Director, PTT Natural Gas Distribution Company Limited
- Director, PTT International Company Limited
- Director, IRPC Clean Power Company Limited

## Miss Duangkamol Settanung

Senior Executive Vice President, Corporate Accounting & Finance  
Share Possession (%): None  
Age: 54

### Education/Training

- Bachelor of Science in Statistics with 1st Class Honors, Kasetsart University
- Master of Business Administration, Thammasat University
- Director Certification Program (DCP), Thai Institute of Directors (IOD) Class 155/2012
- PTT Executive Program, GE Crotonville, USA

### Experience

- Senior Executive Vice President, Finance & Accounting, PTT Aromatics and Refining Public Company Limited
- Executive Vice President, Internal Control System, PTT Aromatics and Refining Public Company Limited
- Vice President, Corporate Strategy, PTT Aromatics and Refining Public Company Limited
- Vice President, Finance & Accounting, The Aromatics (Thailand) Public Company Limited
- Director, PTT ICT Solutions Company Limited

### Current Position

- Senior Executive Vice President Corporate Accounting & Finance, IRPC Public Company Limited
- Executive Vice President, Petrochemical and Refining Unit, PTT Public Company Limited
- Director, Thai ABS Company Limited
- Director, IRPC Oil Company Limited
- Director, IRPC Polyol Company Limited
- Director, IRPC A&L Company Limited
- Director IRPC Energy Company Limited
- Director Ube Chemical (Asia) Public Company Limited
- Director, IRPC Clean Power Company Limited

## Mr.Chansin Treenuchagron

Senior Executive Vice President, Corporate Commercial and Marketing

No. of share: 200,000

Share Possession (%): 0.00098

Age: 53

### Education/Training

- Bachelor's Degree of Economics, Thammasat University
- Master's Degree of Economics, Chulalongkorn University
- Air War College, Class 35/2006
- Senior Executive Program (SEP-20), Sasin Graduate Institute of Business Administration of Chulalongkorn University, Class 20
- Executive Development Relation, Directorate of Civil Affairs, Class 1
- PTT Executive Leadership, General Electric, GE, New York, USA
- Advance Senior Executive Program (ASEP-5), KELLOGG & SASIN, Chicago, USA, Class 5
- Advanced Certificate Course in Public Economics Management for Executives, King Prajadhipok's Institute, Class 10
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 85/2007
- Director Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 93/2011
- Financial Statements for Directors (FSD), Thai Institute of Directors (IOD), Class 12/2011

### Experience

- President, Thai ABS Company Limited
- President, IRPC Oil Company Limited
- Senior Executive Vice President, Corporate Port and Asset Management Business Unit
- Acting Senior Executive Vice President, Corporate Strategy and Planning, IRPC Public Company Limited
- Executive Vice President, Corporate Planning, IRPC Public Company Limited
- Director / Acting Managing Director, PTT Green Energy Pte., Ltd.
- Vice President, Retail Business, PTT Public Company Limited
- Vice President, Aviation & Marine Marketing, PTT Public Company Limited
- Director, Subic Bay Energy Company Limited
- Director, FST Company Limited

### Current Position

- Senior Executive Vice President, Corporate Commercial and Marketing, IRPC Public Company Limited
- Executive Vice President, Petrochemical and Refining Unit, PTT Public Company Limited
- Director, Thai ABS Company Limited
- Director, IRPC Oil Company Limited
- Director, IRPC Polyol Company Limited
- Director, IRPC A&L Company Limited
- Director, Technology IRPC Company Limited
- Director, Rayong Acetylene Company Limited
- Director, UBE Chemical (Asia) Public Company Limited
- Director, PTT Polymer Marketing Company Limited
- Director, PTT Polymer & Logistics Company Limited
- Director, PTT Green Energy Company Limited
- Chairman, Rak Pa Sak Company Limited

## Mr.Wittawat Svasti-Xuto

Senior Executive Vice President, Corporate Strategy & Planning

No. of share: 4,779

Share Possession (%): 0.00002

Age: 52

### Education/Training

- Bachelor's Degree of Engineering (Chemical), Chulalongkorn University
- Master's of Science (Industrial Engineering) The University of Rhode Island, USA
- Senior Executive Program, Sasin Graduate Institute of Business Administration of Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 146/2011
- Financial Statements for Directors Program (FSD), Thai Institute of Directors (IOD), Class 12/2011

### Experience

- Vice President, Price Risk Management & International Market Analysis Department, PTT Public Company Limited
- Vice President, Petroleum Product & LPG Trading Department, PTT Public Company Limited

### Current Position

- Senior Executive Vice President, Corporate Strategy & Planning, IRPC Public Company Limited
- Executive Vice President, Trading Operations, PTT Public Company Limited
- Director, IRPC Oil Company Limited
- Director, IRPC A&L Company Limited
- Director, IRPC Clean Power Company Limited

## Mr.Manit Suthaporn

Senior Executive Vice President, Corporate Legal

No. of share: 50

Share Possession (%): 0.00000

Age: 59

### Education/Training

- LL.M., Chulalongkorn University
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 134/2010

### Current Position

- Senior Executive Vice President, Corporate Legal, IRPC Public Company Limited
- Chairman, Technology IRPC Company Limited
- Director, Thai ABS Company Limited
- Director, IRPC Oil Company Limited
- Director, IRPC Polyol Company Limited
- Director, TPU Company Limited
- Director, IRPC Energy Company Limited



## Miss Oravan Leelarasamee

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Senior Executive Vice President, Corporate Human Resources & Administration  
Share Possession (%): None  
Age: 57

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### Education

- Bachelor of Accountancy, Chulalongkorn University
- Master of Commerce, Chulalongkorn University

### Experience

- Executive Vice President, Corporate Accounting, IRPC Public Company Limited
- Vice President, Accounting, PTT Public Company Limited

### Current Position

- Senior Executive Vice President, Corporate Human Resources & Administration, IRPC Public Company Limited
  - Executive Vice President, Petrochemicals and Refining Business Unit, PTT Public Company Limited
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## Mrs. Patnan Tejakumput

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Executive Vice President, Corporate Finance  
No of share: 367,015  
Share Possession (%): 0.00180  
Age: 60

## Mr. Thammasak Panyowatkool

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Executive Vice President, Corporate Accounting  
No of share: None  
Age: 47

## Mr. Atikom Terbsiri

President

(until 30 September 2013)

Share Possession (%): None

Age: 51

### Education/Training

- B.B.A. (Accounting), Assumption University
- M.B.A. (Finance & International Business), High Distinction, Armstrong University, USA
- Diploma, National Defence College, the State, Private Sector and Political Sectors Course, Class 5
- Doctoral Course in Human Resources Management and Managerial Economics, Golden Gate University, San Francisco, California, U.S.A.
- Executive Education Program, Harvard Business School, Harvard University, U.S.A.
- Advanced Security Management Program (ASMP1), The National Defence College Association of Thailand
- Director Certification Program (DCP), Thai Institute of Directors (IOD), Class 125/2009

### Experience

- Senior Executive Vice President, Corporate Strategy & Planning, IRPC Public Company Limited
- Acting Senior Executive Vice President, Port & Asset Management Business Unit, IRPC Public Company Limited
- Acting Senior Executive Vice President, Chief Operating Officer, Downstream Petroleum Business Group PTT Public Company Limited
- Executive Vice President PTT Public Company Limited
- Senior Executive Vice President, Corporate Strategy & Commercial, PTT Aromatics and Refining Public Company Limited
- Executive Vice President, Business & Finance, The Aromatics (Thailand) Public Company Limited
- Director, Rayong Acetylene Company Limited
- Director, PTT ICT Solutions Company Limited
- Director, PTT Phenol Company Limited

### Current Position

- Senior Executive Vice President, Petrochemicals & Refining Business Unit, PTT Public Company Limited

## Mr. Sahaschai Panichapong

Senior Executive Vice President, Port & Asset

Management Business Unit

(Retired since 31 December 2013)

Share Possession (%): None

Age: 65

### Education/Training

- B.Eng. (Mechanical), Chulalongkorn University
- M.Eng. (Mechanical) Lamar University, Beaumont, Texas, USA
- Finance for Non-Finance Directors (FND), Thai Institute of Directors (IOD), Class 14/2004
- Director, Accreditation Program (DAP), Thai Institute of Directors (IOD), Class 56/2006

### Experience

- Acting President, IRPC Public Company Limited
- Senior Executive Vice President, Operation, IRPC Public Company Limited
- Senior Executive Vice President, PTT Chemical Public Company Limited
- Director, IRPC Clean Power Company Limited

# Report of the Audit Committee

## To the Shareholders

Consisting of three qualified independent directors appointed by the Chairman of the Board, the Audit Committee is chaired by Mr. Cherdpong Siriwit, with Lt.Gen. Preecha Wanarat and Mr. Triumph Jalichandra as members. For the year, the committee undertook its duties with independence under the Board-assigned scope and authority and in line with SET's requirements for oversight of the internal control system, risk management system, and compliance with the law, transparency, and freedom from conflicts of interest. The year saw 13 meetings held by the committee, with a proper quorum each time. Below are the essences of its performance.

**1. Review of financial reports :** The committee reviewed the material data of quarterly and annual financial statements to ensure that IRPC's financial reports were properly prepared in essential details under the Thai Financial Reporting Standards (TFRS), which agree with international accounting standards, and that complete, adequate material data were disclosed. To this end, clarification was given by executives of the accounting and finance group as well as the Vice President of the Office of Corporate Internal Audit. Finally, a report was given by the external auditor on material data for financial report preparation, unconditionally endorsed by the auditor. One meeting was held with the external auditor in the absence of the management to share free views on its financial report scrutiny and its audit plans. In the absence of significant observations, the committee endorsed IRPC's financial reports, while providing recommendations to the management on prudent business execution for constant performance growth.

**2. Review of corporate governance practices :** With due regard for arm's length conditions and the best interests of IRPC, the committee focused on ethical business undertaking by reviewing connected transactions between IRPC and related parties to prevent conflicts of interest. It also ensured complete disclosure of information under SET's requirements.


**3. Review of risk management :** The committee reviewed IRPC's risk management plans and constantly monitored their implementation outcomes. It heard reports and provided recommendations on the preparation of emergency plans and business continuity plans, while recommending drills under the plans by hypothesizing all possible situations (normal and abnormal), including natural disasters, complete with regular plan revisions. Besides, the committee inspected sites and business operations at the Ayutthaya Depot to observe operating safety, occupational health, and environmental management of the depot and provided recommendations for public relations work, community care, and more efficient emergency drills.

**4. Review of compliance :** The committee regularly reviewed IRPC's compliance with legislation on securities and SET, requirements of SET and SEC, industrial and environmental legislation, and other legislation related to its businesses. Besides, it took anti-corruption seriously by endorsing self-assessment of IRPC's anti-corruption measures against the assessment form developed by Thai Institute of Directors, which proved helpful to IRPC in reviewing completeness, strengths, and effectiveness of its policy and processes on anti-corruption.

**5. Review and oversight of internal controls :** The committee urged the Office of Internal Corporate Audit to improve its operation for excellence in reviewing the internal control system and the advising role on internal controls by focusing on, through public relations, securing understanding and acceptance by audited units, promote attitude adoption and incentives among employees and executives so that they may become aware of the value of the internal control system and internal audit; to strengthen the internal control system from within the units themselves; and to develop its competencies by systematizing knowledge compilation to raise its internal audit effectiveness.

**6. Selection and appointment of the external auditor for 2013 :** Examining qualifications, ability, and past performance in tandem with the external auditor's fees, the committee has proposed the appointment of PricewaterhouseCoopers ABAS Limited as the external auditor. This will be tabled for the consideration of the Board for subsequent approval of the shareholder's meeting.

In summary, the committee carried out its duties with prudence, care, and free expression of views to bolster confidence that IRPC's financial statements show material and credible data, compliance by and effectiveness of employees and executives, as well as efficient, effective risk management and internal control systems. All these have maximized IRPC's interests while enabling it to achieve sustainable growth.



**(Mr. Cherdpong Siriwit)**  
Chairman, Audit Committee



## Internal controls

### Summary of the Board's views

Having assessed IRPC's internal control system in organizational control, risk assessment, operating control, information and communications system, and monitoring system, the Board found the system adequately suitable. To further align with IRPC's changes in policy, environment, and economy, IRPC has established additional key controls to better achieve management objectives, described as follows.

**1. Control environment :** This year IRPC made its corporate governance (CG) handbook more thorough and strict on attracting, developing, and retaining competent personnel. Valuing loyalty and participation in the organization, IRPC applied employee engagement as a KPI for executives and instituted an action plan to foster relations and engagement within units.

**2. Risk assessment :** IRPC conducted risk management under the standardized framework of Enterprise Risk Management of the Committee of Sponsoring Organizations (COSO-ERM). To deal with risks facing itself and its stakeholders, the company linked its risk management system to management systems like the KPI system, OEMS (Operational Excellence Management System), and ISO 31000. To enable key business processes to continue uninterrupted or retrieve them in due time, IRPC devised a practicable BCM (Business Continuity Management) plan for emergencies.

**3. Control activities :** In its operation, IRPC values the internal control system and the quality system to ward off, lower, and avert risks to manageable levels, while effectively facilitating achievement of its objectives. To this end, it constantly revised and updated company regulations, while reviewing the suitability of human resources and processes across the company to prepare itself for operational excellence by firming up its organizational structure, as well as streamlining and making it more agile.

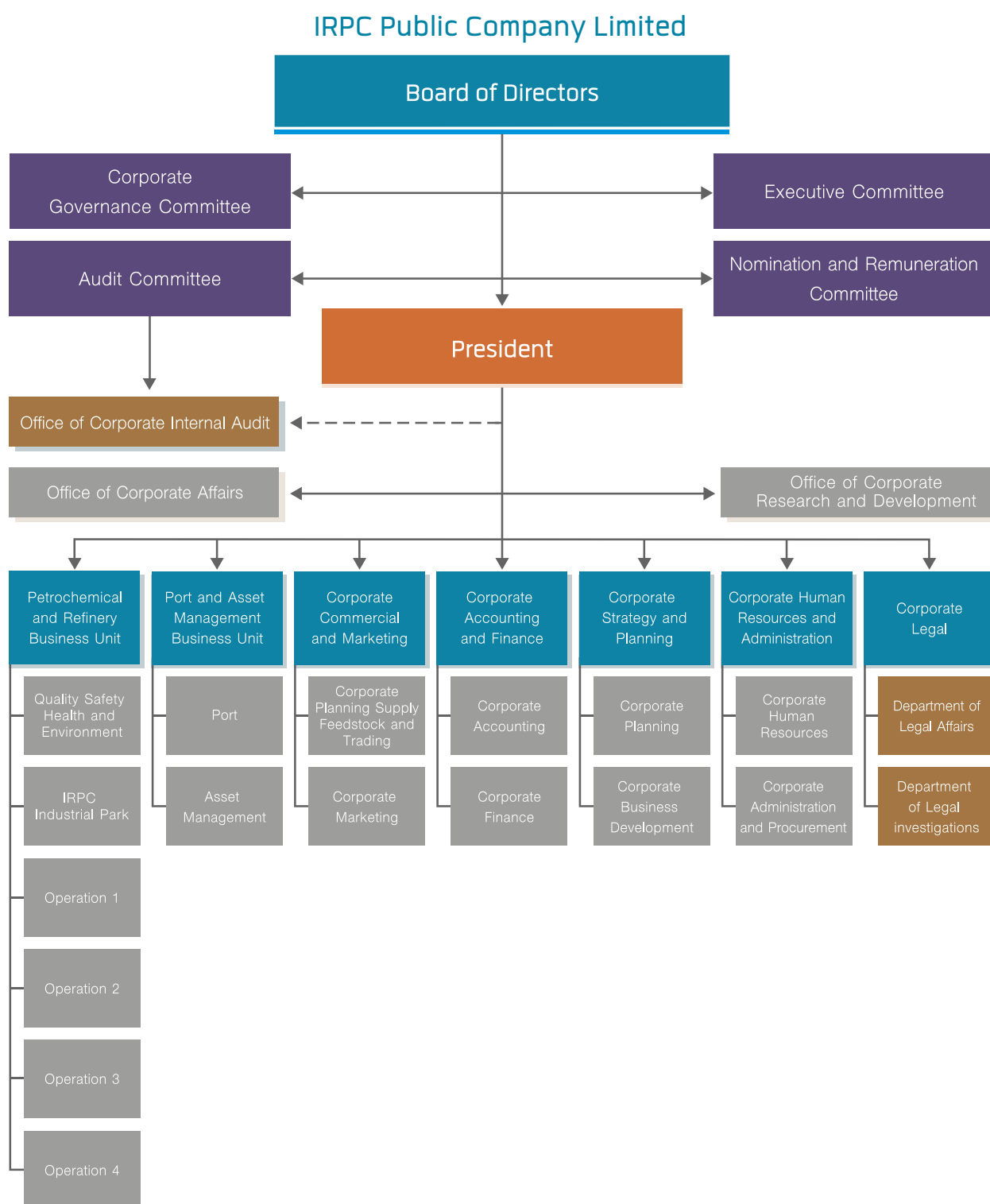
**4. Information & communications :** IRPC established a project to systematize its information security management under ISO/IEC 27001, trained auditors of this system, and trained relevant parties for ISMS (Information Security Management System) awareness to ease internal controls.

**5. Monitoring activities :** IRPC values monitoring and evaluation of its internal controls to ensure that such controls of itself and its subsidiaries proceed smoothly and suitably, thus preventing abuse of its properties and duly overseeing transactions with parties of potential conflicts and connected parties, in addition to regularly reviewing of budget spending. In addition, IRPC announced a clear anti-corruption policy and joined the Private Sector Collective Coalition against Corruption in full force. In summary, the Board agrees with the report of the Audit Committee, which has found no significant flaws in IRPC's internal control system.



**(Mr. Chainoi Puankosoom)**  
Chairman

# Organization Structure



# Corporate Governance Report

## To the Shareholders,

In its focus on corporate excellence, the Board of Directors stresses ethical business in line with the code of conduct to accommodate the needs of shareholders, customers, and all stakeholders in a transparent way, open to scrutiny, while exerting social and environmental responsibility. The Board also values global citizenship by strengthening the stewardship of all related parties so that they may benefit in an equitable way, respecting human rights, and fair labor treatment.

This year the Board further strengthened the Corporate Governance Policy by adding an anti-corruption policy and measures, as well as devising corporate governance action plans focusing on transparent conduct, efficiency, and with due regard for all stakeholders. In addition, quarterly performance assessment is required against goals, which the Corporate Governance Committee is then to report to the Board.

The committee has ensured that IRPC conforms to the corporate governance action plans for the year, whether in routine chores or in strategic ones. These consists of corporate governance development tasks, environmental governance, and social responsibility tasks aligning with the corporate governance guidelines adopted by listed companies in 2006 and amended in 2012 by the Stock Exchange of Thailand, together with the toughest international corporate governance standard, as detailed in Corporate Governance this year. In addition, the committee encouraged IRPC to heighten its corporate governance on a par with ASEAN CG Scorecard in preparation to become a leading company while contributing to the strengthening of the ASEAN capital markets in 2015. According to the Asian Development Bank and the ASEAN Capital Markets Forum, IRPC is already among the top 50 ASEAN listed companies, with an Asia Outstanding Company on Corporate Governance 2013, attested by the Hong Kong-based Corporate Governance Asia magazine.

Please be assured that the Corporate Governance Committee and the Board of Directors have adopted a process for ensuring systematic, closely-monitored, and stringent operation at IRPC. All these elements will enable IRPC to constantly develop its corporate governance standard on a par with international norms and prevailing regulations so as to truly and successfully accommodate sustainable development.



(Mr. Cherdpong Siriwit)

Chairman, Corporate Governance Committee



All IRPC directors, management, employees, and subsidiaries are required to observe the six corporate governance (CG) principles, known by the acronym 'CREATE', defined by the Board of Directors as follows:

- Create Long-Term Value
- Responsibility
- Equitable Treatment
- Accountability
- Transparency
- Ethics.

The Board upgraded IRPC's CG to meet the standards stipulated by SET, SEC and IOD as well as those of the ASEAN CG Scorecard. Rules and guidelines for IRPC and directors were revised to be more stringent in its preparation to become a leading group of companies, and to take part in strengthening ASEAN capital market with the coming ASEAN Economic Community (AEC) in 2015.

The CG activities can be summarized as follows:

## 1. CG Policy

The Board has defined a CG policy to promote efficient, transparent operations in line with CREATE. IRPC's CG handbook was published in 2006 to be enforced on the Company and subsidiaries. The handbook stipulated good practices, business ethics and a code of conduct for the directors, management, and employees to observe and comply with. The handbook was reviewed annually and revised in 2009, 2012 and 2013 to keep up with international standards, with an emphasis on employees' understanding and awareness enhancement through CG promotional campaigns held regularly; assessment is made on communication efficiency for further improvement.

In 2013, the Board consisted of 17 directors, eight of which are independent directors, and one executive director (President). The Chairman of the Board is a non-executive director. The directors are screened through the procedures and criteria set by the Nomination and Remuneration Committee, and nomination of qualified candidates was presented to the Board for approval before submission to the

shareholders' meeting for appointment. Selection procedures are disclosed in the meeting notice. Each director has vast, diverse knowledge and experience to make up a complete, efficient Board beneficial to the management of the company. This year the Board consists of five experts in energy, petroleum and petrochemical, five experts in legal and political sciences, six experts in accounting and finance, two experts in national security, and two in social development. The qualifications of the directors are shown on page 20-29 under Executives. Miss Monwipa Choopiban was appointed Company Secretary, with effect from 24 January 2012. Her qualifications are found under Management Structure, page 156-176.

In 2013, the Board monitored the company's operations to be in compliance with IRPC's vision, core value, strategies, plans, Articles of Association, regulations and related laws and announcements in all areas and places where IRPC has business operations. The Board also formulated an anti-corruption policy and measures for the entire company.

At meeting No. 1/2557 on 29 January 2014, the Board defined the terms of office of directors and independent directors to not exceed three consecutive terms, without exception.

As a result of better CG performance as mentioned above, IRPC received the 9th Governance Asia Recognition Awards 2013: Asia's Outstanding Company on Corporate Governance from the Corporate Governance Asia magazine. The award ceremony was held on June 25 in Manila, the Philippines. IRPC was also ranked in the 50 Asian companies with excellent CG performance by the Asian Development Bank (ADB) in cooperation with ASEAN Capital Markets Forum in the assessment of Thai listed companies. The company was also ranked excellent with five stars by IOD, and the shareholders' meeting ranked as outstanding.

## 2. Sub-Committees

To ensure prudence, efficiency, and expertise in different fields in managing IRPC's operations and to gain shareholders' and stakeholders' trust in its

efficient management, the Board set up four sub-committees, namely the Executive Committee, the Audit Committee, the Nomination and Remuneration Committee, and the Corporate Governance Committee, to screen significant operation issues according to the roles and duties as assigned by the Board, with regular reporting of the results and activities to the Board, and to the shareholders at the 2013 AGM.

The compositions and qualifications of the sub-committee members and meeting attendances for the year 2013 are shown under Management Structure, page 156-176

Duties and responsibilities of the committees are:

### 1. Executive Committee

The Executive Committee comprises at least three directors from the Board who are experts in petroleum and petrochemical businesses. The Executive Committee examines and reviews the business plans and annual budget for presentation to the Board. It determines the financial and investment policies to be in line with the Company's policy and approves investment criteria and proposals subject to the Company's regulations. It reviews and performs acts related and essential to the Company's operations, examines and reviews all work proposed to the Company and offers useful suggestions. It appoints directors to subsidiaries or joint-venture companies in accordance with shareholding ratios or as set forth in the Joint Venture agreement. Moreover, it performs other tasks assigned by the Board. The meetings are set once a month or when necessary.

At Board meeting No. 1/2557 on January 29 this year, the meeting approved extension of the roles and duties of the Executive Committee and extended its duties to cover all risk management implementation as follows:

1. To formulate risk management policies and recommend guidelines in efficiently managing risks relating to IRPC's businesses.
2. To formulate risk management plans and risk management processes for the entire organization, and

3. To follow up and assess implementation under the corporate risk management framework.

In 2013, the committee held 12 meetings to review various significant business issues, such as extension of hedging periods, property management approaches to increase profit-earning capacity, setting up a new company to operate the Combined Heat and Power project (CHP II) in Rayong, the five-year business plan, the following year's business plans and budgets, and other matters of interest to create business value in the long term.

### 2. Audit Committee

The Audit Committee consists of at least three independent directors who are duly qualified under SEC's and the Capital Market Supervisory Board's notification, and at least one director must be knowledgeable in finance and accounting. The Audit Committee reviews the reliability of the financial statements of IRPC and its subsidiaries, the internal control system, internal audit system and risk management system to ensure their suitability and effectiveness. It can also give suggestions reviews or audit of any matters as seen necessary or significant. Moreover, it provides recommendations on the improvement of the internal control system, internal audit system and risk management system, and reports the review findings to the Board.

The Audit Committee meets once a month or as necessary and report the performance to the Board every quarter.

In 2013, the directors who are knowledgeable and experienced in reviewing financial statements of the Company are:

Mr. Cherdpong Siriwit	Chairman
Mr. Triumph Jalichandra	Member
Lt. Gen. Preecha Wanarat	Member.

(Details of the Directors appear on page 16-29.)

In 2013, the committee held 13 meetings to review various significant business issues to ensure transparency, such as the financial report ended 31 December 2013, draft Report of the Board's Responsibility for Financial Reporting,

review of connected transactions, selection and nomination of the external auditor for the year and fee recommendations, the sufficiency of the risk management system and the quarterly risk management performance report, as well as the monitoring of internal control and internal audit systems, and then report to the Board.

The committee also carried out internal audit in operating areas, such as the Ayutthaya Depot, to ensure complete implementation and strict compliance.

Ms. Sukriang Chartuthit was appointed Vice President of the Office of Corporate Internal Audit and Secretary to the Audit Committee, with effect from September 20, 2012. Mr. Thawisak Dejakaisaya replaced Ms. Chartuthit, who retired, effective January 10, 2014. The qualifications of the Secretary to the Audit Committee are detailed under Management Structure, page 156-170.

### 3. Nomination and Remuneration Committee

The Nomination and Remuneration Committee consists of at least three directors from the Board with at least one independent director on the committee. The committee recruits qualified candidates for nomination as Board members and the President. It has established efficient, transparent procedures and criteria of nomination so that the Board is made of directors with diverse knowledge, capability and qualifications. Moreover, it considers compensation for directors and the President by adopting equitable and reasonable criteria on a par with peer businesses, and present them to the Board and the shareholders' meeting for approval.

In 2013, the committee convened 11 meetings to consider various significant business matters for the Board's consideration, such as nomination of the President (Mr. Sukrit Surabotsopon to replace Mr. Atikom Terbsiri, effective October 1, 2013), nomination of directors to replace those completing their terms in 2013 and those that resigned during the year for the AGM's approval, compensation of Directors in 2013, nomination of sub- committees, review of directors' bonuses and of the operating goals of the President,

definition of assessment guidelines and reporting of the results of the assessment to the Board for consideration, improved procedures and criteria for director nomination as well as a clearer framework for assessment of the President's performance, with the use of the Directors' Pool of the Ministry of Commerce and IOD in its nomination of directors.

### 4. Corporate Governance Committee

The Corporate Governance Committee consists of at least three directors, at least one of whom must be an independent director. It formulates CG policies and approves CG plans, monitors the implementation of the Company's CG activities, provides recommendations and suggestions on CG to the Board, directors, president and shareholders in line with related regulations, ensures CG compliance, improves CG activities and elevates CG implementation up to international standards.

This year, the committee convened seven meetings to review various significant business issues, such as formulating a policy and measures on IRPC's anti-corruption implementation for the Board's approval, formulating the 2013 CG Plan consisting of general and strategic plans in three fields (CG, environment good governance, and CSR), following up the CG implementation of the plan every quarter, and proposing CG development guidelines in five sections in compliance with SET, SEC and IOD, namely the rights of shareholders, equitable treatment of shareholders, roles of stakeholders, information disclosure and transparency, and responsibilities of the Board, and, finally, organizing campaigns to promote CG through assorted activities.

### 3. Nomination of Directors and Management Members

The Nomination and Remuneration Committee selects directors based on efficient procedures and criteria set by the Board, and nominates qualified candidates to the Board and the shareholders' meeting for approval.

#### 1. Independent Directors

The Nomination and Remuneration Committee considers and screens qualified candidates with

knowledge, skills, and experience in diverse fields to fill the Board under the specified structure and composition. The candidates for independent directors must bear the qualifications under IRPC's CG handbook, which are more stringent than those of SEC, as detailed under Management Structure, page 156-176.

The Board considers qualified candidates nominated by the committee, and, if it agrees, proposes them to the shareholders' meeting for appointment. Newly appointed independent directors must submit their independency reports and lists of assets to SET within three days from the appointment dates.

## 2. Directors

The Nomination and Remuneration Committee considers and screens qualified candidates with diverse knowledge, skills, and experience to make up a Board of experts in various fields to support their decision-making. Qualified candidates must bear the qualifications as stipulated by the law, regulations and IRPC's CG principles. The Board considers the candidates nominated by the committee and, if it agrees, proposes them to the shareholders' meeting for approval.

## 3. Management Members

The Nomination and Remuneration Committee considers and screens qualified candidates whose knowledge, skills and experience fit the duties of the executive management (the President), and presents the findings to the Board for approval. In 2013, the Board appointed Mr. Sukrit Surabotsopon as President, with effect from October 1, taking into account his capability, knowledge, skills and experience, which would be useful to IRPC, and past performance and experience gained, which would also support IRPC's businesses, as well as his image on transparency, ethics, and qualifications under the laws and regulation and IRPC's CG principles.

IRPC requires that the President's directorship at other companies must have the prior endorsement of the Board. Similarly, other senior executives' directorship at other companies must have the President's prior endorsement.

## 4. Affiliates and Subsidiaries

IRPC formulated monitoring guidelines for its affiliates and subsidiaries to ensure efficient operation and business alignment, strengthen the organizations, and generate decent returns in business value, image, or operational direction with CSR, as follows:

- Define investment policies, long-term operating plans, annual plans, business strategies, CSR Roadmap, and investment/budget framework. The annual budgets of subsidiaries were included under IRPC's business plan to be approved by the Board to ensure that the operations of the group follow the same direction. Investment policies of affiliates are under joint-venture regulations.
- The Executive Committee, as assigned by the Board, approves IRPC secondees to affiliates and subsidiaries as directors or executives in proportion with the shares held or as agreed in the shareholders' agreement.
- Voting at meetings of subsidiaries and associates on significant agenda items affecting the structure of the organization or investment must have the prior approval of the shareholders' meetings.
- Subsidiaries are to adopt IRPC's policies and regulations, such as policies on CG, anti-corruption, human resource development and marketing, and regulations on procurement, finance and accounting. Each responsible unit coordinates with the management and operating levels.
- Subsidiaries report their performance, information on financial status, connected transactions, assets acquisition and disposal, and other significant transactions to IRPC's Audit Committee.
- Subsidiaries' internal control systems must be on a par with that of IRPC. The Office of Corporate Internal Audit regularly reports the audit findings of affiliates to the Audit Committee and the Board, as well as other reports required by SET and SEC.
- Joint ventures with affiliates follow the shareholders' agreement and joint-venture regulations (some essential terms and conditions are included in the latter). Significant agenda must have the approval



of the Board (since IRPC holds 99.99% shares in its subsidiaries, no shareholders agreement was formally made).

## 5. Use of Inside Information

IRPC has set guidelines and good practices on maintaining confidentiality of information in its CG handbook, requiring directors, management, and employees to be prudent in maintaining confidential information, as well as the use of inside information and information disclosure. A system to maintain the confidentiality of information was established, levels of confidentiality classified, and information access restricted. IRPC's policy forbids disclosure and use of material inside information not yet revealed to the public for the benefit of oneself or others, including the purchase and sale of IRPC's assets as follows:

- IRPC issued letters to its directors, management, and related parties seeking cooperation in refraining from purchasing/selling IRPC shares during the 45 days after the end of each quarter, and two working days after the financial statements are disclosed to SET, so as to prevent the exploitation of inside material information potentially impacting share prices and not yet revealed to the public, which could violate Article 241 of the Securities and Exchange Act B.E. 2535 (1992), and to prevent unlawful acts committed by IRPC's employees and their families, or those in possession of information not yet revealed to the public. IRPC forbids those persons to purchase/sell shares or invite others to purchase or sell or offer to purchase or offer to sell the shares of IRPC, whether by themselves or through agents while holding on to the information not yet revealed to the public. IRPC and SET consider that these acts are meant to speculate or create undue advantages for certain groups.
- IRPC notified the directors, management, and related parties to prepare and submit reports of their own asset holdings, as well as those of their spouses and children under legal age, when first assuming their positions, and report on changes in asset holdings every time within three days of the purchase, sale, or transfer of IRPC's assets to SEC as required by the Securities and Exchange Act B.E.

2535, Article 59, and Article 275, on punishments.

- IRPC's directors and management under SEC's criteria must report their asset holdings to the Board's meeting every month.
- A system to maintain confidentiality of information was established, levels of confidentiality classified, and access to information not yet disclosed to the public restricted to only those necessary and related parties. The owners or those in possession of information not yet revealed to the public must strictly comply with these procedures and must ensure that related parties do the same. Violators will be subject to disciplinary and/or legal punishment, if applicable.
- IRPC has a data security system of international standards to prevent external threats, and information access by unauthorized parties to use inside information for their own benefits. The system was installed in the main computers system and personal computers, and activated during normal operation as well as in emergencies.

## 6. Auditor's Fee

### 1. Audit fee

In 2013, the Company and subsidiaries proposed to the shareholders' meeting the appointment of PricewaterhouseCoopers ABAS Ltd. as the external auditor. The company bears no relation with the company to an extent that its dependency might be compromised. The fees paid totaled Baht 4,160,000: Baht 3,100,000 for the audit fees and Baht 1,060,000 for the audit fees of subsidiaries.

### 2. Non-audit Fee

This year, payment of Baht 26,100 for other services is made for the training and seminars of the auditor.

## 7. Compliance with CG

IRPC conducts its businesses in strict compliance with SET's principles of CG for listed companies (2006 and 2012) in all five categories. It earned five stars from IOD for the fifth consecutive year (2009- 2013) with 95 points (against 91 points of the previous year).

IRPC's activities under CG principles for listed companies this year can be summarized as follows:

## Part 1 Rights of Shareholders

Recognizing shareholders' legal rights and the right to making rational decisions based on easily accessible, adequate, timely, and complete information provided through multiple channels, IRPC has defined the policies on the rights of shareholders, the promotion of their use, and non-violation of the rights of shareholders as follows:

### 1. Shareholders' Meetings

- Major shareholders, minor shareholders, and institutional investors were all encouraged to attend IRPC shareholders' meeting, with a meeting notice and a copy of its 09/2013 newsletter issue delivered to them individually. The steps and procedures of proxy and voting set are not sophisticated, but legally correct and complete. IRPC facilitated all shareholders in registration and advance voting.
- IRPC schedules an annual general meeting of the shareholders (AGM) within four months of the annual closing date of its accounting books. In 2013, IRPC set the record date for shareholders to join the meeting and receive their dividends on March 5, 2013. The announcement of the AGM was made on February 19, 2013, 14 days in advance, following the Board's agreement to hold the meeting on April 5, 2013 at Bangkok Convention Center, 22nd floor, Sofitel Centara Grand Hotel, and Bangkok Convention Center, Central World Bangkok.

For urgent matters about the addition to the meeting agenda, IRPC must notify the shareholders to preserve their rights or interest at least 21 days ahead of each meeting date, as well as distributing relevant documents in advance on the website before sending the documents. Since no special agenda, urgent matters, or matters of shareholders' interest which required shareholders' approval emerged during the year, IRPC neither submitted any additional agenda nor called an extraordinary meeting of the shareholders in 2013.

### 2. Delivering Meeting Notices

- The meeting notices in Thai and English, agenda, comments of the Board, proxy forms A, B and C as stipulated by law, as well as accompanying

documents, were made available on IRPC's website on March 5, 2013, 30 days ahead of the meeting date.

- IRPC submitted a meeting notice to all shareholders, stating clearly the meeting venue, date, time, meeting agenda, essential information for consideration, the Board's opinions, minutes of the previous meeting, annual report, proxy forms with complete instruction, accompanying documents for proxy as stipulated by law, and other accompanying documents sufficient for shareholders' decision to vote, on March 15, 2013, 21 days ahead of the meeting, thus allowing shareholders to receive adequate, accurate, complete, and transparent information necessary for decision-making. To further facilitate shareholders' preparation, the invitation was announced through one Thai and one English newspaper for three consecutive days from March 27 to 29, 2013.

### 3. Facilitating Shareholders

IRPC convened the meeting at a spacious venue with complete facilities to accommodate the shareholders and easily accessible by BTS, MRT, personal car, and the public transport system. Officers facilitated shareholders, the elderly, and the disabled as well as providing adequate information for shareholders with equitable treatment on the meeting date. Examination of registration credentials and registration opened two hours ahead of the meeting, and a barcode system quickened registration.

### 4. Conduct of Shareholders' Meetings

- IRPC must in no way deprive the right of shareholders to attend the meeting. All shareholders can exercise their right to attend the entire meeting.
- Before the meeting, the chairman of the meeting explains all the meeting procedures and regulations such as the procedure of one vote per one share, ballot use instruction, as well as vote counting of the shareholders who must vote for each agenda under IRPC's Articles of Association.
- To ensure transparency, the chairman gave an opportunity for major and minor shareholders to observe and witness vote counting on a volunteering basis. For 2013 AGM, the volunteers were Ms.

Thapani Kaew-im, Mr. Chanin Tayakkanond, and Mr. Suraphant Tembun, representing shareholders who attended the meeting, major shareholders, and minor shareholders respectively.

- IRPC provides translators/interpreters to ensure accurate clarification to foreign shareholders' queries.

- The attendees are allowed to protect their own interests by making queries fully before voting, presenting opinions and suggestions, and voting on important issues with impacts on IRPC, such as the appointment of directors, appointment of the auditor and compensation, and policy on dividend payment. All shareholders' queries raised during AGM 2013 were fully answered by the Chairman and IRPC Directors. (Further details are available at [http://www.irpc.co.th/other/ir\\_home\\_th.html](http://www.irpc.co.th/other/ir_home_th.html) and the meeting notices for AGM 2014 on Annex 4)

- In 2013, all 17 Board members (Chairman of the Board, Chairman of sub-committees, directors and President), and all senior executive vice presidents attended the AGM. Furthermore, IRPC invited one legal adviser, Ms. Paralee Thechachongchinda, from Baker & McKenzie to attend and provide clarification on legal matters to shareholders' queries.

- The 2013 AGM was held under the Green Meeting concept of Thailand Business Council for Sustainable Development (TBCSD) and Thailand Institute of Environment (TEI). Assessment by representatives from the two organizations was made, and IRPC earned Green Meeting certification, with the awarding ceremony held on June 18, 2013. IRPC was committed to maintaining the green meeting standard and promoting the concept among its stakeholders for wider adoption via its website, Newsletter No. 10/2013 for public, and the I-Oon magazine for its employees.

## 5. After the Shareholders' Meeting

After submitting the minutes of the meeting to SET on April 18, 2013, or 14 days after the meeting, IRPC made available complete minutes of the meeting, vote tally details, and queries from shareholders on each agenda item, as well as videotapes on IRPC's website so that the shareholders may get immediate



*IRPC earns Green Meetings certification for its 2013 AGM*

reports and other interested persons may have the opportunity to learn about IRPC.

The shareholders and general investors can contact IRPC for information, explanation, or needs to:

- Investor Relations Department:
  - (1) Telephone: +66(0) 2649 7980
  - (2) Electronic mail: [ir@irpc.co.th](mailto:ir@irpc.co.th)
  - (3) Facsimile: +66(0) 2649 7379.
- Company Secretary:
  - (1) Electronic mail: [cg@irpc.co.th](mailto:cg@irpc.co.th), or
  - (2) [www.irpc.co.th](http://www.irpc.co.th), link to "Contact Company Secretary".

## Part 2 Equitable Treatment of Shareholders

IRPC values and treats all shareholders with equity and fairness through the following actions in 2013:

1. It arranged for transparency and efficiency in the AGM by conducting the meeting and voting under the agenda as specified in the meeting notice and refraining from adding any agenda or material information without notifying the shareholders in advance, so as to allow the shareholders ample time to study the information before making decisions.

2. It facilitated shareholders who cannot attend the meeting by assigning an independent director or any person to attend the meeting in their place. Five independent directors are recommended for selection in the proxy form with instructions for shareholders to vote on each agenda item.



3. It provided voting ballots for the shareholders for each agenda separately, especially for director nomination where voting ballots were for each director nominated, so that they can vote as appropriate. The voting ballots are then collected for future inspection.

4. It prepared complete minutes of the meeting and submitted to SET as well as publicizing the minutes together with videotapes on IRPC's website so that the shareholders can check and refer to them, or, if find the minutes inaccurate in essential matters particularly those made by the shareholders, to propose any amendments to the minutes.

5. To ensure the shareholders that the directors, management, employees, and related inside parties will not reveal inside information for their personal interests, the Board has incorporated the "trading principles" in IRPC's CG principles which all employees sign as acknowledgment to ensure fairness to the shareholders.

6. It facilitated all shareholders with equity and fairness, disregarding gender, race, religious belief, or major or minor shareholding, for access to IRPC's information via SET's channel and on IRPC's website at [www.irpc.co.th](http://www.irpc.co.th) in both Thai and English.

7. It facilitated minor shareholders with at least 4% (single or combined shareholding) of the total shares in exercising their right to put forward an agenda in advance of the AGM via post, facsimile, or IRPC's website between September 28 and December 31, 2012, and at the same time publicized the regulations to exercise the right via SET's channel and IRPC's website. However, in 2013, no shareholders submitted such agenda during the period.



### Part 3. Roles of Stakeholders

IRPC takes into account the maximum benefit of all stakeholders. It treats stakeholders with fairness and respect of human rights by complying with the laws and international human right principles. IRPC announces such commitment to UN Global Compact (UNGC), a UN agency. IRPC's promotion of the roles of stakeholders is summarized as follows:

#### 3.1 Compliance with UN Global Compact in 2013

**Promotion of Human Right Principles:** IRPC organized promotional activities on human right principles such as the rights of disabled people to live conveniently, hygienically, and equitably in society. IRPC donated 25 tons of its own plastic polymers to the Prostheses Foundation of HRH the Princess Mother and participated in the "Repair for Happiness" activity by sending a prostheses unit to Chaiyaphum in November, and reserved special seats for disabled and elderly shareholders for the AGM. IRPC also supported activities of all religious beliefs among employees with no gender discrimination in consideration of promotion. This year, there was one female director (5.88%) and two female executives (Senior Executive Vice President) (33.33%).

#### Respect for copyrights and intellectual properties:

IRPC's policy is to respect copyrights and intellectual properties. To achieve this, IRPC campaigns and promotes awareness among employees of compliance with the Copyrights Act B.E. 2537 (1994) and the "Application of IRPC's Computers and Network System" policy, designed to prohibit employees from using illegal programs or software.



IRPC's measures and periodic inspections help prevent infringement of others' rights.

**Labor promotion:** IRPC regularly supports the budget and activities of the union. Meetings are scheduled in compliance with the law to receive comments and recommendations from the employee union and the executive union. At present, the President is the chairman of the committee, representing the employer.

**Environmental promotion:** IRPC values environmental protection and energy conservation. IRPC has defined QSHE policy on a par with international standards and ensured compliance across the company.

**Anti-corruption promotion:** IRPC has joined the Collective Action Coalition Against Corruption (CAC) in joint collaboration with major organizations such as IOD, SET, and Thai Chamber of Commerce on January 3, 2013, with continual activities throughout the year, as follows:

- Compliance with CAC by attending seminars and training of relevant people so as to develop IRPC's guidelines.
- Coordination with PTT Group to clarify the understanding of compliance with CAC and invite CAC member to share knowledge and exchange ideas and joint implementation
- The Board and the President communicated the anti-corruption policy, measures, and guidelines with employees for acknowledgment and compliance and announced them on IRPC's website on November 11, 2013, for stakeholders and interested parties.
- Communications via internal communication for employees and IRPC's website for outsiders.
- Risk management of corruption in the organization by assessing all the units whose nature of work is subject to corruption risks, such as procurement, projects, and CSR activities.
- Compulsory corruption self-assessment (58 topics) on CAC's anti-corruption measures, followed by submission to the Chairman of the Board to sign and submit to CAC to request member certification.
- The Audit Committee approved IRPC's corruption self-assessment.

### **3.2 Promotion of the Roles of Stakeholders in 2013 as follows:**

**Shareholders/investors:** IRPC is committed to creating added value in the long run and to providing investment returns that best satisfy the shareholders. IRPC highlights the importance of investors, both general and institutional, and both domestic and international ones, and aims to create trust and confidence. To this end, IRPC has set up an internal control system and a reliable accounting and auditing system. IRPC prepared the AGM in full compliance with law and CG principles and promoted the rights of shareholders to speedily, correctly, completely, and equally acknowledge IRPC's information for the maximum benefit of all shareholders.

IRPC organized activities for shareholders/investors in 2013 as follows:

- Domestic and international roadshows, meetings with the Company's executives at the appointment of investors and analysts (Company visit) to regularly provide information on the Company's performance and investment, in total 28 times
- Quarterly analyst meetings
- Joint activities with SET to disseminate IRPC's information at the "Money Expo" and "SET in the City"
- Press conferences, press releases, and interviews of executives, joint activities with the media, about 50 times
- Shareholders' plant visit project under the "Happy Rayong" concept. The number of 400 shareholders was randomly selected from the applicants to visit IRPC's plants in Rayong to foster understanding of business and participate in CSR activity with the community on August 20, 2013
- Quarterly Shareholders' Newsletters are mailed to all shareholders, with information on IRPC's turnover, business activities, CSR, and presented at the CG information corner on IRPC's website.

This year IRPC was certified and assessed in relevant performance aspects as follows:

- "Green Meeting" certification for the 2013 AGM



*Analyst meetings provide performance and investment data*

- Quality score for the scheduling of the 2013 AGM was 96/100 in line with the target
- Satisfaction score of shareholders for the scheduling of the 2013 AGM via a survey was 4.10/5
- Satisfaction score of shareholders for the 2013 plant visit project was 3.25/4 or 81.12% higher than the target of 80%
- “Corporate Governance Asia Recognition Awards 2013: Best Investor Relations by Company” from the Corporate Governance Asia Magazine, for transparent disclosure of information to investors and fairness to stakeholders in compliance with CG principles; the award presentation took place on March 27, 2013, in Hong Kong S.A.R.
- “9th Corporate Governance Asia Recognition Awards 2013: Asia’s Outstanding Company on Corporate Governance” from Corporate Governance Asia Magazine; the award presentation took place on June 25, 2013 in Manila, the Philippines.

**Customers/consumers:** IRPC is committed to continuously developing and upgrading its goods and services by designing a system of timely, reliable purchase/sale and services to protect the interests and prevent risks to customers’ business. It will in no way abuse consumers under the Consumers’ Law and the Competition Law. It will also produce innovations to develop product quality to address the quality of life of consumers and environmental protection. It



*Press conferences provide business directions*

concerns safety and health during product use. As well, it aims to satisfy customers by taking care of quality of goods and services before and after sale, facilitate business dealing for customers. IRPC also uses internet innovations for business dealings via cell phones such as iRON, iDEAL, iPORT that saves time, reduces mistakes in document handling, and is in time for the volatility of the market. Details are under the topic Individual Product Line’s Business, page 74-80, and Performance Summary, page 98-117.

The satisfaction scores for 2013 were 92.31% for the petroleum business area, versus the target of 86%, and 86% for the petrochemical business area, versus the target of 85%.

**Business partners:** IRPC adheres to its code of business conduct in dealing with business partners and contractual parties with transparency and accountability. Partner selection was conducted in a transparent and fair manner. IRPC balanced the interests between the Company and partners fairly.



All agreements or contracts must be based on fairness and commitment to success through good, continuous, and long-standing business relationship. IRPC has designed a "Procurement Code of Conduct" to ensure that the employees adhere to the code with integrity, honesty, and transparency.

IRPC has set up a procurement system for chemical raw materials, machinery, spare parts, and equipment used in production processes and business operations from over 4,000 vendors. The most important thing for IRPC is a strict procurement system with uniform standards for the whole organization and which is transparent, accountable, and efficient, taking into account stakeholders in compliance with CG principles.

IRPC is committed to CSR among its business partners by defining criteria of partner selection before recording them on the Approved Vendors List. For example, a chemical vendor must be certified for environmental standards and the ISO international standard.

IRPC's procurement is under the IT system on a par with international standards. It also upgrades the employees' potential in the knowledge and ability of strategic procurement to increase the efficiency and effectiveness of the procurement, rendering the operations professional and transparent.

**Competitors:** IRPC adheres to the principles of free enterprise and promotes free trade by complying with a good competition framework, ethics, compliance with law, and code of business conduct in a fair manner. IRPC does not seek information that represents its competitors' trade secrets through dishonest means. In the past, IRPC was never engaged in any dispute with its competitors.

**Creditors:** IRPC honestly and strictly honors all contracts with its creditors and financial institutions. IRPC properly performs its duties to all creditors under contract conditions and does not cover up information or facts that may harm creditors. If IRPC cannot honor the contracts, it must notify its creditors in advance to jointly solve problems. In the past, IRPC was never engaged in any dispute with its creditors and financial institutions.

**Employees:** IRPC recognizes that "employees" are vital for progress. Thus, in order for the employees to progress and grow, IRPC has designed practical career development paths for them so that they may have opportunities to upgrade their knowledge, capability, potential, and can adapt themselves to a changing, volatile business environment and increasing competition. IRPC encourages continuous learning for employees, knowledge management, and a KM Portal system to which employees can have easy access via intranet system. At the end of 2013, IRPC started the DELTA project to develop organizational excellence, one element of which is Human Resource Excellence. This year, IRPC provided 175,008 training hours for its employees.

Apart from the development of capacity, IRPC has also organized activities to promote and develop employees in various dimensions:

#### **Promotion of CG**

IRPC encourages executives and employees to attend training and seminars to develop knowledge and understanding of CG and anti-corruption, and to communicate:

- Seminar: The 2nd National Director Conference 2013, "Board Leadership Evolution", organized by IOD on June 12, 2013
- Seminar: "200 Companies and the future cooperation of the Thai Private Sector in Anti-Corruption", organized by IOD with allied organizations such as Federation of Thai Industries, Thai Chamber of Commerce, and Thai Listed Companies Association, on August 7, 2013
- Seminar: "Anti-Corruption: The Practical Guide" hosted by IOD between September 26-27, 2013
- Seminar on Outstanding Ethics of Thai Chamber of Commerce 2013: "The New Generation Clicks Like for Ethics", hosted by the Thai Chamber of Commerce on October 9, 2013.

#### **Health**

- IRPC schedules annual medical check-ups for all employees



- IRPC organizes regular sports events to forge closer relations between IRPC and Rayong Hospital, IRPC and the Hospital having to coordinate on the treatment of sick employees and prevention of employees' health problems

#### Understanding and Encouragement

- IRPC's designed compensation, welfare, and benefits are on a par with leading industry peers so as to retain and inspire employees for work
- The President meets Employees: The President has a project to visit employees on all sites to communicate policies, ask questions, update information, and provide an informal two-way communication. The result is reported every quarter.
- The President and executives attend joint activities with the labor union such as a merit-making ceremony on the occasion of the 13th anniversary of the union on December 4, 2013
- IRPC has the project to present gifts to employees who complete their 10th, 20th, and 30th year of service
- IRPC hosts a reception for retired employees to honor and encourage them for their dedication to the Company

#### Promotion of Ethics, Religion, Traditions, and Organizational Culture

- IRPC hosted the annual 2013 Presidential Awards on December 19, 2013, for distinguished employees who dedicated themselves to the organization. The



*The President meets employees at all sites to formally present quarterly performance outcomes, deliver policies, and enable the workforce to get his close-up answers to queries and views*

awards were divided into four dimensions, namely Creation of value added, Distinguished relations with external communities, Distinguished behavior, and Distinguished behavior on safety. A working group made assessment based on documents, interviews, and site inspections to select the best employees and teams in all dimensions.

- IRPC hosted Songkran Day activities on April 11, 2013, to preserve the Thai tradition and to show respect among executives, supervisors, and employees at all levels
- The Buddhist Club annually organizes Buddhism promotional activities and sermons at IRPC's various auspicious occasions such as the New Year, IRPC's anniversary, and major religious occasions.
- Continual training on Development of Mind and Wisdom for employees organized by the Young Buddhists Association of Thailand





*The President provides morale support to IRPC volunteers and community members filling sandbags, intended for flood victims in Rayong in October this year*

#### **Promotion of Education and Savings for Employees and Families**

- IRPC set up a credit union for employees to encourage savings and organized Credit Union Week on October 10, 2013, to present scholarships to employees' children, with a budget from the welfare fund of the members and families received from dividends every year
- IRPC hosted a ceremony to present scholarships to employees' children on October 31, 2013, by selecting from those with good scholastic records, good behavior, volunteering spirit, and outstanding performance in various fields. Not only does it encourage awareness of ethics, behavior, and social engagement of the employees' children, but it also results in the pride and attachment of the employees

and their families toward IRPC through this annual activity.

IRPC conducts an annual Employee Engagement Survey to develop on the strengths and improve on the weaknesses. The score of the survey for 2013 was 79.0%.

**Society and Community:** IRPC has integrated the corporate responsibility and incorporated it into the Company's mission and core activities under to Creating Shared Value (CSV). IRPC aims to minimize impacts from production so as to mutually benefit both IRPC and stakeholders. In addition, IRPC has a CSR unit dedicated to the communities, society, and the environment. It provides assistance, supports and promotes the quality of life, develops work/projects for the well-being of society, especially communities surrounding the plants. It also campaigns for awareness of volunteer work as the employees' core value.

In 2013, IRPC earned the following relevant awards and recognition:

- "CSRI Recognition 2013." Award (General), from Corporate Social Responsibility Institute under SET to honor and stimulate listed companies for their commitment to business operation based on CSR, a role model in sustainable business operation on November 11, 2013.
- Outstanding Award for the Project "Sustainability Report Award 2013" Contest from CSR Club, Thai Listed Companies Association, on November 12, 2013, through the support of SEC, SET, and Thaipat Institute to promote and support listed companies in their effort to disseminate information on ESG (Environmental, Social, and Governance)
- "Thailand Top Company Award : CSR OF THE YEAR 2013" from the University of the Thai Chamber of Commerce and Business Plus Magazine

Examples of volunteer work for the society both in normal times and in disasters as follows:

- IRPC volunteers donated books to Wat Ban Lang School and Wat Bantapontong School to encourage the love of reading on December 16, 2013
- IRPC volunteers helped flood victims in Rayong and other provinces in October 2013 by filling sandbags. They also donated and distributed rice and dried foodstuff in the affected areas.

The communal satisfaction survey in 2013 revealed a score of 92.80% versus the target of 82%.

**Environment and Safety:** IRPC has defined a policy on responsibility for society and environment by focusing on developing IRPC's growth in parallel with development of the quality of life of people in society with a clean and safe environment. It also focuses on compliance with law, QSHE control, continuous operation improvement, customers' satisfaction, and QSHE communication to all stakeholders. The announcement was made via the intranet on April 30, 2013. IRPC's major activities in 2013 were as follows:

- Setting up of screens showing the parameters of air quality testing in three communities, namely around the Ban Laeng Subdistrict Administrative Organization, around the Tambon Ban Kon Nong Health Promotion Hospital, and in front of the industrial estate to communicate the outcomes of air quality testing and other information with the communities.
- Promotion of knowledge and solution to environmental problems jointly with the government sector and the communities, such as a talk on the cooperation to solve flood problems surrounding IRPC's plants, attended by surrounding communal representatives and representatives of the Rayong Provincial Irrigation Office on June 25, 2013.

#### Part 4: Information Disclosure and Transparency

IRPC publicizes, communicates, and discloses information via various channels with stakeholders. In 2013, IRPC provided the following channels and responsible persons for information disclosure:

- IRPC made Investor Relations responsible for providing information to investors, analysts,

shareholders, and related parties by focusing on responsibility and integrity, so that information disclosure is of quality, timely, accurate, sufficient, reliable, transparent, and equitable. IRPC continuously communicates and increases channels to provide shareholders with up-to-date information, coordinating with investors, institutions, creditors, security analysts, and shareholders to provide information on IRPC's performance and investment regularly through Roadshows both domestic and international, analyst meetings, meetings with IRPC's executives through the appointment of investors and analysts, joint activities with SET to disseminate IRPC's information, arrangements for shareholders' visits to IRPC to foster better knowledge and understanding of the Company's business operation.

- A compliance unit ensures that IRPC's operations comply with the regulations of SET and SEC. There was also a public relations unit to communicate and distribute IRPC's information and news and to continually explain matters to the media and public, through press conferences, executive profiles, interviews by telephone, and participation in activities with the media.
- Quarterly newsletters are delivered to all shareholders to ensure that they are aware of IRPC's movement and activities.
- IRPC provided key information via its website and regularly updated it under "Investor Relations" such as SET's news and IRPC's share prices. Shareholders, investors, analysts, and interested parties can receive IRPC's additional information via IRPC's website at [www.irpc.co.th](http://www.irpc.co.th) or directly contact Investor Relations through:
  - Telephone: +66(0) 2649 7380
  - Electronic mail: [ir@irpc.co.th](mailto:ir@irpc.co.th)
  - Facsimile: +66(0) 2649 7379

In 2013, IRPC disclosed the following information to all stakeholders to upgrade its CG in compliance with SET and on a par with international standards:

- Reports of information via SET's channel as required by legislation and regulations, in a complete and timely manner

- Complete information is available at IRPC's website, which was improved for readability
- Complete information via its bi-monthly booklet "I Oon", and a quarterly newsletter to communicate with shareholders.
- Sustainability Report 2013 was sent to all shareholders and reported to the UN Global Compact on September 11, 2013, on the "Communication on Progress" as annually required of members.
- Communication of anti-corruption policy and measures and channels for whistle-blowing and complaint-making, including protection of whistle-blowers on IRPC's website.
- Communication of information on IRPC to visitors according to their own interests. In 2013, about 30 groups visited the Company.

## Part 5: Responsibilities of the Board

For the Board to be able to dedicate time in performing their duties appropriately and efficiently, it sets the number of listed companies where each director can serve as a director at five. IRPC discloses information on the directorship of other companies under Management Structure, page 156-176, and the annual information disclosure form (Form 56-1).

### Roles of Directors

The Board has a crucial role in defining vision, directions, and strategies in business operations as well as monitoring and ensuring that IRPC's business operation is efficient, transparent, and beneficial to shareholders. The key roles and duties are summarized as follows:

#### 1. Corporate Policy and Strategy

The Board formulates policies and strategies and approves issues crucial to IRPC's business operation to ensure that the management operates in the defined directions, such as financial plans and goals, risk management, and organizational strategic plans. It also monitors the work of the management to ensure that IRPC's operations are efficient. Meeting No. 10/2556 of August 23, 2013, considered a five-year strategic plan and a strategy for 2014.



*IRPC Firm Awards are presented to winners of a contest to produce creative video clips in a campaign for good deeds under the Dee Kan Na Project, Year 3*

## 2. Corporate Governance

The Board plays an important role in continuously driving for CG. It supervises IRPC's operation so that it meets the objectives, rules, and in strict compliance with the resolutions of the AGM. It monitors to ensure that IRPC is equipped with an efficient internal control system and ensure that IRPC discloses transparent and fair information for maximum and equal benefit to all stakeholders. It also intensifies IRPC's CG criteria. It supports CG activities among employees, stakeholders, and the general public such as Chulalongkorn University's students' group "Let's do good deeds" and Faculty of Engineering, Chulalongkorn University's "Intania Role Model" project, by inviting an executive to take part as a judge to seek students who are role models of integrity, sacrifice, and volunteering spirit.

## 3. Promotion of Responsibility for Society, the Environment, and Human Rights

The Board recognizes the importance of stakeholders. Therefore, it ensures that IRPC's operation takes into account fair benefit to all stakeholders. The Board incorporates CSR and environment strategies in the CG operating plans. The management reports the performance to the Corporate Governance Committee and the Board every quarter to enable the Board to continuously follow up on IRPC's operations.



*Mr. Cherdpong Siriwit, Chairman of the Audit Committee, presides over the award ceremony under this year's Phet Nam Nueng Project*

#### 4. Anti-corruption

The Board greatly values anti-corruption and transparency in the organization by supporting IRPC's declaration of the intention to be a part of the counter-corruption move by joining the Collective Action Coalition Against Corruption (CAC) on January 3, 2013. It is a project of joint cooperative efforts among the government sector, the public sector, and the non-profit organization of seven leading organizations, namely Thai Institute of Directors, Thai Chamber of Commerce, Foreign Chambers of Commerce, Thai Listed Companies Association, Thai Bankers' Association, Federation of Thai Capital Market Organizations, and Federation of Thai Industries. The IRPC Board defines an anti-corruption policy, measures, and guidelines for directors, the management, and employees to comply with, ensuring that IRPC is a transparent organization on a par with international standards.

IRPC encourages executives and employees to attend, as its representatives, anti-corruption activities organized by various organizations:

- Anti-corruption Day 2013, "Act Now Together We Fight to Save the Future", hosted by the Anti-Corruption Organization of Thailand at Royal Paragon Hall, Siam Paragon, Bangkok, on September 6, 2013.
- With PTT Group, study tour on anti-corruption at Siam Cement Group on November 15, 2013.

- IRPC held the annual ceremony to present the Office of Corporate Internal Audit's "Diamond Award" 2013 to units with outstanding internal controls and with strict compliance with rules and regulations. The objective is to promote the control system and stimulate executives to be aware of the importance of a good internal control system, as well as to support the work of internal audit so that the organization is efficient, which is an important foundation for good CG.

#### 5. Innovation Promotion

The Board values long-term organizational value for the maximum benefit of the shareholders and all stakeholders. To this end, it recognizes the importance of the continuous development of products and services. IRPC has an R&D Center responsible for studying and developing product quality, with the research resulting in many products (as detailed in Performance Summary, page 98-117, as well as supporting IRPC in its effort to truly become a leading organization in integrated petroleum and petrochemicals in Asia. As a result, IRPC was presented with the "Thailand Top Company Award" (Top Innovative") by the University of the Thai Chamber of Commerce and Business Plus Magazine. The award recognizes organizations with innovation in important change of the sales volume and business structure.

#### 6. Monitoring and Control Mechanism, and Conflicts of Interest

- The Board has defined a policy on conflicts of interest in the CG handbook and the code of business conduct, in compliance with the regulations of SEC and the Securities and Exchange Act. In approving connected transactions, the Board has monitored the conformity to the regulations and procedures with prudence, while taking into account IRPC's best interests.
- In considering approvals of connected transactions, the Board has required information disclosure of vested interests of directors, the management, and related persons; transaction values; comments of the Audit Committee; and other essential information.



- Any director or management team member involved in a transaction with potential conflicts of interest cannot participate in decision-making on that transaction, by refraining from voting or leaving the meeting room. This is to be noted in writing in the meeting report.
- The Board requests that the directors and management reveal the list of transactions with potential conflicts of interest regularly every month.

### Internal Control and Audit

- The Board has assigned the Audit Committee to monitor the assessment of the internal control and risk management to ensure that the systems are adequate, proper, and effective.
- The Board arranged for the Office of Corporate Internal Audit to be IRPC's independent unit, directly reporting to the Audit Committee, with the duties and responsibilities of assessing the adequacy and effectiveness of the internal control system or activities under the annual audit plan as approved by the Audit Committee, and regularly reporting to the Audit Committee and the Board on a monthly basis.
- The Audit Committee appointed Mr. Taweesak Dejakaisaya as Head of the Office of Corporate Internal Audit and Secretary to the Audit Committee on January 10, 2014.

### 7. Risk Management

- The Board defines a corporate policy on risk management; ensures that measures and control methods are in place to ease impacts on IRPC's operation; regularly monitors and reviews the management's risk management, and ensures that a system or process is in place to prevent or reduce risks to acceptable levels.
- The Board defines clearer roles and duties of the Executive Committee on risk management at its meeting No. 1/2557 of January 29, 2014, to ensure that risk management is important to IRPC, whereby there is supervision by the Board, screening by

the Executive Committee, and review by the Audit Committee.

### Use of Inside Information

- The Board has defined the CG guidelines on confidentiality in the CG Handbook by cautioning the directors, management, and employees on the confidentiality of IRPC, use of inside information, and disclosure of the Company's information to outsiders. It classifies IRPC's confidential information by determining the level and limitation of access to the information. IRPC has set a policy on the forbidden disclosure of material information not yet revealed to the public for the benefit of oneself or others, including the trading of IRPC's shares.
- The Board notifies the directors, management, and related parties to prepare and submit reports of their own asset holdings, as well as those of their spouses and children under legal age, when first assuming their positions, and report on changes in asset holdings every time within three days when there is purchase, sale, transfer, or offer to transfer of IRPC's assets to SEC under Article 59 and Article 275 concerning punishments of the Securities and Exchange Act B.E. 2535.

## 8. Board Meetings

Board meetings are set in advance every year to allow time for the directors to attend, by scheduling the meetings at least once a month or more often in case of necessity, emergency, or special cases for the efficiency and timeliness of IRPC's business, with the Corporate Secretary responsible for preparing documents and venues and coordinating each meeting. Each director must receive at least five days in advance information on the date, agenda, and information of the meeting to allow time for adequate study.

- For the meeting to proceed, the number of the attending directors must consist of at least half of all directors. In 2013, there were 14 Board meetings and at least 82% of the directors attended the meetings (detailed under Management Structure, page 157-178)

- The directors must fully dedicate their time and take interest in IRPC's operations and be ready to regularly attend the meetings as set in advance by IRPC, or as necessary. If a director cannot attend a meeting, he/she must notify the Chairman in writing in advance. In 2013, the average of 96% of the directors attended the total of 14 Board meetings (detailed under Management Structure, page 157-178)
- The directors who may be involved or have vested interests on any agenda item must abstain from voting and/or abstain from making comments on that agenda, or leave the meeting room.
- After the meeting, the Corporate Secretary prepares the minutes of the meeting with complete and clear essences, including the resolutions of the meeting, the comments of the directors, and the resolutions of the directors for approval at the next Board meeting, signed by the Chairman of the meeting, with systematic filing in the forms of hard copies and electronic files, with a control system so that it cannot be changed without going through the Board meeting.
- The Board's policy is to ask the non-executive (non-management) directors to convene without the attendance of the management at least once a year together with a meeting among the independent directors at least once a year. This year, a meeting of the non-executive directors was held in July 2013, and two meetings of the independent directors were held in May and October 2013. There was one meeting at IRPC's plant in Rayong in June 2013 and twice at other places to visit fieldwork, learn about problems that might emerge, and foster relationship between the directors, management, and employees.

## 9. Compensation to Directors and the President

The Nomination and Remuneration Committee determines the structure/composition of the compensation of directors as fitting their responsibilities and performance, as sufficient incentives to induce and maintain quality directors or comparable to the same industry. The structure/composition of the

compensation is clear and is submitted to the Board, which then seeks approval from the shareholders. The shareholders are entitled to determine the annual compensation to the directors at the AGM.

### Compensation to Directors

The compensation to the executive and non-executive directors consists of monthly retainer fees and meeting allowances. (Note that the 2013 AGM kept the year's rates identical to last year's rates). These figures are comparable to the median of companies of the Resources Group, as reported by a survey of directors' compensation by Thai IOD in 2012. As for directors' bonuses, the 2013 AGM agreed with the Board not to pay out such bonuses for the 2012 performance outcomes.

Apart from these two categories of compensation, no other compensation in monetary or non-monetary forms was made.

### Compensation to the President

The Board arranges for the annual assessment of the President's performance by taking into account IRPC's performance, reflecting his management leadership in various aspects decided by the Board and assessed by the Nomination and Remuneration Committee before submission to the Board for consideration.

## 10. Assessment of the Board Performance

IRPC's CG principles stipulate that the Board must conduct self-evaluation at least once a year to allow review of its own performance, problems, and obstacles each year. IRPC submitted the assessment forms to all directors in December each year. It then consolidated the scores and reported to the Corporate Governance Committee and to the Board respectively. The Board was acknowledged on its performance and thus made further improvements for maximum efficiency.

In 2013, assessment was conducted in the following forms:

1. Assessment form for the Board's performance
2. Self-assessment form
3. Assessment form for cross-assessment of other directors

4. Assessment form of all sub-committees – 4 copies
5. Individual Assessment form of the Audit Committee
6. Assessment form of the Audit Committee by the Chairman of the Board.

The assessment in 2013 was under the following criteria:

- Over 85 % = “excellent”
- Over 75 % = “very good”
- Over 65 % = “good”
- Over 50 % = “average”
- Below 50 % = “need improvement”.

A summary of the general assessment by the Board is as follows:

- **Assessment of the Board** consists of four assessed areas, namely 1. Board Policy 2. Board Composition 3. Board Practices and 4. Board Meeting. The assessment of the Board’s performance showed that they were in the “excellent” range, with an average score of 95.53%.

- **Self-assessment** consists of seven assessed areas, namely 1. Qualifications of the Board 2. Accountability of one’s own decision and justification 3. Responsibility toward one’s own work with due competence and sufficient efficiency 4. Equitable, fair, and justifiable treatment of stakeholders 5. Transparency in one’s own work, with accountability and information disclosure 6. Vision to create long-term value to IRPC and 7. Business ethics. The results of the self-assessment showed that they were in the “excellent” range, with an average score of 96.23%.

- **Cross-assessment of other directors** consists of the same seven assessed topics as the above. The assessment outcomes showed that the performance was in the “excellent” range, with an average score of 95.41%.

- **Assessment of all sub-committees** comprising 1. Executive Committee 2. Nomination and Remuneration Committee and 3. Corporate Governance Committee. For these committees, the assessment was conducted in four aspects, namely 1. Board

Policy 2. Board Composition 3. Board Practices 4. Board Meeting. The assessment outcomes showed that the performance was in the “excellent” range, with an average score of 96.58% for the Executive Committee, 92.36% for the Nomination and Remuneration Committee, and 99.21% for the Corporate Governance Committee.

- **Assessment of the Audit Committee** For the Audit Committee, the performance assessment was conducted on the entire committee, and also on each individual director, as stipulated by the Charter of the Audit Committee implemented on January 1, 2010, as follows:

1. The assessment on performance of the entire committee was conducted in six aspects, namely 1. Structure and composition of the Audit Committee 2. Roles and responsibilities 3. Relations with internal auditors and external auditors 4. Relations with management 5. Reports and 6. Quality control. The assessment result showed that the performance of the entire committee was in the “excellent” range, with an average score of 98.33%.
2. The individual assessment was conducted in six aspects, namely 1. Business knowledge 2. Due expertise 3. Authorities and duties assigned 4. Independency 5. Understanding of role and responsibility and 6. Performing and meeting. The assessment result showed that the individual performance was in the “excellent” range, with an average score of 96.76%.
3. In addition, the Charter stipulated that the assessment be conducted by the Chairman of the Board or an external assessor. In 2013, the Chairman conducted the assessment on the Audit Committee’s Report and its performance, with a score of 96.88%.

IRPC also joined the “Board of the Year 2012/2013” Project, organized by IOD. The judging sub-committee interviewed the directors on September 24, 2013, with the participation of the Chairman and the directors, in total 15 persons.

IRPC strives to improve on its operation on the basis of the outcomes and the comments received.

## 11. Development of the Board and the Management

The Board values development of directors and ensures that they acknowledge relevant rules and regulations, and understand their duties, responsibilities, and IRPC's businesses. In 2013, the development was summarized as follows:

**Newly appointed directors:** IRPC schedules orientation sessions for newly appointed directors within one month after taking up their position. The sessions introduce the nature and policy of IRPC's businesses, general operations, and performance so that they may get a clear picture, as well as providing key information necessary to their work, such as the capital structure, shareholders, performance results, regulations, CG principles, Form 56-1, and the annual report, so that the new directors may comply. This year, IRPC has seven new directors.

**Current directors:** IRPC encourages current directors to undergo additional training to increase their knowledge, understand CG principles, rules, regulations, as well as roles and duties of directors in efficient and proper management by taking training courses organized by IOD. As of year-end 2013, 65% of the directors had taken part in training courses relating to their roles and duties. In 2014, IRPC intends to engage more directors in the training.

- “Role of the Chairman Program (RCP)”: in which two directors attended. In 2013, Mr. Chainoi Puankosoom, Chairman, attended the “RCP32/2013” Course.
- “Director Certification Program (DCP)”: in which 15 directors attended.
- “Director Accreditation Program (DAP)”: in which seven directors attended.
- “Finance for Non-Finance Directors (FND)”: in which four directors attended.
- “Audit Committee Program (ACP)”: in which three directors attended.
- “Role of the Compensation Committee (RCC)”: in which one director attended.

- “Successful Formulation on and Execution of Strategy (SFE)”: in which two directors attended.

During the year, IRPC reports the analysis, trend, and overview of the global economy in petroleum and petrochemicals to the Board every two weeks. This is an important context that relates to the Company's business and additional reports are regularly made in meetings.

**Executives:** the Board promotes the development and additional learning of IRPC's business to widen their knowledge, training in leadership, as defined by IRPC's internal and external development plans, as well as joint development with executives of other organizations such as PTT Group. (Detailed under Performance Summary on Human Resource Management, page 108-110.)

## 12. Succession Plan

IRPC ensures that it has an effective succession plan, including development processes, in place. This is well-prepared to keep competitive advantage, strengthen potential employees, serve business direction, and avoid disruption from any key management vacancy from whatever situation.

The management in coordination with Human Resource would propose a list of potential to the President for screening. Those who are selected will be developed, trained, advised, prepared for greater responsibility, and assessed, based on feedback. This is personnel risk management, designed to avoid disruption and ensure continuous, efficient operation.

IRPC reiterates its commitment to CG compliance as is expected by all stakeholders to strike a balance of benefits, maintain suitable relations, and involve stakeholders in IRPC's social and environmental responsibility, which leads to social development and quality on a par with international standards.



## *Anti-Corruption*

The Board of Directors of IRPC Plc highly values a management style marked by knowledge, experience, righteousness, and ethics, all of which enable IRPC to successfully achieve its goals and become a credible, trusted company among its stakeholders. To this end, IRPC has defined the following anti-corruption policy.

IRPC conducts its businesses under corporate governance, striving for management filled with efficiency, righteousness, and transparency with due regard for the optimal interests of the shareholders, stakeholders, and related parties in commercial transactions. To this end, IRPC requires that its units, subsidiaries, associates, and other companies within its control observe the following anti-corruption policy:

1. The Board, executives, and employees resist corruption in all forms, directly and indirectly, whether through offers, promises, requests, demands, giving or acceptance of bribes, or behavior bordering on fraud in all areas where IRPC operates
2. IRPC will publicize this internally and externally to promote understanding and cooperation in stopping would-be fraudsters against IRPC
3. IRPC will establish explicit processes of dealing with fraud, that is, risk assessment of fraud and regular monitoring and review, so as to keep up with changes in businesses and relevant legislation
4. IRPC will fairly treat and protect employees that refuse or alert the company about fraud through proper channels. On the other hand, fraudsters will face disciplinary actions under IRPC's regulations.

To demonstrate its determination, which would lead to sustainable corporate development, IRPC has become a signatory of the Collective Action Coalition Against Corruption.

The Board has defined anti-corruption measures and practical guidelines for the Board, executives, and employees to observe. It is their responsibility to adhere to these and turn them into a corporate culture to ward off frauds, including the giving and acceptance of bribes (directly and indirectly).

The Board has set up whistleblowing and complaint-making channels from those outside and inside IRPC about wrongdoings against the law and the code of conduct or behavior bordering on fraud or malfeasance by all IRPC personnel and other stakeholders. The Board's mechanisms for protecting whistleblowers raise the efficiency of safeguarding IRPC's interests. Below are the details.

#### 1. Whistleblowing and complaint matters

- 1.1 Illegal deeds, corrupt practices, violations of IRPC regulations or the code of conduct by the Board, executives, and employees
- 1.2 Matters detrimental to IRPC's interests or reputation
- 1.3 Major flaws in financial reports and the internal control system.

All these matters will be initially verified. If data and supporting evidence are available, further action will be taken under IRPC's written procedure.

#### 2. Whistleblowing and complaint channels

- 2.1 Email at [auditor@irpc.co.th](mailto:auditor@irpc.co.th)
- 2.2 Regular mail: Chairman, Audit Committee  
IRPC Plc  
555/2 Energy Complex Building B, 6<sup>th</sup> floor  
Vibhavadi Rangsit Road, Chatuchak,  
Bangkok 10900.

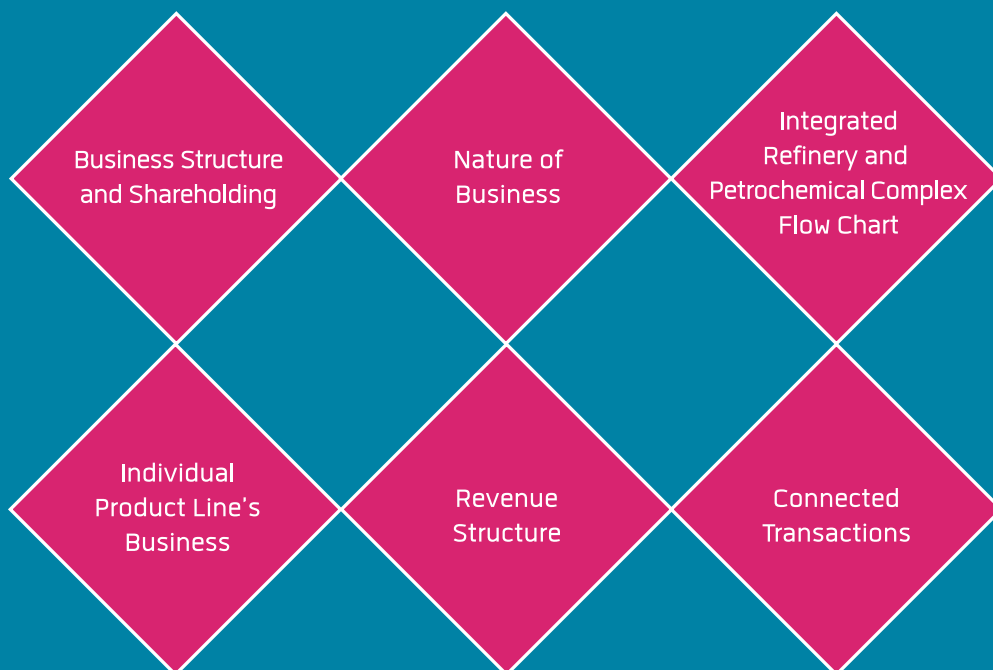
#### 3. Protective measures

- 3.1 Data about whistleblowers and complaints must be kept confidential, with punitive measures against leakers if such data are disclosed
- 3.2 Access to data about whistleblowers and complaints is limited to assigned parties.

IRPC has prepared a self-assessment form for anti-corruption measures under CAC's criteria and submitted it for the review of a CAC panel to formally enter the certification process. To get IRPC's various forms of anti-corruption across, it has also informed everyone across the board in IRPC Group for implementation, and communicated outside IRPC in the hope of cultivating awareness and campaigning for turning anti-corruption into a corporate culture, while also publicizing it.



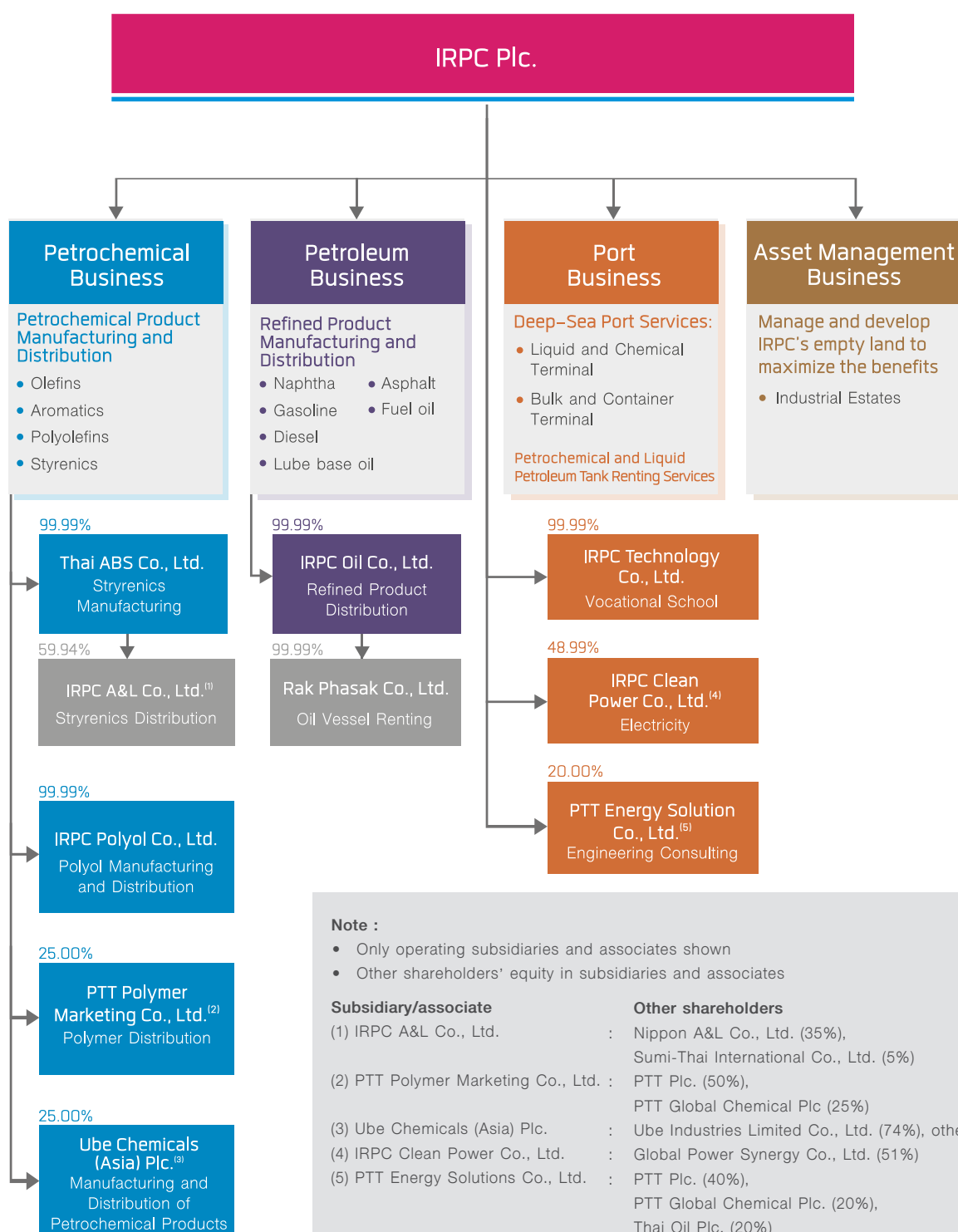
# BUSINESS STRUCTURE







# Business Structure and Shareholding





## Nature of Business

### 1. Petroleum business:



Made up of ADU1 (with a throughput capacity of 65,000 bpd) and ADU2 (150,000 bpd), IRPC's oil refinery unit commands a total capacity of 215,000 bpd. The refinery, the third largest in Thailand, yields assorted petroleum products, namely naphtha, gasoline, diesel, and LPG.

Its lube base plant, with the largest domestic capacity, has a total capacity of 320 KTA. An associated asphalt plant has a total capacity of 600 KTA.

### Business Overall

IRPC is a pioneer in Southeast Asia's integrated petrochemical industry with a refinery and petrochemical complexes located in its own industrial estate in Rayong province. The estate is fully equipped with essential infrastructure and utilities supporting production, including a deepsea port, oil tankfarm, and a power plant.

### 2. Petrochemical business



IRPC's upstream petrochemical products include olefins and aromatics with capacities of 828 and 367 KTA respectively, both serving as downstream petrochemical feedstock. Sold under the POLIMAXX brand to various domestic and international plastic operators, polyolefins consist of HDPE and PP (with a total capacity of 615 KTA) and styrenics consist of ABS, SAN, EPS, and PS (with a total capacity of 307 KTA).

IRPC's petrochemical business focuses on growth and keeping pace with change, developing the quality of life, together with raising international competitiveness by inventing and creating innovative styrenic products like Green ABS, ABS Powder, Impact Modifier-MBS, Anti-dripping Additives, and Anti-Bacteria products, and innovative polyolefins such as UMHW-PE, Polyolefin Catalyst, Baby Bottle Polypropylene, and Antimicrobial Compounds.

### 3. Port and tankfarm business



This business features facilities and international-standard dock services for domestic and international cargoes. The main terminal area consists of

**3.1 Liquid & chemical terminal (LOT) :** This terminal handles petrochemicals, liquid petroleum, and gaseous merchandise. At 1,623 meters long, the port is divided into six sub-wharfs, handling vessels of 1,000-250,000 DWT. The annual cargo volume served is about 15 million tons or more than 2,000 vessels.

**3.2 Bulk & container terminal (BCT) :** At 900 meters long and 44 meters wide, this terminal handles vessels of 800-150,000 DWT, serving general cargoes, including iron ores, palm shells, coal, and ores. The current annual cargo volumes served is 1.4 million tons.

**3.3 Tankfarm :** Service is provided through some 200 tanks for liquid petroleum and petrochemical products with a storage capacity of 2.7 million tons, designed to accommodate IPRC's oil product distribution. Five IPRC oil depots scattered around the country are found in Rayong, Phra Padaeng (Samut Prakarn), Ayutthaya, Chumphon, and Mae Klong (Samut Songkhram).

As one of the leading deepsea ports, IPRC's facilities double as the Royal Thai Navy's backup strategic port in emergencies or crises.

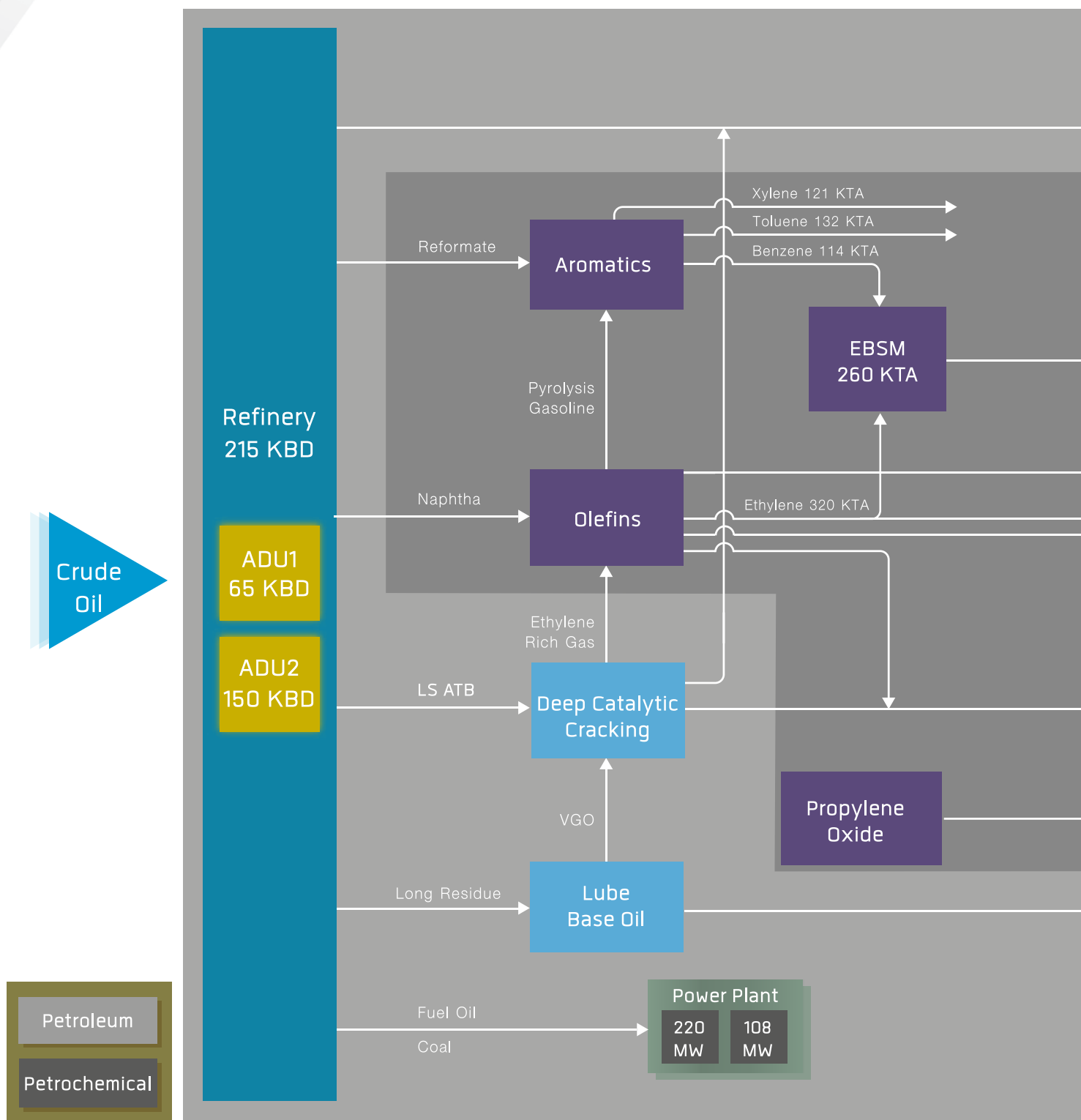
### 4. Asset management business

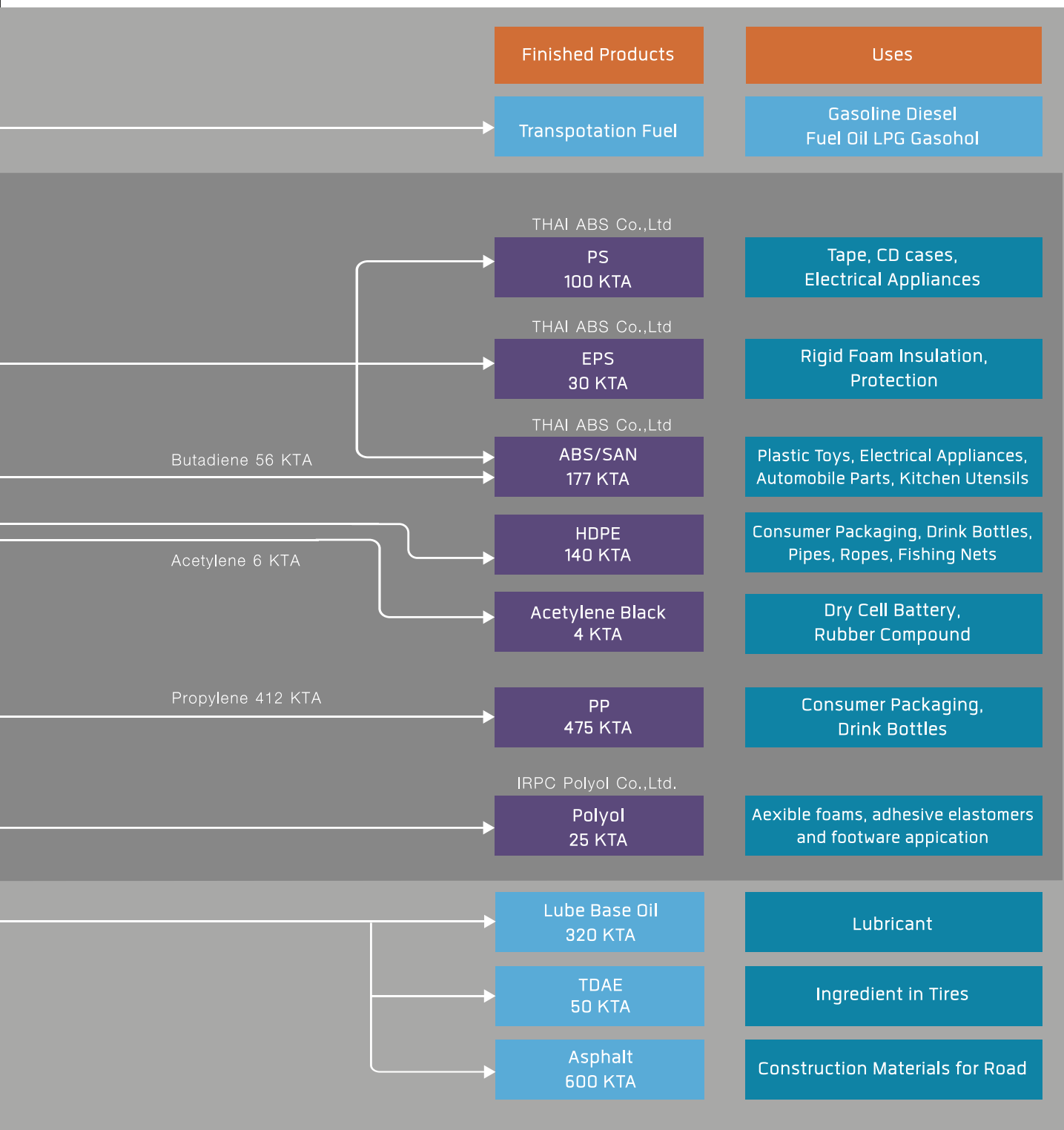


Services are provided on its empty plots of land under the RECO brand in Rayong and other provinces with a total acreage of about 10,000 rai, designed to support IPRC Group's main businesses and those in PTT Group, and accommodate future investment as well as business expansion, which focuses on friendliness to communities and the environment. Rayong Industrial Estate (Ban Khai), located in Amphoe Ban Khai, and ECO Industrial Zone (EIZ) in the IPRC Industrial Complex, located in Amphoe Choeng Noen, Rayong, are equipped with essential infrastructure, including a cogeneration power plant. An improved power transmission system provides power supply reliability in EIZ to accommodate the projects of IPRC and external customers, which are also served by a solutions provider unit in full support of project implementation.



# Integrated Refinery and Petrochemical Complex Flow Chart





# Individual Product Line's Business

## Products

IRPC and its subsidiaries produce and distribute petrochemical and petroleum products, as detailed below:

## Petroleum Products

Petroleum products consist of

### 1. Fuels

- Gasoline - Gasoline fuels gasoline-engine vehicles. It is classified by octane number, which indicates resistance to engine knocking. Under government regulations, gasoline consists of ULG 91, GSH 95, GSH 91, and gasohol base-the base oil for gasohol and E20 (production to start 2014).
- Diesel - Diesel fuels high-speed diesel engines in the industrial sector and in vehicles like cars, trucks, fishing trawlers, passenger boats, and tractors. At present, a blend of 3-5% of biodiesel is required by government policy to promote alternative energy.
- Fuel Oil - Fuel oil, the portion of crude with a high boiling point, is commonly used in the industrial and transport sectors, as well as for power generation.
- LPG - Liquefied petroleum gas (LPG), a mixture of propane and butane, is commonly used in households and various industries, and can also replace gasoline in vehicle engines.

### 2. Lube Base Oil

- Lube Base Oil – Lube base oil consists of heavy distillates used for producing different grades of lubricant. At present, IRPC produces various grades for different purposes.



60 SN is used as a raw material for hydraulic oil such as that used in transformers and chillers

150 SN is used as a raw material for lubricant for the manufacturing industry, such as automotive and transport industries

500 SN is used as a raw material for lubricant for most vehicles

150 BS is used in industries and heavy-duty engines with high friction, such as engines of trucks, trains, and marine vessels.

## Names of operators in the domestic oil industry and share of refinery in 2013

Company	% share of local market
Thaioil	26
IRPC	18
Star Petroleum Refining	17
PTT Global Chemical	15
Esso (Thailand)	14
Bangchak	10

Note: Department of Energy Business, Ministry of Energy, Thailand (Jan-Oct 2013)

- Long Residue - Long residue is a heavy distillate used as raw material for producing lube base oil.

In addition to these products, IRPC features innovative lube base oil, namely Treated Distillate Aromatic Extract (TDAE) and Residue Aromatic Extract (RAE).

These are used as raw materials for car tires with reduced polycyclic aromatic hydrocarbons (PAHs), a carcinogen, to demonstrate its concerns for consumers' health.

### 3. Other Petroleum Products

- Naphtha – Naphtha, meaning light distillates obtained from crude oil refining processes, is used as major petrochemical feedstock.
- Asphalt – Asphalt is a compound of assorted hydrocarbons and some other organic substances collectively called bitumen. Thick and viscous, asphalt is the heaviest portion obtained from the refining processes and is used for road pavement and waterproof materials.

## Petrochemical Products

### 1. Olefins

Olefin products, namely ethylene, propylene, and butadiene, are feedstock for polymers, namely polyethylene (PE) and polypropylene (PP). IRPC is capable of producing 828 KTA of olefins, comprising 360 KTA of ethylene, 412 KTA of propylene, and 56 KTA of butadiene. Most of these olefin products serve as feedstock for various plants in IRPC Group.

Moreover, a by-product from the olefin plant, namely acetylene black-black powder with the outstanding purity and high electrical conductivity, is commonly used as a raw material for batteries, polymers, and rubber products. At present, IRPC has a capacity of 4 KTA.

### 2. Aromatics

Aromatic products (BTX), namely benzene, toluene, and xylene, are feedstock for styrenic polymers. At present, IRPC has a capacity of 367 KTA of aromatics, which basically serve as feedstock for other plants in IRPC Group. Part of the output is for sale.



### 3. Polymers

IRPC and its affiliates produce polymer products (or plastic pellets) of the 'POLIMAXX' brand. Categorized as a downstream petrochemical product, polymers can be turned into various plastic products. IRPC's polymers are divided into the polyolefins group, comprising HDPE, PP, and the styrenics group, comprising ABS, PS, and EPS. Each polymer type possesses different properties and can serve different purposes.

#### 3.1 High Density Polyethylene - HDPE

HDPE is a polyethylene product with high density, toughness, and high impact strength. It is hard and cloudy white with chemical resistance and rigidity. HDPE is suitable for molding (conversion) for various applications:

- Film - HDPE is most commonly converted into film products because of its toughness and high impact strength. It is also easily extrudable into thin sheets. HDPE is commonly used for making bags that need to be tough and firm, such as shopping bags. When mixed with LDPE/LLDPE, it can be converted into heavy-duty bags, such as industrial sacks.
- Blow Molding - Blow molding is the second most common conversion method for HDPE due to its high impact strength and rigidity. It is therefore easy for blow molding. Thanks to its high resistance to chemical corrosion, HDPE is suitable for converting into bottles for drinking water, fruit juice, milk; bottles for lubricant; bottles for cosmetic products and shampoo, as well as buckets for water, fuels, and chemical substances.



- **Injection Molding** - HDPE is suitable for making products that need to be hard (strong) with resistance to torque and high impact. Since HDPE is light, it is widely used to make household products and small containers, as well as industrial products that can sustain weight and recurrent impacts, such as merchandise pallets and containers for fruits and beverages.
- **Yarn/Monofilament Extrusion** - In the form of tape and fiber, HDPE is tough, resistant to traction and stretch. It has a glossy surface and is generally used to make ropes, fishing nets, canvas, and woven bags.
- **Pipe Extrusion** - HDPE is suitable for making water pipes and electrical conduits due to its high resistance to traction and impact. It also has high flexibility and high resistance to a changing environment.

### 3.2 Polypropylene - PP

IRPC's PP has very similar properties to those of HDPE and LDPE and can sometimes replace them. However, PP is tough and strong. It has higher resistance to heat and can tolerate pressure and impact. PP is not easily corroded and is chemical resistant; it is therefore good for producing electrical insulation. PP is generally suitable for the following conversion methods:

- **Film** - PP is used for producing clear plastic sheets for making heat-resistant bags, packing film, and food packaging film.
- **Filament/Yarn** - PP is used for producing woven sacks, onion and garlic bags, and canvas. PP filament comes in two forms: mono-filament-used for making heavy-duty ropes such as giant ropes, and multi-filament-used for making belts and bag holders.
- **Injection Molding** - PP is used for making household products, kitchen utensils, car parts, electrical appliance parts, battery covers, paint kegs, and outdoor furniture.
- **Blow Molding** - PP has the right properties for conversion into clear products which need a hard surface that can resist acids and alkalis. PP is clean and highly safe for making bottles for food and cosmetic products.

- **Sheet Extrusion** - PP has now become more common for sheet extrusion because of its right properties to form into different shapes. PP is recyclable and reasonably priced. It is popular for making document files, vacuum forming work such as packaging, including water cups and trays.

### 3.3 Acrylonitrile-Butadiene-Styrene (ABS)

ABS, with its properties of high impact strength, high gloss, high heat resistance, high stiffness and high rigidity, and high chemical resistance, is commonly used for

- **Injection Molding** - The method is to inject polymers into various shapes and forms of molds suitable for making
  - **Electrical Appliances** - such as parts of rice cookers, irons, telephones, electric fans, computer keyboards, and television sets due to its high resistance to heat and its glossy surface. ABS is also easy for metal plating due to its high flow rate and flame retardation.



- Car Parts - such as the side mirror, glove compartment, dashboard, and motorcycle parts such as the dashboard, mudguard, and safety helmet. This is because of its high heat resistance with high strength and durability. It also has high impact strength, good adhesion to paint, resistance to solvents like thinner, and a glossy surface.
- Household Appliances - such as furniture parts and sanitary ware because ABS has high gloss, high impact strength, and high chemical resistance. It is also good for metal plating.
- Toys - Since ABS is strong and not brittle, even when broken, it makes no sharp point that harms children. It also has high gloss, which gives bright colors.
- Extrusion - Polymers can be extruded into thin sheets and vacuum-molded into various forms, such as refrigerator wall.

### 3.4 Acrylonitrile Styrene (SAN)

SAN (or AS) is transparent, strong, rigid, and tough. It is heat-resistant and more chemical-resistant than PS. It is commonly used for injection molding, such as:

- Car Parts - such as headlight lens, tail lights, and parts of turning signals. SAN often replaces PMMA due to its lower cost.
- Household Appliances - Thanks to its unique properties, SAN is commonly used to make household appliances such as sanitary ware, lighters, and containers.
- Electrical Appliances - such as fan blades, air-conditioner outer cover, and fruit juice blender due to its properties of gloss, stable form, heat resistance, chemical resistance, and shear resistance.





### 3.5 Polystyrene (PS)

PS is made up of two categories based on its properties.

- **GPPS (General-Purpose Polystyrene)** GPPS is PS polymer with high clarity and rigidity. GPPS polymers are easily molded into various forms without pre-heating. However, it has low impact strength. It is commonly used for making products that need clarity and a rigid form, such as tapes or CD cartridges, electrical appliances, and household appliances.
- **HIPS (High Impact Polystyrene)** HIPS is PS polymer with high impact strength as a result of the blend of butadiene in product development, which causes HIPS to lose some clarity. Since its price is much lower than that of ABS, it often replaces ABS to save cost. HIPS, however, has less gloss and a less stable form. GPPS and HIPS are generally used for
  - Injection Molding - such as cartridges for tapes and CDs, and household appliances
  - Sheet & Film Extrusion - such as ice-cream cups and flower-wrapping film.

### 3.6 Expandable Polystyrene (EPS)

EPS is white, round polymer using styrene monomer as the main feedstock and pentane gas as the blowing agent without using CFC, which is not ozone-friendly, in its production process. EPS can be used in the following ways.

- **Packaging** - such as shock-absorbing foam used in the packaging and electrical appliance industries
- **Block** - such as heat insulation in the fishery industry's cold storage, construction, and decoration work.

## 4. Polyol

Polyol products comprise polyester and polyether polyol. It is feedstock for polyurethane, which can be further converted into various products, such as foam used in furniture work, heat insulation in construction work, and refrigerating appliances, as well as foam used for making shoe soles. Imported propylene oxide serves as the main feedstock for polyol.

IRPC Polyol Co., Ltd, 99.99%-owned by IRPC, is the producer and distributor of polyol products. It has a production capacity of 25 KTA and is located in the same industrial zone as that of IRPC in Rayong.

## 5. Specialties and innovative products

IRPC highly values constant research and development (R&D) through the self-development approach in response to customers' diverse needs and dynamic environment. It can therefore best fulfill the expectations of customers while taking care of the environment.

Specialties comprise the following.

### 5.1 Styrenics products:

- **Green ABS** – IRPC, the world's first producer of Green ABS, has already filed a patent for the production process, in which natural rubber replaces synthetic rubber in the innovative production of ABS. The product can be used in a support program for farmers, resulting in reduced imports while observing the Clean Development Mechanism (CDM) initiative.
- **Anti-dripping Additive** – IRPC's nanotechnology is applied in the development of this additive, which prevents polymers from dripping when heated. The additive can disperse well in polymers and can be kept at the ambient temperature so as to lower the cost on product storage and distribution. The additive is suitable for mixing in various polymers to enhance flame retardation according to UL-94 (V.0) standards. IRPC has now used the additive in quality improvement of ABS-Flame Retardant Grade polymers.
- **Methyl Methacrylate – Butadiene Styrene (MBS)** - MBS is an additive used as feedstock to enhance the durability of PVC, PC/ABS, or PC. MBS comes in two forms: transparent and opaque. MBS has various features, such as enhancing impact strength while maintaining the clarity of plastic products. By enhancing the durability and impact strength of PV, PC/ABS, or PC150, manufacturing costs can be reduced. MBS also has good heat resistance.
- **Anti-bacteria Agent** - This new product is developed by means of nanotechnology. Able to stop growth and kill bacteria, the agent can be used as an additive in various plastics, be it ABS, PS, or PP, to check the growth of bacteria in the product while doing no harm to the properties of polymers.

- **ABS Powder** - ABS Powder is a polymer in the form of powder suitable for manufacturers who want polymers with better dispersion of polymers than conventional plastics. ABS powder can be used with PVC, PC, or PC/ABS to enhance impact strength and heat resistance.

### 5.2 Olefins group, featuring:

- **Ultra High Molecular Weight Polyethylene (UHMW-PE)** - UHMW-PE resembles cloudy white and opaque powder with as much as 10 times higher molecular density than other PE varieties. UHMW-PE can be converted through various methods, such as compression, RAM extrusion, and gel spinning, and can be used from -200 to 200 degrees Celsius. Thanks to better properties than those of iron joints and gear, UHMW-PE suits work that needs toughness, strength, resistance to traction, and chemical erosion.
- **Baby Bottle Polypropylene** - This is a new option of plastics developed for easy conversion, both injection and blowing methods. The product can tolerate over 100 degrees Celsius heat. It has stable form, high clarity, and low shrinkage while containing no carcinogens, thus safe for babies.
- **Antimicrobial compounds** - This is a product in the polyolefins group, the properties of which are enhanced to prevent bacteria without harming the usual properties of polymers. The product upgrades the quality of life with its high safety standard. It is popularly used in the food packaging industry and medical circles, as well as household appliances.
- **Marine Pipes** - This compound produced is made with a special formula to prevent the pipe surface from shellfish piercing along coast lines and in brackish water areas.
- **Natural Coloring and Additive Carrier System** comprising
  - **Natural Coloring** - This polymer has a mixture of natural extract colors to reduce the use of synthetic petrochemical colors, such as green from spinach and brown from caramel. Natural coloring reduces poisonous and heavy-metal



residues. The durability of natural colors is the same as that of synthetic colors.

- Master Batch Carrier - This new HDPE product comes in the form of white powder that blends well with color powder and additives. With a flow index of as high as 33 grams/10 minutes, this HDPE can enhance the dispersion of color powder and additives.
- Wood Plastic Composite - Treasuring nature conservation, IRPC blends natural wood powder into the production process of alkaline plastics. The mixture is then converted into new products that retain the outstanding properties of both plastics and wood and can substitute natural materials. This promotes cost-effective use of resources.



#### Names of polymer producers and domestic production capacities in 2013

Unit: KTA

Product	Company	Capacity	%
HDPE	IRPC Plc.	140	7
	Thai Polyethylene Co., Ltd.	960	51
	Bangkok Polyethylene Plc	500	26
	PTT Global Chemical Plc	300	16
	<b>Total</b>	<b>1,900</b>	<b>100</b>
PP	IRPC Plc	475	24
	HMC Polymers Co., Ltd.	775	39
	Thai Polypropylene Co., Ltd.	720	37
	<b>Total</b>	<b>1,970</b>	<b>100</b>
ABS	Thai ABS Co., Ltd.	177	65
	Ineos ABS (Thailand) Co., Ltd.	95	35
	<b>Total</b>	<b>272</b>	<b>100</b>
EPS	Thai ABS Co., Ltd.	30	50
	Mingdi Chemical Co., Ltd.	30	50
	<b>Total</b>	<b>60</b>	<b>100</b>
PS	Thai ABS Co., Ltd.	100	29
	Siam Polystyrene Co., Ltd.	150	44
	Thai Styrenics Co., Ltd.	90	26
	<b>Total</b>	<b>340</b>	<b>100</b>

## Revenue Structure

Business Segment	Operated by / IRPC's shares	2011		2012		2013	
		Million Baht	%	Million Baht	%	Million Baht	%
1. Petroleum	IRPC Plc., IRPC Oil Co., Ltd. (99.99%)	190,421	77	229,482	79	225,377	77
2. Petrochemical	IRPC Plc., Thai ABS Co., Ltd. (99.99%), IRPC Polyol Co., Ltd. (99.99%)	52,822	21	58,978	20	63,581	22
3. Other Businesses <sup>(1)</sup>	IRPC Plc.	3,645	2	3,970	1	3,635	1
<b>Total net sales revenues<sup>(2)</sup></b>		<b>246,888</b>	<b>100</b>	<b>292,430</b>	<b>100</b>	<b>292,593</b>	<b>100</b>
<b>Sales ratio (domestic: export)</b>		<b>65 : 35</b>		<b>62 : 38</b>		<b>61 : 39</b>	

**Note:**

1. Other businesses consisted of power and utilities revenues
2. Net sales revenues excluded excise tax

# Connected Transactions

## Connected transactions of IRPC and subsidiaries

Details of possible conflicts about the connected transactions between IRPC and its subsidiaries with connected parties that occurred in 2012 and 2013 appear below

Unit: Baht Million

Connected Party/ Relationship	Transaction	2012	2013	Nature and Condition
<b>PTT Plc (PTT)</b> Relationship: - IRPC's major shareholder with 38.51% - Two common directors: Mr. Watcharakiti Watcharothai - PTT management on IRPC Board: Mr. Sukrit Surabotsopon Mr. Surong Bulakul Mr. Sarun Rungkasiri	- Sale of goods - Purchase of goods - Account receivable - Account payable - Sales & service expenses - Other revenue/expenses - Sales of assets - Other receivable - Other payable	21,594 196,814 1,585 12,372 59 151 94 56 108	22,784 122,786 1,741 4,954 80 248 634 32 1	IRPC sold petroleum products to PTT at market prices IRPC bought crude oil and petroleum products from PTT at market prices IRPC paid personnel expenses and other administrative expenses to PTT Gain from crack spread hedging contracts of crude oil and others IRPC and IRPC Oil sold land property in Rayong to PTT at a price no lower than estimated by independent land assessor
<b>Thai Oil Plc (TOP)</b> Relationship: 49.1% of shares held by PTT	- Sale of goods - Purchase of goods - Account receivable - Other revenue	- - - 2	2,269 2,608 8 6	IRPC sold mixed crude and high-speed diesel to TOP at market prices IRPC bought crude, high-speed diesel and jet fuel from TOP at market prices IRPC earned commercial discounts and other revenue
<b>Thai Lube Base Plc (TLB)</b> Relationship: 99.99% of shares held by TOP	- Sale of goods - Purchase of goods - Account receivable - Account payable	1,967 25 60 -	1,450 19 82 3	IRPC sold asphalt and lube base oil to TLB at market prices IRPC bought slack wax and lube base oil from TLB at market prices
<b>Thai Paraxylene Co., Ltd. (TPX)</b> Relationship: 99.99% of shares held by TOP	- Sale of goods - Purchase of goods - Account receivable - Account payable	333 1,349 - 12	661 931 9 49	IRPC sold toluene and mixed xylenes to TPX at market prices IRPC bought benzene from TPX at market prices

Connected Party/ Relationship	Transaction	2012	2013	Nature and Condition
<b>PTT Global Chemical (PTTGC)</b> Relationship: - 48.89% of shares held by PTT - Common director: Mr. Sarun Rungkasiri	- Sale of goods  - Purchase of goods  - Account receivable - Account payable - Sales & administrative expenses - Other revenue	18,187  22,472  1,617 1,428 2  4	21,693  25,934  2,856 3,448 2  -	WIRPC sold kerosene and diesel to PTTGC at market prices  IRPC bought high-speed diesel from PTTGC at market prices  IRPC paid wages for PTTGC at market prices  IRPC received HSD discounts on purchases from PTTGC at market prices
<b>Bangchak Petroleum Plc (BCP)</b> Relationship: 27.22% of shares held by PTT	- Sale of goods  - Purchase of goods  - Account receivable - Account payable	4,046  501  - -	1,859  968  131 54	IRPC sold petroleum products to BCP at market prices  IRPC bought high-speed diesel from BCP at market prices
<b>Star Petroleum Refining Co., Ltd. (SPRC)</b> Relationship: 36.00% of shares held by PTT	- Sale of goods - Account receivable	367 -	4,394 583	IRPC sold mixed crude and ATB to SPRC at market prices
<b>PTT ICT Solutions Co., Ltd. (PTTICT)</b> Relationship: 40.00% of shares held by PTTGC 20.00% of shares held by PTT	- Sales & administrative expenses  - Other revenue  - Other account payable	23  2  1	37  1  1	IRPC paid rent for the Data Center and SAP copyrights to PTT ICT at market prices  IRPC provided IT system development and adjustment consultancy to PTTICT at market prices
<b>PTT Polymer Marketing Co., Ltd. (PTTPM)</b> Relationship: 50.00% of shares held by PTT 25.00% of shares held by IRPC - Common director: Mr. Sukrit Surabotsopon - IRPC management on Board: Mr. Sukrit Surabotsopon Mr. Chansin Treenuchagorn	- Sale of goods  - Purchase of goods  - Account receivable - Account payable	555  418  21 38	461  418  45 33	IRPC sold polymers to PTTPM at market prices  IRPC bought polymers from PTTPM at market prices



Connected Party/ Relationship	Transaction	2012	2013	Nature and Condition
<b>PTT Polymer Logistics Co., Ltd. (PTTPL)</b> Relationship: 99.99% of shares held by PTT - IRPC management on Board: Mr. Chansin Treenuchagorn	- Other revenue  - Sales & administrative expense	1  2	1  2	IRPC provided storage service to PTTPL at market prices  IRPC paid for bulk truck transport and tank cleaning for PTTPL at market prices
<b>Business Service Alliance Co., Ltd. (BSA)</b> Relationship: 25.00% of shares held by PTT	- Sales & administrative expenses - Other revenue  - Other receivable - Other payable	250  1  - 46	270  4  1 27	IRPC paid personnel wages to BSA at market prices  IRPC received service revenue from 7-11 convenient stores in IRPC service stations and housing rental at market prices
<b>PTT Retail Management Co., Ltd. (PTTRM)</b> Relationship: 99.99% of shares held by PTTRM	- Personnel expenses	5	2	IRPC paid personnel expenses to PTTRM at market prices
<b>PTT Polyethylene Co., Ltd. (PTTPE)*</b> Relationship: 99.99% of shares held by PTTGC	- Sale of goods - Account receivable	114 11	58 -	IRPC sold aromatics to PTTPE at market prices
<b>Thai Styrenics Co., Ltd. (TSCL)</b> Relationship: 99.99% of shares held by PTTPE	- Sale of goods - Account receivable	651 78	1 -	IRPC sold ethylbenzene and styrene monomers to TSCL at market prices
<b>Energy Complex Co., Ltd. (EnCo)</b> Relationship: 50.00% of shares held by PTT	- Sales & administrative expenses - Other payable	83  1	91  1	IRPC rented office and facilities from EnCo at market prices
<b>PTT International Trading Co., Ltd. (PTTT)</b> Relationship: 99.99% of shares held by PTT	- Sale of goods  - Purchase of goods  - Account receivable - Account payable - Other revenue - Other payable	50  249  - - - -	13,173  76,147  1,656 26,230  36 6	IRPC sold high-speed diesel, jet fuel oil, and C4 Raffinate I to PTTT at market prices  IRPC bought crude, diesel, and propylene from PTTT at market prices  IRPC made profit from crude swap with PTTT

Connected Party/ Relationship	Transaction	2012	2013	Nature and Condition
<b>PTT Phenol Co., Ltd. (PPCL)</b> Relationship: 99.99% of shares held by PTTGC	- Sale of goods	2	1	IRPC sold ethylbenzene to PPCL at market prices
<b>Sak Chaisidhi Co., Ltd. (SAKC)</b> Relationship: 80.52% of shares held by TS	- Sale of goods - Account receivable	714 63	572 25	IRPC sold aromatics to Sak Chaisidhi at market prices
<b>TOP Solvent Co., Ltd. (TS)</b> Relationship: 99.99% of shares held by Thaioil Solvent Co., Ltd.	- Sale of goods - Purchase of goods - Account receivable - Account payable	1,351 121 131 16	2,166 93 199 13	IRPC sold solvents and styrene monomers to TS at market prices IRPC bought hexanes and solvents from TS at market prices
<b>Thaioil Marine Co., Ltd. (TOM)</b> Relationship: 99.99% of shares held by TOP	- Service revenue - Account receivable - Sales & administrative expenses - Other payable	24 1 3 1	32 3 17 -	IRPC provided port services to TOM at market prices IRPC paid freight expenses for TOM at market prices
<b>TOC Glycol Co., Ltd. (TOCGC)</b> Relationship: 99.99% of shares held by PTTGC	- Purchase of goods - Account payable	37 13	41 7	IRPC Polyols bought DEG and MEG from TOCGC at market prices
<b>Thai Ethanolamines Co., Ltd. (EA)**</b> Relationship: 99.99% of shares held by PTTGC	- Purchase of goods	9	-	IRPC Polyols bought diethanolamine and triethanolamine from EA at market prices
<b>PTT Asahi Chemicals Co., Ltd. (PTTAC)</b> Relationship: 48.50% of shares held by PTT	- Sale of goods - Purchase of goods - Account receivable - Account payable - Other revenue	10 1,043 1 204 -	- 1,268 - 354 1	IRPC provided maintenance services to PTTAC at market prices Thai ABS bought ACN from PTTAC at market prices
<b>NPC Safety and Environmental Service Co., Ltd. (NPC S&amp;E)</b> Relationship: 99.99% of shares held by PTTGC	- Purchase of goods - Sales & administrative expenses	1 1	3 2	IRPC bought safety suits and equipment from NPC S&E at market prices IRPC paid for gas check detectors to NPC S&E at market prices
<b>PTT Energy Solutions Co., Ltd. (PTTES)</b> Relationship: 40.00% of shares held by PTT 20.00% of shares held by IRPC - IRPC management on Board: Mr. Peerapong Achariyacheevin	- Sales & administrative expenses	46	78	IRPC paid technical service fees to PTTES at market prices

Connected Party/ Relationship	Transaction	2012	2013	Nature and Condition
<b>Thai Oleochemicals Co., Ltd. (TOL)</b> Relationship: 99.99% of shares held by PTTGC	- Purchase of goods - Account payable	519 31	208 46	IRPC bought biodiesel from TOL at market prices
<b>TOP Solvent (Vietnam) Co., Ltd.</b> Relationship: 99.99% of shares held by Thailoil Solvent Co., Ltd.	- Sale of goods - Account receivable	527 116	575 141	IRPC sold toluene to TOP Solvent (Vietnam) at market prices
<b>PTT Maintenance and Engineering Co., Ltd. (PTTME)</b> Relationship: 60.00% of shares held by PTTGC	- Service revenue  - Sales & administrative expenses - Other payable	1  - -	-  1 1	IRPC provided equipment maintenance to PTTME under a service contract  IRPC paid flare installation wages for PTTME
<b>Sport Services Alliance Co., Ltd. (SSA)</b> Relationship: 99.99% of shares held by BSA (25% shares of BSA held by PTT)	- Sales & administrative expenses	4	-	IRPC funded publicity for the PTT Rayong soccer team for SSA
<b>Global Power Synergy (GPSC)</b> Relationship: 30.10% of shares held by PTT	- Other payable	-	709	IRPC sold out its shares in IRPC Clean Power Company Limited to GPSC at the price referenced to a nominal return and accepted by both parties with a discounted cash flow method
<b>HMC Polymer (HMC)</b> Relationship: 41.44% of shares held by PTT - Common board member: Mr. Chainoi Puankosoom	- Other revenue	-	1	IRPC provided training to HMC at market prices

**Note:**

\* PTT Polyethylene Co., Ltd. transferred all assets and businesses to PTT Global Chemical. on July 1, 2013

\*\* Thai Ethanolamines Co., Ltd., was formally dissolved on 31 October 2012 and completely liquidated on July 1, 2013

## Connected Transactions Policy and Requirements

Since IRPC, its affiliates, and subsidiaries and PTT Group of companies manage their refining and petrochemical businesses interactively, numerous connected business and financial transactions between these companies could happen daily. These transactions include procurement of raw materials and refined products, as well as other transactions borne by business support activities. Selling and buying prices are usually defined and agreed between the parties or else referenced to market prices. IRPC fully adheres to prudent, reasonable consideration of connected transactions independently for its maximum benefit.

To avoid conflicts of interest possibly borne by members of the board who may engage in capacities in other legal entities related to connected transactions among these companies, as enforced by Article 89/12 (1) of the Securities and Exchange Act (No. 4) B.E. 2551 (2008), the Board of Directors clearly approved the policy and work principles to the management to execute connected business transactions under the same procedure executed between IRPC and all other business entities without any influences by anyone on the board.

## Connected Transaction Preventive Measures

Under the guidelines imposed by the Securities and Exchange Committee (SEC) and the Stock Exchange of Thailand (SET), the Board has defined the following preventive measures for the practicality and IRPC's optimal benefit.

"Under the guidelines regulated by SET, the company shall strictly follow the procedures imposed by SET on any connected transactions including acquisitions or disposals of assets belong to the company.

If consent is needed from shareholders in executing connected transactions or acquisitions or disposals of company assets, a favorable decision is required for no less than  $\frac{3}{4}$  of the total legitimate votes of shareholders or proxy votes excluding votes from stakeholders."

## Policy on Future Connected Transactions

All future connected transactions among companies in IRPC Group shall only be routine transactions and reviewed under the principles of sensibility, suitable conditions, and fair prices. The practice is to ensure good governance, fair treatment on the benefits to shareholders, and full compliance with the regulations enforced by the SET and SEC. In any reviews by the board, board members with potential conflicts of interest shall not be present at the meeting and shall omit their rights to vote.

## Opinions of the Audit Committee

Having considered all connected transactions, the Audit Committee regarded that these transactions are normal, executed with sensibility and reasonable prices referenced to the market. IRPC has fully adhered to the regulatory requirements of SET and corporate governance.



## Message from the President

Dear Shareholders,

On all counts, it was another challenging year for IRPC, faced with a sluggish world economy, domestic political woes, and high volatility of the oil price and the Baht. Tackling these problems, IRPC employees united in performing their tasks of production, marketing, and sales in such a very efficient way, while executing investment projects to grow our competitiveness.

Our assorted projects have registered good progress, particularly tasks under the Phoenix Project, completed one after another this year to begin revenue and profit generation. Note that IRPC has developed and sold land plots in the IRPC Industrial Estate in Rayong to the CHP II Project, which has entered a joint venture with PTT Group to further the power business and lower the investment burden. IRPC also sold land plots in Amphoe Wang Chan, Rayong, to PTT Group to house the Rayong Science Academy and Rayong Institute of Science and Technology, a first in the province. These transactions have produced over 1 billion Baht in additional profit. Also registering resounding success this year were our risk management practices concerning prices and product-to-crude spreads, together with foreign exchange gains. The bottom line is that our performance has returned to the black with a net profit of 826 million Baht from 777 million Baht in the red last year.

Under our UHV Project, based on fuel oil as a raw material, we obtained more than 300,000 tons in additional propylene outputs this year. Boasting the highest investment under the Phoenix Project (with a capital of over 34 billion Baht), this project has made more than 50% progress and is due for commercial operation in the third quarter of 2015. The capital

under this project has come from both short-term and long-term loans, together with liquidity management without resorting to recapitalization, which illustrated our financial management prowess and financial institutions' confidence in IRPC.

IRPC values R&D (research and development) of emerging products to create opportunities for supplementing value, in particular green products. Indeed we have scored successes with several new products, the biggest one along this line this year being Green ABS, the world's first producer of engineering plastics containing natural rubber since 2011. This year IRPC has proudly become a licensor of Green ABS for the very first time.

Business successes aside, IRPC equally values the stewardship of society, communities, and the environment by embracing the Creating Shared Value concept, focusing on internationally sustainable development, including the DJSI (Dow Jones Sustainability Indices), UNGC (United Nations Global Compact), and GRI (Global Reporting Initiative). This year we also managed a construction project for the Wat Pluak Kate School building and another building for the Tambon Taphong Health Promotion Hospital, Rayong.

As for our future plans, IRPC aspires to become a leading Asian petrochemical company by the year 2020 through comprehensive improvement in efficiency and competitiveness. To this end, we rely on the "Delta Project" and its strategic plans, namely: Operational Excellence, Commercial Excellence, and Human Resource Excellence.

At the heart of the project is the improvement of IRPC's capability in assets like the refinery, petrochemical plants, depots, terminals, process support equipment and technology, marketing, sales, and transport, and human resources. Our employees, some 5,000 strong, are fully equipped with experience and skills to undertake their tasks and fast-track best practices derived from leading, world-class consultant companies and PTT Group companies.

With the Phoenix and Delta Projects both on track for completion in 2015, IRPC is convinced of higher competitiveness in all aspects. In other words, our performance outcomes and returns on investment are set to improve on a par with leaders of the petrochemical and refining industries.

On behalf of the executives and employees of IRPC and its affiliates, may I express my heartfelt thanks to board of directors, our shareholders, business partners, customers, and supporters (direct and indirect) and vow to do the best in our management and job execution for goal accomplishment under corporate governance, anti-corruption, proper and adequate internal controls, and efficient risk management. Above all, we vow to concurrently exercise our stewardship of society, communities, and the environment.



**Mr. Sukrit Surabotsopon**  
President



# OPERATIONAL EXCELLENCE





Maximizing both capability and cutting-edge competitiveness,  
IRPC debottlenecks and streamlines  
its entire processes for great efficiency.



# COMMERCIAL EXCELLENCE





Supplementing the values of both production and marketing lines of businesses,  
IRPC strives for excellence from legacy businesses  
while venturing out for emerging business opportunities,  
like value-added premium-grade products.

# HUMAN RESOURCE EXCELLENCE







IRPC nourishes its human capital by judiciously supporting career paths,  
paying attention and care to this pivotal driver of success--  
with corporate strategies, policies, and directions constantly at the back of its mind.





# OPERATING RESULT

Performance  
Summary

Market Overview  
and Industry  
Outlook

Management  
Discussion  
and Analysis  
(MD&A)

# Performance Summary



IRPC has pursued its business to strive for sustainable growth consistently and strictly adhered to a fine balance between economic, social, and environmental successes, together with transparent business management. This year it also consistently followed the same philosophy. Below is a summary of achievements this year.

## 1. Economic performance

Toward our vision to become “a Leading Integrated Petrochemical Complex in Asia by 2020”, our economic performance consists of the following.

### 1.1 Production performance

The refinery capacity utilization rate was 84%. This year's total crude run was 66.09 million barrels, equivalent to 181 thousand barrels per day (KBD). The Olefins Plant and Aromatics Plant posted capacity utilization rates of 107% and 86%. The Aromatics Plant posted a lower capacity utilization rate because IRPC had to suspend EBSM production to link up with the plant expansion and raise the capacity from 2,000 to 20,000 tons in September this year under the Phoenix Project. IRPC also successfully expanded its SAN and ABS capacities, and developed



special grades of polymers to add value and encompass diverse applications, while making them safe for consumers and friendly to the environment ('green'), like Green ABS, which contains PP composite (natural rubber) for applications in the medical industry and milk bottles for infants.

IRPC focuses on technological development by itself, with development and design of preliminary engineering designs for plant expansions to lessen dependence on foreign technologies. At the same time, it develops goods and services with business partners, allies, and commercial network partners for efficiency and effectiveness, while developing management systems for a better organization and personnel competence through the introduction of TOTAL Quality Award (TQA), Total Productivity Management (TPM), and Operational Excellence Management System (OEMS) in tandem with sustainable management systems, including the energy management project, the Green Industry Project, and a project sponsored by the Ministry of Industry to promote operators' synergy to forge social responsibility and sustainable happiness. The aim is to improve the efficiency of production processes, lower losses, and constantly be friendly to the environment.

Our production achievements this year are summarized as follows.

1.1.1 Under cooperation with the PTT Research and Technology Institute (PTTRI), IRPC invented and developed commercial production of BHD (Bio

Hydrogenated Diesel), a high-quality and environmentally friendly synthetic biodiesel with a high cetane value, a low sulfur content, and no aromatics content. Meeting the Euro 5 standard, a premium grade diesel was introduced to the market.

1.1.2 Improvement of the first distillation unit (CDU 1) to raise consumption of indigenous crude oil by installing the Mercury Removal Unit (MRU).

1.1.3 Restructured the distillation processes at for higher efficiency through hydrocarbon movement between CDU 1 and 2 to raise the capacity of CDU 1

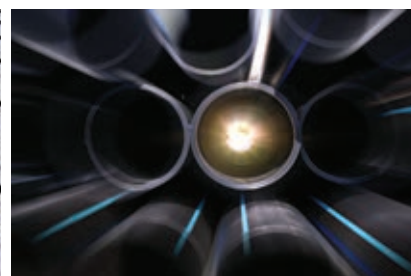
1.1.4 To reduce the loss of hydrocarbons through air emissions from petrochemical and refining production processes, the Hydrocarbon Loss Management Project was implemented, in which leaks at the distillation tower were detected and operators alerted, thus lowering hydrocarbon loss through the combustion tower, as well as carbon dioxide emissions.

1.1.5 Improved the business competitiveness of ethylene through flexibility, more flexible distribution options, and more opportunities for export by completing ethylene export pipeline construction through IRPC's terminal and starting export operations in September 2013.

1.1.6 Installed a steam trap to reduce steam losses from processes.

1.1.7 Upgraded the gasohol 91 process to add value to the product, thus developing petroleum product quality.





1.1.8 Installed additional heat exchangers at CDU units to make use of the heat obtained from the system in heating the crude oil entering the distillation tower

1.1.9 Improved the efficiency of heat exchangers through fan replacement.

## 1.2 Business Performance

The year's total operating revenue was Baht 292,593 million, an increase of Baht 163 million from the previous year. Of the total revenue, Baht 225,377 million was from petroleum products, Baht 63,581 million from petrochemical products, and Baht 2,892 million from power and utilities. Domestic sales accounted for 61%. Below are significant business achievements.

### 1.2.1 Petroleum Business

This year, the total petroleum business operating revenue came to Baht 225,377 million, a 2% drop from last year's Baht 229,482 million. Domestic sales accounted for 61%. The main cause of the decline

in revenue was the halted sale of high-sulfur diesel following a decision this year to improve this product to the Euro 4 standard at PTTGC. The loss was specifically due to the initial testing of the improvement process.

The co-investment program with PTTGC began this year to upgrade the quality of low-value high-sulfur diesel and high-sulfur kerosene into the high-value Euro 4 standard and Jet A-1 aviation fuel. This was done through the multi-product pipeline transfer channel from IRPC to PTTGC. As a result, IRPC has been able to retain its market share of diesel products and meet the market demand for aviation fuels since February 2013. In addition, the company has increased its Euro 4 standard gasoline sales and able to increase its gasoline sale market share to 90%.

IRPC's marketing strategy management seeks mainly to raise sales while establishing customers' satisfaction by focusing on portfolio management of customers and developing the iRON System, which has won over 80% in customers' responses. The system gives customers greater flexibility for doing

business with IRPC while lowering risks for customers' payment, thanks to the introduction of the E-Supply Chain system together with leading domestic commercial banks, which will manage such risks.

### 1.2.2 Petrochemical Business

This year's overall petrochemical business operating revenue was Baht 63,581 million, an 8% rise from the 2012 record of Baht 58,978 million. Sales from domestic markets totaled 59%.

A market survey was conducted in 2013 jointly with IRPC's joint-ventures and customers targeted to identify additional market demand, needs of new products and prepare meet such demand. For instance, the market for ABS was to increase from 117,000 tons/year to 177,000 tons/year. The ABS Powder sales in 2013 increased by 8.4% year-on-year, resulting in an increase of income by 19.8%, notably in the ABS antibacterial compound and the natural color compound, a project jointly undertaken with customers and business partners.

IRPC remained committed to market development of specialty products. Following the 2012 joint development program with customers and business partners, sales of specialty products jumped from 32% of polymer products last year to 35% this year.

To meet the AEC (ASEAN Economic Community) challenges from 2015 onward, a market expansion strategy was deployed leading the export market share to Southeast Asia to grow by 15% last year and by 20% this year in relation to total exports.

In preparation to cope with the volatile market and foreign currency exchange risks (including the very weak Baht), a product portfolio was developed and implemented to ensure maximum value through continuous increase of export.

IRPC has constantly adopted and applied a modern sales and service system since 2007. The system involves sales and a procurement system developed to provide support to all sales staff. An electronic alarm system at various trading steps was developed and installed, including the issuance of electronic purchase orders without errors and duplications, and

the database update system when the database interface is not feasible, such as when local and overseas customers' business premises are inundated.

### 1.2.3 Port and Tankfarm Business

The year's total port business operating revenue was Baht 590 million, a 9% jump from the 2012 total revenue of Baht 540 million.

The port business strategy is to drive the facility management to the international standard with acceptable capability on safety and emergency. The year's notable performance included

- To comply with the ISPS Security Code (The International Ship and Port Facility Security Code), a security system involving communication and data recording of ships and containers for safety and emergency control, the Vessel Traffic Management System (VTMS) was installed at the IRPC Port.
- IRPC participated in the 7<sup>th</sup> National Oil Spill Response exercise this year and in an oil spill remediation activity led by PTTGC, by having its two workboats, two tugboats, and employees help collect the oil spill in Rayong.
- A Ship-to-Ship Prevention Plan was launched after obtaining consensus from state agencies that the measures under the plan (hard side and soft side) were pragmatic and can save costs and reduce shipment risks in the open seas.



*Drill under the water pollution prevention and management plan*



*The UHV Project is under construction*

Under a plan to optimize tank services, the IRPC Phra Pradaeng Oil Depot was revamped to become a central tank and offloading services for refining and chemical base products in preparation for domestic industrial expansion, product stock, and refined oil product inventory to comply with the regulations, catering for external customers.

- The Phra Pradaeng Oil Depot provided tank rental service to store methanol and White Spirit products for customers.
- The Ayutthaya Oil Depot provided tank rental service to store gasoline and diesel for customers.

- The Rayong Oil Depot provided storage facility and service for cyclohexanone products and crude reserves for customers.

#### **1.2.4 Asset Management Business**

This year, IRPC derived revenue from sales of high-potential land assets, detailed as follows.

- A total of Baht 865 million was received from the sale of 168 rai of land in the EIZ Zone 4 (Eco Industrial Zone) under the company's CHP II Project.
- A total 3,312 rai of land at Wang Chan was sold, recording Baht 596 million in revenue.



- A 1,867-rai plot of land under the IRPC Eco Industrial Zone was developed under the eco-industrial zone concept, focusing on the environment and communities, the main principles for sustainable development. All invested projects are under the Green industrial concept such as Hygiene and Value added Products (UHV) and clean energy projects (CHP II).

- In conjunction with the Industrial Estate Authority of Thailand (IEAT), IRPC Ban Khai Industrial Estate was inaugurated this year. The development project EIA was approved by the Office of Natural Resources and Environmental Policy and Planning (ONEP) and is now under the allocation process for various green projects (meaning those friendly to the environment and communities). The target groups included businesses related to alternative energy, bio-plastics and polymers from natural materials, green products, and businesses with constant growth, such as automotive parts. The IRPC Ban Khai Industrial Zone is strongly supported with high confidence by IEAT and the Plastics Institute of Thailand to become the nation's first Plastic Park, an industrial zone with value-added industrial plastic investment, including plastics for medical devices, and parts for automotive and aviation industries.

## 1.3 Capital Investment Projects and Business Growth

### 1.3.1 Phoenix Project

IRPC's focus was on driving the Phoenix Project toward business targets successfully and smoothly, including work process reengineering, as well as machinery and equipment improvement to enhance competitive advantages of the organization and its products, and drive IRPC toward its vision in becoming a "Leading Integrated Petrochemical Complex in Asia by 2020". The project has been in progress for over four years. All investments are aligned with IRPC's five main principles: 1. Operational Excellence, 2. High Performance

Organization, 3. Corporate Social Responsibility, 4. Value Creation, and 5. Innovation & Create New Business.

The Phoenix Project is now in its last stage. Out of the total project scope, 10 projects have been completed, and seven are in progress and are set to be fully completed within 2014. The UHV Project is set to be completed in 2015.

#### 1.3.1.1 Projects completed in 2013

(1) Petroleum Quality Improvement to Clean Fuel and Green Growth Development Project, made up of

- Under cooperation with PTTGC, completed the construction of the Multi-Product Pipeline to pipe the high-sulfur diesel to PTTGC for the upgrade to the Euro 4 standard in February this year. The kerosene was also piped to be upgraded to the Jet A-1 aviation fuel.
- With the use of natural palm oil, a premium grade diesel was produced under the bio-hydrogenated diesel (BHD) project completed in October 2013. The product has been sold to PTT. IRPC is the sole producer of BHD in the country.

(2) EBSM Upgrading for ABS Specialties Project: Completed construction of the EBSM (ethylbenzene styrene monomer plant) to produce premium-grade ABS (acrylonitrile butadiene styrene), resulting in an increased production capacity from 200,000 to 260,000 tons per year commencing in September this year, and a reduction of purchase of styrene monomers (SMs) for raw material. On the other hand, IRPC can earn revenue from the sale of surplus SMs.

(3) Oil Depot and Lube Blending Business Improvement Project: The construction of the lube blending unit was completed and commissioned in October this year, increasing the lube base production capacity from 1 million liters/day to 6 million liters/day.



(4) Hydrocarbon Management Project: The project was initiated to inspect and consequently reduce any losses from all work processes by installing sensors and meters for any leaks or vapors, and developing controlling measures to minimize losses. The project has resulted in a saving of some Baht 500 million per year and was completed in June this year.

(5) Intellectual Property Stewardship Project: To become a technology leader, IRPC acquired a process license for Green ABS and commercialized it on February 26 this year, turning IRPC from a licensee to a licensor, the first achievement among PTT Group.

#### 1.3.1.2 Seven ongoing projects

(1) Petrochemical Operation and Energy Efficiency Project: Work processes in three main areas were under improvement – ETP (ethylene plant) gas separation unit, HDPE (high-density polyethylene) manufacturing plant, and PP (polypropylene) plant. The ETP plant was fully completed, while the HDPE and PP work process improvements are still ongoing. These successes have slashed energy and production costs. The entire project will be finished within 2014.

(2) Petroleum Operation and Energy Efficiency Project: To increase both petroleum operation and energy efficiency of the production processes, a

number of work processes in this project included reduction of steam and power consumption, hydrocarbon losses from production processes and recycling, and energy saving. Certain parts of the improvement can immediately generate benefits from lower costs of energy and production. The entire project is set to be completed within 2014.

(3) Ethylene Specialty Development Project: Following higher demand for high-price premium grade ethylene or pipe grade, the ethylene specialty development project was invested. The goal is to increase the total premium-grade product output with an annual capacity of 120,000 tons per year and the construction is to be finished in April 2014.

(4) Petrochemical Catalyst Commercialization Project: Including the development and production of catalysts to supply external customers and the catalyst-handling process improvement for IRPC and PTTGC. The project will be closed out in February 2014.

(5) Utilities for Sustainability Project: Initiated to support utilities for communities and environmental stewardship toward the sustainability. The project, including piped-water system modernization and waterworks production capacity expansion for internal and external customers, is set for completion within 2014.



*The launch ceremony of the Green ABS process license sale*



*The CHP II Project*

- (6) Build and Sustain Land for Green industrial Complex Project: To develop and manage land property to become an ecological industrial estate, the project was designed for customers in the agro-industry, alternative-energy business, automotive parts and spares, and creative businesses like academic institutions, research institutes, and entertainment facilities. Land property has been developed for sale and lease and allotted to Choeng Noen Industrial Estate and Ban Khai Industrial Estate. Land allocation for sale or rent is underway for both estates.
- (7) Capacity Development for Propylene Growth Project (UHV Project): Initiated to upgrade lower-value products and create more value, especially on the propylene value-chain. A higher crude distillation capacity is a by-product from the change in work process. Project construction is underway and set for completion in 2015.

### **1.3.2 The joint feasibility studies and investment among PTT Group companies** consist of the five following projects.

- (1) Performance Compound & Composite Business for High Value Development Project: To create more value from the upgrade of polypropylene products, including PP Inline and PP Expansion. The project is now under a feasibility study, technology selection, and project economics appraisal.
- (2) Energy Pathway for Sustainable Growth Project: To focus on alternative energy and clean energy with no impact on the environment, such as a solar power plant, a wind farm and a waste-to-energy power plant.
- (3) Professional Logistics Management Project: A feasibility study jointly invested with PTT on integrated logistics management and investment.



- (4) Superior AEC Surveillance and Supervision Project: A special study to identify investment and business opportunities among AEC country members.
- (5) Polymer Compounding Synergy Project: A memorandum of cooperation with PTT Polymer Marketing and PTTRI was entered to jointly develop polymer products with specified properties demanded by specific customers in a timely manner.

### 1.3.3 Other Investment Projects

- (1) Known as the world's first producer of premium-grade ABS (Green ABS), a mixture with natural rubber instead of synthetic rubber, IRPC had set to increase production capacity by 62,000 tons per year. The production facility construction was completed and put on stream in October this year. The project has increased the production capacity at ABS6 plant by 62,000 tons per year and at SAN3 plant by 62,000 tons per year.
- (2) The CHP II Project, with 240 MW in capacity, was chosen by IRPC as an SPP Firm Cogeneration power producer under two contracts (90 MW each). The PPA signing was concluded with EGAT, with power supply to EGAT's grid set for June 2017. The project has secured EIA approval from the Ministry of Natural Resources and Environment since August 2013, and construction is ongoing.

IRPC Clean Power Co., Ltd., initially formed by IRPC to undertake project development, later sold 51% of its shares to Global Power Synergy Co., Ltd., which commands business expertise in public utilities, to grow future business opportunities. The share transfer was concluded in December this year, yielding to IRPC profit of about Baht 1,096 million.

## 1.4 Innovation and Research & Development

IRPC has consistently valued research and development leading to modern technology, as well as work process and product development on petroleum and petrochemical businesses, creating more special-quality products that are environmental friendly. These high-potential products are finally commercialized, and trigger widespread subsequent innovations throughout the organization. The company organized an annual innovation contest in 2013. There were 160 pieces of innovative entries. They will be selected for further development, tested for real practical work, and commercialized with competitiveness in the world market.

This year's major innovation and R&D outputs are as follows.

1.4.1 Developed polypropylene for high-quality plastic tape, known as 'high speed raffia', which is very durable and strong, and can be molded quickly. This special product is used in high-speed machinery

and unique polymer structures like durable sacks and packages.

1.4.2 Developed polypropylene compound for artificial-rattan work, known as synthetic-rattan fire retardant, a very special material for furniture manufacturing in the EU and US markets where extra regulatory requirements on fire-retarding control and environmental resistance are enforced. The product is physically soft and strong like natural rattan but fire-retardant in compliance with regulations.

1.4.3 Developed low gas emission reinforcement polypropylene for the automotive industry to comply with the low CO<sub>2</sub> emission regulations, required by the EU and US authorities. All the automobile companies therefore came out with the low CO<sub>2</sub> emission specifications for parts that can be tested and proven, and introduced to the market.

1.4.4 Developed halogen-free HIPS/PP for electrical and electronics industries to comply with the halogen-free regulations imposed by the EU authorities. The materials must be fire-retardant but halogen-free,

since halogen is hazardous to health. Several work programs and measures such as RoHS, REACH, and WEEE demand that all parts must be environmentally friendly and contain no hazardous residue.

1.4.5 Developed catalysts to stimulate polyethylene production process in order to meet the higher market demand and reduce imports valued at several million baht per year. The project, In-House Polyethylene Catalyst Development, is a joint venture with Bangkok Polyethylene Plc., a subsidiary of PTTGC, and was initiated to maximize the synergy among PTT Group of Companies.

1.4.6 Developed Wood Plastic Composite (WPC) as a substitute for natural wood. The product is a mixture of wood chips, saw dust and plastic polymers, molded under a specialized work process. This synthetic wood plastic composite is very durable, stronger, and more resistant than normal plastics. The WPC-PP (polypropylene WPC) is safe for use in the food industry. The product was certified and recognized as a result of science and technological innovation for public use.





1.4.7 Developed HA<sub>2</sub>PO Catalyst for Ultra High Molecular Weight Polyethylene (UHMWPE) Production. The product, an ultra-high molecular weight polyethylene and another success of R&D, is extremely durable and resistant to any collisions, scratches and chemical corrosions, but highly glazed and shiny like other plastics. It is used as a battery buffers and plastic sheets.

1.4.8 Developed high-gloss stability by using EBS in HG730 to increase processability and gloss stability of the product, which is very shiny and easy to mold.

1.4.9 Developed high-stiffness and high-clarity PP Extrusion PP 1150H, a specialized PP homopolymer that is highly durable to heat, as well as strong and rigid. The product is very suitable for extrusion thermoforming and blow-molding process, such as food packaging, drinking water and juice containers that can be sterilized.

1.4.10 Developed high-flow, high-clarity random polypropylene 3342S, very specialized polypropylene random copolymers that are transparent, durable, resistant to heat and deformation. The product is suitable for high-speed injection molding. Users can increase the molding speed, since the material is resistant to deformation, saves energy, and generates higher production capacity.

## 1.5 Financial Performance

In supporting sustainable growth, IRPC has efficiently managed its financial system under a joint cooperation with PTT Group of companies to strive for the World Class Corporate Finance and Accounting to support the competitive advantages including the good control and good management governance.

This year's financial performance and acclaim are summarized below.

1.5.1 Secured adequate capital under suitable cost of funds for financial liquidity to accommodate investment in various projects and strict financial discipline to support its sustainable growth through the following actions:

- Secured short-term inter-company borrowing & lending with PTT to ensure optimal financial management within PTT Group.
- Acquired a US\$220-million loan from foreign financial institutions to support its short-term cash flow. This year-to-year working capital loan is designed to provide maximum flexibility to IRPC.

1.5.2 Two awards granted to IRPC:

- The Best Investor Relations Award from Corporate Governance Asia Magazine under the 3<sup>rd</sup> Asian Excellence Recognition Awards this year.
- A higher assessment score than last year, according to the Stock Exchange of Thailand (SET), on investor relations performance.

## 1.6 Information Technology Performance

The IRPC information technology is well developed to support and foster business and management competitiveness, while enhancing customer care efficiency. IRPC has continuously expanded the IT system to cover applications in all facilities of the company and its affiliates. This year, IT performance is summarized as follows.

- IPRC won the ISO/IEC 27001:2005 on the Core Network IT Infrastructure System installed at its computing center at the Energy Complex A Building and its network connections at the Energy Complex B Building, together with the computer system and its server system installed at a Rayong computing center.





- IRPC earned the Thailand ICT Excellence Award 2012 on May 28 this year on two categories: internal IT Core Process system under the IRPC Business Intelligence Project, and a consolation prize on BBS (Behavior-Based Safety).

### 1.7 Human Resource Management Performance

IRPC has defined its human resources management to align with the organizational strategy, to strive for its human resource vision by excelling in human capital, becoming highly competitive, and laying down a firm foundation to sustainable development. This year the company launched several initiatives and continued these efforts, including the following.

**Efficient manpower system:** IRPC has adopted a policy and strategic direction on manpower management toward the maximum efficiency and benefits to the organization. The process includes manpower need analysis and clear definition of required skills and competencies necessary for projects for the maximum returns such as UHV and UHNW-PE projects. The system is flexible which can be lean and downsized to fit with organizational

needs, resulting in an efficient manpower management compared to all existing facilities.

**Leadership Development Program:** Developed leadership potential and ability for all management staff to meet the business demand through the action learning program, Ex-LDP (executive leadership development program) and MLDP (middle management leadership development program). About 87.5% of the high-level management executives and 65% of the middle management staff have attended and gone



through these programs. These management executives and staff understand and have adopted correct management philosophy and their roles clearly in order to manage their respective works and assignments efficiently.

**Developed a knowledge-sharing system for personnel in core business groups**, including production, marketing, and engineering to enhance knowledge and experience-sharing among staff and personnel, especially to younger generations under a coaching and knowledge management system. Several communities of learning were encouraged to form. As of 2013, 63 groups have been founded, generating 2,956 knowledge items. These statistics are on the rise, motivated by the company-organized KM recognition award and innovation award programs. With knowledge exchange activities at all levels, best practices have been developed and shared leading to innovations and higher value creation to the organization, and eventually to become a learning organization.

- **Promoted the use of the annual performance appraisal system** with a focus on “work direction”, high work coordination efficiency or “work execution”, and modernization or “renewal”, with specific quality performance indicators.
- **Competency system development:** the design of the functional and technical competency system was completed and set to be used in the employee development program.
- **I-ChEPs** (IRPC Chemical Engineering Practice School): IRPC continued its second year of support to the ChEPs program initiated to provide the integrated learning development of chemical engineering programs for students and high-potential production staff. Under the joint cooperation with King Mongkut's University of Technology Thonburi, high-potential production operator employees attended the program in 2013 on development of analytical skills, loss control and production efficiency. Through learning evaluation, learning and analytical skills were increased by 44%, production management skills by 52.5%, and chemical knowledge skills by 59.7%.

- **Culture transformation roadmap development:**

The culture implementation and behavioral handbook were developed in line with the corporate values “VICTORIES” to promote and foster the sustainable corporate cultural development. The program was implemented to all levels of employee to become fully aware of and actively participate in the cultural information of the organization.

- V = **V**isioning and strategic executive
- I = **I**nspiring and engaging people
- C = **C**hange leadership
- T = **T**eam collaboration
- O = **O**perational competitiveness
- R = **R**espect and trust
- I = **I**nnovation
- Es = **E**ntrepreneurship.

## 2. Social Performance

In parallel with business growth, CSR and stakeholder management are core activities of IRPC throughout the business value chain. The company's notable social performance is summarized as follows.

2.1 Under the Community Sharing program, free basic medical treatment was extended to surrounding communities. This year, 4,670 patients were treated under this program. As of October 31 this year, the company has issued 6,798 IRPC cards to the communities.







2.2 Jointly organized with practitioners and dentists from Queen Sirikit Hospital a total of 12 Mobile Clinic activities were conducted this year in areas surrounding IRPC Industrial Estate to provide medical treatment and services to 1,049 people.

2.3 In support of the public health for the communities surrounding the IRPC Industrial Estate, a Baht 12-million budget funded construction of a medical building for Tambon Taphong Health Promotion Hospital. Foundation work is ongoing for the construction and the project, once completed, is set to serve more than 100,000 people each year.

2.4 At a budget of Baht 350,000, the Yaida Thai Medical Building was erected and dedicated to the authority on September 16 this year.

2.5 Following the inspection of a deteriorated building of Wat Pluak Kate School for students and young children, Baht 4.65 million was allocated to construct a new two-storey building with seven study rooms, four study halls, a teacher's room, a library, an infirmary, and the hiring of two teachers.

2.6 Awarded 297 scholarships to communities surrounding the estate and Ban Khai in this annual activity.

2.7 Under the "Som Some Toem Suk" Project, employees and students of the IRPC Technology College provided renovation and repair to electrical appliances, toys and playground and learning equipment to 20 various schools during 2013.

2.8 Continued with the development of a community self-access learning center, serving as a prototype and center for learning on physical and mental care, as well as a general economy for people, youths, and the community at large. The program intention focuses on the quality of life, generation of extra income and promotion of education.

2.9 In conjunction with the Department of Industrial Works (DIW), a total of 20 community development projects were conducted under a Baht 2-million budget to upgrade the community quality of life, including mushroom cultivation at Ban Takat and a decorative garden tree project.



2.10 This year IRPC organized 16 Open House sessions for 640 people from surrounding communities to gain proper understanding and confidence in IRPC's operations.

2.11 Provided budgets and activities to promote the business enterprise concept and generate income for the communities around the estate for 16 occupation groups this year. In addition, activities to share and disseminate knowledge and skills were organized, with market spaces arranged for various occupation groups to sell their products.

2.12 Agricultural Research Center Project: IRPC fully realizes the importance of the agriculture sector in Rayong. More than 50% of Rayong residents are in this sector. In conjunction with Kasetsart University, an agricultural research networking center project was initiated to bring research outputs and share them with farmers, and provide mobile agricultural solutions where they are needed. IRPC is also considering a setup of an agricultural research and development in Rayong.

### 3. Environmental Performance

IRPC's environmental management system complies with the ISO 14001 in water, air, and waste aspects. Modern technologies were introduced in conjunction with international operating systems to prevent leaks of oil and hazardous chemicals. Energy efficiency was improved in order to lower greenhouse gas (GHG) emissions. Meanwhile, business opportunities were weighed in a move to adjust to climate change.

IRPC continually made improvements to all units' business systems by requiring QSHE goals for 2013 to align with each unit's KPI with a focus on air quality and waste management. IRPC's long-term goals for environmental operational excellence by 2017 are

- To maintain air pollution per ton of products
- To achieve zero landfill for non-hazardous waste.





*Open House Project fosters community relations*



*Shareholders visit IRPC's operation in Rayong*

### **Air quality management**

The main issues are VOC emissions control for the petroleum and petrochemical businesses this year. The petroleum business saw 13% reduction, and the petrochemical business saw 6% reduction in VOC emissions, effectively lowering complaints about smell by more than a half from last year.

### **Waste management**

The volume of landfill disposal of waste fell by 14,908 tons (83% of total process waste), the bulk of which (14,120 tons) was reused, and 4% (788 tons) was recovered for reuse.

### **Complaint management**

With emissions of pollutants constant or on the decline for each ton of products, the task was considered a success. No violation of environmental laws surfaced.

## **4. Corporate Governance Performance**

IRPC has consistently and strictly adhered to its policy on corporate governance. Its corporate governance performance this year, approved by the Board of Directors, can be summarized as follows.

### **4.1 Anti-corruption campaign**

- The Board clearly defined and issued measures on anti-corruption practices, now enforced among all employees, affiliates and subsidiaries, and joint ventures for strict compliance. These policies and

measures are in line with those introduced by the CAC (Private Sector Collective Action Coalition against Corruption), to which IRPC has publicly announced its support to all its stakeholders.

- Under the CAC guidelines, IRPC conducted a corporate governance self-appraisal and submitted the final findings to the Thai Institute of Directors (IOD), where the secretary of the anti-corruption coalition committee would scrutinize and certify its membership.

### **4.2 Tougher, transparent disclosure of corporate governance data under the international standard.**

- Made available the 2012-2013 sustainability report at the UN Global Compact website to disclose data and progress made in all four areas: labor, human rights, environment, and anti-corruption, as part of the annual UN Global Compact Communication on Progress requirements.

- Updated corporate governance data at IRPC's website, in Thai and English, to comply with the Board's directive to share the most updated company data with all stakeholders equally. Essential data included a three-year term of office for directors and a limit on three consecutive terms (a total of nine years), a limit of five SET-listed companies where each director can hold office, and reduction from 5% to 4% of the total shares held by collective owners to propose an agenda for the annual general meeting

(AGM). These sought to foster commitment and accountability each director has to contribute efficiently and to allow more open dialogues from minor shareholders in proposing agenda items to the AGM.

- Communicated and publicized news and data concerning anti-corruption and corporate governance via the company's website and the "I Oon" bulletin to communicate with all employees, and "Newsletter" journal to communicate with shareholders and stakeholders every quarter, including CG campaigns, communicated among internal staff and public.

**4.3 Included in the top 50 listed public companies in Thailand,** a survey assessed by the Asian Development Bank (ADB) and ASEAN Capital Markets Forum under the CG Rules defined by OECD (Organization for Economic Co-operation and Development) and the CG Scorecard, and published in the Country Reports and Assessments 2012-2013.



**4.4 Granted the 2013 Diamond Award to internal units assessed for excellence in good governance on internal control,** work transparency, and work with a focus on objectives. Joined PTT Group in defining internal control standards and practices with emphases on efficiency and transparency, and publicly acceptance as industry best practices. These activities are part of the company's promotion and emphasis on good governance and internal control.

**4.5 Encouraged employees to participate in the stakeholder activities** related to good society and social responsibility such as participation in eco-industrial development with IEAT and DIW, Ministry of Industry, in the Thai socio-industrial development, both urban and rural, to become part of eco-society.

## 5. Risk Management Performance

To manage risks appropriately, the company has launched an enterprise risk management policy with measures connecting all activities to cope with all changing impacts under a uniform standard. Some of these internal risk factors include production process, good condition of equipment and machinery, stability of electrical supply, and human resource management. Likewise for the external risk factors, they include economic situation, world oil price volatility, political unrest, and global climate change. To strive for business objectives earlier planned, the Board appointed a Risk Management Committee and an Audit Committee to review and provide suggestions about the risks and risk mitigations, as well as effective risk management. To ensure complete awareness by all employees, risk management handbooks have been distributed, meetings, seminars, training sessions and various risk management activities have been constantly organized.

This year, IRPC successfully managed a priority set of risks including the following.



## 1. Price Volatility Risks.

The global crude price this year was extremely volatile due to a number of external factors including economic contraction in many important regions such as the US, EU, and Japan, the economic stagnation in China, and several economic measures introduced by the US Federal Reserve (Fed). The prolonged political unrest in many oil-producing countries in the Middle East was also a significant factor contributing to the world oil price fluctuation, directly affecting the prices of refined petroleum and petrochemical products. These significantly affected the financial and operating performance of the company.

**Mitigation Approach:** Several mitigation measures were executed including synergistic coordination with other companies under PTT Group to reduce crude procurement costs and increase bargaining power on certain matters like logistics and inventory cost reduction for crude produced domestically. IRPC has continued its efforts in managing stock tanks in good balance with other activities throughout the supply chain, maintaining and upgrading its equipment to efficiently manage the production, and maximizing the planning efficiency for raw material procurement and product sales. The IRPC Hedging Committee constantly reviewed and executed investment on derivative instruments to reduce financial risk exposure by specifying the target prices, volumes and timing appropriately to the levels of risks and its financial tolerance. New types and sources of crude have been sought to diversify and reduce supply risks and, at the same time, to increase opportunities for production of specialty products and generating more revenue.

## 2. Foreign Currency Exchange Risks.

The company's income and costs of raw materials are largely in US dollars or referenced to the world market in US dollars. The currency exchange between the US dollar and the Baht is stipulated in sales agreements. At first, the expected profits from crude procurement from sources in the US dollar currency are significantly affected by the foreign currency exchange.

**Mitigation Approach:** To reduce the financial risk exposure, especially on expenditures and loans in Baht, the company has adopted a natural hedge policy with a measure to manage its loan in US dollars proportionately to the size of its revenue, also in US dollars, or to sell the US dollar futures in advance to prepare for expenditures in Baht.

## 3. Operational Risks.

Numerous internal and external factors lead to disruption of the production process such as equipment and mechanical failures, human errors, power blackouts, and changes in weather and environment. These circumstances could increase the risk levels to production planning, product deliveries to customers, and eventually the company's performance. The major risks are:

### 3.1 Risks borne by unplanned plant inoperability or by disruption of machinery.

Since most equipment and machinery have been operating for more than 20 years, wear and tear is common and can cause disruption. An effective risk management is therefore needed to minimize losses.

**Mitigation Approach:** IRPC continued its efforts from the previous years including development and improvement of the efficiency of machinery and equipment used in production processes as part of the long-term plan. The plan included several programs such as the "zero unplanned shutdown" to increase the stability and reliability of the production processes, the setup of the remedial plans to resolve production process disruption instantaneously, the preparation of spares and contractors, and the execution of all activities toward the operational excellence management system.

### 3.2 Risks to safety of life of employees and contractors.

**Mitigation Approach:** Most accidents found in the production processes are often borne by unsafe acts of external contractors. Safety training is therefore provided not only to employees, but also to external contractors. IRPC treats these contractors similarly





*IRPC conducts a safety culture campaign among employees*

to its own employees, especially on pre-work safety training and enforcing the company's work supervisors to treat all external contractors equally to its own employees. The company has continued its BBS (Behavior-Based Safety) efforts to nurture safety behavior in all its employee and executives, as well as the corporate safety culture.



*A safety culture campaign activity among youths*

### 3.3 Risks of power failure in production units of IRPC

**Mitigation Approach:** The 'power management system' project was initiated to reduce power failures and stabilize power demand and power supply at any given time by using computer systems. The project was part of the efforts to strengthen its power system reliability, which was critical to manage the production process efficiently and minimize losses from power failures.

### 3.4 Capital Project Risks.

There are many capital-intensive projects in IRPC, and it is vital to manage the risks facing these investments. Phoenix Project is the priority project this year since it was designed to significantly improve the competitive potential and maintain the growth rate of the company sustainably into the future.

**Mitigation Approach:** Measures and efforts introduced earlier continued into this year. Major capital projects were risk-registered for close tracking and monitoring to ensure they could be completed as planned, timely, under the budget, and providing returns as originally estimated. For the environmental impact assessment (EIA) and health impact assessment

(HIA), the company laid out the plan in full compliance with the regulations, communicated and coordinated consistently with all the authorities and communities to ensure the project is fully complied and executed according to the plan.

### **3.5 Environmental and Communities Risks.**

With close proximity to communities, IRPC fully recognizes the significance of appropriate environmental and community risk management. Failure to manage these risks could result in negative impacts on the environment and the safety of the surrounding communities, as well as the positive understanding and good cooperation from the communities.

#### **Mitigation Approach for the Environment:**

The company strictly adheres to work safety and operating measures under the operations and environmental standard and regulatory requirement, safety and occupational health standards, OHSAS 18001 standard, and ISO 14001 standard. Volatile organic compound (VOCs) emissions were regularly measured as part of the monitoring and alarming program. If any anomaly is detected, emission control will automatically be triggered jointly operated with DIW. Records of VOC emissions are logged at various locations for further long-term environmental management.

#### **Mitigation Approach for the Communities:**

IRPC conducted its corporate social responsibility (CSR) programs consistently and continuously. The programs were designed to support the development of positive understanding and healthy relationship with the communities and stakeholders. Some of the program activities are construction and repair work on general public utilities, scholarships, Open House sessions to have the community visit and witness the company's operations, joint activity

center, activities run by the site cooperation center to work closely with the communities, and emergency drills with the communities and authorities.

### **3.6 Business Continuity Risk.**

There are numerous risks and threats to the company, some of which could disrupt operations. In preparation to cope with these risks, the company needs to minimize losses, protect its public image and reputation, and continue its prime business operations.

**Mitigation Approach:** IRPC activated the Business Continuity Management (BCM) system to minimize impacts from business disruption. The full-scale business continuity plan (BCP) was launched, and a rehearsal was conducted under the BS 25999 and ISO 22301 standards and procedures, which had been drafted in 2012.

As for political demonstrations toward the end of the year, the Bangkok protesters completely shut down the Ministry of Energy including the main home office of IRPC. Employees were barred from working in their offices. Under the BCP, several temporary offices were deployed during November 27–December 6 for critical work activities, resulting in no major disruption to IRPC's businesses and minimal inconvenience to customers, business partners, and other stakeholders.

## Market Overview and Industry Outlook



### 1. Petroleum product market and competition

All year long, crude oil prices were volatile. The Dubai crude oil price moved between USD 95 and USD 115/BBL, averaging USD 106/BBL-down from the average of USD 109/BBL last year. Crude oil prices early in the year climbed from late 2012 as economic indicators, especially those of the manufacturing sector in the US and China, were healthy. This sent Dubai to the year's peak at USD 113/BBL in February. However, negative impacts from the fiscal-cliff and debt-ceiling problems in the US, as well as the inauguration of the new Chinese leader in March, resulted in a steady decline. The market was concerned that China's new economic reform policy

would reduce domestic oil consumption, which is the world's second largest oil consumer.

In the second quarter, oil prices were rocked by the weakening world economy, especially the aggravating debt crisis in Cyprus and the deteriorating economy in China. This prompted the International Monetary Fund (IMF) and the Organization for Economic Cooperation and Development (OECD) to reduce their economic growth forecast to 7.7-7.8%. IMF and the World Bank also revised their world GDP forecasts to 3.3% and 2.4%. The world's leading energy institutions such as IEA, EIA, and OPEC also cut their prediction of world oil demand this year.

In the third quarter, oil prices soared with unrest in many major oil-producing countries. Chemical weapon deployment in Syria, meanwhile, raised concerns over US military intervention. Supply capacity in Libya also dropped from 1.2 million BBL per day in June to 0.55 million BBL per day in the third quarter, as oil terminals were shut down. Clashes occurred between supporters of the Egyptian ex-president and the military, as did oil pipeline sabotage in Iraq and oil smuggling from transport pipelines in Nigeria.

In the early fourth quarter, oil prices kept slumping after the US government had faced a spending budget crisis that resulted in the shutdown of government offices for 17 days and forced stop-work for over 800,000 government employees.

This posed major concerns over the US economy, which in turn jolted the oil prices. The resurgence in Libya sent the country's production and export capacity down to the lowest level of the year. Negotiations to resolve nuclear issues between Iran and six world powers in November did not reach a clear resolution, thus another oil price rise. Although subsequent talks successfully managed to produce a deal to control Iran's uranium enrichment for six months in exchange for loosened sanctions, many believed it was only an early step, and it would take 6-12 months for Iran to restore its oil supply capacity to the previous level of 2.6 million barrels of oil per day.

As for the domestic energy overview this year, total energy consumption was 2 million BOE per day, an increase of 1.2% over last year, with natural gas taking the highest proportion, followed by crude oil. Hydroelectricity consumption was down by 15.7% from last year.

Domestic gasoline and diesel consumption in the first 10 months this year rose from last year, with a 2.1% rise in diesel consumption to 57.0 million liters per day and an 8.0% rise in gasoline consumption at 22.4 million liters per day. Most of the gasoline consumed was gasohol 91 and gasohol 95 (both E10), accounting for 40.5% and 37.4%. Gasohol 95 (E20) followed at 11.3%.

The increased demand for gasohol in the first 10 months was presumably a result of the mandatory sales abandonment of gasoline 91, which was effective since the New Year.

More new cars under the government's First Car campaign, cheaper prices, and the increasing number of service stations helped buoy gasoline demand.

Meanwhile, the proportion of LPG consumption in the household sector dropped as that in the transport sector rose. The probable cause was that the LPG price in the household sector was raised by Baht 0.50 every month, starting from September 2013. Strict measures for inspection and suppression of LPG smuggling across different sectors deterred LPG smuggling from the household to the transport sector, as well as preventing illegal exports to neighboring countries.

Major operators in the domestic oil industry last year were PTT, Shell, Esso, Chevron, and Bangchak, with market shares shown below:

Company	% share of local market
PTT	36%
Esso	15%
Bangchak	13%
Shell	11%
Chevron	9%
IRPC	6%
Others	10%

Source: Department of Energy Business, Minister of Energy



## Oil price outlook

In 2014, Dubai is expected to average around USD 102/BBL, a slight drop from this year's average of around USD 106/BBL, because the growth rate of world crude supply is likely to exceed that of the demand. Most of the supply increase will come from non-OPEC countries such as the US and Canada. However, unrest in some major crude producers in the Middle East and North Africa, natural disasters, and other risk factors will support the Dubai price, which will again be volatile throughout the year.

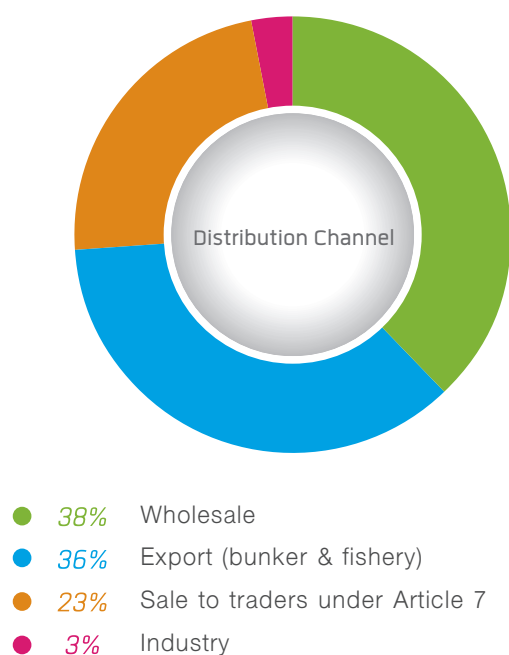
The International Energy Agency (IEA) forecasts an increase in crude supply from non-OPEC countries (as of December 2013) by 1.72 million BBL per day from this year's level, the majority of which will be tight oil in the US. Production from key players in OPEC like Iraq is expected to grow by 2 million BBL per day in 2014 if its crude oil development projects are completed as scheduled.



Meanwhile, world oil demand continues to rise. EIA forecasts (as of December 2013) an average oil demand next year of 92.37 million BBL per day, some 1.20 million BBL per day over that of this year, driven mainly by demand in developing countries like China and India. In addition, a developed economy such as the EU is also showing signs of growth for the first time in the last 2-3 years.

On the whole, energy commodity prices in Thailand in 2014 will prove higher due to the restructuring of fuel prices, which were set below the world market level, as well as the weakening Baht. As a rule, one Baht weaker will result in a retail oil price increase of Baht 0.80 per liter. Therefore, retail oil prices can be higher even though the world oil price does not increase. (Source : Ministry of Energy, NESDB, Thailoil).

## Sales Percentage of Oil Products



Source: Petroleum business, IRPC

## IRPC customers or distribution channels

IRPC focuses on product quality control under the standards required by the Ministry of Commerce. It also maximizes sales profits by setting the oil price in line with market conditions and work with affiliates to synergize sales strategy.

- Industrial sale - This includes car companies, cargo ships, buses, and construction companies, as well sales to affiliates.

- Wholesale/jobbers - This means both large and small wholesalers and jobbers who resell products in the form of direct and retail sales.
- Sale to traders under Article 7 - This includes major and medium-sized oil companies that possess oil depots and further distribute the products to end-customers through their own networks.
- Export - Sale to overseas markets is carried out through two methods, that is, by cargo ships to key markets in Asia, namely Singapore, Cambodia, and Vietnam, and by rail to key markets in Indochina, namely southern China, Cambodia, Laos, and Myanmar. This year IRPC exports accounted for 28% of total sales.
- Bunker - This is the sale of diesel, also known as automotive diesel oil (ADO), and fuel oil to ships.
- Fishery - This is the sale of diesel with 0.7% sulfur to fishery associations in territorial waters. IRPC boasts a 65% share in this market.

### Strategies for competition

As for its pricing strategy, IRPC stresses competitive pricing to maintain its market share and expand the customer base as well as sales volumes. It seeks to operate on appropriate marketing margins while having the following services readily available to customers:

- Oil depots - IRPC runs five oil depots to serve customers in all parts of the country, with the Rayong Oil Depot running around the clock. In 2012, the distribution point at Mae Klong Depot in Samut Songkhram province was launched to facilitate customers in western and upper southern provinces.
- Transport - IRPC owns a truck fleet for product distribution to customers around the country. It also manages a pier to serve customers who prefer marine loading.
- Personnel - IRPC has sales agents, sales representatives, and a sales service department to serve customers. Its dispatch office takes purchase orders through the SAP system. Data can be processed on-line and in real time to ensure accuracy and single-standard service to increase its service efficiency while reducing duplicate work. On-line and real-time data support the management and all staff in their analysis, decision-making, and administration. IRPC has now implemented the iRON (IRPC Oil on Net system), a product distribution management system that integrates the efficiency of its supply chain with the Total Business Solution System developed in-house. The system was designed to facilitate customers when they engage in transactions, while increasing IRPC's business efficiency. IRPC still carries on systems development in response to each phase of the operation of other distribution channels.



*The President observes the Chumphon Oil Depot, with the capability of transporting oil to the South and Myanmar*



- Quality control - IRPC commands technicians readily available to provide information and solutions to problems for customers. Its technicians pay quality-control visits to stations and depots to ensure customers' confidence in its quality.

## 2. Polymer market and competition

### The outlook for the petrochemical industry in 2014

The outlook for the petrochemical industry next year should be a slight improvement from this year. Key industrial risk factors are the economic conditions of Thailand's core markets such as the US, Europe, China, and Indonesia. However, EU's unstable economic conditions will be a critical factor for the industry. Therefore, in the short term operators have to adjust their production plans according to domestic and world economic conditions. In the longer term, they have to venture into new markets in developing countries, especially those in emerging economies.

IMF expects world economic growth to be 3.6%, with that of the developed countries being around 2.0%, and that of emerging economies such as China and ASEAN being at a higher level, around 7.3% and 5.4%. Despite a slight drop from 7.6% for China because the Chinese government wants no quantum-leap economic growth, the Chinese economy will still contribute to the world economic recovery. In addition, domestic demand is likely to be impacted by reduced economic stimulus measures and the economic reform implementation, particularly the 1) reduced excess capacity, 2) loan management to reduce debts, 3) conservative monetary policy to relieve the pressure from stability problems in the financial and property sectors.

For the emerging economies in ASEAN, Indonesia is forecasted to expand by 5.4%, close to 5.5% recorded this year with support from better exports, thanks to the recovering world economy and the weak Rupiah, as well as the government's measures to limit imports and stimulate exports. Vietnam is expected to grow at the same rate as last year at



5.4% due to the progress of the government's measures to resolve non-performing loans in the banking sector, boosting the confidence of the business sector, as well as the improved world economy favoring exports. Malaysia's economy, meanwhile, is expected to expand by 4.8%, up from 4.5% this year as a result of more exports to the improving US and European markets. Finally, the Philippines is projected to grow by 5.0%, a slump from 6.8% in 2013, because of the devastation by Typhoon Haiyan and a rising inflation.

However, domestic factors will be a constraint for the petrochemical business next year, since there is a risk of underperforming exports due to the eroded competitiveness in prices and production costs, both in Thailand and in ASEAN as a whole, resulting from the weak USD, Euro, and Yen, as well as the rising wages relative to other regions. This limits the expansion of production, exports, and domestic spending, and prompts financial institutions to be more cautious on lending under high levels of household debts.

Analysts have predicted, at any rate, that downstream industries such as electronics and spare parts, which will be spared by the weakening domestic buying power and political turmoil, will benefit from the world economic recovery and the weakening Baht.

### Strategies for competition

As a rule, polymers form merchandise with high price sensitivity. The price is influenced by various factors ranging from raw materials, that is, crude oil, naphtha, and monomers, to demand and supply in the domestic and world markets. IRPC's pricing policy is therefore formulated in line with these factors. To stay competitive in both domestic and world markets, it bases its product prices on the ICIS CFR South East Asia reference price together with internal factors, including inventories and production costs. IRPC strives to be a low-cost producer, leveraging an integrated petrochemical business and supportive production factors, such as a material warehouse



and its deepsea port. IRPC, as a result, commands edges on production costs and could manage to maintain its competitiveness, even when product prices come down.

### Product quality

As Thailand's petrochemical pioneer, the company has over time closely followed up customers' needs. All products are now certified with ISO9001, resulting in customers' confidence in IRPC's international standards. It is capable of developing and providing new products to efficiently satisfy customers' needs in domestic and world markets alike.

The company can now produce polymers of different grades, that is, natural, color compounds, and composites, which are colored products mixed with additives to make their properties outstanding to best respond to particular needs of customers, such as electrical appliance parts and car parts. IRPC's compounding and composite plants are located in



the same area as other plants under IRPC's single management system, which makes it easy for it to respond to purchase orders, particularly for tailor-made products. The company also manages its own technical department, which can give advice to customers.

At all times, IRPC takes into account the environment, occupational health, and safety in its operations. For each product line, it has a policy on the environment and safety of its own employees and the community. It has now been certified with ISO14001 and TIS18001 for all products. Moreover in 2011, its ethylene, PE, PP, and PS plants were named to the Standard for Corporate Social Responsibility Award (CSR-DIW) by the Department of Industrial Works

### Product diversity

At present, IRPC Group has a capacity of over 800 KTA of various product types, including HDPE, PP, EPS, PS, ABS, and SAN, thus making its approach to customers more flexible. This is because some products can replace one another to suit market demand. For example, HDPE can replace PP in injection molding of household appliances, woven bags, and canvas. Selection of the right type of polymers depends on a number of factors, including the properties of each and market demand. As a rule, being a producer with diverse products opens up more business opportunities. Its sales agents can make various different offers to customers in both domestic and overseas markets, which helps reduce the average sales cost per unit.

### Types of customers

IRPC's customers are mostly sales agents. It sells no more than 30% of its sales volumes to a given agent and is under no obligation to do so in the future, thus averting risks of being monopolized.



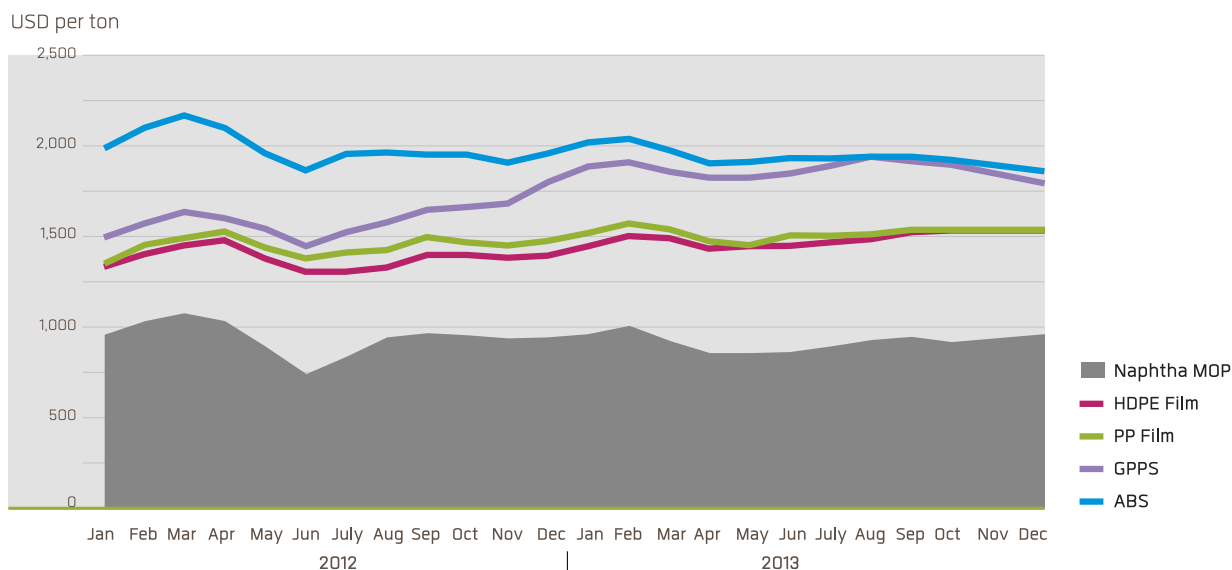
*Through the year, IRPC conduct consultations and seminars with customers in Thailand and abroad*

### Distribution and distribution channels

#### Domestic Sale

Since polymers are basic feedstock for many other domestic consumer products, IRPC's policy focuses on domestic sales. This year, 50% or more of domestic sales depending on customers' needs were carried out through 21 agents to support the economic strategy of the country and entrepreneurs. The company contracts appoint sales agents, most of whom have had business ties with it for over 20 years. Its position as an integrated petrochemical producer with diverse products can help these sales agents save their marketing and management costs, resulting in a stronger relationship with them. IRPC also carried out some direct sales with reliable customers, taking into consideration their financial and payment capability.

## Graph – Prices of feedstock and petrochemical products



Source: ICIS

### Export

This year IRPC exported polymers through overseas sales agents with long business ties. Its export strategy focuses on its strengths in quality and product diversity, as well as technical services and advice on product development. Its agents have established a firm business network with end-customers in key markets with high polymer demand, including China, Indonesia, Turkey, Vietnam, and Australia. It has also expanded to other regions, including Africa, Europe, the US, Asia, the Middle East, and Australia. Currently, its products are sold in over 100 countries worldwide.

### Polymer market and competition

The petrochemical industry expanded this year presumably due to the economic growth in markets that are Thailand's core market. However, the EU's economic crisis and debt repayment extension problems in the US are still a key factor for the petrochemical industry to keep an eye on. In addition, a slowdown in export value expansion is expected as domestic production capacity increases at the expense of imports.

Another factor dealing blows to petrochemical exports is the exchange rates in countries such as Vietnam, Malaysia, and Thailand, which has been highly volatile since midyear. Nevertheless, the petrochemical and polymer industries were supported by downstream industries and domestic industries such as the appliances, electronics, and automotive industries.

This year also saw the prices of monomers and polymers adjusted in line with the volatile directions of raw materials, namely crude oil and naphtha. Compared with polymer prices of the January-November 2012, PP prices went up by 5% to an average of USD 1,517 per ton; HDPE prices rose by 8% from last year to USD 1,483 per ton; PS prices increased by 19% to USD 1,872 per ton; and ABS price fell by 2% to USD 1,989 per ton. As for monomers, ethylene prices rose by 10% to USD 1,347 per ton on average; propylene prices went up by 4% to USD 1,324 per ton; and SM increased by 19% to USD 1,744 per ton.

### 3. Port business market and competition

This year the Ministry of Energy's policy of raising the national strategic fuel reserve rate from 5% to 6% has benefited IRPC's port and tank business, which focuses on maximum utilization of assets, namely the terminal and product tanks, to generate

profits for the business unit. A case in point was the modification of product tanks to serve outside customers. IRPC Port focuses on service with an international safety standard for customers' maximum satisfaction and on efficiently accommodating customers' business growth. This year, IRPC successfully raised the LCT occupancy to 60% (2% over that last year), generating income from external customers of about Baht 589 million (9.3% over that last year of Baht 539 million).

- **Bulk and container terminal & liquid and chemical terminal**

IRPC holds a strategy of growing its customer bases in general bulk materials, such as granite and sands, and expansion of some 70,000 square meters in bulk material yards and warehouses. The port also conducted dredging of navigation channels and

improvement of infrastructure to serve more needs of customers, while improving its service standard through online services.

- **Tank Services**

Revenue from tank services this year amounted to Baht 323 million, against Baht 234 million last year, a 38% rise due to the strategy to maximize the use and efficiency of existing tanks. This includes development of the Rayong Oil Depot to accommodate the oil stock requirements in Thailand's oil reserves strategy, and conversion of the IRPC Phra Padaeng Oil Depot into a hub for the storage and transfer of ethanol and basic petrochemicals.

This year, the tank service business served new customers, namely Asia Pacific Petrochemical, Ubon Bio Ethanol, PTT Plc, Ube Chemicals (Asia) Plc, Thai Oil Plc, Siam Khemi, Susco Plc, and Susco Dealers.







#### 4. Marketing and competition in asset management business

In the first half this year, the industrial estate market on the Eastern Seaboard saw continuous growth from 2012. But the floods of October 2013 jolted the eastern provinces of Chonburi and Prachin Buri, where there are large manufacturing bases for many large industries. These areas had never been flooded before. As a result, the slowed-down market in conjunction with the political unrest toward the year-end made investors suspend their decision making.

In 2014, the industrial estate market should continue expanding, evident in more foreign direct investment through the Board of Investment (BOI), which approved more than one trillion Baht of investment this year. Japan still ranks first in foreign investment. The ASEAN Economic Community (AEC) will be a contributing factor for foreign investors to relocate their industrial manufacturing bases, such as that of the automotive industry.

Ironically, the big floods in Thailand's Eastern Region were a boon to Rayong Industrial Estate (Ban Khai) in Amphoe Ban Khai, since it was not at all affected. IRPC started to develop the area and held a ground-

breaking ceremony on December 23 this year, and is setting up a temporary office to be completed in mid-February 2014. The project will be equipped with infrastructure and facilities for the targeted business groups, namely alternative energy, bioplastics and polymers that use natural raw materials, environment-friendly businesses, and growing businesses such as automotive parts. In addition, the Rayong Industrial Estate (Ban Khai) is trusted by the Industrial Estate Authority of Thailand and the Plastics Institute of Thailand to be the first domestic industry estate to accommodate added-value plastic industries (Plastic Park) to manufacture high-value plastics such as medical plastics, automotive, and aircraft parts.



# Management Discussion and Analysis (MD&A)

## Executive Summary

In 4Q13, EBITDA was Baht 2,396 million, increasing by Baht 1,508 million or 170% compared to that in 4Q12, Baht 888 million. Net profit amounted to Baht 784 million in 4Q13. Comparing to net losses of Baht 30 million in 4Q12, this was an increase of Baht 814 million in the net profit.

For the full year of 2013, EBITDA amounted to Baht 7,489 million. This was an increase of Baht 3,364 million or 82% from the EBITDA in the last year, which was Baht 4,125 million. Net profit was Baht 826 million, rising by Baht 1,603 million or 206%, comparing to net losses of Baht 777 million last year. The details of the changes are summarized below.

1. Consolidated net sales revenue in 4Q13 was Baht 74,769 million, growing by Baht 8,351 million or 12.6% from 4Q12. The rise in net sales revenue was attributed to an increase of 12.8% in the sales volume from 15.80 million barrels or 172 KBD in 4Q12 to 17.82 million barrels or 194 KBD while the levels of product prices in 2013 and 2012 were relatively similar.

For the full year 2013, consolidated net sales revenue was Baht 282,649 million, shrinking by Baht 1,019 million or 0.4%. This was caused by a decrease of 6.7% in the product prices despite an increase of 6.3% in the sale volume from 66.09 million barrels or 181 KBD in 2012 to 70.24 million barrels or 192 KBD.

2. In 4Q13, the Market Gross Integrated Margin (Market GIM) decreased to USD 6.47 per barrel, compared to the Market GIM of USD 6.70 per barrel in 4Q12, as result of a decline in the prices of petroleum products was larger than a decline in the crude price. In this quarter, the use of domestic crude

rose to 19 KBD or 11% of the total crude intake, which helps to support the GIM. The Accounting GIM was USD 8.94 per barrel, compared to that in 4Q12, USD 7.02 per barrel. In 4Q13, stock gains amounted to Baht 73 million (USD 0.14 per barrel) while oil hedging gains amounted to Baht 1,188 million (USD 2.33 per barrel). In 4Q12, there were stock losses of Baht 159 million (USD 0.33 per barrel) and oil hedging gains of Baht 309 million (USD 0.65 per barrel). There was no LCM in both 4Q13 and 4Q12.

For the full-year of 2013, the Market GIM was USD 6.96 per barrel, compared to prior-year Market GIM, USD 5.83 per barrel. This improvement was due to better product prices combined with increased use of domestic crude amounting to 10 KBD or 6% of the total crude intake, which reduced the costs of production. The full-year Accounting GIM was USD 8.38 per barrel, compared to the Accounting GIM last year, USD 6.26 per barrel. In 2013, stock gains were Baht 1,180 million (USD 0.58 per barrel) while oil hedging gains were Baht 1,721 million (USD 0.84 per barrel). In 2013, there was no provision of Lower of Cost or Market (LCM). In 2012, stock gains amounted to Baht 861 million (USD 0.44 per barrel) and reversal of provision for LCM amounted to Baht 39 million (USD 0.02 per barrel). There were hedging losses of Baht 55 million (USD 0.03 per barrel).

3. Other incomes in 4Q13 rose by 425 million compared to 4Q12, mainly due to gains of Baht 711 million from sales of lands in EIZ to IRPC Clean Power Ltd. (IRPC-CP) aimed to pursue a combined heat and power plant project in Rayong province. In 4Q12, there were gains of Baht 362 million from sales of land. The full-year other incomes in 2013 increased by Baht 148 million compared to last year, mainly due to sales of lands in industrial estate.

4. Depreciation expenses in 4Q13 rose by Baht 109 million compared to those incurred in 4Q12. The full-year depreciation expenses increased by Baht 445 million compared to the year-ago period mainly due to completion of operational improvement and expansion projects during 2013.

5. Net financing costs in 4Q13 increased by Baht 183 million from 4Q12 due to a decrease of Baht 222 million in gains from cross-currency swap (CCS) transactions and a decrease of Baht 17 million in the interest receipts, despite a decrease of Baht 56 million in interest payments.

In 2013, net financing costs rose by Baht 20 million from last year because the amount of the total debt increased although the interest rate on the debt fell.

6. As of the end of 2013, there was USD-denominated debt of USD 413 million. In 4Q13, there were losses from foreign exchange of Baht 597 million, most of which were unrealized, due to depreciation of Baht, compared to gains of Baht 79 million in the 4Q12.

For the full year of 2013, losses from foreign exchange amounted to Baht 909 million in 2013, most of which were unrealized, compared to gains of Baht 386 million in 2012.

7. In 4Q13, gains from impairments and write-off of assets fell by Baht 130 million from 4Q12. These gains were mainly contributed from sales of land plots in Wang Chan district, Rayong province and sales of other lands amounting to Baht 312 million. Such sales were in line with IRPC's Asset Utilization Enhancement strategy. In 4Q12, there were gains of Baht 402 million from reversal of impairments relating to land revaluation undertaken every 3 years as required by accounting regulations.

For the full year of 2013, gains from impairments and write-off of assets were Baht 321 million dropping by Baht 220 million in 2013 compared to those of last year, Baht 541 million. These gains in 2013 were mainly contributed from the aforementioned sales of lands in Rayong.

8. In 4Q13, gains from investments rose by Baht 379 million compared to those in 4Q12. The change in the gains was mainly contributed from gains of Baht 193 million from sales of investments in IRPC-CP and gains of Baht 192 million from revaluation of remaining investments in IRPC-CP. For the full year of 2013, there was an increase of Baht 136 million from investments compared to those in 2012. This was largely due to gains from sales of investments in IRPC-CP despite a decrease of Baht 103 million in the shares of profits from associate companies from the same period last year.

## Basis of Preparation for the Consolidated Financial Statements

As of 31 December 2013, consolidated financial statements incorporate financial statements of ten subsidiaries. In comparison with the previous quarter, the number of firms whose financial statements incorporated in the consolidated financial statement declined by two firms as described below.

### 1. IRPC Clean Power Company Limited

The Board of Directors Meeting of IRPC No. 13/2013 held on 19 November 2013 passed the resolution to approve the disposal of 45.9 million shares (equivalent to 51% of total share capital of 90 million shares) in IRPC-CP to Global Power Synergy Company Limited ("GPSC") with par value of Baht 10 per share, amounting to Baht 709 million. This transaction was executed on 17 December 2013, which led IRPC's investment in IRPC-CP to decline to 49% and IRPC-CP to become IRPC's associate company. Therefore, the financial statement of IRPC-CP has not incorporated in the consolidated financial statement since 4Q13.

### 2. R. Solution Company Limited

R. Solution (former IRPC Service Company Limited) was IRPC's subsidiary. It was sentenced by the Central Bankruptcy Court to absolute receivership on 24 September 2013. This matter was announced in the newspaper by the Custodian Officer and it was also announced in the Royal Thai Government Gazette

on 28 October 2013. The settlement of its debt was undertaken on 2 January 2014. The company is now under the supervision of the Custodian Officer. Consequently, IRPC has not included the financial statements of the subsidiary in the consolidated financial statements since the fourth quarter of 2013 onwards.

## Effects from Adoption of New Accounting Policy

On 1 January 2013, IRPC applies TAS 12 Income taxes which is effective for accounting period beginning on or after 1 January 2013.

The change in accounting policies has been applied retrospectively. The effects on the consolidated and company financial information are as follows:

(unit : million Baht)

	Consolidated	Company
<b>Statements of financial position</b>		
Deferred tax assets as of 31 December 2012 – increase	2,319	1,934
Retained earnings as of 1 January 2012 – increase	2,137	1,707
Retained earnings as of 31 December 2012 – increase	2,319	1,934
Other component of shareholders' equity as at 1 January 2012 - increase	0.33	0.33
Other component of shareholders' equity as at 31 December 2012 - decrease	(0.31)	(0.31)
<b>Statement of income for the year ended 31 December 2012</b>		
Income taxes –decrease	(182)	(227)
Net profit –increase	182	227
Basic earnings per share - increase (Baht)	0.01	0.01

## Consolidated Statement of Income for the Year Ended 31 December 2012

	1Q12	2Q12	3Q12	4Q12	2012
Net profit before adjustments	944	(4,060)	2,141	16	(959)
Adjustments of accounting standard income taxes	29	606	(407)	(46)	182
Net Profit after adjustments	973	(3,454)	1,734	(30)	(777)

## 1. Analysis of Operating Performance

### 1.1 Consolidated Income statement

	unit : million Baht					unit : USD/bbl				
	4Q13	4Q12 <sup>(4)</sup>	3Q13	2013	2012 <sup>(4)</sup>	4Q13	4Q12 <sup>(4)</sup>	3Q13	2013	2012 <sup>(4)</sup>
Average FX (THB/USD)	31.87	30.82	31.62	30.86	31.22					
Total Crude Intake (Mbbbl)	15.99	15.50	16.45	66.09	64.22					
Average Crude <sup>(1)</sup> (USD/bbl)	110.10	110.80	109.31	109.22	113.05					
Net Sales <sup>(2)</sup>	74,769	66,418	71,766	282,649	283,668	146.69	139.04	137.97	138.58	141.47
Cost of Feedstock - Market Price	(71,467)	(63,216)	(68,645)	(268,443)	(271,969)	(140.22)	(132.34)	(131.98)	(131.62)	(135.64)
<b>Market GIM</b>	<b>3,302</b>	<b>3,202</b>	<b>3,121</b>	<b>14,206</b>	<b>11,699</b>	<b>6.47</b>	<b>6.70</b>	<b>5.99</b>	<b>6.96</b>	<b>5.83</b>
Stock Gain/(Loss)	73	(159)	2,085	1,180	861	0.14	(0.33)	4.01	0.58	0.44
LCM	-	-	-	-	39	-	-	-	-	0.02
Oil Hedging Gain/(Loss)	1,188	309	211	1,721	(55)	2.33	0.65	0.41	0.84	(0.03)
<b>Accounting GIM</b>	<b>4,563</b>	<b>3,352</b>	<b>5,417</b>	<b>17,107</b>	<b>12,544</b>	<b>8.94</b>	<b>7.02</b>	<b>10.41</b>	<b>8.38</b>	<b>6.26</b>
Other Income <sup>(3)</sup>	1,140	715	289	1,981	1,833	2.24	1.50	0.56	0.97	0.91
Selling Expenses	(334)	(237)	(288)	(1,228)	(1,007)	(0.66)	(0.50)	(0.55)	(0.60)	(0.50)
<b>Accounting GIM and Other Income</b>	<b>5,369</b>	<b>3,830</b>	<b>5,418</b>	<b>17,860</b>	<b>13,370</b>	<b>10.52</b>	<b>8.02</b>	<b>10.42</b>	<b>8.75</b>	<b>6.67</b>
Operating Expenses	(2,973)	(2,942)	(2,770)	(10,371)	(9,245)	(5.83)	(6.16)	(5.33)	(5.09)	(4.61)
<b>EBITDA</b>	<b>2,396</b>	<b>888</b>	<b>2,648</b>	<b>7,489</b>	<b>4,125</b>	<b>4.69</b>	<b>1.86</b>	<b>5.09</b>	<b>3.66</b>	<b>2.06</b>
Depreciation	(1,322)	(1,213)	(1,238)	(4,932)	(4,487)	(2.59)	(2.54)	(2.38)	(2.42)	(2.24)
Net Financing Cost	(390)	(207)	(209)	(1,489)	(1,469)	(0.77)	(0.43)	(0.40)	(0.73)	(0.73)
Gain/(Loss) from Foreign Exchange	(597)	79	(112)	(909)	386	(1.17)	0.17	(0.22)	(0.45)	0.19
<b>Profit/(Loss) before tax and non-recurring items</b>	<b>87</b>	<b>(453)</b>	<b>1,089</b>	<b>159</b>	<b>(1,445)</b>	<b>0.16</b>	<b>(0.94)</b>	<b>2.09</b>	<b>0.06</b>	<b>(0.72)</b>
Gain/(Loss) from impairment and disposal of fixed assets	313	443	9	321	541	0.61	0.93	0.02	0.16	0.27
Investment Gain/(Loss)	401	22	16	407	271	0.79	0.04	0.04	0.20	0.13
Other Expenses	(3)	(10)	-	(31)	(240)	(0.01)	(0.02)	-	(0.02)	(0.12)
<b>Net Profit/(Loss) before Income Tax</b>	<b>798</b>	<b>2</b>	<b>1,114</b>	<b>856</b>	<b>(873)</b>	<b>1.55</b>	<b>0.01</b>	<b>2.15</b>	<b>0.40</b>	<b>(0.44)</b>
Income Tax	(9)	(26)	(61)	(7)	117	(0.02)	(0.06)	(0.12)	-	0.06
Non-controlling Interests	(5)	(6)	(5)	(23)	(21)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
<b>Net Profit/(Loss)</b>	<b>784</b>	<b>(30)</b>	<b>1,048</b>	<b>826</b>	<b>(777)</b>	<b>1.52</b>	<b>(0.06)</b>	<b>2.02</b>	<b>0.39</b>	<b>(0.39)</b>

- Note :**
- (1) Average market prices of crude used in the product process.
  - (2) Including petroleum business (excluded excise taxes), petrochemical business, power and utilities business.
  - (3) Other income consist of sale of land, port, tank farm and service, etc.
  - (4) Income statement in 2012 has been adjusted retrospectively based on the adoption of TAS 12 income taxes.



## 1.2 Movement of Crude Oil Price

In 4Q13, crude oil price was still quite volatile. The average Dubai price in December was USD 107.9 per barrel compared to the average Dubai price at the end of 3Q13, USD 108.3 per barrel. The average Dubai price in 4Q13 was USD 106.8 per barrel compared to average Dubai prices in 3Q13 and 4Q12, which are USD 106.3 per barrel and USD 107.5 per barrel respectively.

Main factors that led to relatively high level of both volatility and price of crude were a decline in the US crude inventory, resumption of US refinery, and a decline in Libyan exports caused by ongoing closures

of ports in Libya. However, the crude oil price faced a downward pressure from FED's decision to taper QE3.

In 2014, it is anticipated that economic recovery in US, China and Euro-zone countries and political turmoil in the Middle East are likely to be the main factors, which influence demand and supply of crude oil, resulting in relatively volatile crude oil price. However, IRPC has risk management measures to address crude oil price and crack-spread risk under supervision of the Hedging Committee which is established to manage risk exposures according to the hedging policy approved by the Board of Directors in order to mitigate the impact of such risk.

Spread	Unit	4Q13	4Q12	3Q13	Change		2013	2012	Change
					YoY	QoQ			
Dubai Average	(USD/bbl)	106.8	107.5	106.3	(1)%	0.5%	105.5	109.1	(3)%
<b>Petroleum</b>									
Naphtha - Dubai	(USD/bbl)	(3.00)	(3.90)	(5.8)	23%	48%	(4.40)	(5.40)	19%
ULG95 - Dubai	(USD/bbl)	9.2	13.4	12.4	(31)%	(26)%	13.7	14.4	(5)%
Gas Oil 0.5% S - Dubai <sup>(1)</sup>	(USD/bbl)	N/A	17.5	N/A	N/A	N/A	N/A	17.1	N/A
Gas Oil 0.05%S - Dubai	(USD/bbl)	17.7	19.4	17.3	(9)%	2%	17.9	19.1	(6)%
FO180 3.5%S - Dubai	(USD/bbl)	(10.4)	(9.0)	(10.7)	(16)%	3%	(8.0)	(3.3)	(142)%
500SN – FO180 3.5%S	(USD/MT)	509	460	518	11%	(2)%	486	519	(6)%
150BS – FO180 3.5%S	(USD/MT)	621	556	615	12%	1%	572	667	(14)%
Asphalt – FO180 3.5%S	(USD/MT)	(27)	15	(3)	(279)%	(790)%	(14)	(39)	64%
Naphtha	(USD/MT)	946	944	920	0.2%	3%	922	943	(2)%
<b>Petrochemical</b>									
<b>Aromatics</b>									
Benzene – Naphtha	(USD/MT)	338	420	336	(20)%	1%	382	268	42%
Toluene – Naphtha	(USD/MT)	192	335	205	(43)%	(6)%	241	237	1%
Mixed Xylene – Naphtha	(USD/MT)	269	385	349	(30)%	(23)%	329	322	2%
<b>Olefins</b>									
HDPE – Naphtha	(USD/MT)	590	449	568	32%	4%	566	436	30%
PP – Naphtha	(USD/MT)	597	519	596	15%	0.1%	597	502	19%
<b>Styrenis</b>									
SM – Naphtha	(USD/MT)	759	692	895	10%	(15)%	820	544	51%
ABS – Naphtha	(USD/MT)	960	995	1,015	(3)%	(5)%	1,021	1,043	(2)%
PS – Naphtha (GPPS)	(USD/MT)	891	771	995	16%	(10)%	946	653	45%

**Note :** (1) In 2013 Gasoil 0.05%S is used in lieu of Gasoil 0.5%S

- Naphtha – Dubai crude oil spread improve because of higher demand from Taiwan and North Korea and the demand for naphtha is also favorably influenced by higher LPG price in the winter. Moreover, refineries in India, Middle East, and Europe had shutdown maintenance resulting in a decrease in the export of naphtha from these regions.
- Gasoline (ULG 95) – Dubai crude oil spread declined because of weaker regional demand, particularly demand from Indonesia and Vietnam which are major importers, and an increase in the supply from refineries in Taiwan and China.
- Gasoil 0.05% - Dubai crude oil spread dropped compared to 4Q12. However, it rose from the previous quarter due to a rise in the demand from South Korea, Indonesia, Middle East and Africa combined with a decline in the exports from India due to the monsoon season.
- FO 180 3.5%S – Dubai crude oil spread fell compared to 4Q12. Although it improved quarter on quarter, the improvement was marginal since the demand from marine logistic sector continued to be subdued and exports from Russia and South America to Asia remained relatively high.
- Lube base (500SN) – fuel oil 180 3.5%S spread improved from 4Q12 but it deteriorated from 3Q13 since the lube base oil demand seasonally decreased towards the end of year and, moreover, there was an increase in the export of lube base oil from Russia to Asia.
- Asphalt – FO 180 3.5%S spread worsened in 4Q13 significantly because of a sizable decrease in the demand from Indonesia, Malaysia, and Vietnam, which in turn adversely affected the price of asphalt.
- Aromatics – naphtha spread narrowed compared to both 4Q12 and 3Q13. The spread for mixed-xylene significantly deteriorated due to a decrease in the demand for polyester and thus the utilization rate of polyester production in China, thereby adversely affecting the demand for paraxylene and mixed-xylene. Toluene spread weakened as the demand from gasoline blending remained weak. Moreover, the demand for toluene as a feedstock in China and India also dropped.
- Polyolefins – naphtha spread was solid. Specifically, the spreads for HDPE and PP are both higher compared to those in 4Q12 and 3Q13 although the improvement relative to 3Q13 for PP was rather marginal. Solid polyolefin spreads resulted from the fact that their demand remained stable demand and the prices of ethylene and propylene remained high. Moreover, supply from Middle East to Asia decreased due to production disruption.
- Polystyrenics – naphtha spread was mixed. The spread for ABS worsened compared to both 4Q12 and 3Q13 due to a decline in the product price caused by concerns over economic situation in US and Europe. The spread for PS rose compared to 4Q12. However, this spread deteriorated quarter on quarter following the price of the styrene monomer which plummeted due to refineries returning from turnarounds.

### 1.3 Production

Petroleum	4Q13	4Q12	3Q13	Change		2013	2012	Change
				YoY	QoQ			
Crude Intake								
Mbbl	15.99	15.50	16.45	3%	(3)%	66.09	64.22	3%
KBD	174	168	179	3%	(3)%	181	175	3%
Utilization Rate								
Refinery	81%	78%	83%	3%	(3)%	84%	82%	3%

Petrochemical	4Q13	4Q12	3Q13	Change		2013	2012	Change
				YoY	QoQ			
Utilization Rate								
Aromatics	89%	89%	78%	0%	14%	86%	80%	7%
Olefins	111%	102%	107%	9%	4%	107%	97%	9%
Styrenics	95%	93%	81%	2%	17%	87%	92%	(5)%

In 4Q13, the crude intake was 15.99 million barrels or 174 KBD, which was equivalent to 81% of total capacity. This amounted to an increase of 3% compared to the crude intake in 4Q12 but a decrease of 3% compared to the crude intake in 3Q13. The use of domestic crude amounted to 1.7 million barrels or 19 KBD in 4Q13, which rose by 89% compared to that in 3Q13, which was 0.9 million barrels or 9 KBD. For the full year of 2013, domestic crude intake was 3.7 million barrels or 10 KBD.

The utilization rates for the petrochemical business in 4Q13 were 89%, 111%, and 95% for aromatics,

olefins, and styrenics respectively. The utilization rate of aromatics in 4Q13 rose from 3Q13 because there was a maintenance shutdown in the Reformer unit for 5 days, resulting in a shortage of feedstock for the aromatic production line in 3Q13. Compared to 3Q13, the utilization rate of styrenics in 4Q13 increased because there was a shutdown in the EBSM unit due to tie-in of expanded plant facility in 3Q13 (between June 2013 and July 2013), which would enable the EBSM to expand its capacity from 200,000 tons per year to 260,000 tons per year. The Commercial Operating Date (COD) of this work was 1 September 2013.

### 1.4 Sales Volume and Sales Value

Products	Sales Volume			Sales Value (million Baht)					Proportion of Sales 2013	
	4Q13	4Q12	3Q13	4Q13	4Q12	3Q13	2013	2012	Local	Export
1. Petroleum (Mbbl)	14.83	13.66	14.86	56,173	51,040	55,085	216,175	221,390	61%	39%
2. Petrochemical (KMT)	373	323	344	17,828	14,794	15,928	63,582	58,979	59%	41%
3. Power and Utilities				768	584	753	2,892	3,299	100%	-
<b>Net Sales (Mbbl)</b>	<b>17.82</b>	<b>15.80</b>	<b>17.63</b>	<b>74,769</b>	<b>66,418</b>	<b>71,766</b>	<b>282,649</b>	<b>283,668</b>	<b>61%</b>	<b>39%</b>
4. Other Income				1,140	715	289	1,981	1,833	100%	-
<b>Total Revenue</b>				<b>75,909</b>	<b>67,133</b>	<b>72,055</b>	<b>284,630</b>	<b>285,501</b>	<b>62%</b>	<b>38%</b>

Net sales revenue in 4Q13 was Baht 74,769 million, increasing by Baht 8,351 million or 12.6% from 4Q12. The increase in the sales revenue was due to an increase of 12.8% in total sales volume from 15.80 million barrels (172 KBD) in 4Q12 to 17.82 million barrels (194 KBD) in 4Q13, which more than offset a decrease of 0.2% (equivalent to Baht 187 million) in the prices of products. The details of the net sales revenue for 4Q13 are shown below.

- Net sales of petroleum businesses in 4Q13 were Baht 56,173 million, increasing by Baht 5,133 million or 10%, compared to 4Q12. The rise in sales revenue was due to an increase of 9% in the total sales volume from 13.66 million barrels in 4Q12 to 14.83 million barrels, which was in turn caused by an increase in the crude intake from 168 KBD to 174 KBD. Moreover, the product prices rose by 1%.
- Net sales of petrochemical businesses in 4Q13 were Baht 17,828 million, increasing by Baht 3,034 million or 20%, compared to 4Q12. The rise in sales revenue was due to an increase of 15% in the total sales volume from 0.323 million ton in 4Q12 to 0.373 million ton, which was in turn mainly due to styrenic production expansion. Moreover, the product prices rose by 5%.
- Net sales of power & utility businesses rose by Baht 184 million in 4Q13. Other incomes increased due to gains of Baht 711 million from sales of land in the industrial estate rising by Baht 349 million, and an increase of Baht 50 million in revenue from port business.

Net sales revenue in 2013 was Baht 282,649 million, declining by Baht 1,019 million or 0.04% from last year. The reduction in the sales revenue was due to a decrease of 6.7% (equivalent to Baht 19,294 million) in product prices, which more than offset an increase of 6.3% (equivalent to Baht 18,275) in the total sales volume from 66.09 million barrels (181 KBD) in 2012 to 70.24 million barrels (192 KBD) in 2013. The details of the full-year net sales revenue are shown below.

- Net sales of petroleum businesses in 2013 were Baht 216,175 million, dropping by Baht 5,215 million or 2%, compared to 2012. The drop in sales revenue was due to a decrease of 5% in the product prices despite an increase of 3% in the total sales volume from 57.59 million barrels in 2012 to 59.21 million barrels, which was in turn caused by an increase in the crude intake from 175 KBD to 181 KBD in 2013.
- Net sales of petrochemical businesses in 2013 were Baht 63,582 million, increasing by Baht 4,603 million or 8%, compared to 2012. The rise in sales revenue was due to an increase of 7% in the total sales volume from 1.28 million ton in 2012 to 1.37 million ton, mainly from olefin and styrenic products. Moreover, the product prices rose by 1%.
- Net sales of power & utility businesses fell by Baht 407 million in 2013. Other incomes increased due to an increase of Baht 349 million in the gains from sales of land in the industrial estate and an increase of Baht 50 million in revenue from port business.

### 1.5 Gross Integrated Margin (GIM)

(unit : USD/bbl)

Market GIM	4Q13	4Q12	3Q13	Change		2013	2012	Change
				YoY	QoQ			
Petroleum (GRM)	1.57	2.71	1.61	(1.14)	(0.04)	2.27	2.48	(0.21)
Petrochemical (PTF)	4.08	3.35	3.33	0.73	0.75	3.77	2.33	1.44
Power and Utilities	0.82	0.64	1.05	0.18	(0.23)	0.92	1.02	(0.10)
<b>Total</b>	<b>6.47</b>	<b>6.70</b>	<b>5.99</b>	<b>(0.23)</b>	<b>0.48</b>	<b>6.96</b>	<b>5.83</b>	<b>1.13</b>

### 1.5 Gross Integrated Margin (GIM)

(unit : USD/bbl)

Accounting GIM	4Q13	4Q12	3Q13	Change		2013	2012	Change
				YoY	QoQ			
Petroleum (GRM)	3.31	3.16	5.27	0.15	(1.96)	3.59	3.06	0.53
Petrochemical (PTF)	4.81	3.21	4.09	1.60	0.72	3.87	2.18	1.69
Power and Utilities	0.82	0.64	1.05	0.18	(0.23)	0.92	1.02	(0.10)
<b>Total</b>	<b>8.94</b>	<b>7.02</b>	<b>10.41</b>	<b>1.92</b>	<b>(1.47)</b>	<b>8.38</b>	<b>6.26</b>	<b>2.12</b>



- In 4Q13, the Market GIM was USD 6.47 per barrel, dropping by USD 0.23 per barrel compared to USD 6.70 per barrel in 4Q12. The drop in the Market GIM was mainly attributed to a decline in the spread of the petroleum products despite an increase in the spread of petrochemical products and the use of domestic crude amounting to 19 KBD in 4Q13. The GRM of petroleum business declined by USD 1.14 per barrel. This effect is larger than the impact of increases in the Product-to-Feed (PTF) of petrochemical business which was USD 0.73 per barrel and in the spread for power and utilities which was USD 0.18 per barrel.

- For the full year of 2013, the Market GIM was USD 6.96 per barrel, rising by USD 1.13 per barrel compared to USD 5.83 per barrel in 2012. The GRM of petroleum business declined by USD 0.21 per barrel, mainly due to a decrease in the spread of lube base products despite a slight increase in the spread of refinery products and an increase in the domestic crude intake to 10 KBD. Moreover, the spread for power and utilities dropped by USD 0.10 per barrel. However, these impacts on the Market GIM were more than offset by an increase of USD 1.44 per barrel in the Product-to-Feed (PTF) of petrochemical business, which was mainly attributed to rising product prices, particularly styrenic and olefins.

- The Accounting GIM in 4Q13 was USD 8.94 per barrel, increasing by USD 1.92 per barrel compared to USD 7.02 per barrel in 4Q12. In 4Q13, there were stock gains and oil hedging gains of USD 0.14 per barrel and USD 2.33 per barrel respectively, while there were stock losses of USD 0.33 per barrel and hedging gains of USD 0.65 per barrel in 4Q12.

- The full-year Accounting GIM in 2013 was USD 8.38 per barrel, increasing by USD 2.12 per barrel compared to USD 6.26 per barrel in 2012. In 2013, there were stock gains and oil hedging gains of USD 0.58 per barrel and USD 0.84 per barrel respectively, while there were stock gains, reversal of provision for LCM of USD, and hedging losses of USD 0.44 per barrel, USD 0.02 per barrel, and USD 0.03 per barrel respectively in 2012.

## 1.6 Operating Expenses

In 4Q13, the operating expenses were Baht 2,973 million or USD 5.83 per barrel, compared to Baht 2,942 million or USD 6.16 per barrel for 4Q12. Thus, the operating expenses rose by Baht 31 million or 1% and the operating expenses per unit fell by USD 0.33 per barrel or 5%. The increase in the operating expenses was mainly driven by an increase in the staff costs and depreciation of Baht, despite an increase of 3% in the crude intake.

The full-year operating expenses amounted to Baht 10,371 million or USD 5.09 per barrel in 2013, compared to Baht 9,245 million or USD 4.61 per barrel in the same period last year. The operating expenses therefore increased by Baht 1,126 million or 12%. A rise in the staff costs is also the main factor driving the increase in the operating expenses in this period.

## 1.7 Depreciation Expenses

Depreciation expenses were Baht 1,322 million in 4Q13, an increase of Baht 109 million or 9%, compared to those incurred in 4Q12. This was because the depreciation for investment projects, such as Lube Group<sup>1</sup>, Propylene Expansion Project (PRP project), Multi-Product Pipeline (Co-Investment Euro IV with PTTGC), and EBSM started to be recognized. Note that the first two projects were completed during 2012 while the remaining projects were completed in 2013.

The full-year depreciation expenses amounted to Baht 4,932 million, rising from last year by Baht 445 million or 10% because of the reasons mentioned above.

## 1.8 Costs of Financing

Net financing costs in 4Q13 were Baht 390 million, increasing by Baht 183 million or 88% from 4Q12 due to decreases of Baht 222 million and Baht 17 million in the gains from cross-currency swap (CCS) transactions and interest receipts despite a decrease of Baht 56 million in the interest payments.

The full-year net financing costs in 2013 amounted to Baht 1,489 million, rising by Baht 20 million or 1%

from last year because there was an increase in the amount of debt even if the interest rate declined. However, the increase in the net financing costs did not affect IRPC's ability to meet debt repayment and/or covenants on existing debt because of an increase of 170% in the EBIDA as discussed above.

### 1.9 Gain/Loss from Foreign Exchange

In 4Q13, there were foreign exchange losses of Baht 597 million, most of which were unrealized, due to depreciation of Baht, compared to foreign exchange gains of Baht 79 million in 4Q12.

In 2013, there were foreign exchange losses of Baht 909 million, most of which were unrealized, compared to foreign exchange gains of Baht 386 million in 2012.

### 1.10 Gain/Loss from Impairments and Write-off of Assets

In 4Q13, gains from impairments and write-off of assets were Baht 313 million, falling by Baht 130 million from 4Q12. These gains were mainly contributed from sales of land plots in Wang Chan district, Rayong province and sales of other lands amounting to Baht 312 million. In 4Q12, there were gains of Baht 402 million from reversal of investment impairments relating to land revaluation undertaken every 3 years as required by accounting regulations.

For the full year of 2013, gains from impairments and write-off of assets amounted to Baht 321 million dropping by Baht 220 million. Most of these gains were contributed from the aforementioned sales of land compared to last year in which the gains were contributed from reversal of investments and impairments of assets.

### 1.11 Gain/Loss from Investments

In 4Q13, there were gains of Baht 401 million from investments, rising by Baht 379 million compared to gains of Baht 22 million in 4Q12. The change in the gains was mainly contributed from gains of Baht 193 million from sales of investments in IRPC-CP, which was established to pursue a combined heat and power plant project in Rayong, and gains of Baht 192 million on revaluation of investments in IRPC-CP. Moreover, there was an increase of Baht 34 million in the shares of profits from associate companies. However, gains from revaluation of trading securities (shares of Thai Oil PLC) declined by Baht 152 million.

In 2013, there were gains of Baht 407 million from investments, which rose by Baht 136 million compared to gains of Baht 271 million in 2012. This was largely because of gains from sales of investments in IRPC-CP. Nonetheless, the shares of profits from associate companies decreased by Baht 103 million from the same period last year.

## 2. Consolidated Financial Positions

(unit : million Baht)

	Dec 31, 2013	Dec 31, 2012	Change	%
Current Assets	63,772	54,971	8,801	16%
Non-Current Assets	98,836	89,325	9,511	11%
<b>Total Assets</b>	<b>162,608</b>	<b>144,296</b>	<b>18,312</b>	<b>13%</b>
Current Liabilities	49,530	22,352	27,178	122%
Non-Current Liabilities	37,551	45,463	(7,912)	(17)%
<b>Total Liabilities</b>	<b>87,081</b>	<b>67,815</b>	<b>19,266</b>	<b>28%</b>
Shareholders' Equity	75,527	76,481	(954)	(1)%
<b>Total Liabilities and Shareholders' Equity</b>	<b>162,608</b>	<b>144,296</b>	<b>18,312</b>	<b>13%</b>

## 2.1 Assets

As of 31 December 2013, consolidated assets were Baht 162,608 million. These were Baht 18,312 million or 13% higher than those reported as at 31 December 2012, which were due to the following reasons:

- Account receivable rose by Baht 6,627 million or 47% because sales volume in December 2013 rose by 16% to 6.40 million barrels compared to sales volume in December 2012, 5.53 million barrels while sales price increased by 6% largely due to depreciation of Baht.
- Values of inventory increased by Baht 3,545 million or 11%. This was due to an increase of 6% in the quantity of inventory from 6.86 million barrels at the end of December 2012 to 7.28 million barrels at the end of December 2013. There was also an increase in the average price of inventory.
- Other current assets declined by Baht 1,371 million or 14%. This was mainly due to reduction in cash deposits, Baht 1,400 million.
- Non-current assets increased by Baht 9,511 million or 11% mainly due to an increase of Baht 14,151 million in fixed and intangible assets in major investment projects such as UHV, Multi Product Pipeline, EBSM projects. However, these were partially offset by depreciation and amortization expenses of Baht 4,932 million.

## 2.2 Liabilities

As of 31 December 2013, consolidated liabilities were Baht 87,081 million, an increase of Baht 19,266 million or 28%, compared to those reported at the end of 2012 due to the following reasons:

- Account payable rose by Baht 20,809 million or 134%, which was primarily due to extension of crude payment period from 30 days to 60 days. This reduced cash conversion cycle thereby increasing IRPC' ability to manage its working capital.
- Other current liabilities dropped by Baht 630 million or 13%, which was largely due to a decrease of Baht 588 million in other creditors.
- Long-term debt decreased by Baht 8,086 million or 19%. This was mainly due to long-term debt repayments of Baht 2,000 million and conversion of long-term debt into short-term amounting to Baht 7,000 million as this debt will fall due within a year, although there were unrealized losses from foreign exchange of Baht 897 million caused by depreciation of Baht.

## 2.3 Shareholders' Equity

As at 31 December 2013, shareholders' equity amounted to Baht 75,527 million, which was Baht 954 million lower than that reported as at 31 December 2012. This was mainly due to dividend payments of Baht 1,633 million, net profits of Baht 826 million, and increase of Baht 7 million in non-controlling interests.

The details of long-term debt are shown below.

(unit : million Baht)

	Dec 31, 2013	Dec 31, 2012	Change
USD Bonds	7,827	7,305	522
Thai Baht Bonds	19,630	19,626	4
USD Loan	5,729	5,341	388
Thai Baht Loan	9,697	11,697	(2,000)
Total	42,883	43,969	(1,086)
<u>less</u> current portion of long-term loan	(9,000)	(2,000)	(7,000)
<b>Net Outstanding Debt</b>	<b>33,883</b>	<b>41,969</b>	<b>(8,086)</b>

### 3. Statement of Cash Flow

(unit : million Baht)

		2013	2012
1	EBITDA	7,489	4,125
2	Change in operating assets and liabilities	9,577	(686)
3	Net cash flows from operating activities	17,116	3,439
4	Net cash flows used in investing activities	(12,923)	(13,429)
5	Net cash flows from financing activities	(5,593)	13,558
6	Net increase in cash	(1,400)	3,568
7	Cash at beginning	6,524	2,956
8	Cash at ending	5,124	6,524

As at 31 December 2013, the cash balance was Baht 5,124 million. Net cash inflow dropped by Baht 1,400 million, which was mainly contributed from the following items.

- Net cash inflow of Baht 17,116 million from operation: consists of EBITDA amounted to Baht 7,489 million and cash inflow of Baht 9,577 million resulting from changes in the assets and liabilities. Important items include an increase of Baht 20,034 million in account payable, an increase of Baht 6,509 million of account receivable, and an increase of Baht 3,625 million in inventory.

- Net cash outflow of Baht 12,923 million for investing activities: mainly consists of purchases of fixed assets and intangible assets amounting to Baht 15,119 million, for such investment projects as UHV, Multi-Product Pipeline, and EBSM capacity expansion. However, there was cash inflow, which was mainly contributed from sales of lands amounting to Baht 2,099 million and dividend receipt of Baht 161 million.

- Net cash outflow of Baht 5,593 million from financing activities: consists of funding costs of Baht 2,050 million, debt repayments of Baht 2,100 million, dividend payments of Baht 1,633 million, and cash receipt of Baht 210 million from CCS contract.

### 4. Key Financial Ratios

	Unit	Dec 2013	Dec 2012
Current Ratio	times	1.29	2.46
Quick Ratio	times	0.52	0.92
Net IBD to Equity	times	0.50	0.49
		2013	2012
EBITDA Margin	%	2.56	1.41
Net Profit Margin	%	0.28	N/A
Earnings per share	Baht/share	0.04	(0.04)
Return on Equity	%	1.09	N/A





# CORPORATE RESPONSIBILITY



Quality, Safety,  
Occupational Health,  
and Environmental  
Management

Corporate Social  
and Environment  
Responsibilities

## Quality, Safety, Occupational Health, and Environmental Management

Committed to the philosophy of business conduct for the sustainable co-existence of communities, the surroundings, and business, IRPC Group values production processes accompanied by clean energy consumption and environment-friendliness for the benefit of sustainable development. The QSHE policy is indispensable to IRPC Group's efforts to establish constant development to forge operational excellence and meet the needs of all stakeholders. To this end, IRPC Group's QSHE operation is integrated for all units.

- **Quality:** Standard management systems are applied with a focus on improvement of production processes, service provision, and product quality improvement. Process efficiency is maintained or improved, and customer satisfaction is the key focus.

- **Environment:** IRPC's focus is on controlling water pollution, air pollution, and industrial waste within regulations and laws, or even better. To achieve this, continuous measures for process improvement are established along with the reduction of pollution at sources together with greenhouse gas emissions in a move toward a low-carbon society, and promotion of resource consumption for maximum efficiency and effectiveness.

- **Safety and occupational health:** The focus is on prevention of work-related injuries and illnesses for all. In place is process safety and personal safety management to achieve zero accident by continuously improving operation and preventing hazards inherent in jobs, and promoting cultivation of awareness and work culture through making employees aware of occupational safety and health. For every change in work processes or procedures, risk assessment is to be conducted and revised.

In addition, continuous improvement is required to develop all core work processes across the Group. To illustrate, this year's QSHE goals took into account the KPIs of all units, including significant environmental aspects and high-risk outcomes. QSHE operation and effectiveness are also communicated with all stakeholders.

### QSHE management strategies

This year IRPC Group held activities that were environment-friendly ('green') with due regard for quality, safety, and health by leveraging the 4Ps (process, partners, people, professional).

1. **Process:** Measures to control, audit, and lessen risks arising from work processes are established, ranging from project planning, operation, to work conclusion, with continuous operation improvement. Pollution is prevented at sources, while energy is managed. Green processes and products are developed along with OEMS (operational excellence management system) application. Finally, the IT system is integrated for greater QSHE management efficiency and effectiveness.

2. **Partners:** The focus is on QSHE strengthening and leadership in the petrochemical and refining industry by establishing networks with all sectors (public, private, and community), including EIZ (Eco Industrial Zone) operation and founding of an environmental research and development (R&D) center and community knowledge. Also, positive relations with all units and all sectors to receive feedback to the drafting and amendment of QSHE regulations.

3. **People:** QSHE awareness and culture are cascaded to all employees and stakeholders. The efficiency of coaching and communication processes needs to be regularly and constantly raised, including BBS



*The pond that provides water for community piped water and the protection strips around IRPC Industrial Estate*

(behavior-based safety); community education on safety, occupational health, and the environment; and energy conservation.

4. Professional: This deals with the development of QSHE professionalism, establishment of KM (knowledge management), sharing of knowledge and experience among companies in search of QSHE operational excellence, and certification by external units.

Below are the key QSHE moves made this year.

#### **Pollutant Release and Transfer Registers (PRTR)**

IRPC has supported this voluntary initiative launched by DIW (the Department of Industrial Works, Ministry of Industry) and JICA (Japan International Cooperation Agency) by establishing since 2012 Pollutant Release and Transfer Registers (PRTR) of records containing the profiles of operators, emission volumes, movement of pollutants, and released amounts to the atmosphere, earth, and water bodies. The project, joined by IRPC's petroleum affiliates, is a pilot effort to develop a PRTR operating manual and send officers to join training. A system pilot 'soft launch' will take place within the

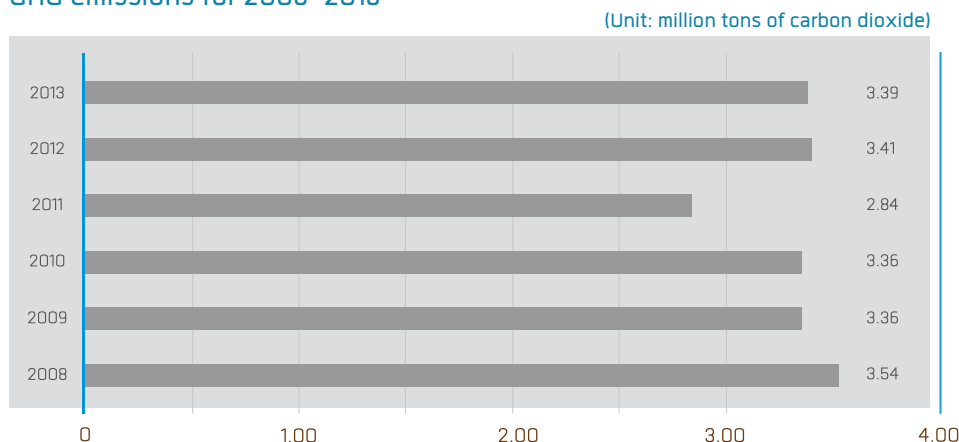
third quarter of 2014 for the department to improve on the findings and its pollution-reporting format before expansion of implementation. For IRPC Group, the PRTR outcome benefits it through chemical treatment system improvement, pollution control systems, optimal efficiency of chemicals, identification of preventive methods and loss prevention of process raw materials and chemicals, and reduction of emissions and waste.

#### **Corporate carbon footprint**

IRPC Group participated in the "Promotion of Greenhouse Gas (GHG) Reduction in Regional Industrial Operations through ISO 14064-1 toward Low-Carbon Industry Project", hosted by DIW with the Management System Certification Institute (Thailand) as adviser. It also participated in the "Infrastructural Development to Accommodate Thailand's Voluntary GHG Reduction via Market Mechanisms Project", hosted by the Thailand Greenhouse Gas Management Organization, with King Mongkut University of Technology Thonburi serving as adviser. This pilot project paved the way



## GHG emissions for 2008–2013



*In 2013, our petrochemical capacities rose by 16%, whereas our GHG emissions dropped by 0.5%*

Source: IRPC

for the development of a report on GHG emission and system development in line with international audits, while gearing up for IRPC's carbon-footprint certification. This achievement would ease assessment of GHG volumes emitted by IRPC's activities, classification of key GHG emission causes, and identification of ways to reduce such emissions. Future GHG emission reduction could be traded as carbon credit or offset carbon emissions by others. As for the public sector, it could use the project to drive management mechanisms to lower corporate GHG emissions for the common good.

### GHG reduction

Initiating a GHG inventory in 2010, IRPC has constantly been operating strictly under PTT Group's standard on security, safety, occupational health, and environmental management to reduce environmental impacts through pollution prevention, natural resource conservation, and efficient consumption of energy under IRPC's business conduct. This year IRPC Group lowered GHG emissions by about 1% from

last year, against a roughly 16% rise in the combined capacity of the petrochemical group, including the ABS, EBSM, and PRP plants, a proof that the company successfully controlled GHG emissions in line with the master plan on GHG reduction of the Ministry of Natural Resources and Environment (MNRE), which requires an average of 1% reduction per year.

IRPC has also constantly been promoting equipment switch, installation of higher-quality instruments, and implementation of internal management systems by individual plants to reduce their energy consumption while improving processes, which in turn ease global warming and air pollution.

In addition, IRPC Group planted a strip of natural forest around its industrial estate and planted more trees around it beyond the original strip, beginning in 2011, this project was completed this year with accelerated promotion of community sapling planting in Tambon Tapong, Choeng Noen, Na Ta Khwan, Ban Laeng, and Rayong Municipality. The group



*IRPC continued its participation in a project to promote GHG emission reduction in the workplace, which enabled it to control GHG emissions against MNRE's master plan*

bought saplings from nursery centers nationwide, thus completing its goal, and plans to look after these planted trees. The outlay for the project was about 45 million Baht. Today the estate has planted roughly 267,300 trees, absorbing about 2,400 tons a year of carbon dioxide, which exceeded last year's performance by 9%.

### VOC management in industrial estate

Recognizing the criticality of volatile organic compounds (VOCs), IRPC is keenly aware of VOC trends. A VOC emission inventory has been initiated and updated since 2009 to assess and identify suitable technologies to improve the local air quality. A leak detection and repair (LDAR) system detects leaks in instruments and reduces fugitive VOCs. As a result of this inventory, the ratios of VOC emissions to the capacities of the petroleum and petrochemical businesses this year fell by 13% and 16% respectively



from last year. Such was the success stemming from regular VOC leak inspection.

IRPC Group investigated ways to grapple with the spread of VOCs from the estate and the vicinity to confirm significant sources of the release. A five-year emission reduction plan was formulated for benzene and butadiene VOCs.

Finally, production processes have seen equipment switches and additions to cut down on VOC emissions, including the transformation of the sampling protocol toward a closed system and the installation of a wet-scrubber system for chemical loading to minimize loading smells.

### Energy conservation projects

The company values energy management, energy conservation, and promotion of maximum efficiency and effectiveness for resource consumption in response to public policies on energy conservation and energy-saving. Achieving this would imply cost reduction and systematic, sustainable energy conservation based on the participation of all employees.

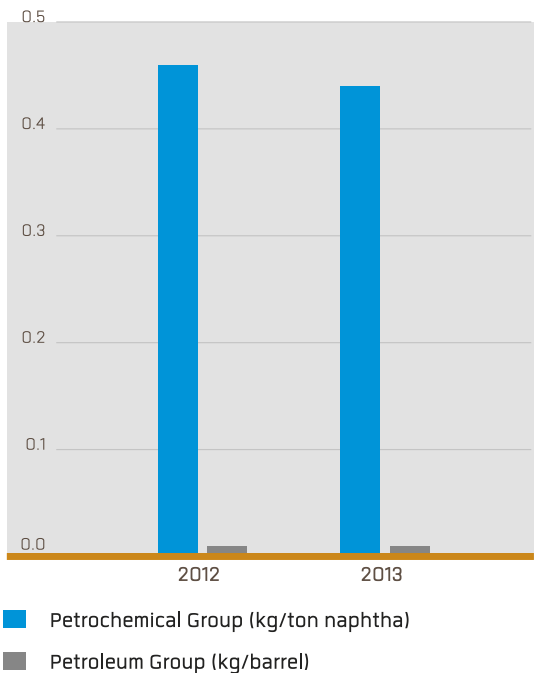
### Complaint management

For the last few years, IRPC Group has managed complaints by focusing on more efficient and effective operation, particularly complaints about smells, which were handled concurrently for three scenarios, namely normal, complaint, and major maintenance or other special activities, with a unit regularly visiting neighboring communities. A complaint-handling center was set up in addition to a site coordination center to publicize, clarify, and establish understanding among communities. As a result, this year saw complaints roughly halved from last year.

### Eco-industry

This year the EIZ (Eco Industrial Zone) was in operation, with a development framework and five-year strategic plan established for 2012-2017. EIZ represents the prototype of Rayong in eco-industrial development, in line with the context of eco-industrial towns and sustainable development of both DIW and

### VOC emission rates



(Unit: kg/unit production)

	2012	2013
Petrochemical sector (kilogram/tonne per naphtha)	0.464	0.437
Petroleum sector (kilogram/barrel)	0.013	0.011

*Note: The VOC rate for the refinery group of 0.02 kg/bbl (source: US API), that for the petrochemical group of 0.6 kg/ton (source: Thailand's data)*

the Industrial Estate Authority of Thailand. A workshop, where its action plan was communicated and planned together with the task force, integrated the missions and the project. In addition, IRPC Group signed a memorandum of understanding on participation with DIW on the 3Rs Promotion Project for the year in a bid to achieve Zero Landfill.

### Cultivation of QSHE awareness and culture

Proactive promotion of employees' awareness of work safety so that risky behavior may be lowered or eliminated in individuals, BBS (Behavior-Based Safety) was established at IRPC Group. This year a course was added with an emphasis on BBS ("Human Performance against Human Errors"), where

assessment was undertaken through accident statistics, namely TRIR (total reportable injury rate) and LTSR (lost-time severity rate), as the KPIs for individual safety, and the number of chemical spills or fires as the KPIs for safety process performance. Finally, the company conducted projects supporting collective safety at the workplace, in which one can report unsafe work conditions and take immediate corrective actions.

Other activities this year included the following.

- **Strengthening the QSHE culture**

**External :**

- Youth fire training: Jointly hosted by IRPC, Tambon Choeng Noen, and Rayong Hospital, this training provided knowledge about emergency planning, fire theories, self-protection from chemicals, and practice application of fire extinguishers
- Joined the instructor team for an emergency drill at Tapong Nok School under the CSR-DIW project
- Sahaviriya Steel Industry Plc observed IRPC's BBS in operation
- Executives and officers of the Electricity Generating Authority of Thailand observed IRPC's quality and safety work

**Internal :**

- Training on 5S capacity-building through productivity improvement for 5S site audit teams, by instructors from the Thailand Productivity Institute

- A seminar for QSHE internal auditors to establish understanding and prepare them for internal surveillance audit
- Audit ISO 16949 training for employees on the standards of the automotive quality management system
- ISO 50001:2011 EnMS (Energy Management System) training for employees
- AERMOD Model training for employees on the preliminary knowledge of air pollution and principles of mathematical modeling applied to air quality impact assessment
- Joint H&S Compliance and Risk Reduction Program and Gap-Closing workshop with related agencies
- Preparation seminar for related units on safety communication under GHS (Globally Harmonized System), focusing on classification of chemicals by a uniform global standard
- Training on BBS and legislation on safety, occupational health, and work environment and a revision of safety regulations for employees and outsourced employees
- Training on Human Performance against Human Errors for employees at large and section heads upward
- Training on conformance to QSHE legislation for related parties.

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*"Experience of managing natural resources and the environment: perspectives of the private sector" talk delivered to Class 2 of the "MNRE Administrator Development" curriculum*





## Communication and QSHE expertise transfer

This year the company held several activities on the communication, sharing, and transfer of QSHE expertise. A lecture and sharing of knowledge and experience on preparation of EIA/EHIA reports were held with Thai Oil Plc. A lecture and sharing of views on emergency management with community participants was held at the PTT Forum. IRPC was also invited by the Office of the Permanent Secretary for Natural Resources and Environment to deliver a lecture on the private sector's perspectives on the experience of managing natural resources and the environment for MNRE's officers of Class 2 of the "MNRE Administrator Development" curriculum, designed to develop technical personnel and promote integrated morality and ethics among modern executives. IRPC participated through booths and exhibits for sharing knowledge about proactive occupational health and community emergency plans at the National Safety Week, held at BITEC. Finally, IRPC experts continually shared safety knowledge with other PTT Group employees.

IRPC values knowledge management by enabling all employees to systematically search and share knowledge within the organization and within each group so that they may apply such knowledge to their job improvement to add value to themselves and the organization. That way, IRPC may become a learning organization.

To bolster SHE management efficiency and make it a basic operating system, all IRPC companies have adopted ISO 9001, ISO 14001, and TIS 18001, with constant assessment audit and review of management system effectiveness. This year IRPC Group earned additional quality system certification:

- The Laboratory at Phra Padaeng Oil Depot won the TIS 17025 (ISO/IEC 17025), presented by the Thai Industrial Standards Institute (TISI), Ministry of Industry
- The Testing Laboratory at the IRPC Metrology Center won the ISO/IEC 17025 (additional scope: temperature), presented by TISI.

## QSHE awards

As a result of IRPC's recognition of the value of quality corporate management with due regard for stakeholders' satisfaction and needs-whether they are customers, business partners, shareholders, employees, communities, or society at large-as well its constant attention to society and the environment, the company has earned recognition from communities and public/private agencies alike. These awards illustrate its continued commitment to developing and improving all aspects of management systems for maximum efficiency.



*IRPC was named a National Outstanding Business Operator in Safety, Occupational Health, and Work Environment Awards 2013 by the Department of Labour Protection and Welfare during the 27th National Safety Week event, hosted by the Occupational Safety and Health Bureau, Department of Labour Protection and Welfare.*

IRPC earned 30 CSR-DIW Awards (three groups). The CSR-DIW Project develops industrial plants for participating social responsibility with a focus on green industry. It also systematically grooms them to adapt to international standards on social responsibility. Below are our awards this year.

- Ten CSR-DIW Awards 2013: WWT1/2, WWT3, Compounding Plastics (CCM), Compounding Plastics (CD1), ABS & SAN, PTK, ADU2, DCC, Acetylene carbon black (AB), and EBSM
- Ten CSR-DIW Continuous Awards 2013: EPS, PS, LBPO, BTX, CHP, ETP, PP, HDPE, COND, and POLYOL
- Ten CSR-DIW Advanced Level 4, 2013: EPS, PS, LBPO, BTX, CHP, ETP, PP, HDPE, COND, and POLYOL.
- IRPC won an award for Plants with Proper Waste Management under the 3Rs Principles under a project promoting waste utilization for fiscal year 2013, of DIW.
- Shipping's and PP's QCC groups won the Golden and Silver Awards for their QCC presentations at the Thailand Quality Prize 2013 event, hosted by the Technology Promotion Association (Thailand-Japan).

- IRPC won the National Outstanding Business Operator in Safety, Occupational Health, and Work Environment Award for 2013 at the 27<sup>th</sup> National Work Safety Week, at BITEC, Bang Na.

This year, IRPC Group's environmental management expenses amounted to Baht 154 million, the bulk of which went to investment in pollutant prevention/reduction systems, with two projects under construction and another two (PRP and EBSM) under operation, which gave the company stricter vigilant measures for monitoring environmental impacts, thus incurring more expenses. Finally, IRPC Group generated about Baht 21 million in income derived from utilization of waste to add value while constantly improving the surroundings.

IRPC constantly supported environmental operation activities. For the past three years, its expenses along this line are broken down into the following categories:

(Unit: Million Baht)

Project	2011	2012	2013
• Investment in pollutant prevention/reduction systems	189	500	93
• Monitoring of environmental impacts	19	46	45
• Development of EIA reports / changes in environmental impact mitigation measures	8	8	12
• Systematization of environmental management	2	3	4
<b>Total</b>	<b>218</b>	<b>557</b>	<b>154</b>

## Social and Environmental Responsibility

IRPC and its affiliates are committed to business growth on the basis of corporate governance and sustainable stewardship of society and the environment. With due regard for the interests of all stakeholders under the Care, Share, and Respect concept, they hope to see the industrial sector co-exist with communities and society in a harmonious way, working together toward common progress.

To this end, IRPC has defined the following policy on social and environmental responsibility:

1. Business execution with integrity, transparency, fairness, and accountability with a focus on corporate growth in tandem with the improved quality of life of employees, communities, and quality of society and the environment in all aspects, as well as stewardship of stakeholders' interests in line with IRPC's vision
2. Enhancement of knowledge of society and the environment among all employees to serve as common guidelines for the development and responsibility of society and the environment across the organization

3. Promotion of social and environmental projects or activities on the basis of corporate capability and resources to accomplish goals in a cost-effective and efficient way

4. Two-way communication on social and environmental projects or activities with communities, society, and stakeholders, and the provision of suitable opportunities for stakeholders' participation

5. Support for a democratic rule and political neutrality

6. Promotion of all executives' and employees' cooperation under this policy for success.

The Board of Directors has approved implementation of a five-year strategic plan, incorporating a social strategic and socio-economic responsibility plan under a clear operating roadmap. Compliance is an integral part of corporate business execution, including subsidiaries. Below is the performance summary this year.

**1. Driving social responsibility through EIZ (Eco Industrial Zone):** IRPC promotes participation by



*The CSRI Recognition 2013 Award (General Commitment)  
Business development with social responsibility*



*Outstanding Award under a Contest of Sustainability Reports  
2013*

stakeholders and their adherence as a corporate culture to foster business confidence and trust from stakeholders under the Happy Rayong strategy. The EIZ action plan for this year and future years not only addresses all aspects of EIZ, but also aligns with applicable international standards and related systems, including reporting under GRI, CSR-DIW of the Department of Industrial Works (DIW), ISO quality standards, and OEMS (Operational Excellence Management System). Below are the activities.

- **Proactive management:** The focus is on monitoring of environmental quality and continuation of dialogues. Three panels were appointed for EIZ development:

1. **Multilateral panel:** This was appointed from the ranks of operators, local government agencies, and communities, working toward EIZ and joint problem resolution
2. **CSR in Process panel:** This was appointed from the ranks of employees. They serve as a site taskforce to monitor operation outcomes and provide recommendations for regular improvement
3. **IRPC Industrial Estate coordination panel:** This consisted of site operators in regular conferences, with a focus on those under project construction, largely to prevent community impacts.

An outcome of such proactive moves was the VOCs management project. Since 2009, IRPC has prepared an inventory of VOCs to identify ways to better manage local air quality. A VRU (vapor recovery unit) was installed to prevent VOC venting. A system designed to absorb the vapor of asphalt was also installed for its treatment during asphalt offloading. This resulted from the multilateral panel in an effort to lower the smell of asphalt in the neighborhood.

- **Operational excellence:** This represented cooperation among the operators to develop clean processes with a focus on the management of industrial waste, air, water, and electricity under various projects. This year, IRPC applied to join a DIW project promoting utilization of waste, with a pilot project at the common wastewater treatment plants No. 1 and No. 2. The department and IRPC mapped out operating guidelines for the proper disposal of industrial waste.



*Shareholders' participation in CSR activities with Rayong communities*

- **Supplementing value to stakeholders:** This project focused on supplementing value to society in parallel with IRPC under the Creating Shared Value (CSV) concept, and on promoting operators' participation in the CSR-DIW project and Green Industry. Twenty plants located in IRPC Industrial Estate won CSR-DIW Awards, and ten won the CSR-DIW Continuous Awards-echoing industrial zones abiding by social responsibility standards expected of such operators.

- **Strategic communication:** This focused on communication and reporting to all stakeholders IRPC's performance outcomes through assorted channels, including participation in exhibitions, EIZ lectures for public agencies and the private sector, conferences with government agencies, public forums organized by communities around IRPC Industrial Estate, and plant visits for communities and the public at large. The goal is to bolster confidence among communities in the operation of all plants within the estate.





**2. Corporate responsibility:** This meant operation with various internal processes, including oversight of corporate governance, internal control, transparent and adequate communication, and activities for the benefit of all stakeholders. Four areas, namely the environment, marketplace, people, and community, are covered under clear and assessable strategies and action plans.

As a rule, IRPC gives due regard to environmental impact mitigation projects, while fostering decent surroundings, as detailed under Environmental Operation.

Establishment of confidence and market reputation, and oversight of such activities among employees and communities are detailed under Corporate Governance Report and Performance Summary. IRPC has earned several awards and recognition of its CSR work, as well as decent levels of satisfaction, at both national and international levels.

**3. Creating Shared Value (CSV):** Instances are the CHP I and CHP II, which came on stream this year under the management of IRPC Clean Power Co., Ltd. (IRPC-CP), and the Protection Strip Project.

**4. Business under UN Global Compact:** The main elements of UNGC are labor, human rights, the environment, and anti-corruption.

**5. CSR After Process:** Key public service activities meant for communities around IRPC sites and for Thai society as a whole consisted of the following.

1. A project called “Som Soem Toem Suk” for primary schools in Rayong and around the Phra Pradaeng Oil Depot, in which students from the IRPC Technological College and employees put their skills to work in repairing electrical appliances, toys, and learning gear at 20 schools. The college is an IRPC subsidiary and CSR partner.



*“Som Soem Toem Suk Project” volunteer corps*

2. IRPC partnered with the Prostheses Foundation of HRH the Princess Mother in a prostheses-fabricating unit at the Chaiphum Songkroh Foundation on November 25-27, 2013. Each year, IRPC has donated to the foundation BANBAX polymers (an innovation that effectively inhibits and kills bacteria) as a core raw material for prostheses.

3. IRPC jointly ran the “1 Helps 9” project with the Office of National Education Standards and Quality Assessment (Public Organization). The project is an innovation in the development of new-dimension education in line with the values and culture of mutual care in Thai society as well as IRPC’s intention to do business on the basis of social responsibility participation. Below are the objectives of the project:

1. To focus on the improvement of educational quality and standards of educational institutions
2. To develop the educational quality assurance system by helping nine educational institutions develop under the quality cycle approach
3. To apply IRPC’s strengths to the improvement of educational institutions, for which IRPC is to summarize project outcomes in 2014.

Each year, IRPC has also run social responsibility projects as projects for education, art, and culture; and promotion of community livelihoods, sports, and local development in various forms. These are detailed in IRPC’s social performance report.



“1 Helps 9 Project” MOU signing ceremony

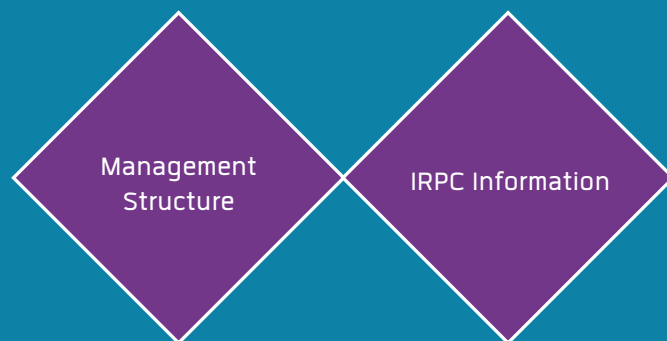
## Development for sustainability

- IRPC has structured its 2011-2012 Sustainability Report under the framework of Global Reporting Initiative (GRI) G3.1. GRI principles also played a role in the transparency, clarity, and context of sustainability data disclosure. The completeness of the context was rated at the “B” level. To this end, IRPC clearly and transparently illustrated its commitment to developing performance outcomes for sustainable business by expressing its current practices and its goals for the following year and the years to come.
- For the very first time, this year IRPC entered assessment under the Dow Jones Sustainability Indices (DJSI), Emerging Market. It was found to be among the top 15% of oil and gas producers and also listed in The Sustainability Yearbook 2014, prepared by Robeco SAM in January 2014. Such outcomes echoed IRPC’s commitment to the application of practical guidelines for sustainable development to business decision-making and execution. IRPC has set a goal of a top 10 rank among oil and gas producers and remain listed in such a yearbook in 2020.
- As for corporate citizenship for corporate governance work to bolster confidence among stakeholders, which would affect sustainable business growth, IRPC will still continue to rely strictly on the roles and good practices under the UN Global Compact, ASEAN Scorecard, Securities & Exchange Commission, Stock Exchange of Thailand, and IOD, with more and more stringent upgrading in the years to come.

- The details of IRPC CSR activities have shown in its 2013 Sustainability Report under the framework of GRI at the “A” level.



# MANAGEMENT STRUCTURE





# Management Structure

IRPC's organization structure consists of the Board, Sub-committees, and the management.  
As of 31 December 2013, the Board consisted of 16 directors (eight of whom were independent directors).

Name		Current Position in the Board / Sub-committees
1	Mr. Chainoi Puankosoom <sup>1</sup>	Chairman of the Board/ Chairman of the Executive Committee
2	Mr. Cherdpong Siriwit	Independent Director/ Chairman of Audit Committee/ Chairman of Corporate Governance Committee
3	Gen. Udomdej Sitabutr	Independent Director
4	Mr. Woothisarn Tanchai	Independent Director/ Executive Director/ Chairman of Nomination and Remuneration Committee
5	Mr. Watcharakiti Watcharothai	Director
6	Mr. Surong Bulakul <sup>2</sup>	Director/ Executive Director/ Member of Nomination and Remuneration Committee
7	Mr. Sarun Rungkasiri <sup>3</sup>	Director/ Executive Director
8	Mr. Kritsda Udyanin	Director
9	Mr. Songpope Polachan <sup>4</sup>	Director/ Member of Nomination and Remuneration Committee
10	Mr. Narongkorn Chawalsantati	Independent Director
11	Lt. Gen. Preecha Wanarat	Independent Director/ Member of Audit Committee
12	Mr. Jade Thanawat	Independent Director
13	Mr. Triumph Jalichandra <sup>5</sup>	Independent Director/ Member of Audit Committee
14	Mr. Worawit Chailimpamontri <sup>6</sup>	Director
15	Mr. Wichit Plangsriskul <sup>7</sup>	Independent Director / Member of Audit Committee
16	Mr. Sukrit Surabotsopon <sup>8</sup>	Director/ Executive Director/ President/ Secretary of the Board of Directors/ Secretary of the Executive Committee

## Note:

1. Mr. Chainoi Puankosoom was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Chulayuth Hirunyavasi, who had completed his term.
2. Mr. Surong Bulakul was appointed following the resolution of Board meeting No. 7/2556, with effect from 21 May 2013, replacing Mr. Pailin Chuchottaworn (who had been re-appointed for another term following the resolution of the 2013 AGM on 5 April 2013, but later resigned on 10 April 2013).
3. Mr. Sarun Rungkasiri was appointed following the resolution of Board meeting No. 12/2556, with effect from 15 October 2013, replacing Mr. Wichai Pornkeratiwat, who resigned on 2 October 2013.
4. Mr. Songpope Polachan was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Sirisak Wittayaudom, who had completed his term.
5. Mr. Triumph Jalichandra was re-appointed for another term following the resolution of the 2013 AGM on 5 April 2013, with effect from 5 April 2013.
6. Mr. Worawit Chailimpamontri was appointed following the resolution of Board meeting No. 1/2556, with effect from 22 January 2013, replacing Mr. Phiraphol Tritasavit, who resigned on 21 January 2013.
7. Mr. Wichit Plangsriskul was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Prasert Bunsumpun, who had completed his term.
8. Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, who resigned on 1 October 2013.

Ms. Sopawadee Lertmanaschai, director, resigned on 24 December 2013. Board meeting No. 1/2557 passed a resolution appointing Mr. Sombat Narawutthichai as director, with effect from 29 January 2014, to fill the vacant position.



### Directors authorized to sign for IRPC

Under IRPC's Registration Certificate of the Department of Business Development dated 8 January 2014, the directors authorized to sign on behalf of IRPC comprise Mr. Chainoi Puankosoom, Mr. Woothisarn Tanchai, Mr. Watcharakiti Watcharothai, Gen. Udomdej Sitabutr, Mr. Sukrit Surabotsopon, Mr. Narongkorn Chawalsantati, Mr. Surong Bulakul, Mr. Jade Thanawat, Mr. Wichit Plangsrisukul, and Mr. Sarun Rungkasiri. The signatures of two of these ten are required together with IRPC's Seal affixed.

### Composition and Qualifications of the Board

1. The Board consists of 5-17 directors, with at least half residing in Thailand. Directors' qualifications must meet the requirements of the Public Limited Company Act.
2. Directors must not older than 70.
3. Directors must be duly qualified and be without the prohibitions stated in the Public Limited Company Act and the Securities and Exchange Act, the Capital Market Advisory Board's notifications, SEC's and SET's rules and regulations, IRPC's Articles of Association and Corporate Governance principles, and other related laws and regulations. Also, they must be free from any questionable traits for running IRPC's businesses.
4. Directors must be duly qualified and be without the prohibitions according to the Cabinet resolution on 24 January 2011 on the appointment of high-

ranking government officers and the appointment of directors in state enterprises.

5. Independent directors must account for at least a third of the Board, and there must be at least three of them on the Board.
6. Directors must command knowledge, skills, capacity, and experience in various professions so that the composition of the Board is equipped with qualified persons in necessary fields to address the corporate strategy for the utmost benefit and value added of IRPC and the shareholders. As a minimum, there must be three petroleum and petrochemical experts, one legal expert, and one accounting and finance expert on the Board.
7. Directors must command characteristics and personal images complementary and supportive of their work in corporate governance to add value to IRPC, including ethics, integrity, independency, assertiveness, creativity, capability to perform the duty of care and duty of loyalty with dedication, and are socially acceptable.
8. For former directors, past performance, dedication, as well as useful opinions and recommendations made will be also considered.
9. Directors can serve up to three consecutive terms (nine years). Outstanding directors may be proposed for a longer office term based on their independency, capability and efficiency, to be reviewed before proposing to the shareholders.

## Term of Office

Each term of office for directors is three years, under the law and IRPC's Articles of Associations.

## Appointment and Dismissal

Under IRPC's Articles of Associations, appointment and dismissal of directors are summarized as follows:

### Appointment

1. Shareholders appoint directors. The Nomination and Remuneration Committee screens appropriate candidates and tables a list to the Board before submission to the shareholders' meeting for consideration under the following criteria:

- (1) One shareholder carries one vote per share.
- (2) To elect directors, votes can be cast for individual candidates or a collective vote can be cast for the entire number of directors to be elected, as seen appropriate by the shareholders' meeting. Each candidate, by individual or collective voting, is allowed to receive the number of votes in accordance with the total number of shares held by each shareholder under (1). Shareholders cannot split their votes in favor of other candidates.
- (3) Successful candidates are ranked by the number of votes received, the number of whom matches the number of directors to be elected. If candidates get equal votes, which makes the number of successful

2. The Board selects one member as the Chairman and can also select one or more members to be his/her Vice Chairman to act as stipulated in IRPC's Articles of Associations and as assigned by the Chairman.

3. If any vacancies on the Board exist for any reasons other than term expiry, the Board must select a qualified person without prohibited qualities in their following meeting. If the remaining term is less than two months, the newly elected director will stay in office for the remaining term of the former. The resolution of the Board on this matter must consist of no less than three-quarters of the votes of the remaining directors.

4. If the number of vacancies on the Board reduces its composition to less than the Board's quorum, the existing directors are allowed only to call, on behalf

the Board, a shareholders' meeting to elect the replacements for all vacancies. The shareholders' meeting must be held within one month from the date of such vacancy. The newly elected directors will stay in office only for the remaining terms of the former.

### Dismissal

1. As a rule, directors complete their three-year terms. IRPC's Articles of Association require that at all AGMs, one-third of the directors are to be dismissed. If the number of directors is not a multiple of three, the number of dismissal will be made closest to one-third of those due for dismissal. Dismissal must be done by drawing lots for the first and second years after IRPC's registration. For the following years, directors serving the longest will be dismissed. Dismissed ones may, however, be re-elected.

2. In addition to term completion, directorship ends by death, resignation, a lack of qualifications, or being found with prohibitions by law, the resolution of the shareholders' meeting, or court verdict.

3. Director wishing to leave the post must tender their resignation to IRPC. Such resignation will take effect from the date the resignation letter reaches IRPC.

## Duties and Responsibilities

The Board is bound to manage IRPC in all aspects of its operations under the law, IRPC's objectives and regulations, shareholders' meeting resolutions, and corporate governance. Their major duties and responsibilities are summarized below:

1. Ensure that the balance sheet and the profit and loss account are made at the end of IRPC's fiscal year.
2. Ensure that the balance sheet and the profit and loss account are reviewed by auditors and the documents are tabled to the AGM within four months from the fiscal year-end. Copies of IRPC's balance sheet and the profit and loss account, having been certified by auditors, together with their report and the Board's annual report, must be delivered to all shareholders whose names appear in the shareholders' registration book at least seven days before the next shareholders' meeting date.
3. Call for a Board meeting at least once every three months.

4. Appoint and dismiss staff. The Board may assign one director or more to perform this duty.
5. Consider cash rewards for staff, contractors, and other parties working for the interests of IRPC.
6. Consider payment of the interim dividend.
7. Arrange for an AGM within four months from the end of each fiscal year.
8. Ensure compliance with the law, IRPC's objectives and regulations, and the resolutions of shareholders' meetings. The Board may appoint one director or more, or may appoint other parties to act for the Board.

In performing their responsibilities on the following matters, the Board must receive approval from the shareholders by votes of no less than three-fourths of the total number of votes cast by eligible shareholders present.

1. Sale or transfer of the entire or essential parts of IRPC's businesses to other parties.
2. Purchase or acquisition of businesses of other companies or private companies.
3. Making, amending, or terminating the entire or essential parts of agreements on the lease of IRPC's businesses.
4. Assigning other parties to manage IRPC's business.
5. Merger of IRPC's business with other parties for profit/loss sharing.
6. Making amendments to IRPC's Memoranda of Association or Articles of Association.
7. Increase or decrease of IRPC's registered capital or issuance of debentures.
8. Merger or dissolution of IRPC.

### Independent Directors

Independent directors are those independent of major shareholders and their alliances as well as IRPC's management members. In performing their duties, independent directors are free to provide opinions to protect the interests of all shareholders and stakeholders. Under the Capital Market Supervisory Board's rules and for good corporate governance, independent directors make up over one-third of the entire Board.

Qualifications stipulated by IRPC for independent directors are more stringent than those of SEC and SET:

1. Hold not more than 0.5% of the voting shares in IRPC, its subsidiaries, associated companies, major shareholders, or persons with controlling power over IRPC. Shares held by parties related to independent directors must also be included.
2. Are not or have not been directors involved in the management, employees, wage earners, or advisers on the payroll of IRPC, or any persons with controlling power over IRPC, its subsidiaries, associated or equivalent companies, major shareholders, or persons with controlling power over IRPC, except such qualifications have ended for at least two years, provided that such restrictions do not apply to independent directors who have been government officers or advisers of government agencies which are IRPC's major shareholders, or of a person with controlling power over IRPC.
3. Are not related by blood or by legal registration as parents, spouses, siblings, or children, spouses of the children of management members, major shareholders, persons with controlling power, or persons about to be nominated as management members or about to exercise controlling power over IRPC or its subsidiaries.
4. Do not have or have not had any business relation with IRPC, subsidiaries, associated companies, major shareholders, or persons with controlling power over IRPC to an extent that such independent directors' discretion may be compromised. Are not or have not been substantial shareholders or persons with controlling power over the person with business relation with IRPC, subsidiaries, associated companies, major shareholders, or persons with controlling power over IRPC, unless such independent directors have been a person referred to above for more than two years.

Business relations referred to in the first paragraph above include any ordinary course of business transactions, any lease of properties, transactions relating to assets or services, or any financial support or acceptance of financial support by way of either lending, borrowing, guaranteeing, collateral providing, or any other manners similar to it that could result in an obligation required to be performed by the



applicant or the party to it for three percent or more of the net tangible asset value of the application or 20 million baht or more, whichever is lesser. The method for calculating the value of connected transactions under the Capital Market Supervisory Board's notification on Rules of Entering into Connected Transactions must be applied mutatis mutandis in the calculation of the amount of debt of the applicant. In calculating such debt, the debt incurred during the past year leading to the date on which such business relation with such person exists must also be included.

5. Are not or have not been auditors of IRPC, subsidiaries, associated companies, major shareholders, or of persons with controlling power over IRPC, and are not substantial shareholders, persons with controlling power, or partners of any audit firms or offices which the auditors of IRPC, subsidiaries, associated companies, major shareholders, or persons with controlling power over IRPC work for, unless such independent directors have been a person referred to above for more than two years.

6. Are not or have not been professional advisers, including legal or financial advisers with a service fee of over 2 million baht per year from IRPC, subsidiaries, associated companies, major shareholders, or persons with controlling power over IRPC, and are not substantial shareholders, persons with controlling power, or partners of such professional service providers, unless such independent directors have been a person referred to above for more than two years.

7. Are not directors appointed as a representative of a director of IRPC, a representative of a major shareholder of IRPC, or a representative of a shareholder who is related to the major shareholder of IRPC.

8. Do not engage in any similar business in competition with IRPC or subsidiaries, and are not substantial partners in a partnership, directors with a managing role, employees, wage earners, or advisers hired on the monthly payroll, or shareholders holding more than one percent of the voting shares in another company engaging in a similar business and in competition with IRPC or subsidiaries.

9. Must not have any characteristics which will compromise the ability to provide independent comments on the operation of IRPC.

## Sub-committees

In compliance with corporate governance, the Board has appointed four standing sub-committees (or committees), each of which is assigned to consider and oversee specific critical matters in their respective areas carefully and efficiently before submitting the recommendations and opinions to the Board for consideration. Each sub-committee is structured as detailed below:

### 1. Executive Committee

The Executive Committee facilitates effective management, aiming for excellent performance under the policies framed by the Board and shareholders. This committee takes into account current and future business risks corresponding to IRPC's vision, mission, business ethics, and corporate governance.

#### The Executive Committee consists of

(1) Mr. Chainoi Puankosoom	Chairman
(2) Mr. Woothisarn Tanchai	Member
(3) Mr. Surong Bulakul	Member
(4) Mr. Sarun Rungkasiri	Member
(5) Mr. Sukrit Surabotsopon	Member.

Mr. Sukrit Surabotsopon, President, serves as Secretary.

#### Term of Office

The Executive Committee has a three-year term of office, one year of which is from the AGM of the year of its

#### Duties and Responsibilities

- 1) Review business plans and annual budget before their submission to the Board
- 2) Formulate IRPC's financial and investment policies, provide investment directions in alignment with IRPC's policy, and approve investment criteria and investment project proposals under IRPC's regulations
- 3) Formulate policy and recommend guidelines on the management of risks relating to IRPC's operations in an appropriate and efficient way.
- 4) Formulate risk management plans and risk management processes for the entire organization.

- 5) Monitor and assess the execution under the corporate management framework.
- 6) Examine and take actions on significant issues related to IRPC's operations
- 7) Review and provide recommendations on all matters raised to the Board
- 8) Consider the appointment of directors in affiliates or joint-venture companies corresponding to its shareholding proportion or to shareholders' agreements
- 9) Consider any other matter assigned by the Board.

## 2. Audit Committee

The Audit Committee consists of three independent directors:

- |                              |          |
|------------------------------|----------|
| (1) Mr. Cherdpong Siriwit    | Chairman |
| (2) Mr. Triumph Jalichandra  | Member   |
| (3) Lt. Gen. Preecha Wanarat | Member.  |

The three independent directors are duly qualified under the Capital Market Supervisory Board's notification and at least one director possesses sufficient knowledge and experience to review the reliability of the budget.

Mr. Thawisak Techakaisaya, Executive Vice President, Office of Corporate Internal Audit, serves as Secretary.

### Term of Office

The Audit Committee has a three-year term of office, one year of which is from the AGM of the year of its appointment to the meeting of the following year. Members who complete their terms of office may be re-appointed.

### Duties and Responsibilities

The Audit Committee performs their duties and responsibilities under an SET's announcement on the qualifications and scope of work of audit committees, B.E. 2551 (2008), and as assigned by the Board, as detailed below:

- 1) Review IRPC's quarterly and annual financial reports to ensure their accuracy and arrange for their appropriate disclosure by coordinating with external auditors and management members responsible for preparing the reports.

- 2) Review IRPC's internal control and internal audit systems to ensure their suitability and effectiveness while considering the independence of the internal audit unit.

- 3) Review IRPC's operations to ensure compliance with the Securities and Exchange Act, SET's regulations, and other laws relating to IRPC's businesses.

- 4) Select and nominate independent auditors and make recommendations on their fees, and hold a meeting with the auditors in the absence of the management at least once a year.

- 5) Review IRPC's connected transactions or any other transaction with possible conflicts of interest to ensure compliance with legislation and SET's regulations, and ensure justification of such transactions and the highest benefit for IRPC.

- 6) Arrange for an internal audit report to be included in IRPC's annual report. The report must be signed by the Chairman of the Audit Committee and must at least contain the following information:

- 6.1 Comments on the accuracy, completeness, and reliability of IRPC's financial reports
- 6.2 Comments on the sufficiency of IRPC's internal control system
- 6.3 Comments on compliance with the Securities and Exchange Act, SET's regulations, and any other legislation related to IRPC's businesses
- 6.4 Comments on the suitability of internal auditors
- 6.5 Comments on transactions with possible conflicts of interest
- 6.6 The number of Audit Committee meetings and attendance record of each member.
- 6.7 Overall comments or observations on the Audit Committee's performance under the charter.
- 6.8 Other information useful for shareholders or general investors within the scope of work assigned by the Board.

- 7) Perform any other matters assigned by the Board with the consent of the Audit Committee.

### 3. Nomination and Remuneration Committee

The Nomination and Remuneration Committee consists of three directors, at least one of whom must be an independent director:

- |                            |          |
|----------------------------|----------|
| (1) Mr. Woothisarn Tanchai | Chairman |
| (2) Mr. Songpope Polachan  | Member   |
| (3) Mr. Surong Bulakul     | Member   |

Ms. Monvipa Choopiban, acting Executive Vice President, Corporate Affairs, serves as Secretary.

#### Term of Office

The Nomination and Remuneration Committee has a three-year term of office, one year of which is from the AGM of the year of its appointment to the meeting of the following year. Members who complete their terms of office may be re-appointed.

#### Duties and Responsibilities

The Nomination and Remuneration Committee nominates candidates for new directors or President, while providing opinions for the Board, which in turn proposes the nominees to the shareholders' meeting for consideration.

- 1) Establish procedures and criteria for nomination of directors or President
- 2) Agree on directors' compensation for submission to the shareholders' meeting for consideration
- 3) Agree on the President's compensation for submission to the Board.

### Corporate Governance Committee

The Corporate Governance Committee consists of three directors, at least one of whom must be an independent director:

- |                             |          |
|-----------------------------|----------|
| (1) Mr. Cherdpong Siriwit   | Chairman |
| (2) Mr. Wichit Plangsriskul | Member   |
| (3) Mr. Jade Thanawat       | Member.  |

Ms. Monvipa Choopiban, acting Executive Vice President, Corporate Affairs, serves as Secretary.

#### Term of Office

The Corporate Governance Committee has a three-year term of office, one year of which is from the AGM of the year in which it is appointed to the meeting of the following year. Members who complete their terms of office may be re-appointed.

#### Duties and Responsibilities

- 1) Formulate corporate governance policies for the Corporate Governance Development Working Group
- 2) Propose corporate governance guidelines to the Board
- 3) Ensure that the Board and the management perform under corporate governance
- 4) Provide recommendations on corporate governance to the Board
- 5) Review IRPC's corporate governance against practices at the international level and make a proposal to the Board.

### Risk management

The Board assigned the Executive Committee to provide oversight of risk management. The Board provides an overall policy, while the Audit Committee reviews the practices. In addition, the Board has appointed management-level risk management committees to undertake day-to-day practices, namely the Risk Management Committee, chaired by the Senior Executive Vice President (Corporate Strategy and Planning), and the Hedging Committee, chaired by the Senior Executive Vice President (Corporate Accounting and Finance). These committees are to ensure risk assessment analytical exercises, covering potential impacts on IRPC (external and internal), and to provide risk management reports to the Audit Committee for review before submission to the Board.

### Nomination of Directors and Management Members

The Nomination and Remuneration Committee was appointed by the Board to screen qualified, suitable directors for the Board or the shareholders to appoint, as applicable. IRPC makes it possible for shareholders to nominate their choices as directors. As for the nomination of IRPC executives, the Board has assigned the President to appoint qualified, experienced persons to such posts. Note that all nominees must not have prohibited qualities as specified by law.

## Meeting Attendance of the Board and Sub-committees in 2013

(Unit : Time)

	Name	Board (17 directors) Number of meetings throughout the year : 14	Executive Committee (5 directors) Number of meetings throughout the year : 12	Audit Committee (3 directors) Number of meetings throughout the year : 13	Corporate Governance Committee (3 directors) Number of meetings throughout the year : 7	Nomination and Remuneration Committee (3 directors) Number of meetings throughout the year: 11
1	Mr. Chainoi Puankosoom <sup>1</sup>	10/10	8/8			
2	Mr. Cherdpong Siriwit	14/14		13/13	7/7	
3	Mr. Surong Bulakul <sup>2</sup>	5/7	7/7			1/1
4	Mr. Sarun Rungkasiri <sup>3</sup>	2/2	2/2			
5	Mr. Songpope Polachan <sup>4</sup>	10/10				5/6
6	Mr. Wichit Plangsrisukul <sup>5</sup>	10/10			6/6	
7	Gen. Udomdej Sitabutr	11/14				
8	Mr. Woothisarn Tanchai	12/14	12/12			11/11
9	Mr. Watcharakiti Watcharothai	14/14				
10	Mr. Kritsda Udyanin	14/14				
11	Mr. Narongkorn Chawalsantati	14/14				
12	Lt. Gen. Preecha Wanarat	14/14		13/13		
13	Mr. Jade Thanawat	14/14			7/7	
14	Mr. Triumph Jalichandra	14/14		13/13		
15	Mr. Worawit Chailimpamontri <sup>6</sup>	11/12				
16	Mr. Sukrit Surabotsopon <sup>7</sup>	3/3	3/3			
17	Mr. Prasert Bunsumpun <sup>8</sup>	4/4	4/4			
18	Mr. Chulayuth Hirunyavasit <sup>9</sup>	4/4				4/4
19	Mr. Sirisak Wittayaudom <sup>10</sup>	4/4				
20	Mr. Pailin Chuchottaworn <sup>11</sup>	5/5	3/4			
21	Mr. Atikom Terbsiri <sup>12</sup>	11/11	9/9			
22	Mr. Wichai Pornkeratiwat <sup>13</sup>	11/11	9/10		1/1	9/9
23	Ms. Sopawadee Lertmanaschai <sup>14</sup>	12/14				

### Note:

- Mr.Chainoi Puankosoom was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Chulayuth Hirunyavasit, who had completed his term.
- Mr. Surong Bulakul was appointed following the resolution of Board meeting No. 7/2556, with effect from 21 May 2013, replacing Mr. Pailin Chuchottaworn, who had been re-appointed for another term following the resolution of the 2013 AGM on 5 April 2013, but resigned on 10 April 2013.
- Mr. Sarun Rungkasiri was appointed following the resolution of Board meeting No. 12/2556, with effect from 15 October 2013, replacing Mr. Wichai Pornkeratiwat, who resigned on 2 October 2013.
- Mr. Songpope Polachan was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Sirisak Wittayaudom, who had completed his term.
- Mr. Wichit Plangsrisukul was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Prasert Bunsumpun, who had completed his term.
- Mr. Worawit Chailimpamontri was appointed following the resolution of Board meeting No. 1/2556, with effect from 22 January 2013, replacing Mr. Phiraphol Tritasavit, who resigned on 21 January 2013.
- Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, who resigned on 1 October 2013.
- Mr. Prasert Bunsumpun completed his term on 5 April 2013 at the 2013 AGM Meeting (status as member of sub-committee(s) automatically terminated).
- Mr. Chulayuth Hirunyavasit completed his term on 5 April 2013 at the 2013 AGM Meeting (status as member of sub-committee(s) automatically terminated).
- Mr. Sirisak Wittayaudom completed his term on 5 April 2013 at the 2013 AGM Meeting
- Mr. Pailin Chuchottaworn tendered his resignation, with effect from 10 April 2013 (status as member of sub-committee(s) automatically terminated).
- Mr. Atikom Terbsiri tendered his resignation, with effect from 10 April 2013 (status as member of sub-committee(s) automatically terminated).
- Mr. Wichai Pornkeratiwat tendered his resignation as member of Corporate Governance Committee, with effect from 10 April 2013, and as member of the Board, with effect from 2 October 2013 (status as member of sub-committee(s) automatically terminated).
- Ms. Sopawadee Lertmanaschai tendered her resignation as member of the Board, with effect from 24 December 2013. Board meeting No. 1/2557 passed a resolution appointing Mr. Sombat Narawutthichai as director, with effect from 29 January 2014 to fill the vacant position.



## Directors' Remuneration

Below are the compensation guidelines for the Board and the sub-committees as proposed to the Board:

1. The compensation is divided into monthly pay and meeting allowance.
2. The compensation is based on the the responsibilities and performance of the directors and IRPC's operating performance, and it should be comparable to peer companies with a comparable size and business risks.
3. The committee defines the scope of work for directors and sub-committees.

4. The Chairman of the Board and the Chairmen of the sub-committees are entitled to an additional 30% compensation of the other directors.

5. Members of the Executive Committee, Audit Committee, Nomination and Remuneration Committee, and Corporate Governance Committee, as well as other sub-committees to be established, are entitled to only the meeting allowances for the meetings attended.

The 2013 AGM (Annual General Meeting) held on 5 April 2013 approved the compensation of the Board and sub-committees at the same rate of those of 2012 as detailed below:

### 1. Board and sub-committees compensation in 2013

Directors	Monthly compensation/person	Meeting allowance/person
1. Board		
Chairman	60,000 Baht	60,000 Baht
Director	45,000 Baht	45,000 Baht
2. Executive Committee, Audit Committee, Nomination and Remuneration Committee, Corporate Governance Committee, and other committees to be established		
Chairman	-	60,000 Baht
Director	-	45,000 Baht

2. Bonuses for Directors: To be determined by taking into account the reference base of peer companies as well as business expansion and profit growth. For the performance of 2012, the Board proposed that no bonus was to be paid to itself.

In 2013, the compensation received by each director is summarized below:

(Unit : Baht)

No.	Name	Monthly compensation	Meeting allowance for Board	Meeting allowance for sub-committees	Bonus	Total
1	Mr. Chainoi Puankosoom <sup>1</sup>	530,000	600,000	480,000	-	1,610,000
2	Mr. Cherdpong Siriwit	540,000	630,000	1,200,000	-	2,370,000
3	Mr. Surong Bulakul <sup>2</sup>	330,968	225,000	360,000	-	915,968
4	Mr. Sarun Rungkasiri <sup>3</sup>	114,677	90,000	90,000	-	294,677
5	Mr. Songpope Polachan <sup>4</sup>	399,000	450,000	225,000	-	1,074,000
6	Mr. Wichit Plangsrisikul <sup>5</sup>	399,000	450,000	270,000	-	1,119,000
7	Gen. Udomdej Sitabutr	540,000	495,000	-	-	1,035,000
8	Mr. Woothisarn Tanchai	540,000	540,000	1,125,000	-	2,205,000
9	Mr. Watcharakiti Watcharothai	540,000	630,000	-	-	1,170,000
10	Mr. Kritsda Udyanin	540,000	630,000	-	-	1,170,000
11	Mr. Narongkorn Chawalsantati	540,000	630,000	-	-	1,170,000
12	Lt. Gen. Preecha Wanarat	540,000	630,000	585,000	-	1,755,000
13	Mr. Jade Thanawat	540,000	630,000	315,000	-	1,485,000
14	Mr. Triumph Jalichandra	540,000	630,000	585,000	-	1,755,000
15	Mr. Worawit Chaillampamontri <sup>6</sup>	466,071	495,000	-	-	961,071
16	Mr. Sukrit Surabotsopon <sup>7</sup>	135,000	135,000	135,000	-	405,000
17	Mr. Prasert Bunsumpun <sup>8</sup>	190,000	240,000	240,000	-	670,000
18	Mr. Chulayuth Hirunyavasit <sup>9</sup>	142,500	180,000	240,000	-	562,500
19	Mr. Sirisak Wittayaudom <sup>10</sup>	142,500	180,000	-	-	322,500
20	Mr. Pailin Chuchottaworn <sup>11</sup>	150,000	225,000	135,000	-	510,000
21	Mr. Atikom Terbsiri <sup>12</sup>	405,000	495,000	405,000	-	1,305,000
22	Mr. Wichai Pornkeratiwat <sup>13</sup>	406,452	495,000	855,000	-	1,756,452
23	Ms. Sopawadee Lertmanaschai <sup>14</sup>	529,839	540,000	-	-	1,069,839
<b>Total</b>		<b>9,201,007</b>	<b>10,245,000</b>	<b>7,245,000</b>	<b>-</b>	<b>26,691,007</b>

#### Note

1. Mr. Chainoi Puankosoom was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Chulayuth Hirunyavasit, who had completed his term.
2. Mr. Surong Bulakul was appointed following the resolution of Board meeting No. 7/2556, with effect from 21 May 2013, replacing Mr. Pailin Chuchottaworn, who had been re-appointed for another term following the resolution of the 2013 AGM on 5 April 2013, but resigned on 10 April 2013.
3. Mr. Sarun Rungkasiri was appointed following the resolution of Board meeting No. 12/2556, with effect from 15 October 2013, replacing Mr. Wichai Pornkeratiwat, who resigned on 2 October 2013.
4. Mr. Songpope Polachan was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Sirisak Wittayaudom, who had completed his term.
5. Mr. Wichit Plangsrisikul was appointed following the resolution of the 2013 AGM on 5 April 2013, replacing Mr. Prasert Bunsumpun, who had completed his term.
6. Mr. Worawit Chaillampamontri was appointed following the resolution of Board meeting No. 1/2556, with effect from 22 January 2013, replacing Mr. Phiraphol Tritasavit, who resigned on 21 January 2013.
7. Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, who resigned on 1 October 2013.
8. Mr. Prasert Bunsumpun completed his term on 5 April 2013 at the 2013 AGM Meeting (status as member of sub committee(s) automatically terminated).
9. Mr. Chulayuth Hirunyavasit completed his term on 5 April 2013 at the 2013 AGM Meeting (status as member of sub committee(s) automatically terminated).
10. Mr. Sirisak Wittayaudom completed his term on 5 April 2013 at the 2013 AGM Meeting.
11. Mr. Pailin Chuchottaworn tendered his resignation as member of the Board, with effect from 10 April 2013 (status as member of sub committee(s) automatically terminated).
12. Mr. Atikom Terbsiri tendered his resignation as member of the Board, with effect from 10 April 2013 (status as member of sub committee(s) automatically terminated).
13. Mr. Wichai Pornkeratiwat tendered his resignation as member of Corporate Governance Committee, with effect from 10 April 2013, and as member of the Board, with effect from 2 October 2013 (status as member of sub committee(s) automatically terminated).
14. Ms. Sopawadee Lertmanaschai, director, resigned from the Board on 24 December 2013.

Number of Shares held by the directors during 2013 (As of 31 December 2013)

(Unit : Baht)

No.	Name	(as of 31 Dec 2012) Paid-up capital 20,434,419,246 baht	(as of 31 Dec 2013) Paid-up capital 20,434,419,246 baht	Number of share increase (decrease) during the year
		Shareholding/ number of shares	Shareholding/ number of shares	
1	Mr. Chainoi Puankosoom	-	-	-
2	Mr. Cherdpong Siriwit	-	-	-
3	Gen. Udomdej Sitabutr	-	-	-
4	Mr. Woothisarn Tanchai	-	-	-
5	Mr. Watcharakiti Watcharothai	0.00127 260,250	0.00127 260,250	-
6	Mr. Surong Bulakul <sup>1</sup>	-	0.00017 35,000	35,000
7	Mr. Sarun Rungkasiri	-	-	-
8	Mr. Kritsda Udyanin	-	-	-
9	Mr. Songpope Polachan	-	-	-
10	Mr. Narongkorn Chawalsantati	-	-	-
11	Lt. Gen. Preecha Wanarat	-	-	-
12	Mr. Jade Thanawat	-	-	-
13	Mr. Triumph Jalichandra	-	-	-
14	Mr. Worawit Chailimpamontri	-	-	-
15	Mr. Wichit Plangsrisukul	-	-	-
16	Mr. Sukrit Surabotsopon <sup>2</sup>	-	0.02447 5,000,000	5,000,000

**Note:**

1. Mr. Surong Bulakul was appointed following the resolution of Board meeting No. 7/2556, with effect from 21 May 2013, replacing Mr. Pailin Chuchottaworn, who had been re-appointed for another term following the resolution of the 2013 AGM on 5 April 2013.
2. Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, who resigned on 1 October 2013.

## Company Secretary

Under the Securities and Exchange Act, B.E. 2535 (1992), amended in B.E. 2551 (2008), and the corporate governance principles of registered companies, the Board appointed a Company Secretary to perform duties under Article 89/51 of the above-mentioned act and the announcements of the Capital Market Supervisory Board.

The Company Secretary must perform with accountability, care, and integrity, in compliance with the law, IRPC's objectives and regulations, and resolutions of the Board and shareholders' meetings. The main duties and responsibilities are summarized as follows:

- Provide to directors recommendations about laws and IRPC's rules and regulations, and ensure that IRPC's businesses comply with the laws and regulations, and report to the Board any significant changes.
- Arrange Board Meetings and Shareholders's Meetings in compliance with the laws, IRPC's regulations, as well as general practices.
- Prepare the minutes of the Board's Meetings and Shareholders's Meetings and ensure that their resolutions are complied with and carried out.
- Ensure that the information and data under his/her responsibilities are disclosed to regulators and governing units as required.
- Prepare and file important documents, director registration, Board meeting notices, minutes of the meeting of the Board, IRPC's annual report, invitation to shareholders' meetings, reports on conflicts of interest by directors and executives, and other duties defined by the Capital Market Supervisory Board and related laws.

## Company Secretary

Ms. Monwipa Choopiban (Since January 24, 2012)

### Education

- Bachelor of Education (English), Chulalongkorn University
- Master of Arts (English), Chulalongkorn University
- Master of Political Science (Political Communication), Political Communication College, Krirk University

Training record from the Thai Institute of Directors Association (IOD)

- Company Secretary Program (CSP)
- Director Certificate Program (DCP)

### Career summary

- Vice President, Corporate Compliance and Communication and Company Secretary PTT Aromatics and Refining Public Company Limited

### Present

- Vice President, President's Office and Company Secretary, and Acting Vice President for Corporate Affairs, IRPC
- Secretary to the Corporate Governance Committee
- Secretary to the Nomination and Remuneration Committee

## Vice President, Office of Corporate Internal Audit, and Secretary to the Audit Committee

Ms. Sukriang Chartuthit (September 20, 2012-December 31, 2013)

### Education

- Bachelor of Accountancy, Faculty of Commerce and Accountancy, Chulalongkorn University
- Master of Accountancy, Faculty of Commerce and Accountancy, Chulalongkorn University

### Career summary

- Vice President, Accounting, IRPC Plc / IRPC Plc affiliates

Mr. Thaveesak Dejakaisaya (Since January 10, 2014)

### Education

- Bachelor of Science (Economics), Faculty of Economics and Business Administration, Kasetsart University
- Master of Business Administration, University of Central Oklahoma, USA
- Master of Economics, Middle Tennessee State University, USA

### Career summary

- Vice President, Intellectual Property Management
- Manager, QSHE Section



IRPC's Management list under the Capital Market Supervisory Board's announcement No. 23/2551 and Number of Shares Held by the Management. (As of 31 December 2013)

No.	Name	(as of 31 December 2011) Paid-up capital 20,434,419,246 baht	(as of 31 December 2012) Paid-up capital 20,434,419,246 baht	Share increase (decrease) during the year
		Shareholding/ Number of shares	Shareholding/ Number of shares	
1	Mr. Sukrit Surabotsopon <sup>1</sup> President	-	0.02447 5,000,000	5,000,000
2	Mr. Sahaschai Panichapong <sup>2</sup> Senior Executive Vice President, Port & Asset Management Business Unit	-	-	-
3	Mr. Peerapong Achariyacheevin <sup>3</sup> Senior Executive Vice President, Petrochemical & Refinery Business Unit	-	0.00411 840,000	840,000
4	Mr. Chansin Treenuchagron Senior Executive Vice President, Corporate Commercial & Marketing	-	0.00098 200,000	200,000
5	Mr. Manit Suthaporn Senior Executive Vice President, Corporate Legal	0.000000 50	0.000000 50	-
6	Ms. Duangkamol Settanung Senior Executive Vice President, Corporate Accounting & Finance	-	-	-
7	Mr. Wittawat Svasti-Xuto Senior Executive Vice President, Corporate Strategy & Planning	0.00002 4,779	0.00002 4,779	
8	Ms. Oravan Leelarasamee <sup>4</sup> Senior Executive Vice President, Corporate Human Resources & Administration	-	-	-
9	Ms. Patnan Tejakumput Executive Vice President, Corporate Finance	0.00180 367,015	0.00180 367,015	
10	Mr. Thammasak Panyowattanakul <sup>5</sup> Acting Executive Vice President, Corporate Accounting	-	-	-

**Note:**

1. Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, director and President, who resigned.
2. Mr. Sahaschai Panichapong completed his term on 31 December 2013
3. Mr. Peerapong Achariyacheevin was also appointed Senior Executive Vice President, Petrochemical & Refinery Business Unit, with effect from 1 March 2013, and was appointed Acting Senior Executive Vice President, Port & Asset Management Business Unit, with effect from 1 January 2014, replacing Mr. Sahaschai Panichapong, who had completed his term
4. Ms. Oravan Leelarasamee was also appointed Senior Executive Vice President, Corporate Human Resources & Administration, with effect from 1 March 2013
5. Mr. Thammasak Panyowattanakul was appointed Acting Executive Vice President, Corporate Accounting, with effect from 1 July 2013.

Management team members must have no record of wrongful acts regarding:

(1) Allegation or criminal charge by authorized agencies involving unlawful acts in the sale and purchase of shares or futures, as well as fraudulent, corrupt, or dishonest management

(2) Being specified by the order of an authorized agency under international law prohibiting such persons from holding a management position in a company

(3) Having been sentenced by the criminal court according to (1) or having been fined for wrongful acts in (1).

## Duties and Responsibilities of the President

The Board assigns the President to manage IRPC's business under its policy. His authority to grant approvals on significant matters is clearly defined in writing in IRPC's regulations and announcements, for example, regulations on finance, accounting, budget, and credit; announcements on the management of human resources; and announcements on the authority to grant approval to accounting processes.

Below is the scope of the President's authorities, mandated by the Board:

1. Manage IRPC's business under the laws, objectives, regulations, and resolutions of the shareholders' meeting, which include:

- a. Entering into contracts, agreements or legal acts; and terminating contracts, agreements or legal acts; as well as demanding, pursuing, and accepting money, debts, and assets from any party.
- b. Entering into transactions with financial institutions, which includes opening and closing of deposit accounts; transactions involving deposits and loans; providing guarantees, and making other business connections.
- c. Signing to certify true copies of certificates, memoranda of association, regulations, and documents involving company registration, as well as contracts, agreements, and legal actions.
- d. Filing complaints or allegations with the authority for IRPC to proceed with legal actions against a juristic person or an individual, and handing over the case to inquiry officials, withdrawing complaints or allegations; and filing complaints for losses of IRPC's documents or assets.
- e. Taking actions to pursue all forms of debt, accepting and chasing for money or other assets of IRPC from an individual or a juristic person as well as from the court, comptroller in bankruptcy, and ministries, departments, state-enterprises and all other government agencies.
- f. Making allegations, filing lawsuits, preparing answers, defending in cases, making counter-claims, undertaking all legal proceedings, exercising or waiving rights in appeal to the Appeal Court and the Supreme Court, accepting claims made by the other party, withdrawing lawsuits, entering into compromise agreements, filing applications for retrials, enforcing judgment

or orders issued by all courts, filing complaints, applications for withdrawals or amendments of complaints, answers, petitions, declarations, legal defenses, filing applications for debt repayment, opposing applications for debt repayment in all bankruptcy cases, rehabilitation cases, all legal proceedings to which IRPC is entitled to undertake against any juristic person or person for payment of debt, damages or monies or assets to IRPC or for such person to assume civil or criminal liability or according to offences under all other laws or to undertake all other actions.

- g. Accepting pledges, enforcing pledges, redeeming, pledging, accepting mortgages, enforcing mortgages, releasing pledges, redeeming mortgages, transferring or accepting transfers of rights of mortgages, giving consent as a mortgagee, a pledgee in relation to assets placed as security with IRPC, accepting transfers of land and properties on foreclosed land, exercising rights in set-offs, accepting transfers of assets from debtors or third parties for payments of debt on behalf of the debtors, transferring and accepting transfers of rights of claim.
- h. Filing statements of claim, statements of defence in arbitral proceedings or undertaking all arbitral proceedings including appointing arbitrators, requesting or submitting petitions or complaints to any court, government authority or institution for enforcement of arbitral awards.
- i. Liaising with government authorities, ministries, bureaus, state departments and other state authorities, state enterprises, local administrative authorities, persons or juristic persons in relation to applications for approvals, permits, registration, agreements, renewals of agreements, applications for permits, renewals of permits, transfers, and cancellations, filing of property tax (Paw Raw Daw 2), applications for reconsideration (appeals), filing of local maintenance tax (Paw Baw Taw 5), signage tax, revenue tax, tariff, excise tax and other related taxes, filing an appeal for all related tax assessment, payment of taxes, fees, escorting an officer for inspection of IRPC's premises, undertaking any related actions and filing applications for a refund of related monies.
- j. Filing applications for cadastral surveys, requesting land value estimates, witnessing boundary lines, certifying boundaries, filing applications for issuance of land title deeds or land title

documents, leasing land, filing applications for use of state land to the Land Department, provincial land offices, or related authorities.

- k. Signing on request forms and other documents and making declaration on behalf of IRPC to government agencies, ministries, departments, and other government-related agencies, state enterprises, local administration offices, individuals, or juristic persons; and signing on requests to make copies of such documents as IRPC's certificates, memoranda of association, company regulations, identification cards, and household registrations, and to certify such copies.

2. Managing executives, staff, and contractors, including:

- a. Drawing up regulations, orders, and terms that executives, staff, and contractors are required to follow
- b. Appointing, transferring, or dismissing executives, staff, and contractors

3. Taking other actions to achieve the objectives of this delegation of authority

4. Exercising his voting rights at shareholders' meetings in various companies where IRPC holds shares. Voting must follow the Board's guidelines.

The above delegation of authority excludes granting approvals for dealing with connected parties, those with vested interests, or those with potential conflicts of interest.

## Management Compensation

IRPC has defined a policy for management compensation by taking into account each person's scope of responsibility, management ability, and the approaches and standards of the peer business group. In arriving at annual adjustments, it assesses performance under the Performance Management System (PMS), consisting of (1) Key Performance Indicators (KPIs), representing key missions cascaded from the corporate level each year and matching organization's goals, and (2) job competency, a behavioral assessment tool for a person's ability. These two elements help IRPC achieve its goals with quality and sustainability.

In 2013, IRPC paid a total of Baht 73.28 million to eight management team members: Baht 65.48 million in monthly compensation, Baht 7.44 million in bonuses, and Baht 0.36 million in contribution to the provident fund.

Name <sup>(1)</sup>	Position
1. Mr. Atikom Terbsiri	President (to September 30, 2013)
2. Mr. Sukrit Surabotsopon <sup>2</sup>	President (since October 1, 2013)
3. Mr. Sahaschai Panichapong <sup>3</sup>	Senior Executive Vice President, Port & Asset Management Business Unit
4. Mr. Peerapong Acharyacheevin <sup>4</sup>	Senior Executive Vice President, Petrochemical & Refinery Business Unit
5. Mr. Manit Suthaporn	Senior Executive Vice President, Corporate Legal
6. Mr. Chansin Treenuchagron	Senior Executive Vice President, Corporate Commercial & Marketing
7. Ms. Duangkamol Settanung	Senior Executive Vice President, Corporate Accounting & Finance
8. Mr. Wittawat Svasti-Xuto	Senior Executive Vice President, Corporate Strategy & Planning
9. Ms. Oravan Leelarasamee <sup>5</sup>	Senior Executive Vice President, Corporate Human Resources & Administration

### Note:

1. Management team members required to disclose compensation under SEC regulations
2. Mr. Sukrit Surabotsopon was appointed following the resolution of Board meeting No. 11/2556 on 17 September 2013, with effect from 1 October 2013, replacing Mr. Atikom Terbsiri, who resigned.
3. Mr. Sahaschai Panichapong completed his term on 31 December 2013
4. Mr. Peerapong Acharyacheevin was appointed Senior Executive Vice President, Petrochemical & Refinery Business Unit, with effect from 1 March 2013
5. Ms. Oravan Leelarasamee was appointed Senior Executive Vice President, Corporate Human Resources & Administration, with effect from 1 March 2013.

## IRPC's Directors and Executives (As of 31 December 2013)

List	Mr.Chainoi Puemkosoom	Mr.Cherdpong Siriwit	Mr.Surong Bulakul	Mr.Sarun Rungkasiri	Mr.Songpope Polachan	Mr.Wichit Plungsriskul	LTG.Udomdej Sitabutr	Mr.Woohisam Tanchai	Mr.Watcharakiti Watcharothai	Mr.Kritsda Udyanin	Mr.Narongkom Chawalsantati	LTG.Preecha Wanarat	Mr.Jade Thanawat	Mr.Trumph Jalichandra	Mr.Woravit Chailimpamontri	Mr.Sukrit Surabotsopon	Mr.Sahaschai Panichapong	Mr.Peerapong Acharyacheevin	Mr.Wittawat Svasti-Xuto	Mr.Manit Suthaporn	Ms.Duangamol Settanung	Mr.Chansin Treenuchagrom	Ms.Oravan Leelarasamee
<b>Company</b>	X	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1 IRPC Public Company Limited																							
<b>Subsidiaries</b>																							
2 IRPC Polyol Company Limited	X															/			/	/	/		
3 Thai ABS Company Limited	X															/			/	/	/		
4 IRPC Oil Company Limited	X															/		/	/	/	/		
5 IRPC Technology Company Limited																			X		/		
6 IRPC A&L Company Limited																/	/	/		/	/		
7 Rakpasak Company Limited																					X		
8 Thai Polyurethane Industry Company Limited																			X				
9 IRPC Energy Company Limited																			X	/			
<b>Associated Company</b>																							
10 PTT Polymer Marketing Company Limited																/					/		
11 PTT Energy Solution Company Limited																	/						
12 UBE Chemical Asia Public Company Limited																/				/	/		
13 Rayong Acetylene Company Limited																					/		
14 IRPC Clean Power Company Limited																	X	/		/			
<b>Related Companies</b>																							
15 PTT Public Company Limited			//	//				/								//			//		//	//	//
16 PTT Global Chemical Public Company Limited				/																			
17 Thai Oil Public Company Limited																							
18 Thai Lube Base Public Company Limited																							
19 Bangchak Petroleum Public Company Limited																							
20 Star Petroleum Refining Public Company Limited																							
21 PTT Polymer & Logistics Company Limited																					/		
22 PTT ICT Solutions Company Limited																							
23 Business Services Alliance Company Limited																							
24 Energy Complex Company Limited																							
25 PTT International Trading Company Limited																							
26 PTT Phenol Company Limited																							
27 PTT Asahi Chemical Company Limited																							

Remarks : X = Chairman, / = Director, // = Executive

- Mr.Sahaschai Panichapong tendered his resignation as member of the Director's IRPC A&L Company Limited, on 31 December 2013
- Mr.Peerapong Acharyacheevin tendered his resignation as member of the Chairman's IRPC Clean Power Company Limited, on 9 January 2014



## Subsidiaries' Directors (As of 31 December 2013)

### 1. IRPC Oil Co., Ltd.

Name	Position
1 Mr.Chainoi Puankosoom	Chairman
2 Mr. Sommai Khowkachaporn	Director
3 Mr. Sukrit Surabotsopon	Director
4 Mr. Chansin Treenuchagro	Director
5 Miss Duangkamol Settanung	Director
6 Mr. Manit Suthaporn	Director
7 Mr. Wittawat Svasti-Xuto	Director
8 Mr. Sirimeth Liphakorn	Director
9 Mr. Songklod Charoenphorn	Director
10 Mr. Wirawat Sinoraditloet	Director
11 Miss Monwipa Choopiban	Director
12 Mr. Phayom Bunyang	Director
13 Mr. Somkiat Loetritpuwadon	Director
14 Mr. Worawuth Siwaphetranat	Director
15 Mr. Athon Thiansawat (resigned on 31 December 2013)	Director
16 Mr. Chalermchai Somboonpakorn	Managing Director

### 2. IRPC Polyol Company Limited

Name	Position
1 Mr.Chainoi Puankosoom	Chairman
2 Mr. Sommai Khowkachaporn	Director
3 Mr. Sukrit Surabotsopon	Director
4 Miss Duangkamol Settanung	Director
5 Mr. Chansin Treenuchagro	Director
6 Mr. Manit Suthaporn	Director
7 Mr. Wichit Nitayanon	Director
8 Mr. Phayom Bunyang	Director
9 Mr. Rattapon Unakanporn	Director
10 Mr. Pranat Kosayanon	Director
11 Mr. Kraisi Phankitnirandon	Director
12 Mr. Suwan Sinuan	Director
13 Mr. Somkiat Loetritpuwadon	Director
14 Mr. Thruesadi Watthanangkun	Director
15 Mr. Athon Thiansawat (resigned on 31 December 2013)	Director
16 Mr. Bunyadech Phuriyakorn	Managing Director

### 3. Thai ABS Co., Ltd

Name	Position
1 Mr.Chainoi Puankosoom	Chairman
2 Mr. Sommai Khowkachaporn	Director
3 Mr. Sukrit Surabotsopon	Director
4 Mr. Manit Suthaporn	Director
5 Miss Duangkamol Settanung	Director
6 Mr. Chansin Treenuchagro	Director
7 Mr. Thruesadi Watthanangkun	Director
8 Mr. Rattapon Unakanporn	Director
9 Mr. Chalermchai Somboonpakorn	Director
10 Mr. Phayom Bunyang	Director
11 Mr. Sirimeth Liphakorn	Director
12 Miss Monwipa Choopiban	Director
13 Mr. Kraisi Phankitnirandon	Director
14 Mr. Somkiat Loetritpuwadon	Director
15 Mr. Worawuth Siwaphetranat	Director
16 Mr. Athon Thiansawat (resigned on 31 December 2013)	Director
17 Mr. Wichit Nitayanon	Managing Director

### 4. IRPC Energy Company Limited

Name	Position
1 Mr. Manit Suthaporn	Chairman
2 Mrs. Chitra Thavara (resigned on 31 December 2013)	Director
3 Mr. Verachai Ariyaphonphiroon	Director
4 Mr. Chalermchai Somboonpakorn	Director
5 Miss Duangkamol Settanung	Director
6 Mr. Sirimeth Liphakorn	Director
7 Mr. Phayom Bunyang	Director
8 Mr. Worawuth Siwaphetranat	Director
9 Mr. Kraisi Phankitnirandon	Director

### 5. Thai Polyurethane Industry Company Limited

Name	Position
1 Mr. Manit Suthaporn	Chairman
2 Mr. Verachai Ariyaphonphiroon	Director
3 Chalermchai Somboonpakorn	Director
4 Mr. Somkiat Loetritpuwadon	Director
5 Mr. Songklod Charoenphorn	Director
6 Mr. Wichit Nitayanon	Director
7 Mr. Phirawat Thammapirom	Director
8 Mr. Kraisi Phankitnirandon	Director
9 Miss Monwipa Choopiban	Director
10 Mr. Worawuth Siwaphetranat	Director
11 Mr. Sirimeth Liphakorn	Director
12 Mr. Rattapon Unakanporn	Director
13 Mr. Phirasit Inthon	Director
14 Mr. Phayom Bunyang	Director
15 Mr. Athon Thiansawat (resigned on 31 December 2013)	Director
16 Mrs. Chitra Thavara (resigned on 31 December 2013)	Director

### 6. IRPC A&L Co., Ltd.

Name	Position
1 Mr. Sukrit Surabotsopon	Director
2 Mr. Wittawat Svasti-Xuto	Director
3 Mr. Chansin Treenuchagro	Director
4 Miss Duangkamol Settanung	Director
5 Mr. Sahaschai Panichapong (resigned on 31 December 2013)	Director
6 Mr. Chungpae Kogima	Director
7 Mr. Kiyoshi Okura	Director
8 Mr. Edeyuki Tokimasa	Director
9 Mr. Kazumasa Imai	Director
10 Mr.Chalermchai Somboonpakorn	Managing Director

### 7. IRPC Technology Co., Ltd.

Name	Position
1 Mr. Manit Suthaporn	Chairman
2 Mr. Chansin Treenuchagron	Director
3 Mrs. Srisuda Suralertrungsun	Director
4 Mr. Cheepawut Lichupathamyt	Director
5 Mr. Chalermchai Somboonpakorn	Director

### 8. Rak Phasak Co., Ltd. (formerly TPI Oil (2001) Co., Ltd.)

Name	Position
1 Mr. Chansin Treenuchagron	Chairman
2 Mr. Verachai Ariyaphonphiroon	Director
3 Mr. Chalermchai Somboonpakorn	Director
4 Mr. Songklod Charoenphorn	Managing Director

## Information

Company Name	:	IRPC Public Company Limited
Symbol	:	IRPC
Company Registration	:	0107537002567
Type of Business	:	Petroleum and Petrochemical
Industry	:	Resources
Sector	:	Energy & Utilities
Registered Capital	:	Baht 20,475,000,000 including 20,475,000,000 common shares, Baht 1 per share
Paid – up Capital	:	Baht 20,434,419,246 including 20,434,419,246 common shares, Baht 1 per share
Location	:	Headquarters and Plant 299 Moo 5 Sukhumvit Road, Choengoen, Rayong, Thailand Tel. +66(0) 3861 1333 Fax. +66(0) 3861 2813  Bangkok Office 555/2, Energy Complex, Building B, 6th Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok 10900 Tel. +66(0) 2649 7000 Fax. +66(0) 2649 7001
Website	:	www.irpc.co.th

### References

Share Registrar	:	Thailand Securities Depository Company Limited 62 Stock Exchange of Thailand Building Ratchadapisek Road, Klong Toey, Bangkok, 10110 Tel. +66(0) 2229 2800 Fax. +66(0) 2359 1259
Auditor	:	Mr. Wichian Kingmontree CPA No.3977 PricewaterhouseCoopers ABAS Limited. 179/74 - 80 Bangkok City Tower, 15th Floor, South Sathorn Road, Thungmahamake, Sathorn, Bangkok, Thailand 10120 Tel. +66(0) 2344 1000 Fax. +66(0) 2286 5050
Baht Bond Registrar	:	TMB Bank Public Company Limited 3000 Phaholyothin Road, Chompon, Chatuchak, Bangkok, Thailand 10900 Tel. +66(0) 2299 1111

Investors can receive additional information from the annual information disclosure form (Form 56-1) via SEC's website at [www.sec.or.th](http://www.sec.or.th) or IRPC's website at [www.irpc.co.th](http://www.irpc.co.th)

No.	Company	% of share holding	Paid up Capital
1	<b>Thai ABS Co.,Ltd.</b> Address : 555/2, Energy Complex, Building B, 7 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2646 6700 Fax. +66(0) 2646 6750 Type of Business : manufacturing and sales of plastic resin	99.99%	2,500 Million Baht
2	<b>IRPC A&amp;L Co.,Ltd.</b> Address : 555/2, Energy Complex, Building B, 9 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2649 7511 Fax. +66(0) 2649 7550 Type of Business : sales of plastic resin Remarks : subsidiaries of Thai ABS Co.,Ltd.	59.94%	10 Million Baht
3	<b>IRPC Oil Co.,Ltd.</b> Address : 555/2, Energy Complex, Building B, 7 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2646 6666 Fax. +66(0) 2646 6677/ 6688 Type of Business : sales of refined products	99.99%	2,000 Million Baht
4	<b>Rakpasak Co.,Ltd.</b> Address : 555/2, Energy Complex, Building B, 7 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2646 6666 Fax. +66(0) 2646 6677/ 6688 Type of Business : marine transportation services Remarks : subsidiaries of IRPC Oil Co.,Ltd.	99.99%	110 Million Baht
5	<b>TPI Internet Portal Co.,Ltd.</b> Address : 555/2, Energy Complex, Building B, 7 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2646 6700 Fax. +66(0) 2646 6677/ 6688 Type of Business : sales of refined products Remarks : Subsidiaries of IRPC Oil Co.,Ltd.	99.89%	0.1 Million Baht
6	<b>IRPC Polyol Co.,Ltd.</b> Address: 555/2, Energy Complex, Building B, 7 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2646 6700 Fax. +66(0) 2646 670 Type of Business : manufacturing and sales of polyol	99.99%	300 Million Baht
7	<b>IRPC Technology Co.,Ltd.</b> Address : 309 Moo 5 Sukhumvit Road, Choengoen, Rayong, Tel. +66(0) 3889 9130-2 Fax. +66(0) 3889 9130-2 Ext. 301 Type of Business : vocational school	99.99%	750 Million Baht

No.	Company	% of share holding	Paid up Capital
8	<b>IRPC Clean Power Co.,Ltd.</b> Address : 299 Moo 5, Choengoen, Rayong, Tel. +66(0) 3861 1333 Fax. +66(0) 3861 2813 Type of Business : Produce steam, electricity and other utilities.	48.99%	900 Million Baht
9	<b>PTT Polymer Marketing Co.,Ltd.</b> Address : 555/1, Energy Complex, Building A, 9 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2140 4488 Fax. +66(0) 2140 4333 Type of Business : sales of plastic resin	25.00%	40 Million Baht
10	<b>Ube Chemicals (Asia) Plc</b> Address : 98 Sathorn Square Office Tower, North Sathorn Rd. Silom, Bangrak, Bangkok Tel. +66(0) 2206 9300 Type of Business : manufacturing and sales of petrochemical	25.00%	10,739 Million Baht
11	<b>PTT Energy Solutions Co.,Ltd.</b> Address : 555/1, Energy Complex, Building A, 4 <sup>th</sup> -5 <sup>th</sup> Floor, Vibhavadi Rangsit Road, Chatuchak, Bangkok Tel. +66(0) 2140 2000 Type of Business : engineering consultants	20.00%	150 Million Baht
12	<b>Thai Special Steel Industries Plc</b> Address : 26/56 TPI Tower ,19 <sup>th</sup> Floor, Chan Tat Mai Road, Thungmahamek, Sathorn, Bangkok Tel. +66(0) 2678 6500-10 Fax. +66(0) 2678 6511 Type of Business : manufacturing and sales of steel	16.24%	4,220 Million Baht
13	<b>Rayong Acetylene Co., Ltd</b> Address : 2/3 Moo 14, Bangna-Trad Road, Km.6.5, Bangkaew, Bangplee, Samutprakarn Tel. +66(0) 2338 6100 Fax. +66(0) 3862 1602 Type of Business : manufacturing and sales of acetylene gases	13.04%	115 Million Baht

Remarks: The table only includes companies that has active operations.



## Shareholding Structure

The first ten shareholders of IRPC Public Company Limited, as of the closing of the registry book for dividend payment on March 6, 2013, are:

Shareholders		Amount of Shares	Shareholding
1.	PTT Plc.	7,869,694,600	38.51%
2.	The Government Savings Bank	1,950,000,000	9.54%
3.	The Government Pension Fund	1,183,796,970	5.79%
4.	Thai NVDR Co, Ltd.	951,583,810	4.66%
5.	Bangkok Bank Plc.	504,906,708	2.47%
6.	HSBC (SINGAPORE) NOMINEES PTE LTD	237,968,647	1.16%
7.	Social Security Office (2 cases)	169,686,900	0.83%
8.	EAST FOURTEEN LIMITED-DIMENSIONAL EMER MKTS VALUE FD	130,549,600	0.64%
9.	ONE MULTIPLE GROWTH FUND (ONE-G)	123,000,000	0.60%
10.	STATE STREET BANK EUROPE LIMITED	121,158,234	0.59%


## Dividend Policy

### IRPC Public Company Limited

IRPC's policy is to pay dividend at no less than 25% of its annual net profit after tax and all capital provisions, as required by the company regulations and by law. However, dividend payment is subject to its investment plan and other obligations as seen appropriate by the Board of Directors.

### Affiliates

Each affiliate will separately consider their own dividend payment, taking into account their cashflow balances and net profits against their reserved investment budget as required by law, or against other obligations as seen appropriate by each affiliate's board of directors.



# FINANCIAL STATEMENT



Report of  
Board of Directors'  
Responsibility for  
Financial  
Reporting

Auditor's Report

## Report of Board of Directors' responsibility for financial reporting

### To the Shareholders

IRPC Plc.'s Board of Directors is responsible for the consolidated financial statements of IRPC and its subsidiaries, including the financial data of this annual report. The financial statements were developed under generally accepted accounting standards, with suitable policies chosen and constantly upheld. Information disclosure contained in the notes to the financial statements is complete and adequate, and has undergone due audit to earn unqualified opinions from an independent certified auditor.

The Board has appointed an Audit Committee, consisting of independent directors, to ensure efficient and effective supervision of the financial statements and assessment of the internal control system. The Committee's opinions also appear in this annual report.

In the opinion of the Board, IRPC's overall internal control system can bolster the confidence that IRPC's consolidated financial statements illustrate an essentially accurate financial standing, performance, and consolidated cash flow for the year 2013.



(Mr. Chainoi Puankosoom)  
Chairman  
IRPC Public Company Limited



(Mr. Sukrit Surabotsopon)  
President  
IRPC Public Company Limited



# Auditor's Report

IRPC Public Company Limited  
As at 31 December 2013

## To the shareholders of IRPC Public Company Limited

I have audited the accompanying consolidated and company financial statements of IRPC Public Company Limited and its subsidiaries and of IRPC Public Company Limited, which comprise the consolidated and company statements of financial position as at 31 December 2013, and the related consolidated and company income statements, statements of comprehensive income, changes in shareholders' equity and cash flows for the year then ended, and a summary of significant accounting policies and other notes.

### Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Thai Standards on Auditing. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

### Opinion

In my opinion, the consolidated and company financial statements referred to above present fairly, in all material respects, the consolidated and company financial position of IRPC Public Company Limited and its subsidiaries and of IRPC Public Company Limited as at 31 December 2013, and its consolidated and company results of operations and its cash flows for the year then ended in accordance with Thai Financial Reporting Standards.



**Vichien Khingmontri**

Certified Public Accountant (Thailand) No. 3977  
PricewaterhouseCoopers ABAS Ltd.

Bangkok  
18 February 2014

# Statements of Financial Position

IRPC Public Company Limited  
As at 31 December 2013

	Notes	Consolidated			Company		
		31 December	31 December	1 January	31 December	31 December	1 January
		2013	2012	2012	2013	2012	2012
		Restated	Restated		Restated	Restated	
		Baht	Baht	Baht	Baht	Baht	Baht
<b>Assets</b>							
<b>Current assets</b>							
Cash and cash equivalents	7	5,124,204,584	6,524,025,391	2,955,619,081	4,551,614,755	5,928,184,681	2,210,538,254
Short-term investments - net		-	-	1,038,375,000	-	-	1,038,375,000
Trade accounts receivable - net	8	20,766,924,808	14,140,499,539	9,923,938,106	22,261,590,378	15,490,805,503	11,077,072,194
Amounts due from related parties - net	34	36,847,451	61,346,327	121,431,279	52,156,179	78,698,132	132,149,633
Short-term loans to and interest receivables from related parties - net	34	-	-	-	630,765,888	1,697,472,487	12,271,186
Inventories - net	9	34,798,365,754	31,252,984,971	38,810,331,702	32,681,279,278	29,174,373,822	37,027,671,389
Other receivables	10	396,250,027	622,917,551	314,617,046	388,343,184	536,471,950	290,689,473
Refundable value added tax		1,908,707,379	1,491,472,423	1,538,159,793	1,766,606,909	1,483,209,281	1,538,145,273
Prepaid excise tax		91,660,432	169,156,509	77,093,154	91,660,433	169,156,509	77,093,154
Other current assets		648,776,119	708,830,055	610,007,880	575,752,912	618,568,658	531,870,998
<b>Total current assets</b>		63,771,736,554	54,971,232,766	55,389,573,041	62,999,769,916	55,176,941,023	53,935,876,554
<b>Non-current assets</b>							
Investments in subsidiaries - net	11	-	-	-	4,358,259,953	4,450,049,372	4,450,742,472
Investments in associates - net	11	6,005,607,546	5,518,909,641	154,750,050	5,829,138,401	5,388,138,451	88,318,438
Other long-term investments - net	12	1,094,763,124	1,344,897,124	39,933,751	1,036,539,120	1,286,673,120	37,798,547
Loans to and interest receivables from related parties - net	34	3,292,812,913	3,292,812,913	3,292,812,913	6,565,291,381	3,527,279,173	3,878,348,025
Transactions with the former company's management and entities relating to the former management - net	35	71,843,498	71,843,498	71,843,504	37,566,792	37,566,792	37,566,792
Investment properties - net	13	1,286,854,570	1,872,601,475	1,634,018,754	1,167,164,483	1,567,177,050	1,288,967,293
Property, plant and equipment - net	14	83,141,307,309	73,148,140,383	70,077,164,241	75,070,461,960	66,762,808,937	65,347,709,619
Intangible assets - net	15	1,516,451,912	1,706,995,721	1,398,702,361	1,515,725,250	1,702,342,804	1,393,847,658
Deferred tax assets	2.2, 16	2,373,774,595	2,318,945,737	2,137,408,057	2,030,527,241	1,933,791,952	1,707,671,462
Other non-current assets - net	17	52,522,995	49,330,146	59,803,154	48,613,633	47,574,650	58,733,316
<b>Total non-current assets</b>		98,835,938,462	89,324,476,638	78,866,436,785	97,659,288,214	86,703,402,301	78,289,703,622
<b>Total assets</b>		162,607,675,016	144,295,709,404	134,256,009,826	160,659,058,130	141,880,343,324	132,225,580,176

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Statements of Financial Position

IRPC Public Company Limited  
As at 31 December 2013

		Consolidated			Company		
		31 December 2013	31 December 2012	1 January 2012	31 December 2013	31 December 2012	1 January 2012
			Restated	Restated		Restated	Restated
	Notes	Baht	Baht	Baht	Baht	Baht	Baht
Liabilities and shareholders' equity							
Current liabilities							
Short-term loans from financial institutions	18	147,580,833	237,541,910	1,340,336,657	-	150,700,175	1,000,000,000
Trade accounts payable	20	36,337,358,131	15,527,703,904	17,407,962,500	37,411,852,047	16,017,677,407	18,220,099,544
Amounts due to related parties	34	40,237,068	161,148,055	610,576,677	46,069,990	170,935,798	644,838,667
Loans from and interest payables to related parties	34	-	-	-	21,717,623	602,569,609	565,748,082
Current portion of long-term loans	18	9,000,000,000	2,000,000,000	2,000,000,000	9,000,000,000	2,000,000,000	2,000,000,000
Current portion of finance lease liabilities	19	3,953,548	4,112,330	43,839,203	3,953,548	4,112,330	43,414,398
Other payables		1,386,763,309	2,081,481,919	3,302,569,009	1,249,668,606	1,837,494,899	3,218,675,075
Interest payables		507,846,683	505,128,211	303,843,426	507,830,213	505,128,211	303,843,426
Accrued bonus		1,064,899,000	884,180,073	1,119,822,400	984,308,329	818,056,335	1,038,532,378
Advance receipts for goods		404,952,498	530,573,368	915,730,699	401,234,278	526,853,705	761,961,360
Other current liabilities		636,866,273	419,994,173	548,773,403	523,633,133	290,632,511	451,972,103
Total current liabilities		49,530,457,343	22,351,863,943	27,593,453,974	50,150,267,767	22,924,160,980	28,249,085,033
Non-current liabilities							
Long-term borrowings - net	18	33,882,877,372	41,969,420,601	25,190,198,062	33,882,877,372	41,969,420,601	25,190,198,062
Finance lease liabilities	19	42,442	4,029,696	14,394,619	42,442	4,029,696	14,394,619
Loans from and interest payables to related parties	34	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788	2,254,892,788
Employee benefit obligations	21	1,299,243,053	1,121,479,165	1,030,883,169	1,190,677,236	1,032,250,440	949,002,085
Transactions with the former company's management and entities relating to the former management	35	113,565,949	113,565,949	113,261,322	112,843,246	112,843,246	112,538,619
Total non-current liabilities		37,550,621,604	45,463,388,199	28,603,629,960	37,441,333,084	45,373,436,771	28,521,026,173
Total liabilities		87,081,078,947	67,815,252,142	56,197,083,934	87,591,600,851	68,297,597,751	56,770,111,206

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Statements of Financial Position

IRPC Public Company Limited  
As at 31 December 2013

		Consolidated			Company		
		31 December 2013	31 December 2012	1 January 2012	31 December 2013	31 December 2012	1 January 2012
		Restated	Restated	Restated	Restated	Restated	Restated
Notes	Baht	Baht	Baht	Baht	Baht	Baht	Baht
<b>Liabilities and shareholders' equity (continued)</b>							
<b>Shareholders' equity</b>							
Share capital	22						
Authorised shares		20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000	20,475,000,000
(Ordinary shares 20,475 million shares of par Baht 1)							
Issued and paid-up shares		20,434,419,246	20,434,419,246	20,434,419,246	20,434,419,246	20,434,419,246	20,434,419,246
(Ordinary shares 20,434.42 million shares of par Baht 1)							
Premium on share capital	22	28,554,212,397	28,554,212,397	28,554,212,397	28,554,212,397	28,554,212,397	28,554,212,397
Retained earnings							
- Appropriated for legal reserve	23	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000	2,047,500,000
- Unappropriated		24,683,897,749	25,490,278,594	27,083,263,847	22,183,827,856	22,545,385,750	24,420,640,347
Less Treasury stock - ordinary shares							
- own shares held by a subsidiary	24	(124,282,649)	(124,282,649)	(124,282,649)	-	-	-
Premium on treasury stock - ordinary shares							
- own shares held by a subsidiary		15,177,080	15,177,080	15,177,080	-	-	-
Other components of shareholders' equity		(152,502,220)	1,228,180	(4,185,144)	(152,502,220)	1,228,180	(1,303,020)
<b>Total equity attributable to the parent company</b>		75,458,421,603	76,418,532,848	78,006,104,777	73,067,457,279	73,582,745,573	75,455,468,970
Non-controlling interests	25	68,174,466	61,924,414	52,821,115	-	-	-
<b>Total shareholders' equity</b>		75,526,596,069	76,480,457,262	78,058,925,892	73,067,457,279	73,582,745,573	75,455,468,970
<b>Total liabilities and shareholders' equity</b>		162,607,675,016	144,295,709,404	134,256,009,826	160,659,058,130	141,880,343,324	132,225,580,176

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Income Statements

IRPC Public Company Limited  
For the year ended 31 December 2013

		Consolidated		Company	
		2013	2012	2013	2012
			Restated		Restated
Notes	Baht	Baht	Baht	Baht	Baht
Sales	33, 34	292,592,523,695	292,430,488,957	303,541,079,387	301,675,845,266
Cost of sales	34	(287,695,252,599)	(289,769,694,270)	(299,103,164,886)	(299,535,894,802)
<b>Gross profit</b>		4,897,271,096	2,660,794,687	4,437,914,501	2,139,950,464
Other income - net	26, 34	3,961,492,855	2,498,184,596	4,829,055,927	2,692,757,403
Selling expenses	34	(1,227,825,316)	(1,006,619,813)	(1,389,943,672)	(1,139,475,578)
Administrative expenses	27, 34	(4,266,603,034)	(3,897,590,129)	(4,098,196,928)	(3,728,594,450)
<b>Profit (loss) from operations</b>		3,364,335,601	254,769,341	3,778,829,828	(35,362,161)
Finance costs	29	(2,469,441,703)	(1,191,940,213)	(2,564,131,313)	(1,249,415,754)
Share of profit (loss) of investments in associates	11	(39,066,570)	64,339,578	-	-
<b>Profit (loss) before income tax</b>		855,827,328	(872,831,294)	1,214,698,515	(1,284,777,915)
Income tax	30	(7,032,612)	117,389,268	58,302,689	226,753,290
<b>Net profit (loss) for the year</b>		848,794,716	(755,442,026)	1,273,001,204	(1,058,024,625)
<b>Profit (loss) attributable to:</b>					
Shareholders of the parent		826,271,981	(776,708,413)	1,273,001,204	(1,058,024,625)
Non-controlling interests		22,522,735	21,266,387	-	-
<b>Net profit (loss) for the year</b>		848,794,716	(755,442,026)	1,273,001,204	(1,058,024,625)
<b>Earnings (losses) per share</b>	31				
Basic earnings (losses) per share		0.04	(0.04)	0.06	(0.05)

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Statements of Comprehensive Income

IRPC Public Company Limited  
For the year ended 31 December 2013

	Consolidated		Company	
	2013	2012	2013	2012
		Restated		Restated
	Baht	Baht	Baht	Baht
Net profit (loss) for the year	848,794,716	(755,442,026)	1,273,001,204	(1,058,024,625)
Other comprehensive income (loss):				
- Gains/ (losses) on revaluation available-for-sale investments	(192,163,000)	6,046,124	(192,163,000)	3,164,000
- Income tax relating to revaluation available-for-sale investments	38,432,600	(632,800)	38,432,600	(632,800)
<b>Other comprehensive income (loss) for the year, net of tax</b>	<b>(153,730,400)</b>	<b>5,413,324</b>	<b>(153,730,400)</b>	<b>2,531,200</b>
<b>Total comprehensive income (loss) for the year</b>	<b>695,064,316</b>	<b>(750,028,702)</b>	<b>1,119,270,804</b>	<b>(1,055,493,425)</b>
<b>Total comprehensive income (loss) attributable to:</b>				
Owners of the parent	672,541,581	(771,295,089)	1,119,270,804	(1,055,493,425)
Non-controlling interests	22,522,735	21,266,387	-	-
	<b>695,064,316</b>	<b>(750,028,702)</b>	<b>1,119,270,804</b>	<b>(1,055,493,425)</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Statements of Changes in Shareholders' equity

IRPC Public Company Limited  
For the year ended 31 December 2013

	Shareholders of the Parent											Consolidated				
	Notes	Other components of shareholders' equity														
		Issued and paid-up share capital	Premium on share capital		Retained earnings		Other comprehensive income		Shares held by the subsidiaries	Premium on treasury stock	Non-controlling interests		Total			
			Baht	Baht	Legal reserve	Unappropriated	Available-for-sale investments	Baht						Baht	Baht	Baht
<b>Balance at 1 January 2012</b>		20,434,419,246	28,554,212,397	2,047,500,000	24,946,181,545		(4,510,899)	(124,282,649)	15,177,080	75,868,696,720	52,821,115	75,921,517,835				
Retrospective adjustment from changes in accounting policy																
- Deferred tax	2.2	-	-	-	2,137,082,302		325,755	-	-	2,137,408,057	-	2,137,408,057				
<b>Balance after restatement</b>		20,434,419,246	28,554,212,397	2,047,500,000	27,083,263,847		(4,185,144)	(124,282,649)	15,177,080	78,006,104,777	52,821,115	78,058,925,892				
Dividends		-	-	-	(816,276,840)		-	-	-	(816,276,840)	(12,163,088)	(828,439,928)				
Total comprehensive income (loss) for the year		-	-	-	(776,708,413)		5,413,324	-	-	(771,295,089)	21,266,387	(750,028,702)				
<b>Balance at 31 December 2012</b>		20,434,419,246	28,554,212,397	2,047,500,000	25,490,278,594		1,228,180	(124,282,649)	15,177,080	76,418,532,848	61,924,414	76,480,457,262				
<b>Balance at 1 January 2013</b>		20,434,419,246	28,554,212,397	2,047,500,000	25,490,278,594		1,228,180	(124,282,649)	15,177,080	76,418,532,848	61,924,414	76,480,457,262				
Dividends		-	-	-	(1,632,652,826)		-	-	-	(1,632,652,826)	(16,272,683)	(1,648,925,509)				
Total comprehensive income (loss) for the year		-	-	-	826,271,981		(153,730,400)	-	-	672,541,581	22,522,735	695,064,316				
<b>Balance at 31 December 2013</b>		20,434,419,246	28,554,212,397	2,047,500,000	24,683,897,749		(152,502,220)	(124,282,649)	15,177,080	75,458,421,603	68,174,466	75,526,596,069				

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

IRPC Public Company Limited  
As at 31 December 2013

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Statements of Cash Flows

IRPC Public Company Limited  
For the year ended 31 December 2013

	Notes	Consolidated		Company	
		2013 Baht	2012 Baht	2013 Baht	2012 Baht
<b>Cash flows from operating activities</b>					
Profit (loss) before income tax		855,827,328	(872,831,294)	1,214,698,515	(1,284,777,915)
<b>Adjustments to reconcile net profit (loss) to net cash provided by operating activities</b>					
- Depreciation		4,690,542,598	4,284,336,763	4,361,656,471	3,993,143,461
- Amortisation		241,804,682	203,038,012	241,712,558	202,880,176
- Interest income	26	(70,987,272)	(108,762,501)	(225,251,223)	(142,579,403)
- Dividends income	26	(54,130,998)	(47,772,248)	(493,398,215)	(384,735,193)
- Bad debts and doubtful accounts		30,857,049	43,178,514	45,290,945	40,671,729
- Allowance for declining in value of inventories		79,293,600	24,510,884	76,301,489	19,328,594
- Unrealised (gains) losses on exchange rate		650,089,578	(24,631,445)	649,327,716	(15,542,262)
- (Gains) losses from changes in fair value of investments in trading securities	26	-	(159,750,000)	-	(159,750,000)
- (Gains) losses from sales of investments in subsidiaries and other investments	26	(192,755,066)	739,835,726	(192,755,066)	599,345,800
- Gains on the revaluation of retained non-controlling investment	26	(192,156,908)	-	-	-
- Reversal of provision for impairment of investment in subsidiaries and other investments		-	(851,606,920)	(584,849,960)	(652,883,000)
- Provision for impairment of investment in subsidiaries and other investments		-	6,555,000	84,758,169	6,555,000
- Gains from disposal of available-for-sale investments	26	(7,174,371)	-	(7,174,371)	-
- Gains from disposals of fixed assets and investment properties	26	(823,988,721)	(434,361,911)	(907,852,041)	(410,620,291)
- Losses from write off intangible assets		25,808,774	-	25,808,774	-
- Reversal of provision for impairment of fixed assets and investment properties	26	(233,760,983)	(363,338,452)	(17,535,900)	(207,439,708)
- Share of profit (loss) of investments in associates - equity method	11	39,066,570	(64,339,578)	-	-
- Finance costs	29	2,469,441,703	1,191,940,213	2,564,131,313	1,249,415,754
- Employee benefit expenses	21	203,303,044	107,378,687	183,381,815	98,428,820
		7,711,080,607	3,673,379,450	7,018,250,989	2,951,441,562
<b>Changes in operating assets and liabilities</b>					
- Trade accounts receivable		(6,508,789,562)	(4,246,661,317)	(6,671,721,433)	(4,440,089,121)
- Inventories		(3,624,674,383)	7,532,835,847	(3,583,206,946)	7,833,968,972
- Other receivables		(91,371,782)	(12,064,463)	(169,910,541)	51,385,208
- Amounts due from related parties		24,498,876	60,084,953	26,541,953	53,451,501
- Refundable value added tax		(417,234,956)	46,687,369	(283,397,628)	54,935,993
- Prepaid excise tax		77,496,077	(92,063,355)	77,496,077	(92,063,355)
- Other current assets		124,313,747	(38,538,363)	107,072,207	(43,833,291)
- Trade accounts payable		20,033,811,948	(1,868,660,245)	20,623,232,591	(2,202,081,898)
- Other payables		(200,304,394)	(278,995,057)	(171,812,144)	(312,639,152)
- Amounts due to related parties		(120,910,988)	(449,428,622)	(124,865,807)	(473,902,869)
- Accrued bonus		180,718,927	(235,642,327)	166,251,994	(220,476,043)
- Advance receipts for goods		(125,620,870)	(385,157,331)	(125,619,426)	(235,107,655)
- Other current liabilities		166,872,099	(124,455,007)	183,000,622	(161,339,592)
- Employee benefits paid		(25,539,156)	(16,782,690)	(24,955,019)	(15,180,465)
Net cash provided by operating activities		17,204,346,190	3,564,538,842	17,046,357,489	2,748,469,795
- Income tax paid		(87,689,130)	(125,064,358)	(64,256,910)	(42,863,703)
<b>Cash flows from operating activities</b>		17,116,657,060	3,439,474,484	16,982,100,579	2,705,606,092

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Statements of Cash Flows

IRPC Public Company Limited  
For the year ended 31 December 2013

	Notes	Consolidated		Company	
		2013	2012	2013	2012
		Baht	Restated Baht	Baht	Restated Baht
<b>Cash flows from investing activities</b>					
Interest received		22,941,503	115,391,968	201,841,054	137,074,497
Dividends received		161,523,381	47,772,248	493,398,215	384,735,193
Proceeds/(payments) on short-term loans to related parties and interest receivable		48,045,769	(6,629,461)	1,052,104,559	(1,678,627,543)
Long-term loans made to related parties		-	-	(3,000,000,000)	-
Long-term loans received from related parties		-	-	-	350,000,000
Cash received from reduction of registered share capital of subsidiaries	11	-	-	591,881,210	-
Cash paid for investing subsidiaries and associates	11	(899,999,950)	(5,299,820,019)	(899,999,950)	(5,299,820,013)
Proceed from disposal of available-for-sale investments		766,900,437	100,000	766,900,437	90,000
Purchases of fixed assets		(15,042,219,275)	(8,359,447,056)	(13,035,753,281)	(6,648,230,292)
Proceeds from disposals of fixed assets and investment properties		2,099,372,428	574,591,885	1,867,610,431	446,977,143
Purchases of intangible assets		(77,069,645)	(511,331,373)	(80,903,777)	(511,375,322)
Decrease/(increase) in other non-current assets		(3,192,849)	10,473,008	(1,038,983)	11,158,666
<b>Net cash used in investing activities</b>		<u>(12,923,698,201)</u>	<u>(13,428,898,800)</u>	<u>(12,043,960,085)</u>	<u>(12,808,017,671)</u>
<b>Cash flows from financing activities</b>					
Interest paid net of interest rate swap contracts and financing fees		(2,049,636,600)	(1,726,073,828)	(2,177,428,997)	(1,724,407,237)
Dividends paid		(1,632,652,826)	(816,276,837)	(1,634,559,098)	(817,229,973)
Received from derivatives settlement		210,274,343	45,866,250	210,274,343	45,866,250
Proceeds/(payments) on short-term loans from related parties		-	304,627	(552,907,400)	11,307,400
Proceeds/(payments) on short-term loans from financial institutions		(100,345,864)	(1,087,689,701)	(155,943,232)	(850,071,072)
Proceeds from long-term loans from financial institutions		-	19,203,955,000	-	19,203,955,000
Payment on long-term loans from financial institutions	18	(2,000,000,000)	(2,000,000,000)	(2,000,000,000)	(2,000,000,000)
Payments on finance lease		(4,146,036)	(50,091,797)	(4,146,036)	(49,362,362)
Dividends paid to non-controlling interests		(16,272,683)	(12,163,088)	-	-
<b>Net cash generated from (used in) financing activities</b>		<u>(5,592,779,666)</u>	<u>13,557,830,626</u>	<u>(6,314,710,420)</u>	<u>13,820,058,006</u>
<b>Net increase (decrease) in cash and cash equivalents</b>		<u>(1,399,820,807)</u>	<u>3,568,406,310</u>	<u>(1,376,569,926)</u>	<u>3,717,646,427</u>
Cash and cash equivalents at beginning of the year		<u>6,524,025,391</u>	<u>2,955,619,081</u>	<u>5,928,184,681</u>	<u>2,210,538,254</u>
<b>Cash and cash equivalents at end of the year</b>		<u><u>5,124,204,584</u></u>	<u><u>6,524,025,391</u></u>	<u><u>4,551,614,755</u></u>	<u><u>5,928,184,681</u></u>
<b>Non-cash transactions</b>					
Accounts payable - purchases of fixed assets		403,391,043	899,445,485	323,745,687	741,400,061

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 1 General information

IRPC Public Company Limited (“the Company”) is a public company incorporated and resident in Thailand. The address of the Company’s registered office is 299 Moo 5, Sukhumvit Road, Choengnuea District, Aumprur Muang, Rayong Province. The Company and subsidiaries’ office is at 555/2 Energy Complex, Building B, 6<sup>th</sup> floor, Vibhavadi Rangsit Road, Chatuchak, Khet Chatuchak, Bangkok 10900.

The Company is listed on the Stock Exchange of Thailand. For reporting purpose, the Company and its subsidiaries are referred to as ‘the Group’.

The Group is engaged in Petrochemicals and Petroleum with its products being plastic resins, refinery products, lubricant base oil and other petrochemical products.

These consolidated and company financial statements were authorised for issue by the Board of Directors on 18 February 2014.

## 2 Accounting policies

The principal accounting policies applied in the preparation of these consolidated and company financial statements are set out below:

### 2.1 Basis of preparation

The consolidated and company financial statements have been prepared in accordance with Thai generally accepted accounting principles under the Accounting Act B.E. 2543, being those Thai Accounting Standards issued under the Accounting Profession Act B.E. 2547, and the financial reporting requirements of the Securities and Exchange Commission under the Securities and Exchange Act.

The consolidated and company financial statements have been prepared under the historical cost convention except the measurement of trading investments, available-for-sale investments, which have been explained in the relevant accounting policies.

The preparation of financial statements in conformity with Thai generally accepted accounting principles requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the Group’s accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 4.

An English version of the consolidated and company financial statements has been prepared from the statutory financial statements that are in the Thai language. In the event of a conflict or a difference in interpretation between the two languages, the Thai language statutory financial statements shall prevail.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards

- a) New accounting standards, revised accounting standards and new financial reporting standards which are effective on 1 January 2013 and are relevant to the Group are:

TAS 12	Income taxes
TAS 20	Accounting for Government Grants and Disclosure of Government Assistance
TAS 21 (Revised 2009)	The Effects of Changes in Foreign Exchange Rates
TFRS 8	Operating Segments

TAS 12 requires tax expenses to be recognised for current and deferred tax. The new accounting policy of income taxes is provided in Note 2.16 and the significant impact to the Group are described in the next section.

TAS 20 applies in accounting for, and in the disclosure of, government grants and in the disclosure of other forms of government assistance. Applying TAS 20 has not impact to assets, liabilities and retained earnings of the Group. The new accounting policy is provided in Note 2.21

TAS 21 (Revised 2009) requires the Company to determine the functional currency which is the currency of the primary economic environment in which the entity operates. The Company assessed and concluded that the functional currency of the Company is Thai Baht. As a consequence, applying TAS 21 (Revised 2009) has no impact to assets, liabilities and retained earnings. The new accounting policy is described in Note 2.5.

TFRS 8 requires the operating segment to be described in the same manner as internal reporting used by the chief operating decision-maker. The new accounting policy is described in Note 2.23. The impact to the Group in applying TFRS 8 is only on a disclosure.

The change in accounting policies in relation to TAS 12 has been applied retrospectively. The effects to the consolidated and company statements of financial position are as follows:

	As at 31 December 2012			As at 1 January 2012		
	Originally stated Baht thousand	Adjustment Baht thousand	Restated Baht thousand	Originally stated Baht thousand	Adjustment Baht thousand	Restated Baht thousand
<b>Consolidated Statements of Financial Position</b>						
Non-current assets	87,005,531	2,318,946	89,324,477	76,729,029	2,137,408	78,866,437
Retained earnings -						
Unappropriated	23,171,026	2,319,253	25,490,279	24,946,182	2,137,082	27,083,264
Other component of shareholders' equity	1,535	(307)	1,228	(4,511)	326	(4,185)
<b>Company Statements of Financial Position</b>						
Non-current assets	84,769,610	1,933,792	86,703,402	76,582,032	1,707,671	78,289,703
Retained earnings -						
Unappropriated	20,611,287	1,934,099	22,545,386	22,713,295	1,707,346	24,420,641
Other component of shareholders' equity	1,535	(307)	1,228	(1,629)	326	(1,303)

The presentation of the statement of financial position as at 1 January 2012 has been presented in accordance with TAS 1, Presentation of Financial Statements.

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- a) New accounting standards, revised accounting standards and new financial reporting standards which are effective on 1 January 2013 and are relevant to the Group are: (continued)

The effects to the consolidated and company income statements and statements of comprehensive income for the year ended 31 December 2012 are as follows:

	Originally stated Baht thousand	Adjustment Baht thousand	Restated Baht thousand
<b>Consolidated Income Statements</b>			
Income tax	(64,781)	182,170	117,389
Net loss	(937,613)	182,170	(755,443)
<b>Consolidated Statement of Comprehensive Income</b>			
Other comprehensive income	6,046	(633)	5,413
<b>Company Income Statements</b>			
Income tax	-	226,753	226,753
Net loss	(1,284,778)	226,753	(1,058,025)
<b>Company Statement of Comprehensive Income</b>			
Other comprehensive income	3,164	(633)	2,531

The effects on earnings per share for the year ended 31 December 2012 are as follows:

	Consolidated Basic earnings per share Baht per share	Company Basic earnings per share Baht per share
Before adjustment	(0.05)	(0.06)
Adjustments arising from changes in accounting policies	0.01	0.01
After adjustment	(0.04)	(0.05)

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- b) Revised accounting standards, revised financial reporting standards and related interpretations that are not yet effective and have not been early adopted by the Group are:

**Revised accounting standards, revised financial reporting standards which are effective on or after 1 January 2014 are as follow:**

TAS 1 (Revised 2012)	Presentation of financial statements
TAS 7 (Revised 2012)	Statement of Cash Flows
TAS 12 (Revised 2012)	Income taxes
TAS 17 (Revised 2012)	Leases
TAS 18 (Revised 2012)	Revenue
TAS 19 (Revised 2012)	Employee Benefits
TAS 21 (Revised 2012)	The Effects of Changes in Foreign Exchange Rates
TAS 24 (Revised 2012)	Related party disclosures
TAS 28 (Revised 2012)	Investments in associates
TAS 31 (Revised 2012)	Interest in joint ventures
TAS 34 (Revised 2012)	Interim financial reporting
TAS 38 (Revised 2012)	Intangible Assets
TFRS 2 (Revised 2012)	Share-based payment
TFRS 3 (Revised 2012)	Business combinations
TFRS 5 (Revised 2012)	Non-current assets held for sale and discontinued operations
TFRS 8 (Revised 2012)	Operating segments

TAS 1 (revised 2012) clarifies that conversion features that are at the holder's discretion do not impact the classification of the liability component of the convertible instrument. TAS 1 also explains that, for each component of equity, an entity may present the breakdown of other comprehensive income either in the statement of changes in equity or in the notes to the financial statements. This standard has no impact to the Group.

TAS 7 (revised 2012) clarifies that only expenditures that result in a recognized asset in the statement of financial position are eligible for classification as investing activities. This standard has no impact to the Group.

TAS 12 (revised 2012) amends an exception to the existing principle for the measurement of deferred tax assets or liabilities on investment property measured at fair value. TAS 12 currently requires an entity to measure the deferred tax relating to an asset depending on whether the entity expects to recover the carrying amount of the asset through use or sale. This amendment therefore adds the rebuttable presumption that the carrying amount of an investment property measured at fair value is entirely recovered through sale. As the result of the amendment, TSIC 21 - Income tax - recovery of revalued non-depreciable assets is incorporated in to TAS 12 (revised 2012). This standard has no impact to the Group.

TAS 17 (revised 2012) deletes the guidance for a lease of land with an indefinite useful life to be classified as an operating lease. The standard has been amended to clarify that when a lease includes both land and buildings, classification as a finance or operating lease is performed separately in accordance with TAS 17's general principles. This standard has no impact to the Group.

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- b) Revised accounting standards, revised financial reporting standards and related interpretations that are not yet effective and have not been early adopted by the Group are: (continued)

#### **Revised accounting standards, revised financial reporting standards which are effective on or after 1 January 2014 are as follow: (continued)**

TAS 18 (revised 2012) removes the appendix to TAS 18. This standard has no impact to the Group.

TAS 19 (revised 2012) deletes the transition provisions of the current TAS 19. This standard has no impact to the Group.

TAS 21 (revised 2012) clarifies the method of recording cumulative amount of the exchange difference relating to disposal or partial disposal of a foreign operation. This matter should be adjusted prospectively effective for the period begins on or after 1 January 2011. This standard has no impact to the Group.

TAS 24 (revised 2012) removes the requirement for government-related entities to disclose details of all transactions with the government and other government-related entities. It also clarifies and simplifies the definition of related parties. This standard has no impact to the Group.

TAS 28 (revised 2012) clarifies that when an entity moves from an equity accounting to cost accounting in the separate financial statements, the standard requires this to be adjusted retrospectively. An entity loses significant influence, the remaining interest of investment should be valued at fair value. This matter should be adjusted prospectively effectively for the period begins on or after 1 Jan 2011. This standard has no impact to the Group.

TAS 31 (revised 2012) clarifies that when an entity moves from an equity accounting to cost accounting in the separate financial statements, the standard requires this to be adjusted retrospectively. An entity loses joint control in its interest in joint control, the remaining interest of investment should be valued at fair value. This matter should be adjusted prospectively effectively for the period begins on or after 1 Jan 2011. This standard has no impact to the Group.

TAS 34 (revised 2012) emphasises the existing disclosure principles for significant event and transactions. Additional requirements cover disclosure of changes in fair value measurements (if significant), and the need to update relevant information from the most recent annual report. This standard has no impact to the Group.

TAS 38 (revised 2012) clarifies that an intangible asset acquired in a business combination might be separable, but only together with a related contract, identifiable asset or liability. In such cases, intangible asset is recognised separately from goodwill, but together with related item. Intangible assets are recognised as a single asset provided the individual assets have similar useful lives. This standard has no impact to the Group.

TFRS 2 (revised 2012) expands the scope to cover classification and accounting of both cash-settled and equity-settled share-based payment transactions in group situation. This standard has no impact to the Group.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- b) Revised accounting standards, revised financial reporting standards and related interpretations that are not yet effective and have not been early adopted by the Group are: (continued)

#### **Revised accounting standards, revised financial reporting standards which are effective on or after 1 January 2014 are as follow: (continued)**

TFRS 3 (revised 2012) amends the measurement required for non-controlling interests. The choice of measuring non-controlling interests at fair value or at the proportionate share of the acquiree's net assets applies only to instruments that represent present ownership interests and entitle their holders to a proportionate share of net assets in the event of liquidation. All other component of non-controlling interests is measured at fair value unless another measurement basis is required by TFRS. The application guidance in TFRS 3 (revised 2012) also applies to all share-based payment transactions that are part of a business combination, including unreplaced and voluntarily replaced share-based payment awards. This standard has no impact to the Group.

TFRS 5 (revised 2012) specifies the disclosures required for assets held for sale and discontinued operations. Disclosures in other standards do not apply, unless those TFRS requires. This standard has no impact to the Group.

TFRS 8 (revised 2012) clarifies that an entity is required to disclose a measure of segment assets only if the measure is regularly reported to the chief operating decision-maker. This standard has no impact to the Group.

#### **New interpretations of Thai Financial Reporting Interpretations Committed (TFRIC) and Thai Standard Interpretations Committee (TSIC) which are effective for the periods beginning on or after 1 January 2014 are as follows:**

TFRIC 1	Changes in existing decommissioning, restoration and similar liabilities
TFRIC 4	Determining whether an arrangement contains a lease
TFRIC 5	Rights to interests arising from decommissioning, restoration and environmental rehabilitation funds
TFRIC 7	Applying the restatement approach under IAS 29 financial reporting in hyperinflationary economies
TFRIC 10	Interim financial reporting and impairment
TFRIC 12	Service concession arrangements
TFRIC 13	Customer loyalty programmes
TFRIC 17	Distributions of non-cash assets to owners
TFRIC 18	Transfers of assets from customers
TSIC 15	Operating leases - incentives
TSIC 27	Evaluating the substance of transactions in the legal form of a lease
TSIC 29	Service concession arrangements: Disclosure
TSIC 32	Intangible assets - Web site costs

TFRIC 1 provides guidance on accounting for changes in the measurement of an existing decommissioning, restoration and similar liability that results from changes in estimated timing or amount of the outflow of resources embodying economic benefits required to settle the obligation, or a change in the discount rate. This interpretation has no impact to the Group.

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- b) Revised accounting standards, revised financial reporting standards and related interpretations that are not yet effective and have not been early adopted by the Group are: (continued)

**New interpretations of Thai Financial Reporting Interpretations Committed (TFRIC) and Thai Standard Interpretations Committee (TSIC) which are effective for the periods beginning on or after 1 January 2014 are as follows: (continued)**

TFRIC 4 requires the determination of whether an arrangement is or contains a lease to be based on the substance of the arrangement. It requires an assessment of whether: (a) fulfilment of the arrangement is dependent on the use of a specific asset or assets (the asset); and (b) the arrangement conveys a right to use the asset. This interpretation has no impact to the Group.

TFRIC 5 provide guidance on accounting in the financial statements of a contributor for interests arising from decommissioning funds that the assets are administered separately and a contributor's right to access the assets is restricted. This interpretation has no impact to the Group.

TFRIC 7 provides guidance on how to apply the requirements of TAS 29, Financial Reporting in Hyperinflationary Economics, in a reporting period in which an entity identifies the existence of hyperinflation in the economy of its functional currency, when the economy was not hyperinflationary in the prior period. This interpretation has no impact to the Group.

TFRIC 10 prohibits reversal of an impairment losses recognised in a previous interim period in respect of goodwill. This interpretation has no impact to the Group.

TFRIC 12 applies to public-to-private service concession arrangements whereby a private sector operator participates in the development, financing, operation and maintenance of infrastructure for public sector services. This interpretation has no impact to the Group.

TFRIC 13 clarifies that where goods or services are sold together with a customer loyalty incentive (for example, loyalty points or free products), the arrangement is a multiple-element arrangement, and the consideration received or receivable from the customer is allocated between the components of the arrangement using fair values. This interpretation has no impact to the Group.

TFRIC17 provides guidance on accounting for the distributions of non-cash assets to owners acting in their capacity as owners. The interpretation addresses the issues on the dividend payable recognition and measurement and the accounting for any difference between the carrying amount of the assets distributed and the carrying amount of the dividend payable when an entity settles the dividend payable. This interpretation has no impact to the Group.

TFRIC18 sets out the accounting for transfers of items of property, plant and equity by entities that receive such transfers from their customers. Agreements within the scope of this interpretation are agreements in which an entity receives from a customer an item of property, plant and equipment that the entity must then use either to connect to a network or to provide the customer with ongoing access to supply of goods or services. The interpretation addresses the issues on the initial recognition and the accounting treatment of the transferred assets. This interpretation has no impact to the Group.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.2 New accounting standards, new financial reporting standards, new interpretations and amendments to accounting standards (continued)

- b) Revised accounting standards, revised financial reporting standards and related interpretations that are not yet effective and have not been early adopted by the Group are: (continued)

**New interpretations of Thai Financial Reporting Interpretations Committed (TFRIC) and Thai Standard Interpretations Committee (TSIC) which are effective for the periods beginning on or after 1 January 2014 are as follows: (continued)**

TSIC15 sets out the accounting for the recognition of incentive that a lessor provides to a lessee in an operating lease. This interpretation has no impact to the Group.

TSIC27 provides guidance on evaluating the substance of transactions in the legal form of a lease between the entity and the investor whether a series of transactions is linked and should be accounted for as one transaction and whether the arrangement meets the definition of a lease under TAS17 “Leases”. The accounting shall reflect the substance of the arrangement. This interpretation has no impact to the Group.

TSIC 29 contains disclosure requirements in respect of public-to-private service arrangements. This interpretation has no impact to the Group.

TSIC 32 provides guidance on the internal expenditure on the development and operation of the entity web site for internal or external access. The entity shall comply with the requirements described in TAS38 “Intangible Assets”. This interpretation has no impact to the Group.

**New accounting standard which is effective on 1 January 2016 are as follows:**

TFRS 4	Insurance Contracts
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TFRS 4 applies to all insurance contracts (including reinsurance contracts) that an entity issues and to reinsurance contracts that it holds. TFRS 4 is not relevant to the Group’s operations.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.3 Financial statements of a subsidiary

#### 2.3.1 Subsidiaries - TPI Aromatics Public Company Limited

The subsidiary has been filed for bankruptcy by a creditor claiming that the subsidiary has not repaid the debts, has excessive liabilities and is no longer in operation. On 7 June 2010, the Central Bankruptcy Court sentenced the subsidiary to absolute receivership. At the Creditors' meeting on 25 January 2011, it unanimously passed the resolution to allow the Custodian Officer to further request the Court to file bankruptcy to such subsidiary.

As the subsidiary is under the supervision of the Custodian Officer; the Company has not included the financial statements of the subsidiary in the consolidated financial statements since the fourth quarter of 2010 onwards. The outstanding balances of assets and liabilities of the Group transacted with TPI Aromatics Public Company Limited presented in the consolidated and company statements of financial position as at 31 December 2013 and 2012 are as follows:

As at 31 December 2013 and 2012	Consolidated Baht million	Company Baht million
<b>Assets</b>		
Investment in subsidiary, net of allowance for impairment of Baht 4,100 million	-	-
Loans to and interest receivable, net of allowances - Note 34 (e)	3,293	3,076
<b>Total assets</b>	<u>3,293</u>	<u>3,076</u>
<b>Liabilities</b>		
Loans from and interest payables - Note 34 (h)	2,255	2,255
<b>Total liabilities</b>	<u>2,255</u>	<u>2,255</u>

As the assets and liabilities are with the same company, the balances after offsetting of assets and liabilities in the consolidated and company statements of financial position are approximately Baht 1,038 million and Baht 821 million, respectively. The Group has anticipated that the recoverable amount will flow from the assets to be sold of the subsidiary, which are mainly land.

#### 2.3.2 Subsidiaries - R. Solution Company Limited

During 2013, R. Solution Company Limited (former- IRPC Service Company Limited) is the Company's subsidiary which is sentence by the Central Bankruptcy Court to absolute receivership on September 24, 2013. And the company is under the supervision of the Custodian Officer; the Company has not included the financial statements of the subsidiary in the consolidated financial statements since the fourth quarter of 2013 onwards.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.3 Financial statements of a subsidiary

#### 2.3.2 Subsidiaries - R. Solution Company Limited (continued)

The outstanding balances of assets and liabilities of the Group transacted with R. Solution Company Limited presented in the consolidated and company statements of financial position as at 31 December 2013 are as follows:

As at 31 December 2013	Consolidated Baht million	Company Baht million
<b>Assets</b>		
Advances	56	56
Short-term loans and interest receivables	145	145
<u>Less</u> Allowance for doubtful debts	(201)	(201)
Net - Note 34 (d)	-	-

### 2.4 Group accounting - Investment in subsidiaries and associates

#### (1) Subsidiaries

Subsidiaries are all entities (including special purpose entities) over which the Group has the power to govern the financial and operating policies generally accompanying a shareholding of more than one-half of the voting rights. The existence and effect of potential voting rights that are currently exercisable or convertible are considered when assessing whether the Group controls another entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date that control ceases.

The Group uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair value of the assets transferred, the liabilities incurred and the equity interests issued by the Group. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. On an acquisition-by-acquisition basis, the Group recognises any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

Investments in subsidiaries are accounted for at cost less impairment. Cost is adjusted to reflect changes in consideration arising from contingent consideration amendments. Cost also includes direct attributable costs of investment.

The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If this is less than the fair value of the net assets of the subsidiary acquired in the case of a bargain purchase, the difference is recognised directly in profit or loss.

Intercompany transactions, balances and unrealised gains or loss on transactions between Group companies are eliminated. Unrealised losses are also eliminated. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

A list of the Group's principal subsidiaries and the effect from the acquisition and disposal of subsidiaries have been disclosed in Note 11.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.4 Group accounting - Investment in subsidiaries and associates (continued)

#### (2) Transaction and non-controlling interests

The Group treats transactions with non-controlling interests as transactions with equity owners of the Group. For purchases from non-controlling interests, the difference between any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

#### (3) Disposal of subsidiaries

When the Group ceases to have control or significant influence, any retained interest in the entity is remeasured to its fair value in the consolidated financial statements, with the change in carrying amount recognised in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognised in other comprehensive income in respect of that entity are accounted for as if the Group had directly disposed of the related assets or liabilities.

If the ownership interest in an associate is reduced but significant influence is retained, only a proportionate share of the amounts previously recognised in other comprehensive income is reclassified to profit or loss where appropriate.

#### (4) Associates

Associates are all entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method of accounting and are initially recognised at cost. The Group's investment in associates includes goodwill identified on acquisition, net of any accumulated impairment loss. (See Note 2.13 for the impairment of assets including goodwill).

The Group's share of its associates' post-acquisition profits or losses is recognised in the profit or loss, and its share of post-acquisition movements in other comprehensive income is recognised in other comprehensive income. The cumulative post-acquisition movements are adjusted against the carrying amount of the investment. When the Group's share of losses in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognise further losses, unless it has incurred obligations or made payments on behalf of the associate.

Unrealised gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. Unrealised losses are also eliminated unless the transaction provides evidence of an impairment of the asset transfer.

Accounting policies of associates will be changed where necessary to ensure consistency with the policies adopted by the Group. Dilution gains and losses arising in investments in associates are recognised in the income statements.

In the Company's separate financial statements, investments in associates are accounted for using the cost method.

A list of the Group's principal associates and the effects acquisitions and disposals of associates is set out in Note 11.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.5 Foreign currency translation

#### (a) Functional and presentation currency

Items included in the financial statements of each of the group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The consolidated financial statements are presented in Thai Baht, which is the company's functional and the group's presentation currency.

#### (b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the profit or loss.

When a gain or loss on a non-monetary item is recognised in other comprehensive income, any exchange component of that gain or loss is recognised in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognised in profit and loss, any exchange component of that gain or loss is recognised in profit and loss.

#### (c) Group companies

The results and financial position of all the group entities (none of which has the currency of a hyper-inflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at the date of that statement of financial position;
- Income and expenses for each income statements and statement of comprehensive income are translated at average exchange rates; and
- All resulting exchange differences are recognised as a separate component of equity.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate.

### 2.6 Cash and cash equivalents

In the consolidated and company statement of cash flows, cash and cash equivalents includes cash in hand, deposits held at call with banks, other short-term highly liquid investments with original maturities of three months or less and bank overdrafts. In the consolidated and company statement of financial position, bank overdrafts are shown within borrowings in current liabilities.

### 2.7 Trade accounts receivable

Trade accounts receivable are carried at the original invoice amount and subsequently measured at the remaining amount less any allowance for doubtful receivables based on a review of all outstanding amounts at the year-end. The amount of the allowance is the difference between the carrying amount of the receivable and the amount expected to be collectible. Bad debts are written-off during the year in which they are identified and recognised in profit or loss within administrative expenses.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.8 Inventories

Inventories are stated at the lower of cost and net realisable value. Cost is determined by the weighted average method.

The cost of purchase comprises both the purchase price and costs directly attributable to the acquisition of the inventory, such as import duties and transportation charges, less all attributable discounts, allowances or rebates. The cost of finished goods and work in progress comprises raw materials, direct labour, other direct costs and related production overheads (based on normal operating capacity). It excludes borrowing costs.

Net realisable value is the estimate of the selling price in the ordinary course of business, less the necessary costs of completion and selling expenses. The Group recognises allowances for obsolete, slow moving and defective inventories by considering the future use of those inventories.

### 2.9 Other investments

The Group classifies investments other than investments in subsidiaries and associates into the three categories which are (1) trading investments, (2) available-for-sale investments and (3) general investments. The classification is dependent on the purpose for which the investments were acquired. Management determines the appropriate classification of its investments at the time of the purchase and re-evaluates such designation on a regular basis.

- (1) Investments that are acquired principally for the purpose of generating a profit from short-term fluctuations in price are classified as trading investments and included in current assets; for the purpose of these financial statements, short-term is defined as three months.
- (2) Investments intended to be held for an indefinite period of time, which may be sold in response to liquidity needs or changes in interest rates, are classified as available-for-sale; and are included in non-current assets unless management has expressed the intention of holding the investment for less than 12 months from the statement of financial position date or unless they will need to be sold to raise operating capital, in which case they are included in current assets.
- (3) Investments in non-marketable equity securities are classified as general investments.

All categories of investment are initially recognised at cost, which is equal to the fair value of consideration paid plus transaction cost.

Trading investments and available for sale investments are subsequently measured at fair value. The fair value of investments is based on quoted bid price at the close of business on the statement of financial position date by reference to the Stock Exchange of Thailand. The unrealised gains and losses of trading investments are recognised in income statement. The unrealised gains and losses of available-for-sale investments are recognised in the statement of comprehensive income.

General investments are carried at cost less impairment loss.

A test for impairment is carried out when there is a factor indicating that an investment might be impaired. If the carrying value of the investment is higher than its recoverable amount, impairment loss is charged to the income statement.

On disposal of an investment, the difference between the net disposal proceeds and the carrying amount is charged to the income statement (including gain/loss from change in fair value which was previously recorded in equity). When disposing of part of the Group's holding of a particular investment in debt or equity securities, the carrying amount of the disposed part is determined by the weighted average carrying amount of the total holding of the investment.

If the entity transfers trading investments to another category of investments, trading investments shall be reclassified at their fair value on the date of reclassification. The differences between their cost and fair value are recognised in income statement immediately.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.10 Investment property

Property that is held for long-term rental yields or for capital appreciation or both, and that is not occupied by the companies in the consolidated Group, is classified as investment property. Investment property also includes property that is being constructed or developed for future use as investment property.

Investment property of the Group is land and building held for long-term rental yields or for capital appreciation, including certain land which is currently undetermined for future use.

Investment property is measured initially at its cost, including related transaction costs and borrowing costs. Borrowing costs incurred for the purpose of acquiring, constructing or producing a qualifying investment property are capitalised as part of its cost. Borrowing costs are capitalised while acquisition or construction is actively underway and cease once the asset is substantially complete, or suspended if the development of the asset is suspended.

After initial recognition, investment property is carried at cost less any accumulated depreciation and any accumulated impairment losses.

Land is not depreciated. Depreciation on other investment properties which are buildings is calculated using the straight line method to allocate their cost to their residual values over their estimated useful lives for 20 to 40 years.

Subsequent expenditure is capitalised to the asset's carrying amount only when it is probable that future economic benefits associated with the expenditure will flow to the Group and the cost of the item can be measured reliably. All other repairs and maintenance costs are expensed when incurred. When part of an investment property is replaced, the carrying amount of the replaced part is derecognised.

### 2.11 Property, plant and equipment

Land and land improvement is stated at cost less allowance for impairment. Plant and equipment are initially recorded at cost and subsequently stated at historical cost less accumulated depreciation. Costs include directly attributable expenses in acquiring such asset.

Depreciation is recorded as expense in the income statement and calculated on the straight-line method or units of production to write-off the costs of each asset, except for land and land improvement which is considered to have an indefinite life.

	<b>Depreciation rates</b>
Buildings and structures	20 - 40 years
Machinery and pipe	20 - 30 years
Other machinery	Unit of production
Mechanical equipment	8 - 20 years
Tools and factory equipment	10 years
Furniture, fixtures and office equipment	5 - 10 years
Vehicles	5 - 10 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

The asset's carrying amount is written-down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.11 Property, plant and equipment (continued)

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to profit or loss during the financial period in which they are incurred.

Gains or losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within 'Other (losses)/gains - net' in profit or loss.

Interest costs on borrowings to finance the construction of property, plant and equipment are capitalised as part of cost of the asset, during the period of time required to complete and prepare the property for its intended use. The borrowing costs include interest on borrowings.

### 2.12 Intangible assets

Intangible assets are dredging expenses, computer program and computer development expenses which are stated at cost less accumulated amortisation and impairment loss.

Dredging expenses is expenditure paid to prepare the undersea area around the jetty.

Intangible assets of the Group are definite life assets which are amortised on a straight-line basis over the estimated useful lives of the assets. Amortisation is charged to the income statement. The estimated useful lives are as follows:

	<b>Amortisation rates</b>
Dredging expenses	10 - 20 years
Deferred charges: Computer program and computer development expenses	5 - 10 years

### 2.13 Impairment of assets

Assets that have an indefinite useful life, for example goodwill, are not subject to amortisation and are tested annually for impairment. Assets that are subject to amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the carrying amount of the assets exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. For the purposes of assessing impairment, assets are grouped at the lowest level for which there are separately identifiable cash flows. Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at each reporting date.

## 2 Accounting policies (continued)

### 2.14 Leases - where a Group company is the lessee

Leases in which a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases. Payments made under operating leases (net of any incentives received from the lessor) are charged to profit or loss on a straight-line basis over the period of the lease.

Leases of property, plant or equipment where the Group has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalised at the inception of the lease at the lower of the fair value of the leased property and the present value of the minimum lease payments.

Each lease payment is allocated between the liability and finance charges so as to achieve a constant rate on the finance balance outstanding. The corresponding rental obligations, net of finance charges, are included in other long-term payables. The interest element of the finance cost is charged to profit or loss over the lease period so as to achieve a constant periodic rate of interest on the remaining balance of the liability for each period. The property, plant or equipment acquired under finance leases is depreciated over the shorter period of the useful life of the asset and the lease term.

#### Leases - where a Group company is the lessor

When assets are leased out under a finance lease, the present value of the lease payments is recognised as a receivable. The difference between the gross receivable and the present value of the receivable is recognised as unearned finance income. Lease income is recognised over the term of the lease using the net investment method, which reflects a constant periodic rate of return. Initial direct costs are included in initial measurement of the finance lease receivable and reduce the amount of income recognised over the lease term.

Assets leased out under operating leases are included in property, plant and equipment in the statement of financial position. They are depreciated over their expected useful lives on a basis consistent with other similar property, plant and equipment owned by the Group. Rental income (net of any incentives given to lessees) is recognised on a straight-line basis over the lease term.

### 2.15 Borrowings and debentures

Borrowings and debentures are recognised initially at the fair value, net of transaction costs incurred. Borrowings and debentures are subsequently stated at amortised cost using the effective yield method; any difference between proceeds (net of transaction costs) and the redemption value is recognised in profit or loss over the period of the borrowings.

Fees paid on the establishment of loan facilities are recognised as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent that there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalised as a pre-payment for liquidity services and amortised over the period of the facility to which it relates.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the end of reporting date.

## 2 Accounting policies (continued)

### 2.16 Current and deferred income taxes

The tax expense for the period comprises current and deferred tax. Tax is recognised in profit or loss, except to the extent that it relates to items recognised in other comprehensive income or directly in equity. In this case the tax is also recognised in other comprehensive income or directly in equity, respectively.

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the end of reporting period in the countries where the company's subsidiaries and associates operate and generate taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. It establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is recognised, using the liability method, on temporary differences arising from differences between the tax base of assets and liabilities and their carrying amounts in the financial statements. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the end of the reporting period and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled.

Deferred income tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised. Deferred income tax is provided on temporary differences arising from investments in subsidiaries and associates, except where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

### 2.17 Employee benefits

The Group has both defined benefit and defined contribution plans. A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation.

- **Defined benefit plans**

- Retirement benefits

- Under Labour Laws applicable in Thailand and Group's employment policy, all employees completing 120 days of service are entitled to severance pay on termination or retrenchment without cause or upon retirement age of 60. The severance pay will be at the rate according to number of years of service as stipulated in the Labor Law which is currently at a maximum rate of 300 days of final salary.

- Other long-term benefits

- The Group has policy to reward gold to the employees who have provided the services to the Group upon 10 years and 20 years anniversary. On 1 January 2013, the Group has approved the additional policy to reward gold to the employees who have provided the services to the Group upon 30 years anniversary.

## 2 Accounting policies (continued)

### 2.17 Employee benefits (continued)

- **Defined benefit plans** (continued)

The liability recognised in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period together with adjustments for unrecognised past-service costs. The defined benefit obligation is calculated by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using market yield of government bonds that have terms to maturity approximating to the terms of the related pension liability. The estimated future cash flows shall reflect employee salaries, turnover rate, mortality, length of service and other.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to statement of comprehensive income in the period in which they arise.

Past-service costs are recognised immediately in profit or loss, unless the changes to the pension plan are conditional on the employees remaining in service for a specified period of time (the vesting period). In this case, the past-service costs are amortised on a straight-line basis over the vesting period.

- **Defined contribution plans**

- Provident fund

The Group operates a provident fund, being a defined contribution plan, the assets for which are held in a separate trust fund. The provident fund is funded by payments from employees and by the Group. The Group's contributions to the provident fund are charged to the income statement in the years to which they relate.

### 2.18 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount can be made. Where the Group expects a provision to be reimbursed, the reimbursement is recognised as a separate asset but only when the reimbursement is virtually certain.

### 2.19 Treasury stock

Treasury stock is carried at cost and shown as a deduction from total shareholders' equity. Gains on disposal of treasury stock are determined by referring to its carrying amount and are taken to "Premium on treasury stock". Losses on disposal of treasury stock are determined by referring to its carrying amount and are taken to "Premium on treasury stock" and "Retained earnings" consecutively.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 2 Accounting policies (continued)

### 2.20 Revenue recognition

#### *Sale of goods and services rendered*

Revenue comprises the fair value of the consideration received or receivable for the sale of goods and service including excise tax, municipal tax and oil fund. Revenue is shown net of rebates and discounts, and after eliminating sales within the Group. Revenue from sales of goods is recognised when significant risks and rewards of ownership of the goods are transferred to the buyer. Service income is recognised as services are provided.

#### *Interest and dividend income*

Interest income is recognised on a time proportion basis, taking account the principal outstanding and the effective rate over the period to maturity, when it is determined that such income will accrue to the Group. Dividends are recognised when the right to receive payment is established.

#### *Other income*

Other income is recognised in the income statement on an accrual basis.

### 2.21 Government grants

Government grants are recognised at their fair value where there is a reasonable assurance that the grant will be received and the Group will comply with all attached conditions.

Government grants relating to income are deducted in reporting the relating costs over the period necessary to match them with the costs that they are intended to compensate.

### 2.22 Dividends

Dividends are recorded in the consolidated and company's financial statements in the period in which they are approved by the shareholders of the Company and the related companies. Interim dividends are recorded in the consolidated and company's financial statements in the period in which they are approved by the Board of directors' of the Company and the subsidiaries.

### 2.23 Segment reporting

Operating segments are reported in a manner consistent with the internal reporting provided to the chief operating decision-maker. The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as Chief Executive Officer that makes strategic decisions.

Segment information is presented in respect of the Group's business segments which is based on the Group's management and internal reporting structure (See more information in Note 6).

## 3 Financial risk and pricing risk management regarding raw materials and products

### 3.1 Financial risk factors

The Group's activities expose it to a variety of financial risks, including the effects of changes in foreign currency exchange rate and interest rates. The Group's overall risk management programme focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the financial performance of the Group, if possible. The Group uses derivative financial instruments which are forward foreign exchange contracts and interest rate swap contracts to protect certain exposures. In execution of the afore mentioned derivative transactions, it should be in line with the policies determined by the Board of Directors. Management is approved to execute the transactions according to the table of authority of the Group and has to report the results to the Board of Directors.

#### 3.1.1 Foreign exchange rate risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures primarily with respect to US Dollars as well as US Dollar bonds which the Group has entered into foreign currency forward contracts to mitigate risk from exchange rate fluctuation.

#### 3.1.2 Interest rate risk

The Group's income and operating cash flows are substantially independent of changes in market interest rates. The Group has interest rate risk arising from borrowings and debentures with floating and fixed interest rates. The Group uses interest rate swap contracts by agreeing with the counterparties to exchange, at specified intervals, the difference between fixed contract rates and floating rate interest amounts calculated by reference to the agreed notional principal amounts.

#### 3.1.3 Credit risk

The Group has no significant concentrations of credit risks. The Group has policies in place to ensure that sales of products and services are made to customers with an appropriate credit history. Derivative counterparties and cash transactions are limited to high-credit quality financial institutions. The Group has policies that limit the amount of credit exposure to any one financial institution.

#### 3.1.4 Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash and marketable securities, the availability of funding and the ability to manage risk. Due to the dynamic nature of the underlying business, the Group's treasury aims at maintaining flexibility in funding by keeping committed credit lines available.

### 3.2 Pricing risk factors regarding raw materials and products

The Group has managed the pricing risks of raw materials and products by setting up the Hedging Committee so as to manage risk exposures following policies approved by the Board of Directors. The Hedging Committee identifies, evaluates and hedges product risks by working closely with the Group's operating units under the approved framework. The Group uses financial instruments such as crack spread swap contracts, time spread swap contracts and crude oil and petroleum products swap contracts to minimise its exposure to the fluctuation in oil prices and products. In execution of the aforementioned derivative transactions, it should be in line with the policies determined by the Board of Directors. The Hedging Committee is authorised to execute the transactions according to the specified policies.

#### Crude oil price fluctuation risk

The Group is exposed to oil price risk from substantial fluctuations in oil prices which arise from the movement of oil prices in the world market. The Group uses crack spread swap contracts, time spread swap contracts and crude oil and petroleum products swap contracts to minimise its exposure to the fluctuation of oil prices in its business operations.

## **3 Financial risk and pricing risk management regarding raw materials and products (continued)**

### **3.3 Accounting for derivative financial instruments**

The Group is a party to derivative financial instruments, which mainly comprise foreign currency forward contracts, interest rate swap agreements, and commodity derivatives. Such instruments are not recognised in the financial information on inception but only when they are settled according to the contract terms.

Foreign currency forward contracts protect the Group from movements in exchange rates by establishing the rate at which a foreign currency asset will be realised or a foreign currency liability settled. Any increase or decrease in the amount required to realise the asset or settle the liability is offset by a corresponding movement in the value of the forward exchange contract. The gains and losses on the derivative instruments which relate to borrowings are offset for financial reporting purposes and are recognised as finance costs in the income statement, whereas the gains and losses on the derivative instruments which relate to trading business are offset for financial reporting purposes and are recognised as other income - net in the income statement.

Interest rate swap agreements protect the Group from movements in interest rates. Any difference to be paid or received on an interest rate swap agreements is recognised as a component of interest revenue or expense over the period of the agreements. Gains and losses on early termination of interest rate swap contracts or on repayment of the borrowings are presented as part of finance costs in the income statement.

Crack spread swap contracts, time spread swap contracts and crude oil and petroleum products swap contracts protect the Group from movements in crude oil price by establishing the agreed price. The difference between the price at contract settlement date and agreed price will be recognised as realised gains and losses in the income statement under other income - net at settlement date.

### **3.4 Fair value estimation of derivatives for disclosure in the financial statement**

The fair value of publicly traded derivatives is based on quoted market prices at the financial position date. The fair value of forward foreign exchange contracts and the interest rate swap contracts is determined by the market rate of each agreement which is calculated by financial institutions dealing with the Group at the financial position date. The fair values of commodity derivatives are calculated by the offering selling and buying price at the statement of financial position date quoted by the financial institutions of the Group at the financial position date. Details of derivatives are disclosed in Note 37.

## **4 Critical accounting estimates and judgements**

The Group makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are outlined below.

### **4.1 Impairment of short-term loan to related parties, amount due from related parties and investment in subsidiaries and associates**

The Group estimates the possibility of the recoverability of loans to and receivables from related parties by considering the ability of settlement. For the investments in subsidiaries and associates, the Group tests whether the investments have suffered any impairment. The recoverable amounts have been determined based on the expected future cash inflow.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 4 Critical accounting estimates and judgements (continued)

### 4.2 Impairment of balances with former management and entities relating to the former management

The Group has estimated and set up allowance for doubtful debt of the outstanding amounts with the former management and entities relating to the former management. Most of them have been fully provided the allowance for doubtful debt. The Company's management has determined the recoverable amounts by considering the offsetting assets and liabilities, timing, and the possibility to receive those outstanding amounts.

### 4.3 Recognition of deferred tax assets

The recognition of deferred tax assets is based upon whether it is probably that sufficient taxable profits will be available in the future against which the reversal of temporary differences can be deducted. The Group has determined the future taxable profits by referencing to the latest available financial forecasts. The recognition, therefore, involves judgement regarding the future financial performance of the Group in which the deferred tax assets have been recognised.

## 5 Capital risk management

The Group's objectives of capital management are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares, or sell assets to reduce debt.

## 6 Segment information

Segment information is presented in respect of the Group's business segments which are based on the Group's management and internal reporting structure.

The Group's main business segments are:

Petrochemical products	Olefins, aromatics that are raw materials used in the production of plastic resins
Petroleum products	Refinery oil, lubricant oil, asphalt
Other business segments	Power plant, jetty and other utilities

The accounting policies for the operating segments are in accordance with the summaries accounting policies above.

	Consolidated			
	Petrochemical products Baht million	Petroleum products Baht million	Other businesses Baht million	Total Baht million
<b>For the year ended 31 December 2013</b>				
Sales	63,581	225,377	3,635	292,593
Operating profit	1,394	228	935	2,557
Unallocated other income				807
Finance costs				(2,469)
Share of profit of investment in associates				(39)
Income tax				(7)
Net profit for the year				849

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 6 Segment information (continued)

	<b>Consolidated</b>			
	<b>Petrochemical products</b>	<b>Petroleum products</b>	<b>Other business segment</b>	<b>Elimination entries</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>For the year ended 31 December 2013 (continued)</b>				
Segment fixed assets	26,681	23,661	16,843	(40)
Unallocated fixed assets				
Segment other assets	16,080	41,951	3,614	(4,219)
Unallocated other assets				
Consolidated total assets				

	<b>Consolidated</b>			
	<b>Petrochemical products</b>	<b>Petroleum products</b>	<b>Other businesses</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>For the year ended 31 December 2012</b>				
Sales	58,978	229,482	3,970	292,430
Operating profit (loss)	(1,239)	(194)	1,071	(362)
Unallocated other income				618
Finance costs				(1,192)
Share of profit of investment in associates				64
Income tax				117
Net profit for the year				(755)

	<b>Petrochemical products</b>	<b>Petroleum products</b>	<b>Other business segment</b>	<b>Elimination entries</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Segment fixed assets	24,059	23,988	22,882	(175)	70,754
Unallocated fixed assets					2,394
Segment other assets	12,897	33,588	5,654	(5,012)	47,127
Unallocated other assets					24,021
Consolidated total assets					144,296

### Geographic information

The Group's revenue from external customers approximately 60% is generated in the country. Revenue attributed to foreign countries are mainly from countries in Asia Pacific. In addition, most non-current assets of the Group are located in Thailand.

### Major customers

The Group has no revenue from transaction with a single external customer amount to 10 per cent or more of the Group's revenue. Therefore, the Group does not present the information about major customers.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 7 Cash and cash equivalents

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Cash on hand	3	2	1	-
Current accounts	2,735	4,041	2,496	3,619
Savings accounts	2,386	2,481	2,055	2,309
<b>Total</b>	<b>5,124</b>	<b>6,524</b>	<b>4,552</b>	<b>5,928</b>

As at 31 December 2013, current accounts and savings accounts bear interest at the rates between 0.05% and 1.65% per annum (2012: current accounts and savings accounts bear interest at the average rates between 0.10% and 2.15% per annum). Cash and cash equivalents are mainly in Thai Baht.

## 8 Trade accounts receivable - net

		Consolidated		Company	
		2013	2012	2013	2012
	Note	Baht million	Baht million	Baht million	Baht million
<b>Trade accounts receivable</b>					
- Other parties		13,356	10,578	13,052	10,308
- Related parties	34	7,651	3,815	9,443	5,413
<b>Total</b>		<b>21,007</b>	<b>14,393</b>	<b>22,495</b>	<b>15,721</b>
<u>Less</u> Allowance for doubtful debts		(240)	(252)	(233)	(230)
<b>Net</b>		<b>20,767</b>	<b>14,141</b>	<b>22,262</b>	<b>15,491</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 8 Trade accounts receivable - net (continued)

Aging analysis of trade accounts receivable as at 31 December 2013 and 2012 is as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Other parties</b>				
Current	11,267	9,811	10,989	9,574
Overdue				
- less than 3 months	1,848	510	1,831	499
- over 3 months but less than 12 months	16	24	16	24
- over 12 months	225	233	216	211
	<u>2,089</u>	<u>767</u>	<u>2,063</u>	<u>734</u>
	13,356	10,578	13,052	10,308
<u>Less</u> Allowance for doubtful debts	<u>(240)</u>	<u>(252)</u>	<u>(233)</u>	<u>(230)</u>
Net	<u>13,116</u>	<u>10,326</u>	<u>12,819</u>	<u>10,078</u>
<b>Related parties</b>				
Current	7,430	3,801	9,210	5,350
Overdue				
- less than 3 months	221	14	233	63
- over 3 months but less than 12 months	-	-	-	-
	<u>221</u>	<u>14</u>	<u>233</u>	<u>63</u>
	7,651	3,815	9,443	5,413
<u>Less</u> Allowance for doubtful debts	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Net	<u>7,651</u>	<u>3,815</u>	<u>9,443</u>	<u>5,413</u>
<b>Net</b>	<u><u>20,767</u></u>	<u><u>14,141</u></u>	<u><u>22,262</u></u>	<u><u>15,491</u></u>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 9 Inventories - net

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Raw materials	7,051	4,502	6,751	4,263
Work in process	23	19	7	7
Finished goods	18,623	16,713	17,351	15,661
Chemicals and fuel oil	875	779	651	584
Spare parts and repair materials	2,191	2,302	2,031	2,049
Goods in transit	6,035	6,938	5,890	6,610
<b>Net</b>	<b>34,798</b>	<b>31,253</b>	<b>32,681</b>	<b>29,174</b>

According to the Ministry of Energy's regulations, the Company is required to reserve crude oil, liquid petroleum gas, and petroleum products at 6% and lube base oil at 5% of the total production output in each period. As at 31 December 2013, the inventories included a minimum mandatory reserve on crude oil, liquid petroleum gas, and petroleum product amounting to Baht 10,640 million and Baht 10,589 million in the consolidated and company financial statements, respectively (2012: Baht 8,913 million and Baht 8,873 million in the consolidated and company financial statements, respectively). These amounts were net of allowance for net realisable value.

The cost of inventories recognised as expense and included in 'cost of sales' amounted to Baht 273,513million and Baht 285,099 million (2012: Baht 277,826 million and Baht 287,773 million) in the consolidated and company financial statement, respectively.

Inventories are presented net of allowance for net realisable value.

## 10 Other receivables

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Receivables from Excise Department and Oil Fund	193	114	193	114
Accounts receivable - land	-	297	-	297
Others	203	212	195	125
<b>Total</b>	<b>396</b>	<b>623</b>	<b>388</b>	<b>536</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 11 Investments in subsidiaries and associates - net

Movement of investments in subsidiaries and associates for the years ended 31 December 2013 and 2012 are as follows:

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Opening net book amount	5,519	155	9,838	4,539
Share of profit of associates - equity method	(39)	64	-	-
Dividend from an associate	(107)	-	-	-
Reduction of registered share capital of subsidiaries	-	-	(592)	-
Provision for impairment of investment in a subsidiary	-	-	(85)	-
Reversal of provision for impairment of investment in subsidiaries	-	-	585	-
Purchase of investment in a subsidiary and an associate	900	5,300	900	5,300
Sales of investment in a subsidiary	(459)	-	(459)	-
Disposal of investments in subsidiaries	-	-	-	(1)
Gain on the revaluation of retained non-controlling investment	192	-	-	-
Closing net book amount	6,006	5,519	10,187	9,838

Movements of investments in subsidiaries and associates for the year ended 31 December 2013 are as follows:

- (1) IRPC Energy Co., Ltd which is the Company's subsidiary reduced its registered share capital by Baht 585 million. The Company has an investment in IRPC Energy Co., Ltd., for which full provision for impairment has been set up. Therefore, the Company has other income as a result of the reversion of the provision for impairment amounting to Baht 585 million.
- (2) Thai Polyurethane Industry Co., Ltd. which is the Company's subsidiary reduced its registered share capital by Baht 7 million.
- (3) During 2013, the Company set up a new wholly owned subsidiary, IRPC Clean Power Company Limited, with a registered share capital of Baht 900 million and ownership interest 99.99% at inception. The objective of the subsidiary is to manufacture and sell of steam and electricity for industrial and commercial purpose. In December 2013, the Company sold an investment in this subsidiary for 45,900,000 shares which is 51% of the total shares. Therefore, the Company now have an investment at 48.99%. The Company accounts for this investment as the investment in an associate. The Company has entered into the Shareholder Agreement in relation to the investment in this associate. The authority and responsibility of each party are stipulated in the agreement.
- (4) IRPC Services Company Limited has changed its name to R. Solution Company Limited with the Department of Business Development, Ministry of Commerce on 8 May 2013. In September 2013, R. Solution Company Limited (former- IRPC Service Company Limited) is sentence by the Central Bankruptcy Court to absolute receivership. Therefore, the Company has not included the financial statements of the subsidiary in the consolidated financial statements since the fourth quarter of 2013 onwards.

All subsidiaries and associates are incorporated and domiciled in Thailand except for the following:

### Associate

- Kapuluan Holding Corp. Incorporated in the Philippines and has ceased operation

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 11 Investments in subsidiaries and associates - net (continued)

a) Details of investments in subsidiaries and associates as at 31 December 2013 and 2012 are as follows:

	Consolidated									
	Paid-up capital		Cost method		Equity method		Impairment		Net	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Subsidiary under bankruptcy process (Note 2.3)										
TP1 Aromatics Public Co., Ltd.	4,100	4,100	4,100	4,100	-	-	(4,100)	(4,100)	-	-
R.Solution Co., Ltd. (Below Baht 1 million)	-	-	-	-	-	-	-	-	-	-
(formerly IRPC Service Co., Ltd.)	-	-	-	-	-	-	-	-	-	-
Associates										
<b>Active associates</b>										
PTT Polymer Marketing Co., Ltd.	40	40	58	58	223	159	-	-	223	159
PTT Energy Solutions Co., Ltd.	150	150	30	30	35	33	-	-	35	33
UBE Chemicals (Asia) Public Co., Ltd.	10,739	10,739	5,300	5,300	5,115	5,327	-	-	5,115	5,327
IRPC Clean Power Co., Ltd.	900	-	441	-	663	-	-	-	633	-
<b>Non-active associates</b>										
Kapuluan Holding Corp.	Peso 1	Peso 1	-	-	-	-	-	-	-	-
<b>Total</b>			9,929	9,488	6,006	5,519	(4,100)	(4,100)	6,006	5,519

b) The Group's share of assets, liabilities, revenue, and share of profit of its associates according to the percentage of shareholding are as follows:

associates	business	incorporated countries	(baht million)	(baht million)	(baht million)	% interest held
As at 31 December 2013						
PTT Polymer Marketing Co., Ltd.	Sales of plastic resin	Thailand	2,299	2,076	19,087	25
PTT Energy Solutions Co., Ltd.	Engineering consulting	Thailand	82	45	91	20
UBE Chemicals (Asia) Public Co., Ltd.	Produce and sale petrochemical	Thailand	3,962	669	3,332	25
Kapuluan Holding Corp.	Investing in other business	Philippines	-	-	-	39.99
IRPC Clean Power Co., Ltd	Manufacturing and sales of electricity and steam	Thailand	835	401	-	48.99
As at 31 December 2012						
PTT Polymer Marketing Co., Ltd.	Sales of plastic resin	Thailand	2,021	1,865	17,730	25
PTT Energy Solutions Co., Ltd.	Engineering consulting	Thailand	70	37	82	20
UBE Chemicals (Asia) Public Co., Ltd.	Produce and sale petrochemical	Thailand	4,005	512	2,033	25
Kapuluan Holding Corp.	Investing in other business	Philippines	-	-	-	39.99

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 11 Investments in subsidiaries and associates - net (continued)

c) Details of investments in subsidiaries and associates as at 31 December 2013 and 2012 are as follows:

	Company												
	Ownership interest		Paid-up capital		Cost method		Impairment		Net		Dividend income		
	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	
	(%)	(%)	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	Baht million	
Business													
<b>Subsidiaries</b>													
<b>Active subsidiaries</b>													
Thai ABS Co., Ltd. And a subsidiary - IRPC A&L Co., Ltd.	99.99 59.94	99.99 59.94	2,500	2,500	2,500	2,500	-	-	2,500	2,500	300	275	
IRPC Oil Co., Ltd. And a subsidiary - Rak Phasuk Co., Ltd.	99.99 99.99	99.99 99.99	2,000	2,000	2,000	2,000	(718)	(718)	1,282	1,282	-	-	
(formerly TPI Oil (2001) Co., Ltd.)													
IRPC Polyoil Co., Ltd.	99.99	99.99	300	300	300	300	-	-	300	300	30	30	
IRPC Technology Co., Ltd	99.99	99.99	750	750	750	750	(476)	(476)	274	274	-	-	
<b>Non-active subsidiaries</b>													
Thai Polyurethane Industry Co., Ltd.	99.99	99.99	2	9	2	9	-	-	2	9	2	-	
IRPC Energy Co., Ltd.	99.99	99.99	2,757	3,342	2,757	3,342	(2,757)	(3,257)	-	85	-	-	
R.Solution Co., Ltd. (formerly IRPC Service Co., Ltd.) (Below Baht 1 million)	99.50	99.50	-	-	-	-	-	-	-	-	-	-	
TPI Internet Portal Co., Ltd. (Below Baht 1 million)	99.89	99.89	-	-	-	-	-	-	-	-	-	-	
Rayong Tank Terminal Co., Ltd.	99.99	99.99	-	-	1,000	1,000	(1,000)	(1,000)	-	-	-	32	
TPI Aromatics Public Co., Ltd.	99.99	99.99	4,100	4,100	4,100	4,100	(4,100)	(4,100)	-	-	-	-	
<b>Total subsidiaries</b>					13,409	14,001	(9,051)	(9,551)	4,358	4,450	332	337	
<b>Associates</b>													
<b>Active associates</b>													
PTT Polymer Marketing Co., Ltd.	25.00	25.00	40	40	58	58	-	-	58	58	-	-	
PTT Energy Solutions Co., Ltd.	20.00	20.00	150	150	30	30	-	-	30	30	-	-	
UBC Chemicals (Asia) Public Co., Ltd.	25.00	25.00	10,739	10,739	5,300	5,300	-	-	5,300	5,300	107	-	
IRPC Clean Power Co., Ltd.	48.99	-	900	-	441	-	-	-	441	-	-	-	
<b>Non-active associates</b>													
Kapulan Holding Corp.	39.99	39.99	Peso 1	Peso 1	-	-	-	-	-	-	-	-	
<b>Total associates</b>					5,829	5,388	-	-	5,829	5,388	107	-	
<b>Total investment in subsidiaries and associates</b>					19,238	19,389	(9,051)	(9,551)	10,187	9,838	439	337	

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 12 Other long-term investments - net

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Marketable equity securities				
- available-for sales	1,674	1,732	1,674	1,732
<u>Less</u> Allowances for revaluation of investments	(704)	(512)	(704)	(512)
	970	1,220	970	1,220
General equity securities - cost method	884	884	826	826
<u>Less</u> Allowances for impairment	(759)	(759)	(759)	(759)
	125	125	67	67
<b>Net</b>	<b>1,095</b>	<b>1,345</b>	<b>1,037</b>	<b>1,287</b>

The Group is considering whether to dispose or do other possible alternatives regarding the above investments to maximise the benefits to the Group.

Movement of other long-term investments for the year ended 31 December 2013 are as follows:

	<b>Consolidated</b>		
	<b>General equity securities - cost method</b>	<b>Available-for-sale securities</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	125	1,220	1,345
Disposal of investments	-	(58)	(58)
Changes in fair value	-	(192)	(192)
Closing net book amount	125	970	1,095

	<b>Company</b>		
	<b>General equity securities - cost method</b>	<b>Available-for-sale securities</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	67	1,220	1,287
Disposal of investments	-	(58)	(58)
Changes in fair value	-	(192)	(192)
Closing net book amount	67	970	1,037

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 13 Investment properties - net

The Group has investment properties which are land that mostly has not been determined for the purpose of use, and major buildings which are for rent presented in the consolidated and company financial statements as follows:

	<b>Consolidated</b>		
	<b>Land</b>	<b>Buildings</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>As at 31 December 2011</b>			
Cost	2,445	154	2,599
<u>Less</u> Accumulated depreciation	-	(103)	(103)
<u>Less</u> Allowance for impairment	(857)	(5)	(862)
Net book amount	1,588	46	1,634
<b>For the year ended 31 December 2012</b>			
Opening net book amount	1,588	46	1,634
Additions of investment properties	20	-	20
Disposals - net	(143)	(12)	(155)
Transfer to property, plant and equipment	39	-	39
Increase from transfer from other non-current assets	77	-	77
Depreciation	-	(3)	(3)
Reversal of impairment	258	3	261
Closing net book amount	1,839	34	1,873
<b>As at 31 December 2012</b>			
Cost	2,438	98	2,536
<u>Less</u> Accumulated depreciation	-	(64)	(64)
<u>Less</u> Allowance for impairment	(599)	-	(599)
Net book amount	1,839	34	1,873
<b>For the year ended 31 December 2013</b>			
Opening net book amount	1,839	34	1,873
Disposals - net	(814)	(2)	(816)
Depreciation	-	(4)	(4)
Reversal of impairment	234	-	234
Closing net book amount	1,259	28	1,287
<b>As at 31 December 2013</b>			
Cost	1,624	88	1,712
<u>Less</u> Accumulated depreciation	-	(60)	(60)
<u>Less</u> Allowance for impairment	(365)	-	(365)
Net book amount	1,259	28	1,287
Fair value as at 31 December 2012	1,932	123	2,055
Fair value as at 31 December 2013	1,686	116	1,802

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 13 Investment properties - net (continued)

	<b>Company</b>		
	<b>Land</b>	<b>Buildings</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>As at 31 December 2011</b>			
Cost	1,826	24	1,850
<u>Less</u> Accumulated depreciation	-	(15)	(15)
<u>Less</u> Allowance for impairment	(546)	-	(546)
Net book amount	1,280	9	1,289
<b>For the year ended 31 December 2012</b>			
Opening net book amount	1,280	9	1,289
Additions of investment properties	20	-	20
Disposals - net	(56)	-	(56)
Transfer from property, plant and equipment	39	-	39
Increase from transfer from other non-current assets	77	-	77
Depreciation	-	(1)	(1)
Reversal of impairment	199	-	199
Closing net book amount	1,559	8	1,567
<b>As at 31 December 2012</b>			
Cost	1,906	24	1,930
<u>Less</u> Accumulated depreciation	-	(16)	(16)
<u>Less</u> Allowance for impairment	(347)	-	(347)
Net book amount	1,559	8	1,567
<b>For the year ended 31 December 2013</b>			
Opening net book amount	1,559	8	1,567
Disposals - net	(416)	(1)	(417)
Depreciation	-	(1)	(1)
Reversal of impairment	18	-	18
Closing net book amount	1,161	6	1,167
<b>As at 31 December 2013</b>			
Cost	1,490	21	1,511
<u>Less</u> Accumulated depreciation	-	(15)	(15)
<u>Less</u> Allowance for impairment	(329)	-	(329)
Net book amount	1,161	6	1,167
Fair value as at 31 December 2012	1,685	86	1,771
Fair value as at 31 December 2013	1,576	86	1,662

During 2013, the Group reversed allowance for impairment of Baht 234 million and Baht 18 million (Baht 261 million and Baht 199 million) in the consolidated and company financial statements respectively because of sale of land or the higher of recoverable amount. Recoverable amount is net selling price that was determined with reference to market prices of plots of land in the equivalent areas. The report is prepared by the independent professionally qualified valuers.

Amounts recognised in profit and loss that are related to investment properties are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Rental income	31	32	29	25

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 14 Property, plant and equipment - net

	Consolidated							
	Land and improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
As at 31 December 2011								
Cost	4,508	23,671	75,183	1,938	664	762	9,011	115,737
Less: Accumulated depreciation	-	(10,114)	(32,808)	(1,158)	(411)	(594)	-	(45,085)
Allowance for impairment	(272)	(168)	(135)	-	-	-	-	(575)
Net book amount	4,236	13,389	42,240	780	253	168	9,011	70,077
For the year ended 31 December 2012								
Opening net book amount	4,236	13,389	42,240	780	253	168	9,011	70,077
Additions	41	15	334	87	60	90	7,021	7,648
Disposals - net book value	(202)	(5)	(26)	-	(2)	(48)	-	(283)
Reclassification	94	1,267	5,848	63	115	-	(7,387)	-
Reclassification from investment properties	(39)	-	-	-	-	-	-	(39)
Depreciation charge	-	(815)	(3,206)	(123)	(99)	(38)	-	(4,281)
Reversal of impairment	92	3	-	-	-	-	-	95
Impairment charge	-	-	(69)	-	-	-	-	(69)
Closing net book amount	4,222	13,854	45,121	807	327	172	8,645	73,148
As at 31 December 2012								
Cost	4,403	24,948	81,299	2,046	820	751	8,645	122,912
Less: Accumulated depreciation	-	(10,935)	(35,975)	(1,239)	(493)	(579)	-	(49,221)
Allowance for impairment	(181)	(159)	(203)	-	-	-	-	(543)
Net book amount	4,222	13,854	45,121	807	327	172	8,645	73,148

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 14 Property, plant and equipment - net (continued)

	Consolidated							
	Land and improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
As at 31 December 2012								
Cost	4,403	24,948	81,299	2,046	820	751	8,645	122,912
Less Accumulated depreciation	-	(10,935)	(35,975)	(1,239)	(493)	(579)	-	(49,221)
Allowance for impairment	(181)	(159)	(203)	-	-	-	-	(543)
Net book amount	4,222	13,854	45,121	807	327	172	8,645	73,148
For the year ended 31 December 2013								
Opening net book amount	4,222	13,854	45,121	807	327	172	8,645	73,148
Additions	281	6	167	107	40	11	14,230	14,842
Disposals - net book value	(122)	-	(29)	-	-	(11)	-	(162)
Reclassification	118	908	5,991	39	55	-	(7,111)	-
Depreciation charge	-	(853)	(3,570)	(132)	(103)	(29)	-	(4,687)
Closing net book amount	4,499	13,915	47,680	821	319	143	15,764	83,141
As at 31 December 2013								
Cost	4,680	25,861	87,428	2,191	909	730	15,764	137,563
Less Accumulated depreciation	-	(11,784)	(39,545)	(1,370)	(590)	(587)	-	(53,876)
Allowance for impairment	(181)	(162)	(203)	-	-	-	-	(546)
Net book amount	4,499	13,915	47,680	821	319	143	15,764	83,141

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 14 Property, plant and equipment - net (continued)

	Land and improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
<b>As at 31 December 2011</b>								
Cost	3,944	20,963	68,415	1,485	579	567	8,443	104,396
Less Accumulated depreciation	-	(8,132)	(29,175)	(827)	(363)	(429)	-	(38,926)
Allowance for impairment	-	-	(122)	-	-	-	-	(122)
Net book amount	3,944	12,831	39,118	658	216	138	8,443	65,348
<b>For the year ended 31 December 2012</b>								
Opening - net book amount	3,944	12,831	39,118	658	216	138	8,443	65,348
Additions	53	4	320	85	52	89	5,188	5,791
Disposals - net book value	(200)	(4)	(26)	-	-	(47)	-	(277)
Reclassification	94	1,263	5,788	44	113	-	(7,302)	-
Reclassification to investment properties	(39)	-	-	-	-	-	-	(39)
Depreciation charge	-	(799)	(2,964)	(107)	(91)	(31)	-	(3,992)
Allowance for impairment	-	-	(68)	-	-	-	-	(68)
Closing net book amount	3,852	13,295	42,168	680	290	149	6,329	66,763
<b>As at 31 December 2012</b>								
Cost	3,852	22,225	74,472	1,613	738	557	6,329	109,786
Less Accumulated depreciation	-	(8,930)	(32,115)	(933)	(448)	(408)	-	(42,834)
Allowance for impairment	-	-	(189)	-	-	-	-	(189)
Net book amount	3,852	13,295	42,168	680	290	149	6,329	66,763

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 14 Property, plant and equipment - net (continued)

	Land and improvement Baht million	Buildings and building improvements Baht million	Machinery and pipes Baht million	Tools and factory equipment Baht million	Furniture, fixtures and office equipment Baht million	Vehicles Baht million	Assets under construction Baht million	Total Baht million
<b>As at 31 December 2012</b>								
Cost	3,852	22,225	74,472	1,613	738	557	6,329	109,786
Less: Accumulated depreciation	-	(8,930)	(32,115)	(933)	(448)	(408)	-	(42,834)
Allowance for impairment	-	-	(189)	-	-	-	-	(189)
Net book amount	3,852	13,295	42,168	680	290	149	6,329	66,763
<b>For the year ended 31 December 2013</b>								
Opening net book amount	3,852	13,295	42,168	680	290	149	6,329	66,763
Additions	281	-	153	103	31	11	12,335	12,914
Disposals - net book value	(208)	-	(28)	-	-	(9)	-	(245)
Reclassification	119	220	3,899	21	50	-	(4,309)	-
Depreciation charge	-	(830)	(3,300)	(116)	(93)	(23)	-	(4,362)
Closing net book amount	4,044	12,685	42,892	688	278	128	14,355	75,070
<b>As at 31 December 2013</b>								
Cost	4,044	22,445	78,496	1,737	815	548	14,355	122,440
Less: Accumulated depreciation	-	(9,760)	(35,415)	(1,049)	(537)	(420)	-	(47,181)
Allowance for impairment	-	-	(189)	-	-	-	-	(189)
Net book amount	4,044	12,685	42,892	688	278	128	14,355	75,070

As at 31 December 2013, the Group had assets under finance leases, net of accumulated depreciation, of Baht 4 million in the consolidated and company financial statements (2012: Baht 8 million in the consolidated and company financial statements).

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 14 Property, plant and equipment - net (continued)

Borrowing costs of Baht 394.67 million and Baht 296.48 million in the consolidated and company financial statements, respectively (2012: Baht 249.71 million and 231.96 in the consolidated and company financial statements, respectively) arising from financing specifically for the construction of new factories, were capitalised during the year and are included in 'Additions'. Capitalisation rates between 3.25% and 6.00% were used to calculate the borrowing costs of the loans used to finance the project.

Depreciation charge for the years ended 31 December 2013 and 2012 is as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Depreciation charge for property, plant and equipment				
- Cost of sales	4,501	4,102	4,265	3,892
- Administrative expenses	186	179	97	100
	<u>4,687</u>	<u>4,281</u>	<u>4,362</u>	<u>3,992</u>
Depreciation charge for investment properties				
- Administrative expenses	4	3	1	1
<b>Total</b>	<u><u>4,691</u></u>	<u><u>4,284</u></u>	<u><u>4,363</u></u>	<u><u>3,993</u></u>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 15 Intangible assets - net

Intangible assets presented in the consolidated and company financial statements are as follows:

	Consolidated		
	Dredging expenses Baht million	Computer software and computer development Baht million	Total Baht million
<b>As at 31 December 2011</b>			
Cost	2,512	671	3,183
<u>Less</u> Accumulated amortisation	(1,595)	(189)	(1,784)
Net book amount	917	482	1,399
<b>For the year ended 31 December 2012</b>			
Opening net book amount	917	482	1,399
Additions	173	337	510
Amortisation	(126)	(76)	(202)
Closing net book amount	964	743	1,707
<b>As at 31 December 2012</b>			
Cost	2,685	1,008	3,693
<u>Less</u> Accumulated amortisation	(1,721)	(265)	(1,986)
Net book amount	964	743	1,707
<b>For the year ended 31 December 2013</b>			
Opening net book amount	964	743	1,707
Additions	23	52	75
Write-off, net	(26)	-	(26)
Amortisation	(136)	(104)	(240)
Closing net book amount	825	691	1,516
<b>As at 31 December 2013</b>			
Cost	2,640	1,060	3,700
<u>Less</u> Accumulated amortisation	(1,815)	(369)	(2,184)
Net book amount	825	691	1,516

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 15 Intangible assets - net (continued)

Intangible assets presented in the consolidated and company financial statements are as follows: (continued)

	Company		
	Dredging expenses Baht million	Computer software and computer development Baht million	Total Baht million
<b>As at 31 December 2011</b>			
Cost	2,512	666	3,178
<u>Less</u> Accumulated amortisation	(1,595)	(189)	(1,784)
Net book amount	917	477	1,394
<b>For the year ended 31 December 2012</b>			
Opening net book amount	917	477	1,394
Additions	173	337	510
Amortisation	(126)	(76)	(202)
Closing net book amount	964	738	1,702
<b>As at 31 December 2012</b>			
Cost	2,685	1,003	3,688
<u>Less</u> Accumulated amortisation	(1,721)	(265)	(1,986)
Net book amount	964	738	1,702
<b>For the year ended 31 December 2013</b>			
Opening net book amount	964	738	1,702
Additions	23	57	80
Write-off, net	(26)	-	(26)
Amortisation	(136)	(104)	(240)
Closing net book amount	825	691	1,516
<b>As at 31 December 2013</b>			
Cost	2,640	1,060	3,700
<u>Less</u> Accumulated amortisation	(1,815)	(369)	(2,184)
Net book amount	825	691	1,516

Total amortisation of Baht 240 million has been included in the costs of sales and administrative expenses for Baht 147 million and Baht 93 million, respectively (2012: Baht 130 million and Baht 72 million has been included in the costs of sales and administrative expenses, respectively) in the consolidated and company income statements for the year ended 31 December 2013.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 16 Deferred income taxes

The analysis of deferred tax assets and deferred tax liability is as follows:

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
<b>Deferred tax assets:</b>				
Deferred tax asset to be recovered within 12 months	17	15	17	15
Deferred tax asset to be recovered after more than 12 months	2,699	2,786	2,356	2,401
	<u>2,716</u>	<u>2,801</u>	<u>2,373</u>	<u>2,416</u>
<b>Deferred tax liabilities:</b>				
Deferred tax liabilities to be settled within 12 months	84	84	84	84
Deferred tax liability to be settled after more than 12 months	258	398	258	398
	<u>342</u>	<u>482</u>	<u>342</u>	<u>482</u>
<b>Deferred tax asset (net)</b>	<u>2,374</u>	<u>2,319</u>	<u>2,031</u>	<u>1,934</u>

The gross movement and the deferred income tax account is as follows:

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
At 1 January	2,319	2,138	1,934	1,708
Income statement charge	16	182	58	227
Tax charge/(credit) relating components of other comprehensive income	39	(1)	39	(1)
At 31 December	<u>2,374</u>	<u>2,319</u>	<u>2,031</u>	<u>1,934</u>

The movement in deferred tax assets and liabilities during the year is as follows:

	Consolidated				
	Employee benefit obligations Baht million	Receivables and investment impairment Baht million	Tax losses Baht million	Others Baht million	Total Baht million
<b>Deferred tax assets</b>					
At 1 January 2012	205	1,771	169	429	2,574
Charged/(credited) to profit or loss	18	(161)	340	31	228
Credited to other comprehensive income	-	-	-	(1)	(1)
At 31 December 2012	223	1,610	509	459	2,801
Charged/(credited) to profit or loss	34	-	(80)	(78)	(124)
Charge to other comprehensive income	-	-	-	39	39
At 31 December 2013	<u>257</u>	<u>1,610</u>	<u>429</u>	<u>420</u>	<u>2,716</u>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 16 Deferred income taxes (continued)

	<b>Consolidated</b>
	<b>Fixed assets</b>
	<b>Baht million</b>
<b>Deferred tax liabilities</b>	<b>Total</b>
	<b>Baht million</b>
At 1 January 2012	436
Charged to profit or loss	46
At 31 December 2012	482
Credited to profit or loss	(140)
At 31 December 2013	342

The movement in deferred tax assets and liabilities during the year is as follows:

	<b>Company</b>				
	<b>Employee benefit obligations</b>	<b>Receivables and investment impairment</b>	<b>Tax losses</b>	<b>Others</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Deferred tax assets</b>					
At 1 January 2012	190	1,597	169	188	2,144
Charged/(credited) to profit or loss	17	(129)	338	47	273
Credited to other comprehensive income	-	-	-	(1)	(1)
At 31 December 2012	207	1,468	507	234	2,416
Charged/(credited) to profit or loss	32	-	(85)	(29)	(82)
Charge to other comprehensive income	-	-	-	39	39
At 31 December 2013	239	1,468	422	244	2,373

	<b>Company</b>	
	<b>Fixed assets</b>	<b>Total</b>
	<b>Baht million</b>	<b>Baht million</b>
<b>Deferred tax liabilities</b>		
At 1 January 2012	436	436
Charged to profit or loss	46	46
At 31 December 2012	482	482
Credited to profit or loss	(140)	(140)
At 31 December 2013	342	342

Deferred income tax assets are recognised for tax loss and carry forwards only to the extent that realisation of the related tax benefit through the future taxable profits is probable. The Company has unrecognised tax losses of Baht 429 million (2012: Baht 509 million), to carry forward against future taxable income; these tax losses will expire in 2017.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 17 Other non-current assets - net

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Deposits for land	128	128	128	128
<u>Less</u> Allowance for impairment	(128)	(128)	(128)	(128)
	-	-	-	-
Others	53	49	49	48
<b>Net</b>	<b>53</b>	<b>49</b>	<b>49</b>	<b>48</b>

## 18 Borrowings

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
<b>Current liabilities</b>				
Unsecured short-term loans from financial institutions	147	238	-	151
Current portion of long-term loans	2,000	2,000	2,000	2,000
Current portion of debentures	7,000	-	7,000	-
<b>Total short-term loans</b>	<b>9,147</b>	<b>2,238</b>	<b>9,000</b>	<b>2,151</b>
<b>Non-current liabilities</b>				
Unsecured debentures				
- US Dollar	7,842	7,325	7,842	7,325
<u>Less</u> Discount on debentures	(15)	(20)	(15)	(20)
Net	7,827	7,305	7,827	7,305
- Thai Baht	12,640	19,640	12,640	19,640
<b>Total debentures</b>	<b>20,467</b>	<b>26,945</b>	<b>20,467</b>	<b>26,945</b>
Long-term loans from financial institutions	13,466	15,086	13,466	15,086
<b>Total debentures and long term loans</b>	<b>33,933</b>	<b>42,031</b>	<b>33,933</b>	<b>42,031</b>
<u>Less</u> Debentures issuance costs and deferred financing fee	(50)	(62)	(50)	(62)
<b>Total debentures and long-term loans</b>	<b>33,883</b>	<b>41,969</b>	<b>33,883</b>	<b>41,969</b>
<b>Total borrowings</b>	<b>43,030</b>	<b>44,207</b>	<b>42,883</b>	<b>44,120</b>

### Short-term loans

As at 31 December 2013, unsecured short-term loans from financial institutions amounting to Baht 147 million in the consolidated financial statements bear interest at the rates between 0.70% and 0.73% per annum with maturities of 1 - 3 months (2012: Baht 238 million and Baht 151 million in the consolidated and company financial statements respectively at interest rates between 0.48% and 0.72% per annum with the maturities of 1 - 3 months).

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 18 Borrowings (continued)

### Long-term loans

- (1) On 7 January 2009, the Company entered into a long-term loan contract for Baht 10,000 million with five local financial institutions for capital expenditure projects. Accounts are withdrawn according to the progress of the projects. The unsecured long-term loans are for a period of eight years with an interest rate not exceeding the maximum of a six-month fixed deposit market rate plus a certain margin for the facility of Baht 5,400 million (Facility A) and at the rate of THBFIX six-month plus a certain margin for the facility of Baht 4,600 million (Facility B). The interest will be paid at the end of every month whereas the principal repayment is separated into 10 semi-annually instalments, starting from 30 June 2012 (the last business day of the 42<sup>nd</sup> month from the signing of the loan agreement date). As at 31 December 2013, the loans of Baht 10,000 million have already been drawn down (2012: Baht 10,000 million).
- (2) During 2011 and 2012, the Company entered into the loan agreements with local and foreign financial institutions to finance to projects of the Group as detailed below:
  - Unsecured loans with facilities of US Dollars 100 million are for a period of 8 years with the interest at LIBOR plus a certain margin per annum. The interest will be paid every 3 months or 6 months whereas the principal repayment is separated into 10 semi-annually instalments, starting from 10 July 2015 (42<sup>nd</sup> month from the loan agreement signing date). As at 31 December 2013, the loans have been fully drawn down.
  - Unsecured loans with facilities of Baht 3,700 million are for a period of 8 years with the interest rate of THB FIX three-month plus a certain margin per annum. The interest will be paid every 3 months whereas the principal repayment is separated into 10 semi-annually instalments, starting from 31 July 2015 (the last business day of the 42<sup>nd</sup> month from the first drawn down). As at 31 December 2013, the loans have been fully drawn down.
  - Unsecured loans with facilities of US Dollars 75 million are for a period of 6 years with the interest rate at LIBOR plus a certain margin per annum. The interest will be paid every 1 month or 3 months or 6 months. The principal repayment is within 10 January 2018. As at 31 December 2013, the loans have been fully drawn down.

### Debentures

Debentures as at 31 December 2013 are as follows:

- (1) The Company has issued USD unsecured and non-subordinated debentures with total face value of US Dollars 250 million at the discount price of 99.323% of face value, for the net amount of US Dollars 248.31 million. The debentures bear interest at the fixed rate of 6.375% per annum, payable semi-annually commencing 25 November 2007. The debentures will mature on 25 May 2017.
- (2) The Company has issued Thai Baht unsecured and non-subordinated debentures with total face value of Baht 10,000 million. The Company offered these debentures to financial institution investors in two tranches, Baht 7,000 million and Baht 3,000 million as per the following details.

	Baht 7,000 million	Baht 3,000 million
Maturity	7 years	10 years
Fixed interest rate (% per annum)	5.05	5.29
Payment of interest	Semi-annually	Semi-annually
Redemption date	2 July 2014	2 July 2017

Under the terms of the debentures, the Company has to comply with certain conditions as stipulated therein, such as not creating any future lien or other security interest of the Company and its principal subsidiaries; consolidation, amalgamation, merger and sale of assets require the debenture holders' consent and maintaining direct and indirect ownership interest of PTT Public Company Limited.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 18 Borrowings (continued)

### Debentures(continued)

- (3) On 24 August 2012, the Company issued Tranche 1 debentures amounting to Baht 5,000 million with a fixed interest rate at 4.35% per annum, and maturity date on 24 August 2015 and Tranche 2 debentures amounting to Baht 5,000 million with a fixed interest rate at 4.76% per annum, and maturity date on 24 August 2018. Interest is payable semi-annually for both Tranche 1 and 2 debentures. The first interest payment period is on 24 February 2013 with final interest payment on the maturity dates of each Tranche 1 and 2 debentures.

Under the terms of the debentures, the Company has to comply with certain conditions as stipulated therein, such as not creating any future lien or other security interest of the Company and its principal subsidiaries, maintaining direct and indirect ownership interest of PTT Public Company Limited and maintaining certain financial ratios as stipulated in the requirements of the debenture's issuer.

The interest rates on the loans and debentures of the Group and the Company are as follows:

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
- Short-term loans and debentures at fixed rates	27,564	27,121	27,417	27,034
- Long-term loans at floating rates	15,466	17,086	15,466	17,086
<b>Total</b>	<b>43,030</b>	<b>44,207</b>	<b>42,883</b>	<b>44,120</b>
	Consolidated		Company	
	2013	2012	2013	2012
Effective interest rates (%)				
- Short-term loans from financial institutions	0.70 - 0.73	0.48 - 0.72	-	0.48
- Debentures	4.564 - 6.375	4.35 - 6.375	4.564 - 6.375	4.35 - 6.375
- Long-term loans from financial institutions	1.442 - 5.000	1.455 - 5.591	1.442 - 5.000	1.455 - 5.591

Maturity of long-term loans from financial institutions and debentures is as follows:

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Within 1 year	9,000	2,000	2,000	2,000
Later than 1 year but no later than 5 years	31,787	31,314	31,787	31,314
Later than 5 years	2,096	10,655	2,096	10,655
<b>Total</b>	<b>42,883</b>	<b>43,969</b>	<b>42,883</b>	<b>43,969</b>

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 18 Borrowings (continued)

The movement of long-term loans from financial institutions and debentures for the year ended 31 December 2013 can be analysed as follows:

	<b>Consolidated</b>	<b>Company</b>
	<b>Baht million</b>	<b>Baht million</b>
Opening net book amount	43,969	43,969
Recognition of discount on debentures	5	5
Amortisation of deferred financing fees	12	12
Repayment of loans	(2,000)	(2,000)
Unrealised losses on exchange rate	897	897
Closing net book amount	<u>42,883</u>	<u>42,883</u>

### *Fair value*

The carrying amounts and fair values of debentures in the consolidated and company financial statements are as follows:

	<b>Carrying amount</b>		<b>Fair value</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
- US Dollar	7,827	7,305	8,219	8,106
- Thai Baht	19,640	19,640	19,902	20,159
<b>Total</b>	<u>27,467</u>	<u>26,945</u>	<u>28,121</u>	<u>28,265</u>

The fair values of debentures of Thai Baht are calculated by applying the latest reference yield rate referred from the Thai Bond Market Association used in calculating discounted cash flows. Fair values of US Dollar debentures are calculated by applying the latest closing bid price from the International Bond Market.

The carrying amounts of short-term borrowings with fixed interest rate approximate their fair values because of their short-term maturities. The long-term loans from financial institutions have floating interest rates; thus, the fair values approximate the carrying amounts.

### *Credit facilities*

The Group has credit facilities from the commercial banks totalling Baht 34,411 million with the money market interest rates. As at 31 December 2013, the Group has outstanding credit facilities of Baht 19,331 million.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 19 Finance lease liabilities

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Finance lease liabilities				
- Current portion	4	4	4	4
- Non-current portion	-	4	-	4
<b>Total</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>8</b>

Collateral for finance lease liabilities is that whereby the Group has to return the right under the leases to the lessors in case the Group defaults.

Minimum lease payments that are recorded as finance lease liabilities are as follows:

	Consolidated and Company					
	2013			2012		
	Principal Baht million	Interest Baht million	Payment Baht million	Principal Baht million	Interest Baht million	Payment Baht million
Not later than 1 year	4	-	4	4	-	4
Later than 1 year but not later than 5 years	-	-	-	4	-	4
<b>Total</b>	<b>4</b>	<b>-</b>	<b>4</b>	<b>8</b>	<b>-</b>	<b>8</b>

Fair values of finance lease liabilities approximate their carrying values.

## 20 Trade accounts payable

	Note	Consolidated		Company	
		2013	2012	2013	2012
		Baht million	Baht million	Baht million	Baht million
- Related parties	34	35,191	14,112	36,483	14,948
- Other parties		1,146	1,416	929	1,070
<b>Total</b>		<b>36,337</b>	<b>15,528</b>	<b>37,412</b>	<b>16,018</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 21 Employee benefit obligations

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Statements of Financial Position</b>				
Retirement benefits	1,132	1,040	1,042	958
Other long-term benefits	167	81	149	74
	<u>1,299</u>	<u>1,121</u>	<u>1,191</u>	<u>1,032</u>
<b>Income statements</b>				
Retirement benefits	107	100	98	92
Other long-term benefits	96	8	86	6
	<u>203</u>	<u>108</u>	<u>184</u>	<u>98</u>

The movement in the employee benefit obligations over the year is as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Opening book amount	1,121	1,030	1,032	949
Current service costs	160	68	144	61
Interest cost	43	40	40	37
Benefits paid	(25)	(17)	(25)	(15)
Closing book amount	<u>1,299</u>	<u>1,121</u>	<u>1,191</u>	<u>1,032</u>

Total current service costs and interest cost are charged in the income statements.

Of the total charge, Baht 62 million (2012: Baht 60 million) and Baht 141 million (2012: Baht 48 million) were included in “cost of goods sold” and “administrative expenses” in the consolidated income statement, respectively.

Of the total charge, Baht 56 million (2012: Baht 53 million) and Baht 128 million (2012: Baht 45 million) were included in “cost of goods sold” and “administrative expenses” in the company income statement, respectively.

Significant assumptions used for calculation the employee benefit obligations according to the actuarial technique as at the consolidated and company statements of financial position are as below:

	<b>2013</b>	<b>2012</b>
Discount rate as at 31 December	4.2%	4.2%
Salary increase rate	5% - 8%	5% - 8%
Turnover rate	0% - 2%	0% - 2%

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 22 Share capital and premium on share capital

	Number of shares Million shares	Ordinary shares Baht million	Premium on share capital Baht million	Total Baht million
Balance as at 31 December 2012	20,434	20,434	28,554	48,988
Issued shares	-	-	-	-
Balance as at 31 December 2013	20,434	20,434	28,554	48,988

As at 31 December 2013, the total authorised number of shares was 20,475 million shares with a par value of Baht 1 per share (2012: 20,475 million shares with a par value of Baht 1 per share). The shares of 20,434 million shares were issued and fully paid-up (2012: The shares of 20,434 million shares were issued and fully paid-up).

## 23 Legal reserve

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Balance as at 1 January 2012	2,048	2,048	2,048	2,048
Appropriation during the year	-	-	-	-
Balance as at 31 December 2012	2,048	2,048	2,048	2,048
Appropriation during the year	-	-	-	-
Balance as at 31 December 2013	2,048	2,048	2,048	2,048

Under the Public Company Act of B.E. 2535, the Company is required to set aside a statutory reserve of at least 5% of its net profit after accumulated deficit is brought forward (if any) until the reserve reaches not less than 10% of the registered capital. The legal reserve is non-distributable.

The legal reserve has been fully provided to comply with the law since 2007.

## 24 Treasury stock - Company's shares held by a subsidiary

	Consolidated	
	2013	2012
	Baht million	Baht million
IRPC Oil Company Limited	124	124
<b>Total</b>	<b>124</b>	<b>124</b>

As at 31 December 2013, the Company's ordinary shares of 23,828,400 shares have been held by IRPC Oil Company Limited, (2012: 23,828,400 shares). These shares are stated at costs and presented in the statements of financial position as a deduction of total shareholders' equity.

The subsidiary plans to dispose the Company's shares when returns are higher than its costs.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 25 Non-controlling interests

	<b>Consolidated</b>	
	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>
Beginning balance	62	53
Share of net profit	23	21
Dividends paid	(17)	(12)
Ending balance	68	62

## 26 Other income - net

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Interest income	71	109	225	142
Dividend income	54	48	493	385
Unrealised gains from changes in fair value of investments in trading securities	-	160	-	160
Gains from exchange rate	147	784	148	758
Realised gains (losses) on commodity derivative instruments	1,721	(54)	1,721	(54)
Reversal of impairment loss of investments in subsidiaries and other investments, net	-	845	500	646
Gains from disposal of available-for-sale investments	7	-	7	-
Gains (losses) from disposal of investments in subsidiaries and other investments	193	(740)	193	(599)
Gain on the revaluation of retained non-controlling investment	192	-	-	-
Reversal of loss from impairment of fixed assets and investment properties	234	363	18	208
Gains from disposal of fixed asset and investment properties	824	434	908	411
Losses from write-off of intangible assets	(26)	-	(26)	-
Tax refund from custom duty	201	209	201	209
Others	343	340	441	427
<b>Total</b>	<b>3,961</b>	<b>2,498</b>	<b>4,829</b>	<b>2,693</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 27 Administrative expenses

	Notes	Consolidated		Company	
		2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Staff costs	28	2,584	2,141	2,425	2,012
Consultant fee		456	238	354	215
Depreciation	14	190	182	98	101
Rental		203	177	193	168
Advertising		85	104	85	103
Doubtful accounts		31	43	45	41
Penalties from the breach of vessel rental contract		-	196	-	196
Directors' remuneration		37	52	27	43
Others		681	764	871	849
<b>Total</b>		<b>4,267</b>	<b>3,897</b>	<b>4,098</b>	<b>3,728</b>

## 28 Staff costs

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Salary and wages	3,250	3,069	2,957	2,804
Overtime	498	441	440	392
Bonus	1,323	885	1,213	814
Provident fund and social security	323	298	299	276
Employee benefits	203	107	183	98
Others	1,152	1,114	1,054	1,026
<b>Total</b>	<b>6,749</b>	<b>5,914</b>	<b>6,146</b>	<b>5,410</b>

Staff costs of Baht 4,165 million and Baht 3,721 million have been included in costs of sales in the consolidated and company income statements for the year ended 31 December 2013, respectively (2012: Baht 3,773 million and Baht 3,398 million in the consolidated and company income statements, respectively).

Staff costs of Baht 2,584 million and Baht 2,425 million have been included in administrative expenses in the consolidated and company income statements for the year ended 31 December 2013, respectively (2012: Baht 2,141 million and Baht 2,012 million in the consolidated and company income statements, respectively).

## 29 Finance costs

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Interest expenses	1,760	1,831	1,860	1,872
(Gains)/losses from exchange rate from borrowings and interest payable	909	(386)	904	(370)
(Gains)/losses from foreign currency forward contracts and interest rate swap contracts	(210)	(258)	(210)	(258)
Financing fees	10	5	10	5
<b>Total</b>	<b>2,469</b>	<b>1,192</b>	<b>2,564</b>	<b>1,249</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 30 Income tax

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
		<b>Restated</b>		<b>Restated</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Income tax for the year	23	65	-	-
Deferred income tax	(16)	(182)	(58)	(227)
	<u>7</u>	<u>(117)</u>	<u>(58)</u>	<u>(227)</u>

As at 31 December 2013, the Company has a loss carried forward which can be utilised as a tax benefit. Income tax expense is calculated from the taxable net profit of subsidiaries at 20% per annum.

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the basic tax rate as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
		<b>Restated</b>		<b>Restated</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Profit before tax	856	(873)	1,215	(1,285)
Tax calculated at a tax rate of 20% (2012: 23%)	171	(201)	243	(295)
Tax effect of:				
Associates' results reported net of tax	8	15	-	-
Income subject to tax	111	98	109	96
Income not subject to tax	(15)	(20)	(98)	(89)
Income subject to tax exemption	(158)	(55)	(158)	(55)
Expenses not deductible for tax purpose	69	92	25	87
Expenses not subject to tax	(1)	(5)	(1)	(5)
Tax losses for which no deferred income tax asset was recognised	(178)	(19)	(178)	-
Different tax rate used for deferred tax	-	(22)	-	34
Income tax	<u>7</u>	<u>(117)</u>	<u>(58)</u>	<u>(227)</u>

## 31 Earnings per share

Basic earnings per share of shareholders of the parent are calculated by dividing the net profit attributable to shareholders of the parent by the weighted average number of ordinary shares in issue during the year, excluding treasury shares.

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
		<b>Restated</b>		<b>Restated</b>
Net profit (loss) attributable to ordinary shareholders of the parent (Baht million)	826	(777)	1,273	(1,058)
Weighted average number of ordinary shares in issue during the year less shares of the parent held by subsidiaries (Million shares)	20,410	20,410	20,434	20,434
Basic earnings (losses) per share of shareholders of the parent (Baht)	<u>0.04</u>	<u>(0.04)</u>	<u>0.06</u>	<u>(0.05)</u>

In the consolidated financial statements, the weighted average numbers of ordinary shares in issue during the year are deducted by 24 million shares of the parent that are held by subsidiaries.

There are no dilutive potential ordinary shares in issue during the years presented, so no diluted earnings per share is presented.

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 32 Dividends

At the Annual Shareholders' meeting of the Company's meeting on 5 April 2013, it approved a dividend payment for the operating results of 2012 at Baht 0.08 per share for 20,434 million shares amounting to Baht 1,635 million. Dividends were paid on 3 May 2013 (2012: a dividend payment for the operating results of 2011 at Baht 0.12 per share amounting to Baht 2,452 million. The Company paid interim dividend during 2011 amounting to Baht 1,635 million. The remaining dividend totaling of Baht 817 million were paid in 2012).

## 33 Promotional privileges

By virtue of the provisions of the Industrial Investment Promotion Act of B.E. 2520, the Company and a subsidiary have been granted privileges by the Board of Investment relating to the manufacture of Acetylene Black, Compounded Plastic and expansion of capacity including the cogeneration and steam power plant project ('CHP'), Propylene project ('PRP'), Blown Film project, Recovery from Purge Gas at PP Plant project, EBSM Upgrading for ABS Specialties project ('EBSM'), Multi Product Pipeline project ('MPPL') and HDPE Catalyst Commercialisation project ('Jet Mill') and Investment project in Industrial area. The privileges granted include:

- (a) exemption from payment of import duty and tax on materials and necessary parts including machinery as approved by the Board;
- (b) exemption from payment of income tax on the net profit derived from certain operations for a period of five to eight years from the date on which the income is first derived from such operations;
- (c) a 50 % reduction in the normal income tax rate on the net profit derived from certain operations for a period of five years commencing from the expiry date in (b) above; and
- (d) the double deduction of logistics, electricity and water expenses for a period of ten years since income is first derived from such operations.

As promoted companies, the Company and the subsidiary must comply with certain terms and conditions prescribed in the promotional certificates.

Revenues from sales are classified into the promoted business and the non-promoted business and presented in the financial statements for the years ended 31 December 2013 and 2012 as follows:

		Company		
		BOI granted	Non-BOI granted	Total
		Baht million	Baht million	Baht million
<b>2013</b>				
Revenues from sales	- Overseas	1,329	97,323	98,652
	- Domestic	3,868	201,021	204,889
<b>Total</b>		<b>5,197</b>	<b>298,344</b>	<b>303,541</b>
<b>2012</b>				
Revenues from sales	- Overseas	947	96,277	97,224
	- Domestic	4,018	200,434	204,452
<b>Total</b>		<b>4,965</b>	<b>296,711</b>	<b>301,676</b>

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 34 Related party transactions

Enterprises and individuals that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company, including holding companies, subsidiaries and fellow subsidiaries are related parties of the Company. Associates and individuals owning, directly or indirectly, an interest in the voting power of the Company that gives them significant influence over the enterprise, key management personnel, including directors and officers of the Company and close members of the family of these individuals and companies associated with these individuals also constitute related parties.

In considering each possible related party relationship, attention is directed to the substance of the relationship, and not merely the legal form.

PTT Public Company Limited is the major shareholder of the Company as at 31 December 2013 and 2012, holding 38.51%. The other major shareholders are the Government Savings Bank, Government Pension Fund and Thai NVDR Company Limited.

The pricing policies for particular types of transactions are explained below:

Transactions	Pricing policies
Sales of goods	Market price
Purchases of goods	According to the explanation below
Selling and administrative expenses which mainly are throughput fee and tank farms rental	Contractually agreed prices
Interest income and interest expenses	<u>Short-term</u> - the rates according to the Bank of Thailand adjusted by certain margins and the weighted average interest rates one month of borrowing between commercial banks (BIBOR) adjusted by certain margins. <u>Long-term</u> - the weighted average interest rates of fixed deposits for four domestic commercial banks and the Minimum Lending Rate (MLR) adjusted by certain margins.
Directors' remunerations (meeting, bonus)	The rate approved by Board of Directors and shareholders

Purchases of goods from a major shareholder - the major shareholder has provided services relating to the purchasing and payment process of goods. The purchase price includes a service fee charged by the major shareholder and approximates the price which the Group has procured on its own. In addition, the Company has also entered into derivative instruments with the major shareholder to protect the pricing risk regarding raw materials and products. Purchases of goods from subsidiaries are based on cost plus a certain margin.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 34 Related party transactions (continued)

Significant transactions with related parties are summarised as follows:

### (a) Sales and purchases of goods, services rendered and received

Transactions during the years ended 31 December 2013 and 2012 are as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Sales</b>				
- Major shareholder	22,784	21,594	22,447	21,483
- Subsidiaries	-	-	24,320	22,426
- Other related parties	51,001	34,669	50,989	34,660
<b>Purchases</b>				
- Major shareholder	122,786	196,814	122,777	196,811
- Subsidiaries	-	-	15,370	14,180
- Other related parties	108,638	26,793	107,300	25,632
<b>Selling and administrative expenses</b>				
- Major shareholder	80	59	79	59
- Subsidiaries	-	-	237	242
- Other related parties	500	416	455	386
<b>Interest income, dividend received and other income - net</b>				
- Major shareholder	248	151	248	151
- Subsidiaries	-	-	620	466
- Other related parties	920	59	918	58

Other income - net in relation to derivative instruments to protect the pricing risk regarding raw materials and products are presented only the amounts realised within the year.

### (b) Trade accounts receivable from related parties - net

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Major shareholder	1,741	1,585	1,705	1,584
Subsidiaries	-	-	1,828	1,599
Other related parties	5,910	2,230	5,910	2,230
	7,651	3,815	9,443	5,413
<u>Less</u> Allowance for doubtful debts	-	-	-	-
Net	7,651	3,815	9,443	5,413

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 34 Related party transactions (continued)

Significant transactions with related parties are summarised as follows: (continued)

### (c) Amounts due from related parties - net

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
<b>Other receivables and reimbursement</b>				
Major shareholder	32	56	32	56
Subsidiaries	-	-	28	84
Other related parties	65	65	46	48
	97	121	106	188
<u>Less</u> Allowance for doubtful debts	(60)	(60)	(54)	(109)
Net	37	61	52	79

### (d) Short-term loans to and interest receivables from related parties - net

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
<b>Short-term loans and interest receivables</b>				
Subsidiaries	-	-	631	1,830
<u>Less</u> Allowance for doubtful debts	-	-	-	(133)
Net	-	-	631	1,697
<b>A subsidiary under bankruptcy process (Note 2.3)</b>				
- Advances	56	-	56	-
- Short-term loans and interest receivables	145	-	145	-
<u>Less</u> Allowance for doubtful debts	(201)	-	(201)	-
Net	-	-	-	-
<b>Total - Net</b>	-	-	631	1,697

Average interest rate of short-term loans to related parties is 2.81-2.98% per annum (2012: 5.29% per annum). Items that have been provided an allowance for doubtful debt have stopped charging interest.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 34 Related party transactions (continued)

Significant transactions with related parties are summarised as follows: (continued)

### (e) Loans to and interest receivables from related parties - net

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
<b>Long-term loans and interest receivables</b>				
Subsidiaries	-	-	3,489	451
<u>Less</u> Allowance for doubtful debts	-	-	-	-
Net	-	-	3,489	451
<b>A subsidiary under bankruptcy process (Note 2.3)</b>				
- Advances	56	56	56	56
- Short-term loans and interest receivables	1,252	1,252	403	403
- Long-term loans and interest receivables	5,415	5,415	5,331	5,331
<u>Less</u> Allowance for doubtful debts	(3,430)	(3,430)	(2,714)	(2,714)
Net	3,293	3,293	3,076	3,076
<b>Total - net</b>	<b>3,293</b>	<b>3,293</b>	<b>6,565</b>	<b>3,527</b>

Average interest rate of long-term loans to related parties is 5.81% per annum (2012: 1.61% - 3.00% per annum).

### (f) Trade accounts payable to related parties

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
Major Shareholder	4,954	12,372	4,954	12,372
Subsidiaries	-	-	1,660	1,064
Other related parties	30,237	1,740	29,869	1,512
<b>Total</b>	<b>35,191</b>	<b>14,112</b>	<b>36,483</b>	<b>14,948</b>

### (g) Amounts due to related parties

	Consolidated		Company	
	2013	2012	2013	2012
	Baht million	Baht million	Baht million	Baht million
<b>Other payables and reimbursement</b>				
Major shareholder	1	108	1	108
Subsidiaries	-	-	16	16
Other related parties	39	53	29	47
<b>Total</b>	<b>40</b>	<b>161</b>	<b>46</b>	<b>171</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 34 Related party transactions (continued)

Significant transactions with related parties are summarised as follows: (continued)

### (h) Loans from and interest payables to related parties

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
<b>Short-term loans and interest payables</b>				
Subsidiaries	-	-	22	603
<b>Total</b>	-	-	22	603
<b>A subsidiary under bankruptcy process (Note 2.3)</b>				
- Loans and interest payables	2,255	2,255	2,255	2,255
<b>Total</b>	2,255	2,255	2,255	2,255

### (i) Directors' and management's remuneration

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Salaries and other short-term benefits	110	97	100	88
<b>Total</b>	110	97	100	88

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 35 Transactions with the former management and entities relating to the former management - net

The Group had transactions with the former management who are Mr. Prachai Liaopairattana and his family and the entities relating to the former management which previously were the related parties of the Group. Most of the outstanding balances related to amounts incurred in the past between the Group and the former management and the entities relating to the former management. The allowances for impairment have been fully setup. There are no new transactions with the aforementioned parties.

Transactions with the former management and the entities relating to the former management as at 31 December 2013 and 2012 can be summarised as follows:

	<b>Consolidated</b>		<b>Company</b>	
	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
<b>Short-term loans</b>				
Pornchai Enterprise Company Limited	3,482	3,482	3,476	3,476
TPI EOEG Company Limited	829	829	829	829
TPI Holding Company Limited	1,685	1,685	1,685	1,685
TPI Automation System Company Limited	1	1	1	1
<b>Accrued interest receivables</b>				
Pornchai Enterprise Company Limited	1,709	1,709	1,705	1,705
TPI EOEG Company Limited	440	440	440	440
TPI Holding Company Limited	965	965	965	965
TPI Automation System Company Limited	1	1	1	1
<b>Other receivables and reimbursements</b>				
Pornchai Enterprise Company Limited	893	893	801	801
Reimbursements for the former management	394	394	26	26
Others	4	4	5	5
<b>Notes receivable for purchase of land</b>				
Thai Special Steel Industry Public Company Limited	1,739	1,739	1,739	1,739
	12,142	12,142	11,673	11,673
<u>Less</u> Allowance for doubtful debts	(12,070)	(12,070)	(11,635)	(11,635)
<b>Net</b>	<u>72</u>	<u>72</u>	<u>38</u>	<u>38</u>
<b>Other accounts payable and reimbursements</b>				
Pornchai Enterprise Company Limited	12	12	12	12
Payables to former management	101	101	101	101
<b>Total</b>	<u>113</u>	<u>113</u>	<u>113</u>	<u>113</u>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 35 Transactions with the former management and entities relating to the former management - net (continued)

Transactions with the former management and the entities relating to the former management as at 31 December 2013 and 2012 can be summarised as follows: (continued)

	% of investment	Consolidated		Company	
		2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
<b>Investments</b>					
Pornchai Enterprise Co., Ltd.	25.00	74	74	74	74
TPI EOEG Co., Ltd.	25.00	-	-	-	-
Thai Special Steel Industry Plc.	16.24	673	673	673	673
United Grain Industry Co., Ltd.	18.05	99	99	41	41
		846	846	788	788
<u>Less</u> Allowance for impairment		(747)	(747)	(747)	(747)
<b>Net</b>		99	99	41	41

The Group has investments in Pornchai Enterprise Co., Ltd. and TPI EOEG Co., Ltd., which are companies incorporated and domiciled in Thailand in the portion of 25%, and 25% of total common shares in each company, respectively. However, the Group has not been able to control, direct or to govern those two companies. The remaining investments in the other two companies that are related to the former management are investments in common shares. The Group has fully provided the allowance for impairment to those investments.

At present, the Group has filed lawsuits to claim against the former management with regard to the liabilities that they have with the Group. All cases are in the process of related legal courts.

## 36 Financial instruments

(a) As at 31 December 2013 and 2012, the Group has financial assets and liabilities in foreign currencies as follows:

	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
<b>Assets</b>				
US Dollar	10,700	5,646	10,558	5,589
Euro	75	5	75	5
<b>Total</b>	10,775	5,651	10,633	5,594
<b>Liabilities</b>				
US Dollar - Debentures	7,842	7,325	7,842	7,325
US Dollar - Loans	5,766	5,386	5,766	5,386
US Dollar	26,373	695	26,332	599
Euro	24	20	15	8
Others	3	6	3	6
<b>Total</b>	40,008	13,432	39,958	13,324

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

## 36 Financial instruments (continued)

### (b) The Group has significant contracts related to financial instruments as follows:

#### Interest rate swap contracts

On 18 March 2010, the Company entered into the interest rate swap contracts for Baht long-term loans with the two financial institutions, totalling Baht 2,200 million to swap the floating interest rate at THBFIX 6-month per annum to a fixed interest rate. The contracts will be effective for a period of 7 years commencing 30 December 2009. As at 31 December 2013, the outstanding balances under the interest rate swap contracts are Baht 1,320 million.

During 2013, the Company has entered into the interest rate swap contracts to exchange interest rate of US Dollars long-term loans, totalling US Dollars 75 million from the floating interest rate at LIBOR 3-months per annum to a fixed interest rate. The contracts are effective for a period of 4 years. During 2013, the Company terminate such contracts, thus the Company had no future commitment under these contracts.

#### Cross currency interest rate swap

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 2,640 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 2 July 2012 to 2 July 2017 which is the maturity date of the related debentures.

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 5,000 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 24 August 2012 to 24 August 2018 which is the maturity date of the related debentures.

The Company entered into cross currency interest rate swap of the debentures amounting to Baht 4,000 million to swap principals from Thai Baht to US Dollars at exchange rate as specified in the contract and to swap fixed interest rate on Thai Baht principals to fixed interest rate on US Dollars principals. The contract is effective from 24 August 2012 to 24 August 2015 which is the maturity date of the related debentures.

#### Commodity derivatives

The Company has entered into Crack Spread Swap Contracts with PTT Public Company Limited and several financial institutions in order to swap the spread of the average floating price of crude oil and petroleum products at each settlement period to the fixed price. As at 31 December 2013, the outstanding balances under such contracts were at 16.91 million barrels (31 December 2012: 9.34 million barrels).

Time Spread Swap Contracts is the contracts to swap the average floating price of crude oil of the identified months with the average floating price of crude oil of the settlement months. During 2013, the Company did not enter into the additional time spread swap contracts. As at 31 December 2013, there is no outstanding balance under such contract (31 December 2012: 0.10 million barrels).

The Company has entered into Crude Oil Swap Contracts with PTT Public Company Limited and financial institutions in order to swap the average floating price of crude oil of the settlement months to the range of fixed price. As at 31 December 2013, the outstanding balances under such contracts were at 2.19 million barrels (31 December 2012: 1.22 million barrels).

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 36 Financial instruments (continued)

### (c) Fair values

The carrying amounts of cash and cash equivalent, short-term investments, trade accounts receivable and other short-term receivables, trade accounts payable, other payables, short-term loans from financial institutions, short-term loans to related parties and short-term loans from related parties approximate their fair values due to the short maturity period.

The carrying amounts of long-term loans to related parties approximate their fair values due to floating interest rate.

Fair values of long-term loans from financial institutions and debentures have been disclosed in Note 18.

Fair values of financial derivative instruments as at the date of financial position are as follows:

	<b>Consolidated and Company</b>	
	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>
<b>Financial derivative instruments</b>		
Favourable	-	-
Unfavourable	(863)	(202)
<b>Commodity derivative instruments</b>		
Favourable	1,434	132
Unfavourable	(142)	(19)

## 37 Commitments, contingent liabilities, and significant agreements

### (a) Capital commitments

	<b>Consolidated</b>		<b>Company</b>	
<b>As at 31 December</b>	<b>2013</b>	<b>2012</b>	<b>2013</b>	<b>2012</b>
	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>	<b>Baht million</b>
Contracted but not recognised in the financial statements				
- Purchase agreements for machinery and construction	28,085	35,378	27,951	35,158
- Consultation agreements	87	94	87	94
<b>Total</b>	<b>28,172</b>	<b>35,472</b>	<b>28,038</b>	<b>35,252</b>

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 37 Commitments, contingent liabilities, and significant agreements (continued)

### (b) Non-cancellable operating lease commitments

As at 31 December	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
Office building rental agreements:				
- within 1 year	82	5	82	5
- Later than 1 year but not later than 5 years	7	-	7	-
	89	5	89	5
Land lease agreements:				
- within 1 year	1	1	1	1
- Later than 1 year but not later than 5 years	1	1	1	1
- Later than 5 years	5	5	5	5
	7	7	7	7
<b>Total</b>	<b>96</b>	<b>12</b>	<b>96</b>	<b>12</b>
<b>Other commitments:</b>				
Outstanding letters of credits	198	157	68	67

### (c) Contingent liabilities

As at 31 December	Consolidated		Company	
	2013 Baht million	2012 Baht million	2013 Baht million	2012 Baht million
<b>Contingent liabilities:</b>				
- Bank guarantees	1,814	2,338	1,812	2,335

### (d) The Company's tank farms and land expropriated for road construction

Some of the Company's tank farms are located in a green zone (recreational & environmental reserved zone) and some are under expropriation for construction of public roads Kor 3 and Gor 9 according to the Town and Country Planning Department of Rayong Province and such plots of land were restricted from construction of factories, oil and gas tanks. At the present time, the Rayong Province has set up the Committee to consider modifying the overall town plan to comply with the local officials and the stakeholders. This also includes the areas of the Company's tank farms to be modified from the green zone to be industrial zone and to alter the construction plan of the two public roads to be away from the Company's area. However, failure of the modification of the above matters may affect the impairment of the operating assets.

As at 31 December 2013, for the progress of the modification of the Rayong town plan, the draft Rayong town plan is now completed and is in consideration of Rayong Town and Country Planning Consulting Committee in order to submit to the Town and Country Planning Committee, Department of Public Works and Town and Country Planning for further consideration.

The notes to the consolidated and company financial statements from pages 190 to 263 are an integral part of these financial statements.

## 37 Commitments, contingent liabilities, and significant agreements (continued)

### (e) Other significant agreements with related parties

#### *Sales/Purchases of Refined Oil Agreement and Services Agreement from Depot, Chumporn province*

The Company entered into a Sales/ Purchases of Refined Oil Agreement and Services Agreement from the depot in Chumporn province with PTT Public Company Limited. The Company agrees to sell refined oil from its depot in Chumporn province at the quantity level, pricing structure rates and other related service charges as defined in the agreement. The agreements are effective for a period of 1 year with maturity date on 31 December 2013. The Company has extended the contract to 31 December 2014. The new terms and conditions are stipulated in the new agreement.

#### *Crude and Feedstock Supply Agreements*

The Company has entered into Crude and Feedstock Supply Agreements with PTT Public Company Limited. The contracts shall be effective for a period of 1 year with maturity date on 31 December 2013. The purchased quantity and pricing structure of crude and feedstock supply are as stipulated in the contracts. The Company has renewed the agreement to 31 December 2014 with the terms and conditions as specified in the renewal agreement.

#### *Gas Sale and Purchase Agreement*

On 9 June 2009, the Company entered into a Gas Sale and Purchase Agreement with PTT Public Company Limited (“PTT”) for the quantity and price as specified in the agreement. The agreement is effective for a period of 10 years commencing from the gas delivering date by PTT and the receiving date by the Company. The agreement can be extended under the conditions stipulated in the agreement.

#### *Sales and Purchase of Petroleum products*

The Company entered into sales and purchases of petroleum products with a related party, with agreed volumes and prices as detailed in the agreement. The contract is for a period of 15 years from the effective date specified therein and will end in February 2028, save that both parties may agree to terminate the contract before the expiry date.

#### *Power Purchase Agreement*

The Company has entered into the Power Purchase Agreement with Electricity Generating Authority of Thailand (“EGAT”) for generating the electricity according to the agreement. The agreement term is 25 years. The Company transferred the right and obligation under the agreement to the subsidiary of the Company. The Company subsequently sold the investment in this subsidiary as disclosed in Note 11.

#### *Power and Steam Purchase Agreement*

The Company has entered into the Power Purchase Agreement and Steam Purchase Agreement with a related party for purchasing the electricity and steam according to the agreements. The agreement term for the Power Purchase Agreement is 25 years whereas the agreement term of the Steam Purchase Agreement is 27 years.



## 37 Commitments, contingent liabilities, and significant agreements (continued)

### (e) Other significant agreements with related parties (continued)

#### *Various Service Agreements*

The Company has entered into the Utilities Service Agreement, Project Management Agreement and Operation and Maintenance Service Agreement with a related party in relation to the power plant project. The Company will supply utilities, act as project management of the construction project, provide maintenance services and operate the machine and equipment of the power plant. The service fees are stipulated in the agreements.

## 38 Significant claims and legal proceedings

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows:

### (1) *Demands for nullification of the outcomes of both the ordinary shareholders' meetings and the extraordinary shareholders' meeting of IRPC Public Company Limited*

The former management filed petitions to the Central Bankruptcy Court to nullify the outcomes from the ordinary shareholders' meetings and extraordinary shareholders' meetings by claiming that the meetings were illegitimate and invalid. These are:

- Nullification of the outcomes from the ordinary shareholders' meeting dated 27 April 2006: Black Case No. Por Gor.5/2550 (Red Case No. Por Gor.5/2551)
- Nullification of the outcomes from the ordinary shareholders' meeting dated 20 April 2007: Black Case No. Por Gor.9/2551 (Red Case No. Por Gor.11/2554)
- Nullification of the outcomes from the extraordinary shareholders' meeting dated 20 July 2006: Black Case No. Por Gor.6/2551 (Red Case No. Por Gor.13/2554)
- Nullification of the outcomes from the ordinary shareholders' meeting dated 26 October 2006: Black Case No. Por Gor.7/2551 (Red Case No. Por Gor.9/2554)
- Nullification of the outcomes from the ordinary shareholders' meeting dated 19 January 2007: Black Case No. Por Gor.8/2551 (Red Case No. Por Gor.10/2554)
- Nullification of the outcomes from the extraordinary shareholders' meeting no.1/2551 dated 22 January 2008: Black Case No. Por Gor.12/2554

#### *Court rulings:*

- Black Case No. Por Gor 5/2550 (Red Case No. Por Gor 5/2551), Black Case No. Por Gor 6/2551 (Red Case No. Por Gor 13/2554), Black Case No. Por Gor 7/2551 (Red Case No. Por Gor 9/2554), Black Case No. Por Gor 8/2551 (Red Case No. Por Gor 10/2554), and Black Case No. Por Gor 9/2551 (Red Case No. Por Gor 11/2554): The Central Bankruptcy Court dismissed all cases. The Plaintiff subsequently appealed the cases to the Supreme Court. Currently, these cases are under the consideration of the Supreme Court.
- Black Case No. Por Gor 12/2554: Currently, the case is being considered in regard to the question of the Court jurisdiction.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (2) *Demands for nullification of the outcomes of the subsidiaries' ordinary shareholders' meetings and extraordinary shareholders' meetings*

- IRPC Oil Company Limited: Black Case No. Sor For.68/2551 (Red Case No. Sor For.50/2554), Black Case No. Por Gor. 6/2552 (Red Case No. Por Gor. 6/2554), Black Case No. Por Gor. 6/2554 (Red Case No. Por Gor. 17/2555), Black Case No. 1252/2555 and Black Case No.324/2556
- IRPC Polyol Company Limited: Black Case No. Sor For.69/2551 (Red Case No. Sor For.51/2554), Black Case No. Por Gor. 5/2552 (Red Case No. Por Gor. 5/2554), Black Case No. Por Gor. 7/2554 (Red Case No. Por Gor. 18/2555) and Black Case No. 1254/2555
- Thai Polyurethane Industry Company Limited: Black Case No. Sor For.65/2551 (Red Case No. Sor For.47/2554), Black Case No. Por Gor. 9/2552 (Red Case No. Por Gor. 8/2554), Black Case No. Por Gor. 9/2554 (Red Case No. Por Gor. 20/2555) and Black Case No. 1253/2555
- Thai ABS Company Limited: Black Case No. Sor For.67/2551 (Red Case No. Sor For.49/2554), Black Case No. Por Gor. 4/2552 (Red Case No. Por Gor. 4/2554), Black Case No. Por Gor. 5/2554 (Red Case No. Por Gor. 16/2555) and Black Case No. 1249/2555
- IRPC Energy Company Limited: Black Case No. Sor For.66/2551 (Red Case No. Sor For.48/2554), Black Case No. Por Gor. 8/2552 (Red Case No. Por Gor. 7/2554), Black Case No. Por Gor. 8/2554 (Red Case No. Por Gor. 19/2555) and Black Case No. 1250/2555
- TPI Internet Portal Company Limited: Black Case No. 1809/2553 (Red Case No. 1682/2556), Black Case No. 2704/2555 and Black Case No. 4823/2555

The former management filed petitions against six subsidiaries: 1) IRPC Oil Company Limited; 2) IRPC Polyol Company Limited; 3) Thai Polyurethane Industry Company Limited; 4) Thai ABS Company Limited; 5) IRPC Energy Company Limited and 6) TPI Internet Portal Company Limited to nullify the outcomes of the ordinary shareholders' meetings and extraordinary shareholders' meetings of those subsidiaries, claiming that they were illegitimate. Additionally, the former management sought monetary damages from the Board of Directors of the five subsidiaries amounting to Baht 80 million each, totalling Baht 400 million. Currently, the case is under the consideration of the Central Bankruptcy Court because the Supreme Court ordered that this is under the Central Bankruptcy Court's jurisdiction.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (2) Demands for nullification of the outcomes of the subsidiaries' ordinary shareholders' meetings and extraordinary shareholders' meetings (continued)

#### Court rulings:

- As the changes of the directors and the authority of directors of the five subsidiaries, which are: 1) IRPC Oil Company Limited; 2) IRPC Polyol Company Limited; 3) Thai Polyurethane Industry Company Limited; 4) Thai ABS Company Limited; and 5) IRPC Energy Company Limited), according to the orders of the Central Bangkok Partnership Office, Department of Business Development dated 7 February 2012, were not in line with the resolutions of the shareholders' meetings of each subsidiary, on 17 February 2012, the registrar of the Central Bangkok Partnership Office revised the lists of the directors and the authority of the directors of the five subsidiaries to be as designated in the resolutions of the Board of Directors' meeting No.6/2554, dated 30 November 2011. Further, on 29 February 2012, the five subsidiaries arranged extraordinary shareholders' meetings and further filed the meetings' resolutions with the Ministry of Commerce. On 29 March 2012, the Registrar registered the changes of the directors and the authority of directors of the five subsidiaries in accordance with the resolutions, so that no list of the former managements remained.
- *Black Cases No. So For. 65-59/2551 (Red Cases No. Sor For.47-51/2554) and Black Cases No. Por Gor.4-6/2552 and Por Gor.8-9/2552 (Red Cases No. Por Gor. 4-8/2554):*  
On 5 September 2012, the Central Bankruptcy Court ordered that each petition be placed for the Supreme Court's consideration because they were viewed that the five subsidiaries would like the Court to protect their benefits during the consideration. The main expressions are being considered by the Supreme Court. However, the five subsidiaries filed appeals on the basis that these should be considered by the Civil Court, otherwise, these would not be beneficial to each subsidiary.
- *Black Cases No. Por Gor. 5-9/2554 (Red Cases No. Por Gor. 16-20/2555):*  
On 24 October 2012, the Central Bankruptcy Court dismissed the petitions of the former management with the reason that there are new meetings to appoint a new set of Board of Directors, therefore, there is no benefit in further consideration. However, the Plaintiff filed an appeal to the Supreme Court.
- *Black Cases No. 1249-1250/2555 and 1252-1254/2555:*  
The former management filed petitions to the Civil Court to cancel the ordinary and extraordinary shareholders' meetings and the registrations of the five subsidiaries. Currently, each subsidiary is filing against those petitions. On 15 November 2012, the Civil Court ordered that each case be jointly and simultaneously considered. Further to that, there is a dispute on the Court jurisdiction as to whether it should be under the Civil Court or Central Bankruptcy Court. On 15 May 2013, the Civil Court ordered that the petitions be sent to the President of the Supreme Court to finally judge the jurisdiction. Currently, it is under the consideration of the President of the Supreme Court.
- *Black Cases No. 324/2556:*  
On 28 January 2013, the former management filed an additional petition to nullify the outcomes of the extraordinary shareholders' meeting held on 27 December 2012 of IRPC Oil Company Limited. The Court has temporarily suspended this case until there is a decision on Black Case No.1252/2555.
- *Black Case No.1809/2553 (Red Case No.1682/2556):*  
On 13 September 2013, the Civil Court ruled to dismiss the case. The plaintiff further filed an appeal. Currently, it is being considered by the Appeal Court.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (2) *Demands for nullification of the outcomes of the subsidiaries' ordinary shareholders' meetings and extraordinary shareholders' meetings* (continued)

*Court rulings:* (continued)

#### • *Black Case No.2704/2555:*

The former management filed a petition demanding for nullification of the outcomes of the ordinary shareholders' meeting dated 7 June 2012 of TPI Internet Portal Company Limited, and IRPC Oil Company Limited filed a petition as a co-defendant of this case because it is a major shareholder of TPI Internet Portal Company Limited but it was not allowed by the Court. Therefore, it further appealed to such judge. Also, the litigant would like to get the Court's outcome before witness investigation. The Court then has temporarily suspended this case until there is a decision of the Appeal Court.

#### • *Black Case No. 4823/2555:*

The former management filed a petition demanding for nullification of the outcomes of the extraordinary shareholders' meeting dated 24 October 2012 of TPI Internet Portal Company Limited, and IRPC Oil Company Limited filed a petition as a co-defendant of this case. The Court allowed this but the facts of this case are relevant to the Criminal Black Case No.1252/2555. The Court has temporarily suspended this case until there is a decision of the Criminal Court. Currently, the case is under the consideration of the President of the Supreme Court regarding the Court jurisdiction.

### (3) *Petition regarding loans to entities relating to the Liaopairattana family*

During the years 1997 to 2000 (a period when the Official Receiver was seeking funds), the Company, under the management at that time, provided interest-inclusive collateral-free loans amounting to Baht 8,000 million to three related companies, which were: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited. The related companies were managed by Mr. Prachai Liaopairattana and his family members as Directors and shareholders, during a time when the Company was going through a rehabilitation plan. The Official Receiver sought repayment of debts from the three companies, to which the companies responded by submitting a court petition against the action. However, the petition was dismissed because the Company was nearing completion of its rehabilitation plan. Then, the Company again requested the repayment of the loans, but the three debtors did not have sufficient funds to repay the loans; therefore, the Company subsequently filed a claim against those companies for bankruptcy.

In addition, the three related companies purchased 3 million additional shares issued by Liaopairattana Enterprise Company Limited, which is managed and owned by the Liaopairattana family, at Baht 5,500 per share, whereas the par value was Baht 100 per share and the net book value was Baht 121 per share. Liaopairattana Enterprise Company Limited subsequently claimed that those three companies had debts totalling Baht 12,000 million from purchases of the additional share issuance, and made the claim to the Central Bankruptcy Court that it was itself the major creditor (with the right to appoint the planner) of those companies. Moreover, Liaopairattana Enterprise Company Limited demanded repayment at the Southern Bangkok Civil Court, then compromised within a two-day period. Liaopairattana Enterprise Company Limited was appointed as the creditor in accordance with the ruling.

The Central Bankruptcy Court had ordered the three companies to be rehabilitated because their liabilities exceeded their assets. However, at the Plan Administrator's voting stage, the Official Receiver resolved that the debts did not actually exist and did not allow the voting to proceed, based on two reasons: 1) the amount of share premium had to be authorised by law; and 2) the premium had to be paid at the same time as the first payment for shares. Further, the two managements which could be viewed as one single entity should be able to reach a compromise in such case. At the Plan Administrator's consideration stage, Liaopairattana Enterprise Company Limited opposed the appointment of Advance Planner Company Limited to be the Plan Administrator as proposed by IRPC Public Company Limited. Subsequently, the Court ordered the arrangement of a second meeting with creditors regarding the voting over the selection of the Plan Administrator. However, the Asset Protector insisted on following the conditions imposed by the previous order from the first creditors' meeting. The Central Bankruptcy Court dismissed the rehabilitation plan of the three companies requested by Liaopairattana Enterprise Company Limited on 7 July 2008.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (3) *Petition regarding loans to entities relating to the Liaopairattana family* (continued)

Subsequently, on 18 August 2008, those three companies, which are: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited, requested the Central Bankruptcy Court to enter into the rehabilitation plan by citing the same debt balances, totalling Baht 12,000 million, that Liaopairattana Enterprise Company Limited had utilised to support the rehabilitation plan, and the Official Receiver opposed this on the basis that the debts did not exist.

#### *Court rulings:*

- *Case regarding the request for withdrawal of compromising contracts which three companies entered into with Liaopairattana Enterprise Company Limited*  
The cases involving the filing of a petition to cancel the compromising contracts between the three companies and Liaopairattana Enterprise Company Limited have currently been suspended by the Court. However, as the Court ordered the three companies to be out from the rehabilitation plan, the Company then appealed the case to the Supreme Court demanding the suspension of the appeal. It then filed a further petition to the Southern Bangkok Civil Court demanding reconsideration because the Central Bankruptcy Court had ordered the three companies to cancel the rehabilitation plan. On 9 December 2013, the Civil Court accepted the petition and would further send to the Supreme Court to consider.
- *Cases Liaopairattana Enterprise Company Limited filed petitions for rehabilitations of the three companies*  
On 7 July 2008, the Supreme Court ruled to dismiss the Red Cases No. For 31/2550, For 32/2550 and For 33/2550.
- *Cases where the three companies (as debtors) made a request for rehabilitation to the Central Bankruptcy Court*
  - The Court ordered the three companies to rehabilitate as follows:
    - 1) To allow the rehabilitation plans of TPI Holding Company Limited and Pornchai Enterprise Company Limited on 4 August 2010;
    - 2) To allow the rehabilitation plan of TPI EOEG Company Limited on 23 February 2010.
  - The Court ordered the Debtors to be Plan Administrators of:
    - 1) TPI Holding Company Limited on 17 January 2011;
    - 2) Pornchai Enterprise Company Limited on 17 January 2013; and
    - 3) TPI EOEG Company Limited on 20 July 2011
  - The Court agreed with the rehabilitation plans of:
    - 1) TPI Holding Company Limited on 25 July 2012;
    - 2) Pornchai Enterprise Company Limited on 23 May 2012; and
    - 3) TPI EOEG Company Limited on 20 September 2011
  - The Court ordered the three companies to be off from the rehabilitation plans:
    - 1) TPI Holding Company Limited on 27 March 2013;
    - 2) Pornchai Enterprise Company Limited on 16 July 2013; and
    - 3) TPI EOEG Company Limited on 23 May 2013
  - The Company filed an appeal on the orders that allowed the three companies to rehabilitate and the orders that allowed them to be out from the rehabilitation plan. Currently, these are being considered by the Supreme Court.

According to the rehabilitation plans of the three companies, the Official Receiver is able to proceed with a concurrent debt settlement investigation regardless of whether the plans are approved. The Custodian Officer is currently investigating the three companies' cases while the Supreme Court reviews the Company's appeal regarding the rehabilitation plan.



## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (4) Libel petition

#### *Criminal libel petition - Black Case No. Or 2848/2550 (Red Case No. Or 2820/2551)*

Mr. Prachai Liaopairattana filed a lawsuit against the Company and its associates, totalling 20 Defendants, for libel in an advertisement according to the Criminal Law and Publishing Act B.E. 2484.

#### *Court ruling:*

On 31 July 2008, the Criminal Court dismissed the case noting that the underlying conditions did not meet the legal qualifications for a libel suit. The Plaintiff subsequently filed an appeal. While in the appeal stage, the Plaintiff withdrew certain Defendants from the case, so the total number of Defendants was reduced from 20 to 16 persons. On 18 July 2012, the Appeal Court issued the same judgement as the Civil Court, i.e., that the facts were presented truthfully to the public stakeholders, so the case did not qualify as a libel suit. The Plaintiff appealed to the Civil Court and the Appeal Court, but these courts denied the appeal because the Plaintiff was prohibited from filing a petition. On 24 September 2013, the Supreme Court ordered that the Plaintiff's appeal be dismissed explaining that the denial of the appeal against the libel suit was at the Courts' discretion. If the Court denies the appeal, the case is deemed closed.

#### *Civil libel petition - Black Case No. 3595/2550*

Mr. Prachai Liaopairattana filed a complaint against the Company and its associates, totalling 20 Defendants, for libel in an advertisement. Mr. Prachai claimed that there was a statement that damaged his reputation. Such statement indicated that the rental agreement of TPI Tower with the maturity of 90 years involved questionable payments of Baht 956 million while the Company had a liquidity problem and high amounts of debt. The statement also mentioned the Company's cessation of the debt repayments in August 1997, and cases with regard to the loans provided to related parties. At that time, the management had provided loans to three related parties including: 1) Pornchai Enterprise Company Limited; 2) TPI EOEG Company Limited; and 3) TPI Holding Company Limited. As such claims were presented in Siamrath Weekly, Mr. Prachai filed the lawsuit for libel and requested Baht 100,000 million in damages.

#### *Court ruling:*

At present, the Civil Court has suspended the civil libel petition case because it overlaps the existing Criminal Black Case No. Or 2848/2550 (Red Case No. Or 2820/2551), and the civil ruling must comply with the criminal ruling. The criminal case is currently being considered by the Appeal Court. On 18 July 2012, the Appeal Court issued the same judgement as the Civil Court. The Plaintiff further filed an appeal to the Supreme Court, but it was denied. Thus, the civil libel petition case will be retaken for consideration. The criminal case was completed on 24 September 2013, but the plaintiff did not declare to the Court. The Company then filed a petition requesting the Court to dismiss the case because the plaintiff had waived its complaint and did not declare within 15 days.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (5) *Lawsuit on the rental of Sun Tower Building - Black Case No. Or 3544/2550 (Red Case No. 3598/2551)*

Mr. Prachai Liaopairattana has claimed against 17 directors of the Company as directors of a Public Company Limited that has shares listed on the Stock Exchange of Thailand. In addition, these directors were alleged to have received an undue advantage in 2006 by relocating the Company's office from TPI Tower to Sun Tower Building, which was in violation of the Securities and Stock Exchange Act 1992. Mr. Prachai claimed that there was no justification to relocate the office. However, the Company's management claimed that it would help improve the efficiency of the management.

#### *Court ruling:*

The Court acquitted the Defendants on 26 September 2008. The plaintiff filed an appeal to the Appeal Court. The Plaintiff has withdrawn certain Defendants, with the total remaining number of Defendants being 13. On 30 July 2013, the Appeal Court upheld the Civil Court judgement explaining that the Plaintiff has no right to sue because the case is without grounds. The plaintiff further appealed to the Supreme Court. Currently, the case is being considered by the Supreme Court.

### (6) *Labour case - Black Cases No. Ror Yor 258-259/2550 (Red Cases No. Ror Yor. 382-383/2551)*

Mr. Prachai Liaopairattana and Mrs. Orapin Liaopairattana have filed a monetary claim for additional salary and compensation for alleged unfair termination and others of Baht 1,344 million and Baht 694 million, respectively.

#### *Court ruling:*

On 5 August 2008, Rayong Central Labour Court ordered the Defendant to pay indemnity, early notification and annual vacation payment to the Plaintiffs in a total amount as deemed appropriate by the Company. The Company subsequently paid an amount of Baht 7.6 million to both Plaintiffs on 1 September 2008. However, the Plaintiffs have further filed to appeal against the judgement of the Labour Court to the Supreme Court. The Supreme Court requested that the parties negotiate, but no conclusion could be reached. Currently, the case is under the consideration of the Supreme Court.

### (7) *Intellectual property and international commerce case - Black Case No. Gor Kor. 238/2546 (Red Case No. Gor Kor. 211/2552)*

International Finance Corporation has filed a claim against Mr. Prachai Liaopairattana and Liaopairattana Enterprise Company Limited. On 25 October 2006, the Court summoned the Company as a co-Defendant because it was a guarantor of Liaopairattana Enterprise Company Limited. The Company testified that it had made all debt repayments to the Plaintiff under the terms and conditions of the rehabilitation plan. Therefore, there was no debt that either Defendant would have to pay on behalf of the Company as guarantors. As a result, neither Defendant has a right to force the Company to pay.

#### *Court ruling:*

The Court instructed that the three parties come to a resolution, and the parties have since been able to reach a formal settlement. In the resolution, both Plaintiff and Defendant would withdraw the charge against IRPC Public Company Limited as a co-Defendant. On 15 August 2013, the Supreme Court ordered both parties to withdraw the case and the case was dissolved.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

(8) *The bankruptcy of TPI Aromatics Public Company Limited - Black Case No.4384/2553 (Red Case No. 7072/2553)*

During the fourth quarter of 2010, TPI Polene Public Company Limited, which is a creditor of TPI Aromatics Public Company Limited, a subsidiary of the Company, filed against the subsidiary for bankruptcy, claiming that the subsidiary had not repaid its debts, had excessive liabilities and was no longer in operation. On 7 June 2010, the Central Bankruptcy Court ruled that the subsidiary enter absolute receivership. The Custodian Officer announced the order of the receivership in newspapers dated 27 August 2010 and in the Government Gazette on 28 September 2010, and the last date to submit a request for debt settlement was 29 November 2010. In November 2010, the IRPC Group, as a major creditor of the subsidiary, submitted its request for debt settlement. At the Creditors' meeting on 25 January 2011, the resolution was unanimously passed to allow the Custodian Officer to further request the Court to file for bankruptcy of such subsidiary.

*Court ruling:*

The Custodian Officer has been investigating the requests for debt settlement of each creditor.

(9) *The cases regarding the land dispute*

- *IRPC Public Company Limited has sued Thai Stainless Steel Industry Public Company Limited for the purchase of land: Black Case No. 3860/2551 (Red Case No. 728/2554).*
- *Thai Stainless Steel Industry Public Company Limited has sued IRPC Public Company Limited to reclaim the price paid for the land: Black Case No. 992/2554 (Red Case No. 3353/2554).*

Previously, IRPC Public Company Limited (the Plaintiff) had filed a lawsuit against Thai Stainless Steel Industry Public Company Limited (the Defendant) for defaulting on a promissory note for settlement of a land purchase under Black Case No. 3860/2551 (Red Case No.728/2554). On 27 February 2009, the Civil Court ordered the Defendant to make a payment of Baht 1,739.43 million, plus interest of 7.5% per annum, to the Plaintiff. However, on 28 March 2011, Thai Stainless Steel Industry Public Company Limited (the Plaintiff) filed a lawsuit against IRPC Public Company Limited (the Defendant) under Black Case No. 992/2554 (Red Case No.3353/2554) as a separate case. The Plaintiff asked for a refund of the amounts that had been overpaid for the land purchase to the Defendant in the sum of Baht 2,169 million (principal and interest). The suit claimed that the agreed price that was paid by the Plaintiff was higher than the appraisal value of the land, since the price included a premium related to additional supporting infrastructure, which was supposed to be built by the Defendant but which the Defendant ultimately did not provide as agreed.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (9) The cases regarding the land dispute (continued)

#### Court rulings:

- *Black Case No. 3860/2551 (Red Case No. 728/2554)*: the Civil Court ruled that IRPC Public Company Limited had won the case. Thai Stainless Steel Industry Public Company Limited (TSSC), as the Defendant, appealed. On 3 July 2012, the Appeal Court's judgement was the same as that of the judges of the Civil Court ordering the Plaintiff to make a payment of Baht 1,739.43 million, plus interest of 7.5% per annum (from the date of default until the completion of settlement), to the Defendant. However, the Defendant filed an appeal to the Supreme Court. Currently, the case is under the consideration of the Supreme Court.
- *Black Case No. 992/2554 (Red Case No. 3353/2554)*: on 30 August 2011, the Civil Court ruled that IRPC Public Company Limited repay to Thai Stainless Steel Industry Public Company Limited Baht 1,554 million plus interest of 7.5% per annum. In February 2012, the Company filed an appeal and requested that the case be suspended, issuing the two bank guarantees, totalling Baht 2,030 million as collateral to the Civil Court, and the Court approved the suspension on 1 March 2012. On 20 November 2013, the Appeal Court revert judgement of the Civil Court by dismissing the case as they viewed that this is a redundant process. The Plaintiff made a dishonest claim. Thus, the Company withdrew the securities and released the bank guarantees. Currently, the Plaintiff is filing an appeal to the Supreme Court. However, as at 31 December 2013, the Company had not made any provision for such contingent liabilities in these financial statements, as they are considered relevant to Black Case No. 3860/2551 (Red Case No. 728/2554).

### (10) Claim for cancellation of Olefins sales agreement with Thai Olefins Public Company Limited (Presently, this company has become PTT Global Chemical Public Company Limited) - Red Cases No. 5155-5156/2547

In the case between the Company and Thai Olefins Public Company Limited (Thai Olefins), as the 364th creditor of the Company, in which Thai Olefins has sought the Company's settlement for damages arising from the cancellation of the sales agreement in the sum of Baht 4,461.26 million plus interest at MOR plus 2% to the Custodian Officer. On 27 December 2004, the Central Bankruptcy Court ruled that the 364th creditor was entitled to receive Baht 259.82 million from the Company, plus interest at MOR plus 2% of the said principal since the date on which the Plan Administrator (at that time, Effective Planner Company Limited) cancelled the agreement, i.e., 14 February 2001. The Company and the 364<sup>th</sup> creditor subsequently filed separate appeals for different reasons to the Supreme Court. The Company took the view that the damages on cancellation of the sales contract by the Plan Administrator that the Central Bankruptcy Court had ordered the Company to pay was unfair to the Company (which was under the rehabilitation plan at that time). Also, the Company took the view that no damages had been incurred by such creditor. Therefore, as at 31 December 2012, the Company had not made any provision in these financial statements.

#### Court ruling:

The case is currently under the consideration by the Supreme Court.

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

(11) *Claim for damages regarding the breach of Sale-Purchase Contract of Ethylene - Black Case No. 9/2556*

On 3 January 2013, TPI Polene Public Company Limited (Plaintiff) filed a petition to IRPC Public Company Limited (Defendant) claiming for damages regarding a breach of failing to deliver Ethylene according to the contract, with charges of Baht 227.68 million plus interest at 7.5% per annum.

*Progress of the case:*

The Court made appointments for investigation by both Plaintiff and Defendant. However, as at 31 December 2012, the Company had not made any provision in these financial statements because the Company's management believes that the Company has complied with the conditions specified in the contract and the case is being considered by the Court.

(12) *Bankai Industrial Estates -Black Case No. Sor. 8/2554 (Red Case No. Sor. 13/2555)*

Mr. Setha Pituthecha and the other 386 plaintiffs filed a lawsuit to the Industrial Estate Authority of Thailand as the 1<sup>st</sup> defendant and Industrial Estate Authority Commission as the 2<sup>nd</sup> defendant requesting the Court to dismiss the announcement of the Industrial Estate Authority Commission with regard to the establishment of the General Industrial Estate in Rayong (at Bankai) on 19 October 2011. The Administrative Court ordered IRPC Public Company Limited to be the 3<sup>rd</sup> defendant because it is a private company working together with the Industrial Estate Authority of Thailand in operating the Rayong Industrial Estate (Bankai) which is being operated under the Eco-industry emphasising on those environmentally-friendly and creativity.

*Court ruling:*

- On 31 August 2012, the Rayong Administrative Court ruled to withdraw the announcement of the establishment of the General Industrial Estate in Rayong (at Bankai) on the ground that at the time the Industrial Estate Authority Commission approved the project, the analysis report about the environmental impact assessment had not yet been approved. However, the Industrial Estate Authority Commission is able to further approve such report to allow the Industrial Estate Authority of Thailand and IRPC Public Company Limited to establish the Industrial Estate and to re-establish the General Industrial Estate in Rayong (at Bankai).
- Currently, the case is in the process that the Industrial Estate Authority of Thailand, who is the direct defendant, further filed an appeal to the Supreme Administrative Court. However, this has no impact to the Company's plan because the Industrial Estate Authority of Thailand has dismissed the previous announcement regarding the Industrial Estate in Rayong (at Bankai) according to the Court's ruling. In addition, it also furthered the approval process for the project and announced that the Company's land is in the new Industrial Estate and accurate in accordance with the ruling of the Rayong Administrative Court.
- In January 2014, the Plaintiff filed a petition to the Supreme Administrative Court requesting for urgent consideration by asking to temporarily protect public benefits and environment prior to the Court's judgement. The Plaintiff claimed that the Company continued the construction over disputed land which violated the judgement of the Administrative Court while this case was being considered by the Supreme Administrative Court. Following the facts, after the Administrative Court's judgement, the Company has done everything according to the sentences. And that made the Company's project was approved and further announced in the Government Gazette mentioning that plots of land of the Company are as part of new industrial estate legally. Thus, the petition of the plaintiff was illegal. The Company has not done anything violating the judgement of the Administrative Court. Currently, the Company is in the process of preparation the protestation to further file to the Supreme Administrative Court.



# Notes to the consolidated and company financial statements

IRPC Public Company Limited  
For the year ended 31 December 2013

## 38 Significant claims and legal proceedings (continued)

As at 31 December 2013, the Company was involved in significant legal proceedings for which the results have not yet been finalised. These are as follows: (continued)

### (13) *Claim for damages from breach of contract - Black Case No. 649/2556*

During the second quarter of 2013, Thong Lon Fah Company Limited (the Plaintiff) filed a petition to the Company claiming damages of Baht 32.81 million. The Company filed testimony and counterclaimed damages of Baht 28.99 million against the Plaintiff.

*Progress of the case:*

- They could not reach an agreement on the negotiation. The Court made appointment for investigation by Plaintiff on 2 April 2014. The Company's management believes that the Company has completely complied with the conditions specified in the contract, and the case is being reviewed by the Court. Therefore, as at 31 December 2013, the Company had not set up any provision for the contingent liabilities in these financial statements.

### (14) *Arbitration in foreign countries*

Bitumex (HK) Company Limited (Bitumex) claimed that the Company had breached Sales/Purchase Agreements for asphalt, with charges of USD 300 million. Both sides mutually agreed to appoint an arbitrator to handle the dispute and the counterparties finished providing the attestation to the arbitrator, including the revisions of indictments and depositions to the arbitrator. Currently, it is under the gathering of witness's depositions and experts' opinions. However, as at 31 December 2013, the Company had not set up any provision for the contingent liabilities in these financial statements. The Company's management believes that the Company has complied with the conditions specified in the contract. The case is being reviewed by the arbitrator.

## 39 Post statement of financial position event

At the Board of Directors of the Company's meeting on 18 February 2014, it approved a dividend payment for the operating results of 2013 at Baht 0.10 per share, amounting to Baht 2,043 million. However, the approval for the dividend payment shall be proposed to the Annual Shareholders' Meeting for the year 2014 for the further consideration and approval.

## Abbreviations and Technical Terms

Abbreviation	Full Name	Description
ABS	Acrylonitrile Butadiene Styrene	ABS, a strong polymer capable of withstanding impacts, high temperature, and chemicals, is suitable for car parts and electrical appliances. ABS results from the reaction between polybutadiene, styrene, and acrylonitrile under three possible modes: bulk, emulsion, and suspension. It is commonly found in transport equipment, household appliances including refrigerators and sewing machines; electrical appliances, including computers, TVs, radios, fixed telephones; pipes and joints for construction work; containers; furniture; luggage; and boat hulls.
ACN	Acrylonitrile	Clear, colorless, volatile, fragrant, and flammable liquid, produced from propylene by the reaction with ammonia and air, which is the best method due to its low cost. ACN, a highly reactive chemical, readily polymerize or co-polymerize into various synthetic fibers and plastics. In addition, it is feedstock for acrylic acid, acrylamide, and different amines. There is no direct use for ACN but that as a chemical for ABS and SAN production.
ADU	Atmospheric Distillation Unit	An oil refining unit that separates oils by different dew points into LPG, gasoline, naphtha, gas oil, and diesel. ADU separates crude oil by fractionating distillation at atmospheric pressure, using different boiling points of hydrocarbon compounds in the crude, which then yields various distilled products, namely LPG, gasoline, kerosene, diesel, and fuel oil.
AS / SAN	Acrylonitrile Styrene	A polymer developed to better quality than polystyrene. It is heat-resistant, not easily broken, and as hard and transparent as polystyrene, but less expensive. It normally contains 20-30% of acrylonitrile for better impact resistance, but tends to turn yellow more easily than polystyrene. It is more resistant to hydrocarbons and oil. If there is a higher proportion of ACN, it will withstand more heat, but will also be harder to mold. AS/SAN is used instead of polystyrene when more strength is required for household products such as glasses and jugs. In summary, SAN is a polymer developed to be more chemical-resistant than polystyrene, heat-resistant, not fragile, hard, and as transparent as polystyrene.
ATB	Atmospheric Tower Bottoms	Heavy oil received at the bottom section of the ADU tower and can be further cracked or used as fuel oil. For ATB, the residues at the bottom after light oil are extracted are dark brown, heavy (0.92 kilogram/liter), containing molecules of large hydrocarbon compounds, with about 5% of sulfur.
bbl	Barrel	A volume measurement unit in the petroleum industry for crude oil and oil products.
KTA	Kilotons per annum	A quantity measurement unit equivalent to one thousand tons per year. A barrel is equal to 42 US gallons, 35 imperial gallon, 159 liters, or 5.6 cubic feet.

Abbreviation	Full Name	Description
BD	Butadiene	A non-saturated hydrocarbon gas by-product from the steam cracking process of naphtha or gas oil in the C4 fraction or mixed-C4 stage. It is separated from mixed-C4 by extractive distillation using solvents with polar and boiling-point differently from butadiene, which will not dissolve butane and butene. Some plants produce butadiene from butane and butene by dehydrogenation. Butadiene is used to manufacture rubber, SBR rubber for car tires, SBR latex for rug pads, and ABS plastics. It also yields chemicals such as hexamethylenediamine for nylon production. There is no direct use for butadiene.
BTX	Benzene, Toluene and Mixed Xylene	A mixture of aromatic hydrocarbons: benzene, toluene, and xylene, produced from reformat in the catalytic reforming process and pyrolysis gasoline in the stream cracking process. It is added to gasoline to improve the octane number, or distilled to separate benzene, toluene, and xylene-three of the seven primary petrochemical substances used as feedstock in various petrochemical production lines, or as solvents.
CD-1	Compounding 1	A mechanical process to mix different materials into the desired compound. It is used for special-grade polyolefin compounds with superior qualities.
CHP	Combined Heat and Power Plant	A power plant producing electricity and steam.
DCC	Deep Catalytic Cracking	A cracking unit that breaks down heavy oil molecules into lighter ones such as diesel and naphtha. It can also produce propylene for petrochemical feedstock.
DEG	Di-Ethylene Glycol	Di-Ethylene Glycol is a solvent co-generated in ethylene glycol production. It is derived from ethylene.
EBSM	Ethylbenzene Styrene Monomer Plant	A manufacturing unit of ethylbenzene and styrene monomers, based on benzene and ethylene as feedstock.
EPS	Expanded Polystyrene	Polystyrene foam is produced by adding pentane gas to polystyrene. The foam has low density because there are a number of internal pores of gas bubbles, created by a foam catalyst in the polymer. Foam can be categorized by the shape of cells. Non-connected pores are called closed cells, whereas connected pores, allowing gas circulation, form open cells. Polymer foam is widely used as food containers, packing materials, and heat insulators.
ETP	Ethylene Plant/ Olefin Plant	A manufacturing unit of ethylene and propylene based on naphtha and liquefied petroleum gas (LPG) as feedstock.

Abbreviation	Full Name	Description
GO	Gas Oil	A product of crude oil distillation, with a boiling point of 250-350 C, and C15-C25 hydrocarbons in a single-chained structure. It is used as fuel for diesel engines and olefins feedstock.
HDPE	High Density Polyethylene	A polyethylene polymer with high density, between 0.94-0.96 grams per cubic centimeter. It has the least number of branches in the polyethylene family, thus highly crystallized, with a high melting point, and strong. It is mainly used to produce containers like bottles, nets, bags, electrical appliance components by blow molding, or pipes made by extrusion.
HIPS	High Impact Polystyrene	Polystyrene added with rubber particles such as polybutadiene to make it highly impact-resistant. Without rubbers, it is brittle. Rubber content can be up to 20%, enabling it to withstand 3.5 joules of impact. It has low glass transition temperature, suitable for impact-bearing uses such as refrigerators and furniture.
LR	Long Residue	Residues of ADU, used to produce lube oil.
MEG	Mono Ethylene Glycol	Colorless, clear liquid made from ethylene, itself used as polyethylene terephthalate feedstock. Its direct use is to reduce the freezing point and increase the boiling point of water and to retain moisture. Ethylene glycol is used in car coolant to prevent water from freezing in cold-weather countries and prevent water from boiling in warm-weather ones. Other uses include those in pumps; industrial heating and cooling systems; solar energy systems; hydraulic oil for automotive brake and shock absorbent systems; ink for printing, ball pens and rubber stamps; coatings for fibers, papers, and hides; cosmetics; and wood stain.
PP	Polypropylene	A polymer synthesized from propylene by coordinated polymerization, resulting in a highly organized and crystallized structure, giving high strength per unit weight. Usually for commercial purposes, the Ziegler Natta catalyst is used to produce an isotactic polymer. Sometimes, other monomers like ethylene are added for desired properties. Its outstanding characteristics are flexibility and toughness, resistance to heat and chemicals, and insulation properties. Therefore, it is the lightest thermoplastic with excellent mechanical properties: tough, ductile, strong, and not easily deformed.
PS	Polystyrene	A polyolefin thermoplastic made from styrene. It is hard, brittle, low-moisture absorbent, non-conductive, non-chemical reactive, resistant to acids and bases, and has high tensile strength but a low melting point. It is soluble in aromatic solvents, easily formed by injection molding. Additives are usually added to enhance its properties. Uses include tanks, bottles, food containers, toys, rulers, outer TV frames, refrigerator components, automotive internal parts, and protective packaging. PS is a translucent, clear thermoplastic. It is distinctively hard, not flexible and brittle, moisture- and water-repellent, insulator-like, and has a low melting point.

Abbreviation	Full Name	Description
RAE	Residue Aromatic Extract	An aromatics oil product used in the manufacturing of tires and synthetic rubber. Its properties are fairly similar to those of TDAE. IRPC innovates three grades of RAEs to suit customers' needs, well recognized by leading companies, both domestic and international.
TDAE	Treated Distillate Aromatic Extract	An aromatics oil product used in the manufacturing of tires and synthetic rubber. IRPC innovates the production of aromatic products with a PCA value lower than the international standard, not carcinogenic and causing mutation in human beings.
ULTRAMO	Endurance (Ultra High Molecular Weight Polyethylene, UHMW-PE)	A polyethylene product with heavy molecular weight. It is opaque, cloudy white with a slippery surface, tough, and resistant to chemical corrosion.
	Acetylene Black	A carbon product produced by burning acetylene gas. It is very fine, used in batteries, tire-fillers, ink, and polymer products.
	Bivalves Settlement Resistance HDPE Pipe Grade / Marine Pipe	A special pipe-grade polyethylene, capable of withstanding puncture or demolition by shells in coastal areas or estuaries.
	Impact modifier-MBS	A filler added to enhance the impact resistance of plastics
	Polimaxx	Trademark of IRPC's petrochemical product group
	Polyolefins	Thermoplastics produced by polymerization of non-saturated monomers. For example, polyethylene produced from ethylene, polypropylene produced from propylene, polyvinyl chloride produced from vinyl chloride, polystyrene produced from styrene, polyisobutene produce from isobutene, polybutene from butene-1, butene-2, and isobutene. These plastics are tough and flexible, with a melting point of 100-245 C. Uses include bags, fibers, plumbing pipes, sewage pipes, automotive and refrigerator components, tanks, medical equipment, and lamps. Polyolefins are polymers produced by polymerizing olefins.
UHV	Upstream Project for Hygiene & Value Added Products	A project to enhance the production capacity of propylene products, fostering competitiveness of the petroleum business and growing the petrochemical and value-added product businesses.
Benzene		A colorless, flammable, and carcinogenic liquid produced from the catalytic reforming process of naphtha, and the hydro-dealkylation process of toluene. It is a component of pyrolysis gasoline, a by-product from steam-cracking of naphtha or gas oil. It is used as feedstock for ethylbenzene, cumene, cyclohexane, and nitrobenzene. Uses include industrial solvents, mixtures in various products, including cosmetics, perfumes, nail paint removers, lacquer, dry cleaning agents, paints, stain removers, and varnish.



# Compliance with Corporate Governance

Rights of the Shareholders	Page
Shareholders' rights besides the right to vote	49-53
All forms of directors' compensation are approved by the shareholders	61
In place are a policy and a procedure for defining compensation	61
Shareholders are given the opportunity to vote for individual directors	51
Auditors of ballot counting are allowed at shareholders' meetings	50
Shareholders are allowed to propose agenda items or submit queries before shareholders' meeting dates	51
In place is a policy to facilitate and promote shareholders, especially institutional investors, to join shareholders' meetings	49
Attendance at AGM by the Chairman of the Board, directors, and chairpersons of subcommittees	50
Shareholders can conveniently access the AGM venue	49
A shareholding structure	69
No addition of other agenda for the shareholders' approval	49

Equitable Treatment of Shareholders	Page
Provision of voting right under the one-share, one-vote system	49
A policy against inside-information exploitation, duly made known among employees, executives, and the Board	48
Connected transactions	82-87
Connected transactions disclosed in a fair manner, conducted at market prices, and conducted at arm's length	87
Facilitation for those that cannot attend shareholder' meetings by sending them proxy forms, stating the documents required	49
Meeting notices are sent to the shareholders at least 21 days ahead of each meeting date	49

Posting of complete meeting notices at IRPC's website at least 30 days ahead of each meeting date	49
Meeting notices and related documents are in English and Thai	49
IRPC has no item that represents financial assistance given to non-subsidiaries	Notes to the financial statements, item 35

Due Consideration of the Roles of Stakeholders	Page
A CSR report is prepared and submitted to the shareholders with the meeting notice	58
In place are a policy and guidelines about safety and hygiene in the workplace	52, 142-149
In place are a policy and guidelines about compensation, welfare, and a provident fund for employees	54, Notes to the financial statements, item 2,17
In place are a policy and guidelines about employees' knowledge and capability development and the average training hours of employees per year are disclosed	54
A policy to promote responsibility to society, the environment, and human rights	51-52
A policy and guidelines about customers	54
A policy and guidelines about competitors	54
A policy and guidelines about business partners and their selection	54
A policy and guidelines about creditors	54
A policy and guidelines about respect for copyrights and intellectual properties	52
A policy on anti-corruption	52, 64-65
A policy, guidelines, and activities on CSR	56-57, 150-153
A policy, guidelines, and activities on environmental responsibility and efficient resource consumption	57, 142-149
Employee education and training on environmental matters	147-148

Direct whistleblowing channels and complaint-making with the board of directors and employees	65	Disclosure of shareholders' agreement in the management of subsidiaries and associates	48
A policy or guidelines for the protection of employees or whistleblowers	65	Oversight of the use of inside information	48
<b>Information Disclosure and Transparency</b>	<b>Page</b>	A policy on reporting company share or securities transactions	48, 168-170
Nature of business and state of competition	70-71	A policy on reporting directors' vested interests	168
A business group structure	69	An independent and credible auditor	48
Key business risks	114-117	Audit fees and other fees paid to the auditor	48
Corporate governance policy	43-63, 44	Information about investor relations	50
A policy on dividend payment	178, Notes to the financial statements, Item 32	Conformance to the SET's Code of Practices	43-65, 47-57
The Board's structure is made up of four subcommittees (Scope of Authority of the Board)	45-46	<b>The Board's Responsibility</b>	<b>Page</b>
Board of directors's profile	20-29	An approach and promotional activities for compliance with business ethics and/or the handbook on the code of conduct	44
Definition of independent directors	161	The company's vision/values	3
Selection criteria for independent directors	47	A policy limiting to five the number of listed companies where directors may hold office	58, 113
Disclosure of names of the Audit Committee members that are well-versed and experienced in the audit of financial statements	45	A policy on holding directorships at other companies by the president	47
Disclosure of criteria for directors' compensation	61	A policy limiting to nine the number of years served by directors	44, 113
A policy and criteria for compensation of top management	61	The company's unit supervising CG operations	57
Individual directors' compensation details	166-167	An appointed internal audit office and disclosure of the name of the head of this office	45-46
The number of meetings for the board of directors	165	Quality assessment of the report of the audit committee	62-63
Meeting attendance records of individual directors	165	The number of meetings during the year of the audit committee	165
Development and training of directors over the past year	63	Assessment and review of the internal control system	38-41
Operation oversight of subsidiaries and associates	47-48	A policy on board diversity	44, 159
Board-approved mechanisms for the oversight of the management and business responsibility in subsidiaries and associates	47	Criteria and process for selection of new directors	159-164

The Board's Responsibility (Cont'd)	Page
Qualifications of directors needed for selection	44, 159
Orientation of new directors	63
Knowledge development of directors	63
The quorum for each board of directors' meeting	61, 165
Attendance by individual directors is at least 75% of the year's meetings	61, 165
Board meeting documents reach directors at least five working days ahead of each meeting	61
Meeting(s) among non-management directors	61
Opinion of the audit committee on the adequacy of the company's internal control system and risk management system	40-41
An approach for dealing with the company's key risks	114-117
Segregation of roles and responsibility between the board and the management	158-172
The board's approval authority	159-161
The annual performance assessment for the entire board, individual directors, cross-assessment, and all subcommittees	61-63
Succession planning	63
A compensation structure for non-management directors	166-167
Approval of the compensation for the executive board/committee by the shareholders' meeting and compensation of top management by the board	46
Appointment of the company secretary	44, 169
Training of the company secretary in curricula related to his or her performance	169
The chairman of the board and the top management team member are not the same person	44
Roles and duties of the chairman of the board	44

Appointment of the nominating and remuneration committee	163-164
The chairman of the nominating and remuneration committee is an independent director	22
Disclosure of the number of times and statistics of the nominating and remuneration committee and directors' attendance records	165
Appointment of a corporate governance committee	164
Appointment of a risk management committee	164
Definition of directors' independence	161
The company has joined the private sectors' collective action coalition for anti-corruption	52
The president's directorship in other companies must have a prior endorsement by the board of directors	47

