



BUILDING SUSTAINABLE FUTURE

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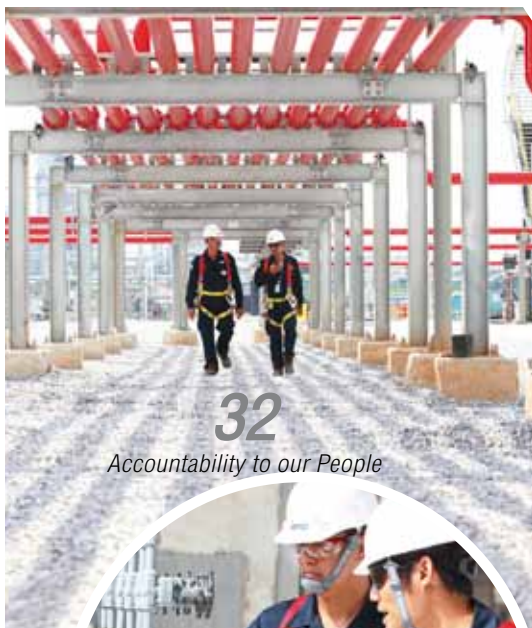
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CEO Statement

In 2015, IRPC has once again achieved business targets and even better operating results amidst the continuous regression in global economy and unrecovered domestic economy. Then again, as a consequence of a drop in oil price from 50 USD per barrel at the beginning of the year to less than 40 USD per barrel, the production cost has also reduced significantly combined with the dedication of management team and collaboration among employees that have driven projects to succeed. Example of projects include, UHV project, the largest project under Phoenix projects, is a project to improve the quality of heavy oil into more value added products and allows the operation to run at its fullest capacity, Delta project is a project to improve efficiency and create added value using an up-to-date software and excellent operational system, which has generated more than 4,000 Million Baht in added value as planned. In order to continue empowering IRPC to become a sustainable and excellent organization, the Everest project was introduced toward the end of 2015. The Everest project is one of many important projects to develop human resource capability in 5 operational aspects include production, commercial, procurement, corporate, and lastly, organizational health by improving human resource management efficiency in all dimension, stimulating self-development as well as creating mindsets, organization core value and culture

IRPC aims to achieve a sustainable growth by balancing economic, social, and environmental aspects of the operations to respond to all stakeholders. Consequently, IRPC was selected to become a listed member of 2015 Dow Jones Sustainability Indices (DJSI) in an Emerging Market category, Oil and Gas Industry for second consecutive year. The result of the operations can be shown dimensionally as followed

For economic dimension, IRPC has achieved targets with 9,402 Million Baht in net profit. In terms of transparent corporate governance, IRPC has set business code of conduct for the board of directors, executives, and employees to uphold as a performance guideline towards all stakeholders. In 2015, IRPC was presented with the outstanding board of directors and board of the year awards, which proved the quality of IRPC corporate governance. Moreover, IRPC recognizes the importance of anti-corruption by announcing policy and sharing knowledge to employees to build awareness and apply into practices in order to achieve trust from stakeholders.

Additionally, IRPC has declared in the “Transparent Thailand” event its intention and commitment to take part in anti-corruption, which is key to creating the stability in Thailand. IRPC also has in place enterprise risk management in line with the international risk management guideline that covers environmental, social, and governance (ESG) risks as well as supply chain management that addresses ESG risks. Furthermore, IRPC is focused to developing quality products and services to meet customers’ needs. Through research and development, IRPC is continuously striving to develop innovative products to keep up with ever changing global trends

In terms of environmental dimension, IRPC has prepared the 2016-2020 development plans with target to use natural resources with maximum efficiency creating the least impact to the environment. IRPC has in place a proactive environmental quality monitoring system and transparently discloses the results as well as strategizes to tackle climate change. In addition, IRPC recognizes the importance of water efficiency, since IRPC industrial area is located in the water stressed area; therefore, IRPC has put in place a water risk management plan with prevention and mitigation measures to reduce impact to communities and the environment. In 2015, through 3Rs program, IRPC has successfully reduced approximately 1 Million M³ of water. Furthermore, in 2015, 4 of IRPC’s plants, namely, Ethylene Plant, Combined Heat and Power Plant, Refinery, and Lube Based Oil Plant, have been certified as Eco Factory in accordance to the Eco Industry concept by The Industrial Environment Institute, The Federation of Thai Industries. IRPC aims to have every plant in the industrial park certified by 2017.

As for social dimension, IRPC is focused to creating safety awareness to all employees, responsible and transparent mindset that benefits stakeholders as well as encouraging employees to perform with awareness of the impact to the environment and society through the organization core value





"i SPIRIT", in which all employees must act accordingly in order to drive the company to sustainability and excellence. Furthermore, IRPC has worked relentlessly to improve the living quality of communities around the industrial park in line with "Happy Rayong" strategy, for example, improving water resources in Rayong Province, providing community health services including health monitoring program, mobile medical units and first aid clinic for communities, as well as allocating budgets to build outpatient ward for Rayong hospital, Tapong branch to accommodate patient in the area. Moreover, IRPC has initiated the Lam Sai Yong model project to help improving the quality of life for the people in Nhong Yang community, Lam Sai Yong Sub-district, Nang Rong District, Buriram Province by applying skillsets and experiences of IRPC's employees in water management to ensure sufficient water for consumption and agriculture. In terms of any capacity expansion projects and newly developed projects, IRPC has encouraged stakeholders to take part in the public participation sessions and annual community satisfaction survey, in which IRPC has taken the findings from the survey as input to improve for the better operations to earn trust and confidence from the stakeholders in order to achieve mutual sustainable growth.

More importantly, stakeholders can monitor and track IRPC's economic, social and environmental performances as well as commitments, targets, and journey of progress through IRPC's sustainability development report. Although, IRPC, in the future, may have to face challenges from volatile economic conditions and other risk factors that may impact the organization, but with good management system and the capability of employees, suffice it to say that IRPC is capable of becoming "Leading Integrated Petrochemical Complex in Asia by 2020" as well as being on par with the international standard in terms of products and services to address the needs in the future market and definitely being able to address issues identified in the Sustainability Development Goals (SDGs)

Handwritten signature of Sukrit Surabotsopon

Sukrit Surabotsopon
Chief Executive Officer



A Decade of IRPC's Journey towards SUSTAINABLE Growth





Throughout the last decade, IRPC has been striving to strengthen the business operations together with an effort to create shared value to stakeholders in the most sustainable manner. IRPC has been operating in compliance with the corporate governance principles and continuously developing and improving its business strategy to line with changes in the economy and market's requirements. To that, IRPC is truly committed to enhancing the quality and increasing added value of the products through research and development process, which leads to the creation of innovation and products that are environmentally friendly and meet the customer's needs. Additionally, IRPC has improved its environmental management system to be more efficient and built relationship with the community in order to earn social license and trust from stakeholders, which are keys to drive IRPC to achieve its vision of becoming "Leading integrated petrochemical complex in Asia by 2020"



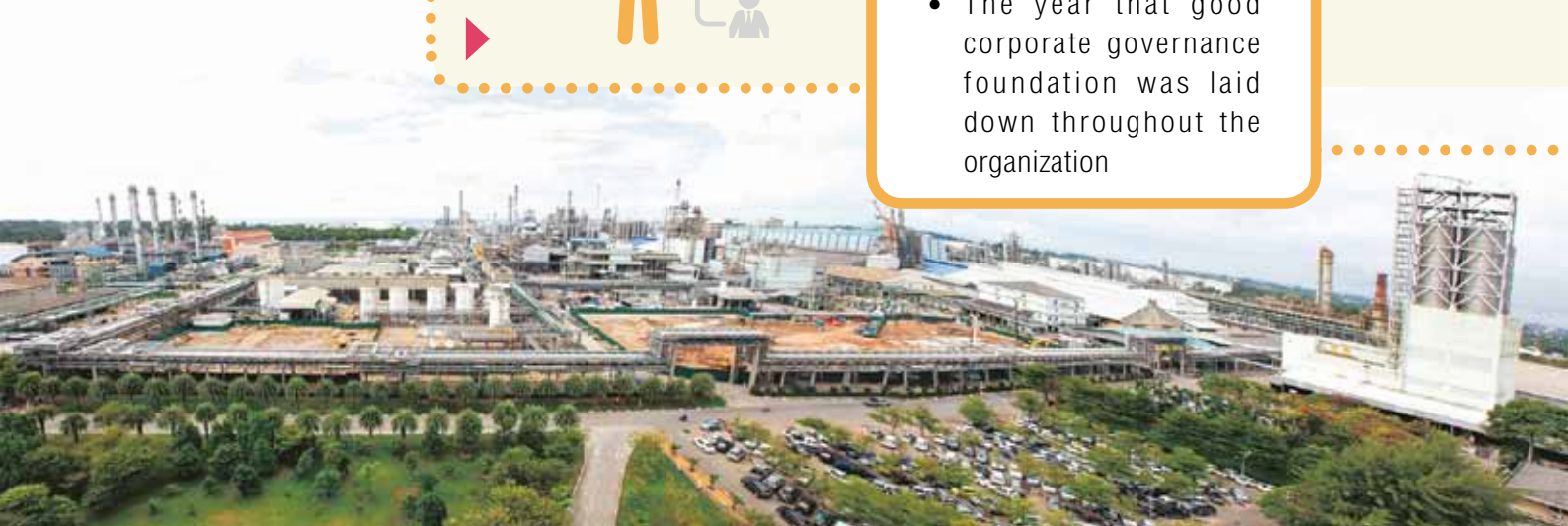
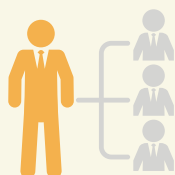
2006

- Began operations as IRPC Public Company Limited



2007

- The year that good corporate governance foundation was laid down throughout the organization



In the past 10 years, IRPC has worked with the community and transparently disclosed more information especially environmental related to the public as well as organized plant visit for the community, established learning centre to promote exchange of knowledge and create understanding between IRPC and the community. IRPC also continues developing the production process to reduce environmental impact. Though, It may take times and require substantial investment, but IRPC has shown sincere commitment to mitigate the environmental impacts from the operations. Till now, all the efforts, IRPC has put in, have been nothing but admirable.

If what IRPC aims for is to become a sustainable company, what they have to keep in mind is the strength and commitment of the executives to create balance between 3 dimensions, namely economic, social, and environment, especially on the social and environmental dimensions, which need to be continually developed in order to see progress and concrete results as well as to build trust to the community through social activities and community development programs in order to achieve growth for IRPC, community and the society.



Dr.Vijarn Simachaya
Director-General of Pollution
Control Department

Government Authority
Representative



2009

- Phoenix project was initiated with objectives to develop environmentally friendly production process, improve machine efficiency, increase value of the products, and enhance business competitiveness as well as achieve sustainable growth
- Established IRPC community network learning center to hold community relations activities and holiday activities for children



2008



- Developed database management system to strengthen business operations
- Developed human resource capability to be aware of the operations that balance economic, social and environmental dimensions

From past to present, what clearly has changed for IRPC is that there are more environmentally friendly operations, for example, the CHP project. IRPC has also improved its impact prevention measure and monitored impact that may occur to the community from the operations. Moreover, IRPC organized public participation session and conducted attitude survey as well as hosted an open house form the people to visit plants to share knowledge and create understanding of the company's operations, in which I think is a good way to build trust to the community, therefore, I would like to express my admiration to the sincere effort, IRPC has always put in.

For future reference, I would like to suggest IRPC to carry out projects that create a long term shared value to the community and support the people to have a better living, becoming self-dependent and have capability to work stable jobs to take care of their families. I believe that the strong community will complement IRPC to grown strongly and sustainably.



Taweep Sengkrajang
Chief Executive of the Tapong
Sub-district Administrative Organization
Community Representative

GE began business partnership with IRPC since 1997, where our ideas of sustainable business are aligned. Throughout the years, as a result of effective communications and knowledge sharing, GE and IRPC have worked collaboratively and continuously to develop innovations to improve the efficiency of products and the production process and to reduce costs.

I believe that with good corporate governance, human capability building through training and knowledge sharing and creative communications will enhance GE and IRPC's partnerships and promote sustainable growth in a long run.



Kachain Chomchuen
Country Sales Manager
GE Water & Process
Technologies (Thailand)
Co., Ltd.

Supplier Representative



2010

- Developed product innovation that is environmentally friendly and promotes better living for customers
 - Green ABS: ABS plastic, which replaces synthetic rubber with natural rubber
 - TDAE (Treated Distillated Aromatic Extract) and RAE (Residue Aromatic Extract) : An additive for tire production with less carcinogen and more safety for consumers
- Offered addition channel to disclose performance on sustainability development through Sustainable Development Report in line with Sustainability Reporting Guideline : Global Reporting Initiative (GRI)



2011



- Focused on environmental management projects and Greenhouse gas emission reduction
 - The combined heat and power project (CHP1) uses natural gas as fuel. The project reduced approximately 400,000 Tonnes of CO₂ emission per year. The project received Crown Standard award from THAILAND GREENHOUSE GAS MANAGEMENT ORGANIZATION (PUBLIC ORGANIZATION)
 - The protection strip project is to develop 525 rais of land around the industrial area into green area, which would help absorb CO₂.
- Set up Rayong Multilateral committee, which consists of IRPC representatives, government agencies, and community to communicate and promote participation to problem solving.



"The main reason of selecting IRPC as our supplier is not only of its brand but also because IRPC listens to customers' voice and strives to improve and develop, as well as always communicate and share the useful commercial outlook. All of these customer treat bring up our confidence and trust to be IRPC business partner for sustainable growth.

I personally think that IRPC's business direction to develop green and better quality product is in line with the future customers' trend. I believe that both IRPC and Thai Nam Group immerse ourselves for green product and simultaneously develop product and service throughout the supply chain, plus forward the sustainability mindset to the customers for sustainable growth"



Supatchai Krisnavarin
Thai Nam Poly Pack Co., Ltd.
Customer Representative



2014

- Established Sustainability Management Office to take responsibility to oversee sustainability strategy that covers economic, social, environmental, and governance aspects.
- Became a member in the Dow Jones Sustainability Indices, Emerging Market, Oil and Gas Industry for the 1st time

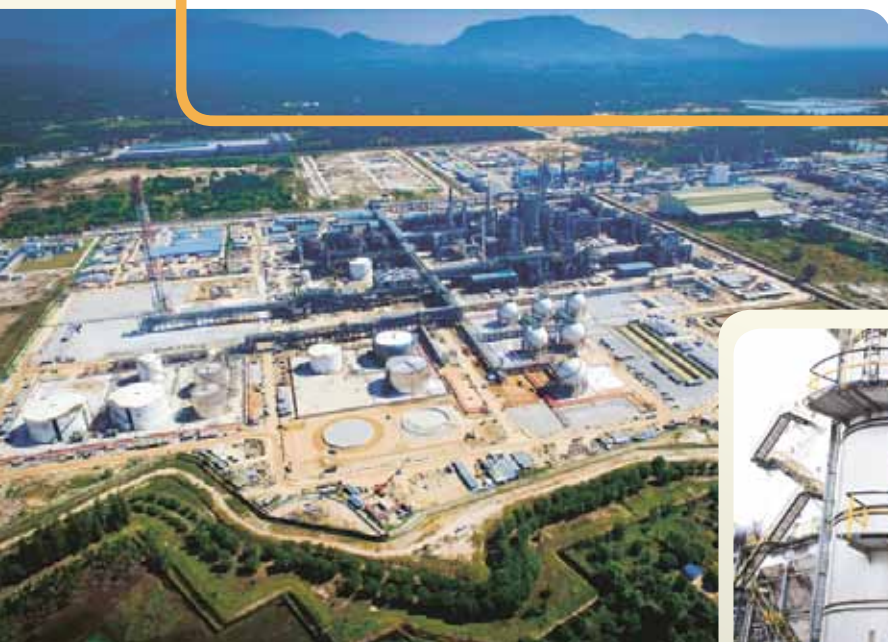
2013

- Initiated Delta project to improve efficiency and increase added value using modern software and excellent operational system

2012



- Aimed to become the 1st **Eco Industrial Zone** in Thailand



LEADING INTEGRATED PETROCHEMICAL COMPLEX IN ASIA

BY 2020



MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM



ROBECOSAM
Sustainability Award
Gold Class 2016



Present

2016

- An important step towards a sustainable success being 1 of 2 companies in Oil and Gas industry to have been ranked Gold Class in terms of sustainable business operations

2015

- Being selected as a member in the Dow Jones Sustainability Indices, Emerging Market, Oil and Gas Industry for 2 consecutive year and was ranked Bronze class and industry mover by RobecoSAM in the 2015 Sustainability Yearbook

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM



ROBECOSAM
Sustainability Award
Bronze Class 2015



ROBECOSAM
Sustainability Award
Industry Mover 2015

"Throughout 10 years, IRPC has intermittently undergone organizational restructuring in order to respond the business direction, however, the company still place high importance of building safety behaviour to all employees. I strongly confident that IRPC has been developed its business in the sustainable way with strong business foundation and readiness for the global market. To achieved its target, IRPC has developed work process and employees competency along with sharing knowledge to bring up the business growth

I truly believe that the organization sustainability requires all employees to be fully aware of their roles and responsibility to protect the company's best interests. Most importantly, IRPC have to build sustainability culture through enhancing the employee competency, providing safety workplace, and raising the awareness of corporate governance and business ethics"



Somchai Aungsirikulthamrong
Senior Engineer, Olefins Department
Employee Representative

IRPC at a GLANCE



IRPC Public Company Limited is the 1st integrated petrochemical complex operating in the South East Asia and is the 3rd largest refinery complex in Thailand. IRPC has become listed in the Stock Exchange of Thailand since 1995. The main operational area is located in Rayong province. Currently, IRPC operates 4 core businesses, include petroleum, petrochemical, port and tank, and asset management.

Vision

Leading Integrated Petrochemical Complex in Asia by 2020

Mission

Operational Excellence

High Performance Organization

Corporate Social Responsibility

Value Creation

Innovation & Creation of New Business

Core Value



Individual Ownership

Synergy

Performance Excellence

Innovation

Responsibility for Society

Integrity and Ethics

Trust and Respect

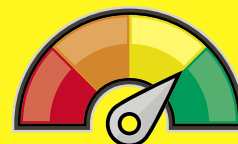
Strategic Targets

BIG: To indicate robust and consecutive business growth, IRPC shall obtain 5% annually revenue growth and 10% EBITDA growth

STRONG: To be leading petrochemical company, IRPC shall perform Return On Invested Capital (ROIC) target to be more than 14% within 2020.

LONG: To showcase the company's commitment to operate in a sustainable manner by balancing economic, social, and environmental aspects, IRPC shall be selected as a member of Dow Jones Sustainability Indices, Emerging Market, Oil and Gas Industry.

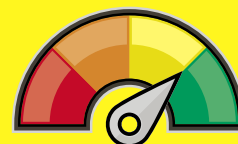
BIG



REVENUE

5% pa Revenue Growth with 10% pa EBITDA Growth

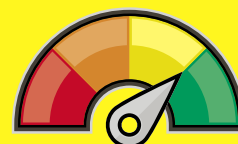
STRONG



ROIC

1st Quartile ROIC Petroleum & Petrochemical Industry

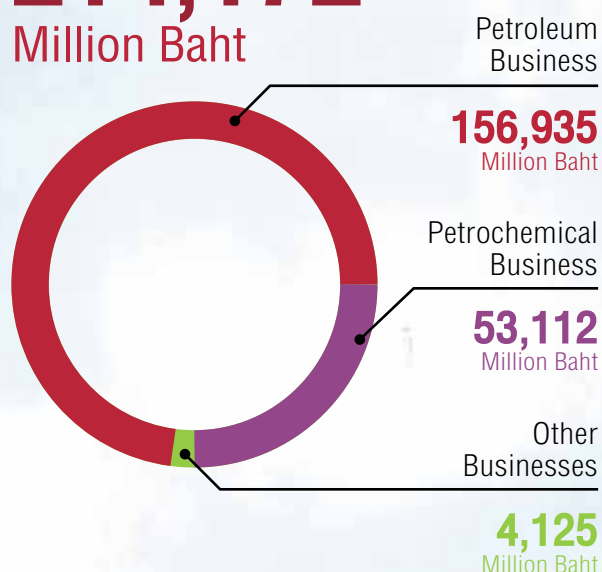
LONG



DJSI

Member of DJSI Emerging Market Universe

Sales revenue
214,172
Million Baht



Sales ratio of specialty and environmentally friendly products had increased to **40%**

Petrochemical Business



Upstream petrochemical products include Olefins and Aromatics with respective capacity of 828,000 and 367,000 tonnes per year are used as raw materials to produce downstream petrochemical products, include 615,000 tonnes per year of Polyolefins (HDPE, PP), 334,000 Tonnes per year Styrenics (ABS, SAN, EPS, PS), which are sold to plastic converters both domestic and overseas under the brand "POLIMAXX"

Moreover, IRPC's petrochemical business is committed to taking a step forward, be adaptable to the ever changing global situation, improving human wellbeing, and increasing international competitiveness by continually researching and creating innovative products as well as collaborative with leading plastic converters, for instance, "Clip Pac" brand of natural colour compound food storage, "Caggioni" brand of Green ABS travelling luggage, "Trix Track" brand of wood plastic composite toys and POLIMAXX BANBAX, anti-bacterial polypropylene product where 20-25 Tonnes of which has been donated to the Prostheses Foundation of H.R.H the Princess Mother per year to build prostheses for the disables to improve their living quality.

Petroleum Business



IRPC operates its petroleum business with 215,000 barrels per day capacity refining units. IRPC's refinery is ranked as the 3rd largest in Thailand and able to produce various petroleum products, such as Naphtha, Gasoline, Diesel, LPG, etc. In addition, IRPC has a lube base plant with capacity of 320,000 tonnes per year, and asphalt production plant with 600,000 tonnes per year capacity, which is considered highest in the country.

Total Workforce
6,543



Male
5,499

Female
1,044

Port and Tank Business



IRPC's deep sea port provides product unloading services for both domestic and overseas customers. It is located in Muang district, Rayong province, the Eastern part of Thailand. The port's infrastructure is on par with the international standard and fully equipped with all necessary facilities, include

- Bulk & Container Terminal (BCT) is 900 meters in length and 44 meters in width. BCT consists of 6 wharfs, which can accommodate vessels of size ranging from 800 - 150,000 Tonnes. BCT provides unloading services of general products, such as leads, palm shells, coal, ores, etc. at the present, more than 1.4 Million Tonnes of product come through BCT port.
- Liquid & Chemical Terminal (LCT) is 1,623 meters in length consisting of 6 wharfs with capacity to facilitate 1,000 - 250,000 Tonnes vessels. LCT provides unloading services for petroleum and petrochemical products with more than 15 Million Tonnes of product coming through each year. LCT can accommodate more than 2,000 vessels per year.

IRPC owns more than 300 petroleum and petrochemical storage tanks, which can store up to 2.9 Million Tonnes of product, to support product distribution and also offer storage service to external customers. IRPC has a team of employees, who is full of experiences, and full 33-year experiences efficient management system to support and guarantee international standard services. There are 5 depots located in several regions in the country, include Rayong, Phra Predeang, Ayuthaya, Chumporn, and Mae Klong. Each depot has its own dock to unload products, which ensure distribution efficiency and also save costs and delivery time.

Social development
budget

465 Million
Baht



Asset Management Business



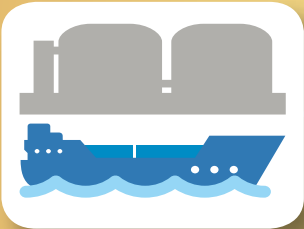
IRPC set up Asset Management business unit to efficiently handle 10,000 rais of land assets in Rayong and other provinces. The main and primary target is to develop these lands into industrial area with complete infrastructure and utilities to accommodate targeted industrial customers. Currently, IRPC has received approval from the Industrial Estate Authority of Thailand (IEAT) to proceed with the development of Baan Kai industrial estate for Thai and overseas investors as well as IRPC's own projects and those of outside customers.

Additionally, Asset Management business also offers IRPC Solutions Provider, which is a service that provides full and complete support to those investors, who invested in the area, with expertise and professional services include plant and machine maintenance, IT and internet infrastructure, analytical lab, metrology centre, warehouse, scaling service, and safety training, etc.

Integrated Refinery and Petrochemical Complex Flow Chart

Petroleum

Petrochemical



Crude Oil

Oil Refinery 215 KBD

ADU2 150 KBD

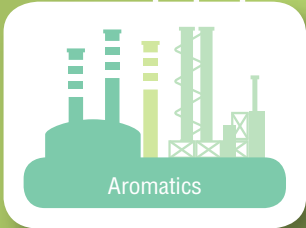
ADU1 65 KBD

Reformate

Naphtha

LS ATB

Long Residue



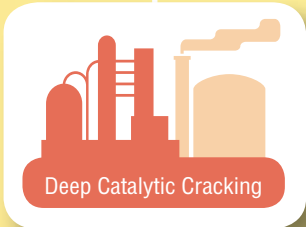
Aromatics

Pyrolysis Gasoline



Olefins

Ethylene Rich Gas



Deep Catalytic Cracking

VGO



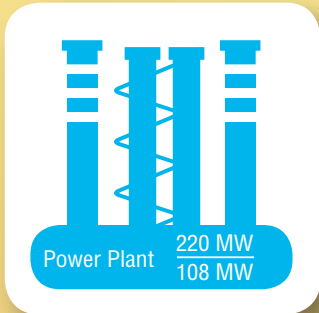
Lube Base Oil



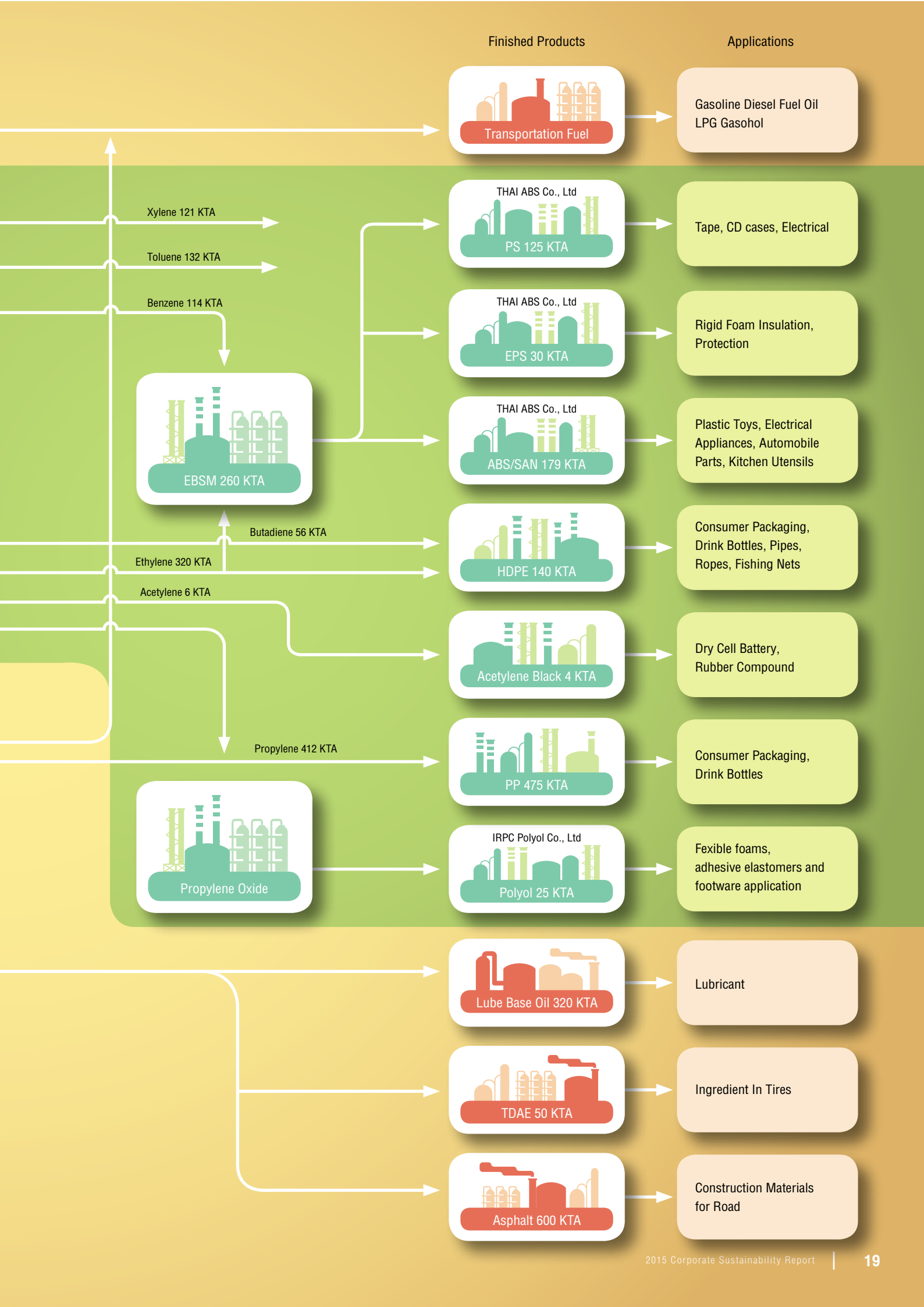
Natural gas



Coal



Power Plant 220 MW / 108 MW



The background image shows a complex industrial facility, likely a refinery or petrochemical plant. Large, colorful pipes (yellow, red, blue) and structural steel are visible. In the foreground, a worker in a white protective suit and red helmet is seen from behind, working on a platform. Another worker in a red shirt is visible further back. The scene is set outdoors with a clear sky and some greenery in the distance.

Business Strategy

IRPC is propelling forward in line with business strategy to achieve its long term vision of becoming “Leading Integrated Petrochemical Complex in Asia by 2020” through the strategic approach to build a stable and efficient foundation for the core businesses and to build operational excellence and supply chain management as well as to build capability for all human resources to accommodate business growth direction by concerning of safety, occupational health, society, communities and environment.

In 2015, IRPC has carried out several strategic projects. Progress is as followed



In 2015, Delta project
has generated more than
4,500 Million Baht
in revenue



Delta project was initiated in 2014 with main objectives to improve the production efficiency and develop human resources capability as well as up-to-date software to support the business growth.

In 2015, Delta project has generated more than 4,500 Million Baht in revenue through 4 management approaches, which are



Operational Excellence

Focused on software updated to enhance an overall operation supply chain in order to reduce cost yet maintain the integrity of the products and services

2,335
Million Baht
2015 Target

1,943
Million Baht
2015 Performance



Commercial Excellence

Focused on sales strategy adjustment, product portfolio and service adjustment as well as enhance accuracy of software to analyze the management for maximum return

873
Million Baht
2015 Target

2,244
Million Baht
2015 Performance



Procurement Excellence

Focused an effective equipment and spare part management including sourcing higher quality in reasonable price for raw material, chemical and equipment procurement by expanding supplier to outbound network.

692
Million Baht
2015 Target

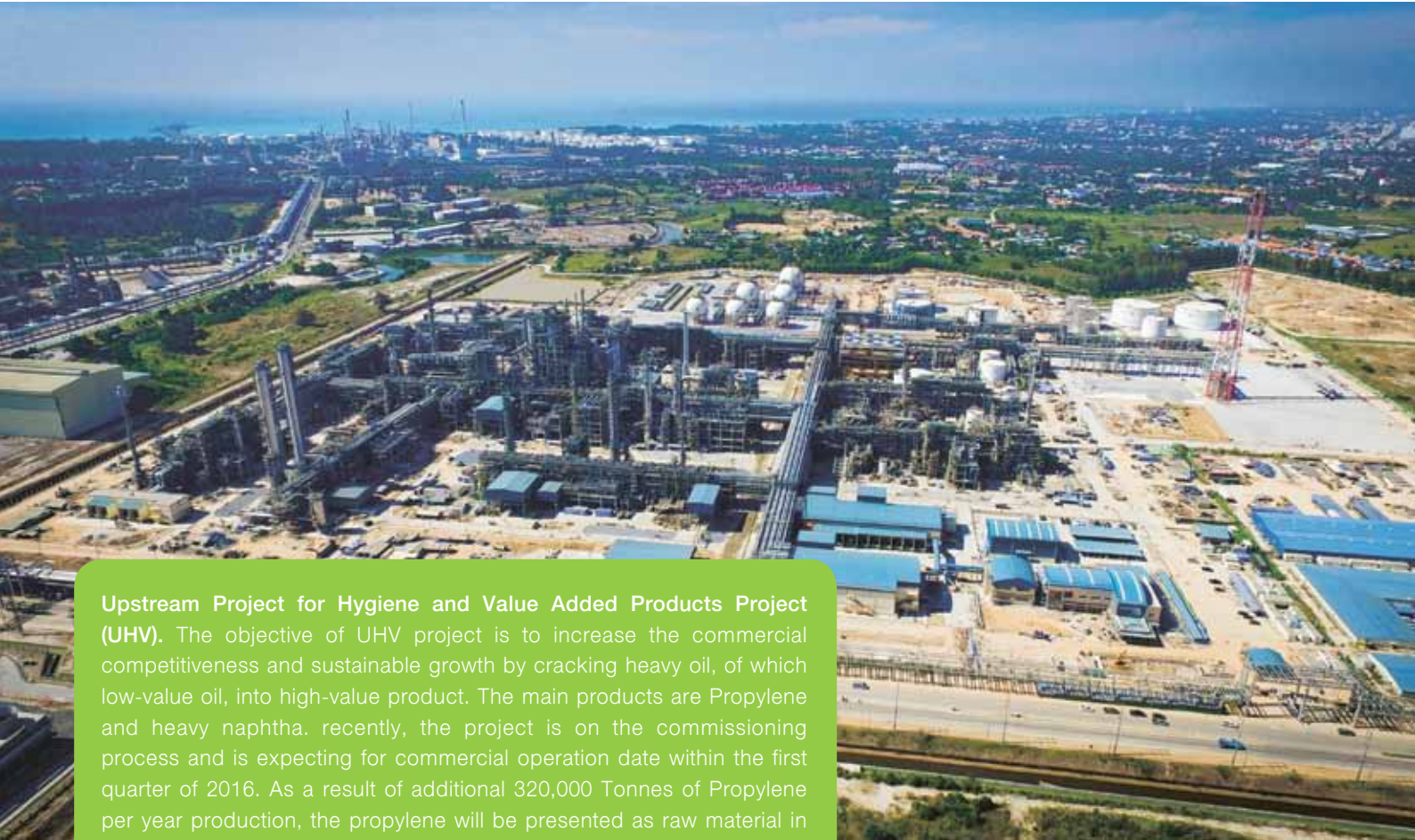
378
Million Baht
2015 Performance



HR Excellence

Focused on employees' competitiveness and competency development through the international standard manpower management and encouragement of accountability to profit of the company through the corporate culture "i SPIRIT".





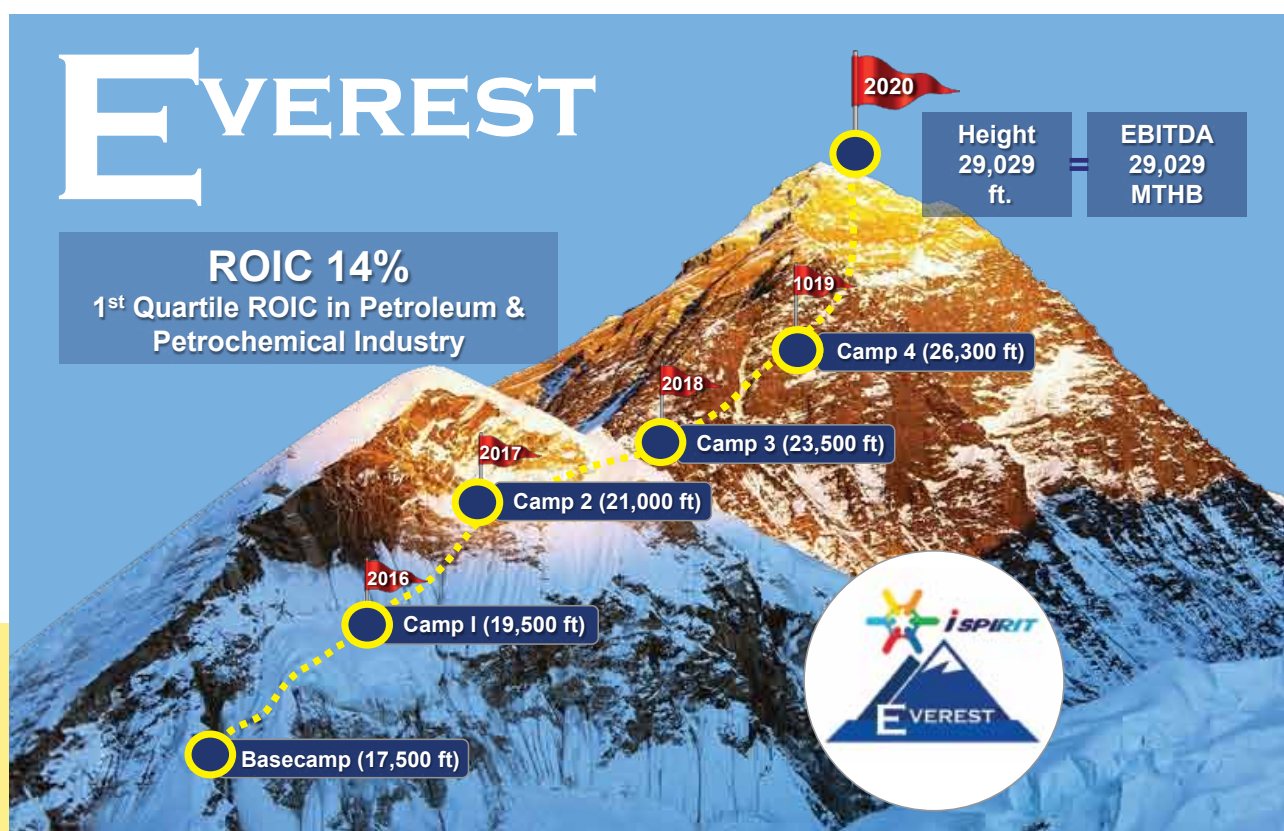
Upstream Project for Hygiene and Value Added Products Project (UHV). The objective of UHV project is to increase the commercial competitiveness and sustainable growth by cracking heavy oil, of which low-value oil, into high-value product. The main products are Propylene and heavy naphtha. recently, the project is on the commissioning process and is expecting for commercial operation date within the first quarter of 2016. As a result of additional 320,000 Tonnes of Propylene per year production, the propylene will be presented as raw material in fully integrated Polypropylene Project of which will support the Propylene business growth.



Fully Integrated Polypropylene Project. The objectives of the project were to improve and expand the production capacity of Polypropylene plastic by 300,000 Tonnes and increase competitiveness and modernization to accommodate needs of existing and potential customers according to the growth rate of domestic and AEC markets especially in automotive, electrical appliance, and food storage industries, which have a higher growth rate

The project is comprised of 2 sub projects, which are

- **PP Expansion (PPE)** a project invested on equipment installation that aims to increase 160,000 Tonnes per year of Polypropylene plastic production capacity, from the existing capacity of 475,000 Tonnes per year to 635,000 Tonnes per year totally which will allow IRPC to have cost advantage and increase competitiveness.
- **PP Compounding (PPC)** a project to produce specialty grade Polypropylene with production capacity of 140,000 Tonnes per year using a highly efficient single step production process from Japan. The technology essentially reduces the production steps and answers to the strategy of automobile industry to reduce the production costs



EVEREST Project aims to propel IRPC to achieve its vision of becoming “Leading Integrated Petrochemical Complex in Asia by 2020”. It is a collaborative project with the world leading consultant firm to improve and align every aspect of IRPC’s operations with global best practices and to put in place a supporting process to improve efficiency in terms of software management as well as to create learning process to develop capability of employees to accommodate the continuous organizational efficiency improvement. Moreover, the EVEREST project also aims to improve the Organization Health in order to support operational efficiency and sustainability

The main target of the EVEREST project is to increase margin from the commercial operation by 3,500 Million Baht in 2016 and 7,000 Million Baht in 2017, which will enable IRPC to achieve greater than or equal to 14%

ROIC target. The project emphasizes on 5 operational aspects, include

- Operation
- Commercial
- Procurement
- Corporate
- Organization Health

More importantly, the EVEREST project also focuses on building mindset, core value, and culture, to align all operational activities to the same direction. For the project to succeed, collaboration and teamwork is required as as to conquer the summit of the Everest.



Governance and Transparency

IRPC is operating its business with transparency and good business ethics in order to ensure maximize benefits to the organization and its stakeholders as well as putting in place risk management that covers economic, social, and environmental aspects to prevent and be efficiently prepared for any risk that may negatively impact the business, society and the environment.



Business Ethics

IRPC upholds business ethics that encompass topics on human rights, responsibility to employees, society, and the environment, health and safety, anti-corruption, and compliance with laws and regulation as well as responsibility towards stakeholders as code of conduct for employees to adhere to. In 2015, IRPC's CG handbook has undergone a major modification to address more governance related topics include organizational responsibility for sustainable growth, anti-corruption policy and best practices to prevent all forms of corruption, for example, direct and indirect bribery. Employees must sign the business ethics acknowledgement form and strictly comply to performs business operations with transparency to earn stakeholders' trust. In 2015, IRPC has established a compliance unit to ensure that the operations are strictly performed in compliance with laws and regulations. Additionally, all employees were asked to prepare and sign conflict of interest report via the company intranet, in which 2,920 employees or 55 % of all employees have completed, in order to encourage them to perform in line with the principles of good corporate governance, conflict of interest and scandal prevention guideline in case that the company may be involve with employees' business and to instill a good work ethics. Moreover, 2,990 employees or 57 % of all employees, have received anti-corruption training. A campaign "We can stop corruption" with slogan "We take part in anti-corruption" has been communicated throughout the organization, where executives and employees have joined forces in expressing their stances against corruption, and presented as a VDO clip broadcasting on the company's intranet inviting everyone to take part in the campaign in order to create understanding and be aware of the impact of corruption. To confirm such intent, IRPC, incorporated with government agencies and private sectors, have announced its determination in "Transparent Thailand" organized by Anti Corruption Organization of Thailand of which this collaboration of

all sectors target to build coalition towards transparency Thai society.

IRPC regularly provides corporate governance and business ethics trainings and seminars for employees through several channels; include the orientation program for new employees, the company intranet, company quarterly internal magazine "I-Oon", as well as a survey to stimulate awareness of employees through E-Learning service under topic "Explore ethics in you". In 2015, IRPC has set a target of 500 employees to take the survey, yet 870 employees have taken the survey, which is 57% more than originally targeted. Also, in 2015, IRPC's employees volunteered to take part in "PTT Group CG Day 2015: Shade of Sharing, Passing the Power Forward" to standardize corporate governance within the PTT group as well as to communicate roles and responsibilities of each company in delivering the moral and transparency to all stakeholders and motivate PTT group employees to join hands and pass on the power of good, which will lead Thai society to the sustainable and cleaner society.

Furthermore, IRPC is abide by internationally accepted governance principles, that is of the United Nation Global Compact (UNGC), which comprises of 10 principles include human rights, labors, environment, and anti-corruption, to maintain ethical business practices and good corporate governance and respect to the fundamental human rights by promoting good relations between employer and employees, avoiding discriminations as well as respecting each other's rights. Moreover, IRPC is also a Board of Founder of the Local Network Thailand, which will successfully be established in 2016.

IRPC provides channels for filing complaints for all stakeholders that come from within and outside and has, in place, investigation and resolution processes that are clearly defined, unbiased, and transparent. IRPC also has whistleblowing policy, which protect the identity of blowers and witnesses. In 2015, IRPC received 65 complaints through various channels, 60 of which were employee behavior related and 5 corruption related cases. All the complaints were investigated by Internal Audit and related functions, and finally reported to Management Committee and Board of Director within time frame stated in the complaint management procedure. However, from all aforementioned cases, 25 were concluded and the rest were under investigating process.

As a result of efficient and continuous governance process, IRPC has passed the Corporate Governance Report (CGR) assessment receiving 5 symbols for 7 consecutive years. Although the assessment criteria was more strict, in 2015 IRPC has managed to score 92 points, which is higher than in 2014. Moreover, IRPC has announced its determination to become a member of the Private Sector Collective Action Coalition Against Corruption or CAC since 2014.



Whistleblowing channels

Tel: 02 649 7000

Website: http://www.irpc.co.th/th/cg_contact.php

e-mail: auditor@irpc.co.th

PO Box: P.O. Box 35, Por Nor For Suntower, Bangkok, 10905

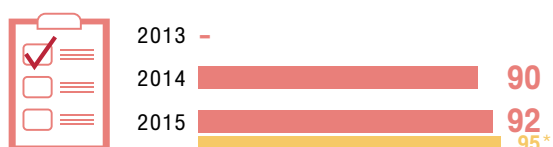
Performance Indicators

Internal Verified Business

Unit (%)



ASEAN CG Scorecard

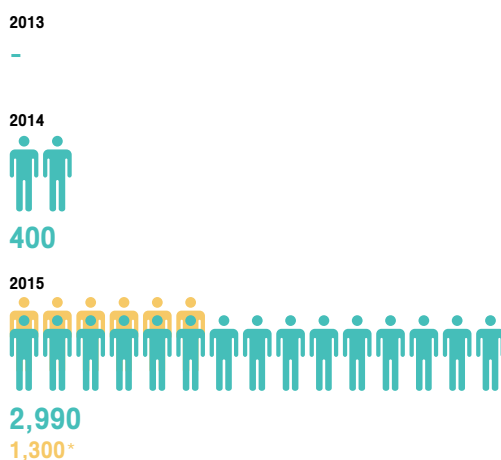


Anti Corruption

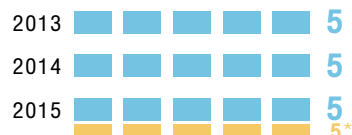
Training

Participants

(persons)



Corporate Governance Report: CGR



* 2015 Target

Risk Management

A systematic and effective risk management is one of many driving forces that propel IRPC to not only achieve its targets, yet protect and alleviate any negative impacts that may occur during operations as well as create added value for stakeholders from any business opportunities that may come with the risk. In order to align IRPC's risk management procedures with the international standard, IRPC has applied ISO 31000:2009 risk management principles and guidelines and Operational Excellence Management System (OEMS) into the operational practices as well as ISO 22301:2012 Business Continuity Management System (BCMs) to prevent and reduce any losses that may occur as a result of disruption of operations from any possible threats.

In addition to business risk, IRPC also takes into consideration environmental, social and governance (ESG) risks and prepares risk management plan to cover such aspects. For example

- **Environmental Risk:** IRPC has in place prevention and mitigation plans for oil and chemical spill, VOCs reduction plan, and climate change management.

- **Social Risk:** IRPC gives importance to manage and develop satisfying community relation to reduce the possible conflict, that may be caused by the operations operation. Furthermore, IRPC supports social activities that benefit the society and, at the same time, maintain good corporate image.
- **Governance Risk:** IRPC adheres to good corporate governance practices and commits to eradicating corruptions. In addition, IRPC is readily prepared to any future changes in laws and regulations.

IRPC, not only considers short term risk, yet also anticipate those of emerging risks by identifying and assessing any possible risks that may happen in a 3-5 year timeframe. These newly identified risks will be closely monitored along with provide risk mitigation and management plan, covering economic, social, environmental, legal, technological and political aspect, will be prepared. For example

- **Emission Management for 5-year Future Project Risk** has been developed to ensure that the business is not only driven, yet complies with the air emission regulation since IRPC committed to control the air emission not to





excess the existing baseline. IRPC working team have been working toward this aspect, for example, providing the emission inventory, air emission management procedure manual as well as clean technology application, etc.

- Free Trade Area Risk and Changing Trading Regulation Risk, for example, Trans-Pacific Partnership (TPP) have been aforetime considered to drive the business opportunities. IRPC study the effect of changing trading regulation to product development and marketing opportunities, as well as to promote the new product research in order to respond the customer's various needs, for instance, green and energy saving product, etc.

IRPC truly believes that risk culture in the organization will drive IRPC to succeed in achieving targets in a

sustainable manner by encouraging employees at all levels as well as stakeholders to be aware of the importance of risk management and be able to appropriately applied the concept into everyday operations. There are several means IRPC has implemented in order to promote risk culture, for example, the curriculum that aims to raise risk management awareness, knowledge sharing by risk management experts, communication and practical workshops by risk management team, etc.





Sustainability at IRPC

IRPC adheres to the sustainability development principles, which aim to create balances between business growth along with business development, natural resources and environmental conservation, stakeholder relationship management and participation as well as improve the living quality of the communities in line with local economic, social, and cultural development in order for IRPC and communities to live happily together and to gain trust from stakeholders



IRPC's Sustainability Management Policy prescribed by the Sustainability Committee encompass sustainable business growth as well as creating shared values for all stakeholders by:

1

Operate in an economically, socially, and environmentally sustainable manner whilst balancing the interests of a diverse range of stakeholders to assure sustainable business growth.

4

Possess high aspiration to enable future growth through prioritized technologies to sustain operations, deliver growth, and shape the future for IRPC.

2

Reduce the footprint along the value chains in which we operate. Our "footprint" covers environment, social and health and safety dimensions

5

Be transparent about our sustainability commitments and the standards we set for our businesses to operate and performance as the basis to drive continuous improvement.

3

Develop Green Growth Strategies focusing on economic and environmental sustainability through our internal capabilities and collaborations with external stakeholders.

6

Embed employees to be aware of responsibilities towards all stakeholders in order to create sustainable culture.

ENVIRONMENTAL SOCIAL GOVERNANCE



MEMBER OF

Dow Jones Sustainability Indices

In Collaboration with RobecoSAM

In 2015, IRPC was listed as a member of Dow Jones Sustainability Indices, Emerging Market, Oil and Gas Industry, for 2nd consecutive year, proven that IRPC is one of the global top companies in terms of sustainable development. This reflected the company's commitment to operate in a sustainable manner by balancing economic, social, and environmental aspects in order to respond to stakeholders

Toward the end of 2014, IRPC had established Sustainability Management Office to oversee corporate sustainability strategy that encompasses economic, social, environmental, and governance aspects. In 2015, The IRPC's Sustainability Committee has been appointed. The committee is chaired by the executive vice president of the Sustainability Management Office and comprised of executive vice presidents and vice presidents from other relevant functions to take responsibilities in setting up sustainability management policy and strategy, scrutinizing business plans for sustainability before seeking approvals from the Management Committee and the Board of Directors. Moreover, the Committee also functions to govern, monitor, and promote sustainable operations in line with the policy and strategy as well as build capability to become the organization of excellence and sustainability as stated in the company's vision "Leading Integrated Petrochemical Complex in Asia by 2020"

IRPC's sustainability management policy was set up to guide the company into the same direction as the international standard as well as strategy to enhance environmental, social and governance (ESG) awareness in the operations. As a result of the aforementioned strategy, the Sustainability Management Office had developed a 2016-2020 sustainability roadmap to use as a sustainability management guideline of the company. The roadmap was the result of the opportunity analysis to improve

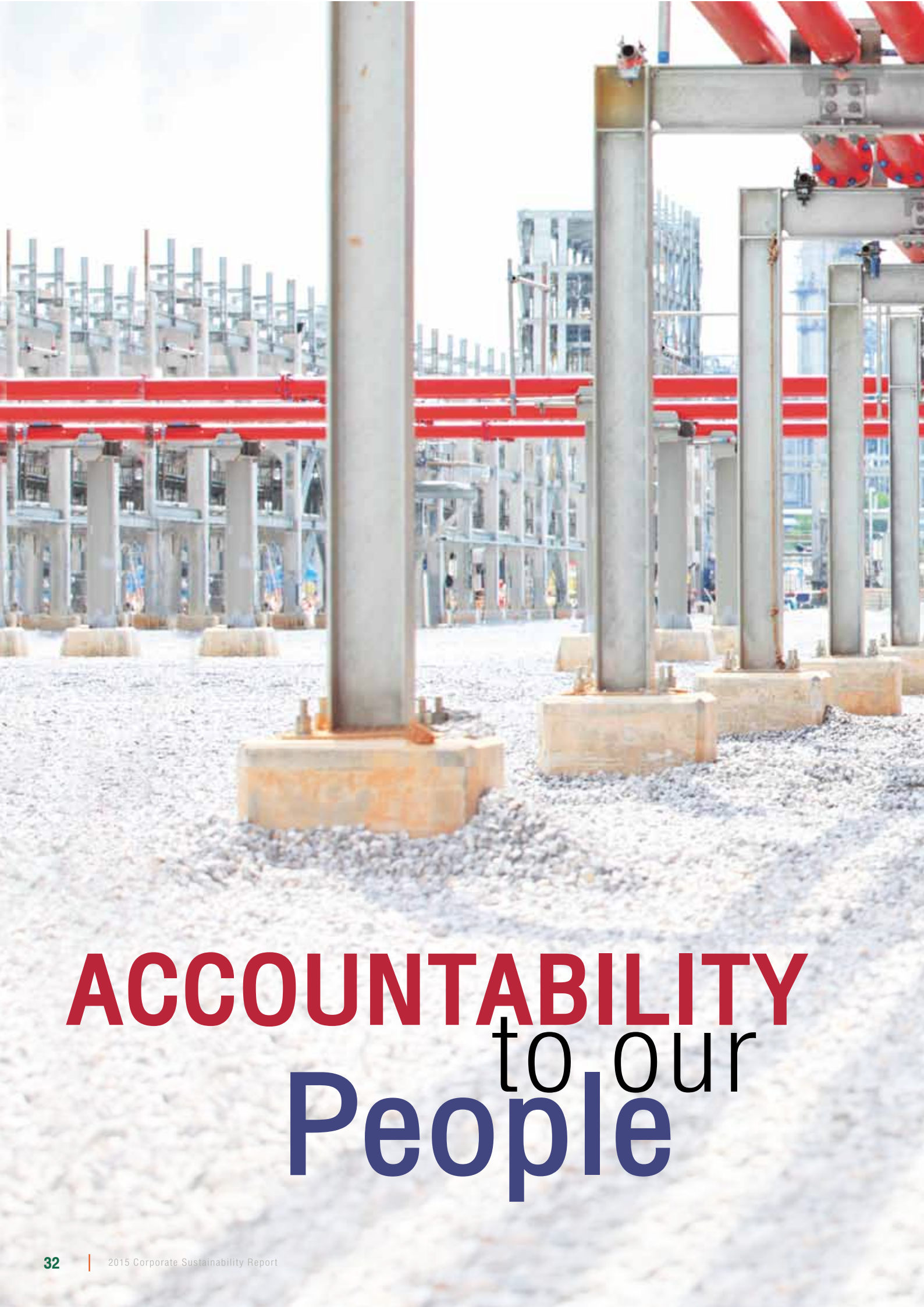
operational practices as well as development guideline that meets an international standard.

In 2016, IRPC intends to set and deploy performance indicators to all supporting functions, who are responsible for supporting the achievement of the target and driving every aspect of the operations to create sustainability and build organizational capability to take one important step further towards the company's vision.

In addition, IRPC had carried out sustainability awareness building to all employees, which is considered as an important foundation in extending sustainability management throughout the organization. In 2015, a company's new core value was introduced to promote the embedding of sustainability DNA in employees at all levels through creating awareness in responsibility for society, integrity and ethics, and trust and respect. In addition, Eternity awards were presented to functions that had worked with outstanding sustainability awareness to support IRPC's sustainable business practices. Also, The Sustainability Management Office regularly communicates sustainable development matters to employees through several important events, for example, Rayong Management Committee (RMC), Cubic Academy training course, Supplier Conference 2015, etc. the Sustainability Management Office has set target to create sustainability awareness to employees at all levels by year 2020.



Eternity Award Ceremony of 2015, hosts by Sustainability Management Office, granted for distinguishes sustainable performance supporting functions.



ACCOUNTABILITY to our People



Employees are a critical driving force that propels the organization to achieve its growth target. Therefore, IRPC seeks to develop employee capability to be able to compete in the competitive market as well as to promote safety in the operations in order for the organization and its employees to grow together.



**Zero employee
fatality and
disability resulting
from work in 2015**

Safe Operation

IRPC recognizes the importance of personal and process safety. Therefore, IRPC seeks to promote a safety culture in the organization and equip employees and contractors with necessary skills as well as implement a safety management process to prevent and prepare for any situation that may pose risk to the safety of employees and production process

Personal Safety

With its utmost commitment to build safety culture into every work process, the target of zero accident and zero emergency case is set for all workforce and contractor to build the personal safety awareness.

All executives and all employees are directly responsible for safety management as IRPC put highly emphasize on the safe operation. The i-CAREs activities have been equipped and appoint the executive to visit operation site at least once a week to walk-and-talk and encourage safety awareness to operational employee. In addition, IRPC conducted the Safety Man standard and appointed the Safety Man in operational process to assess and ensure the safety for their subordinates function and contractors with safety regulation alignment. The appointed Safety Man must be trained and certified from Occupational Health and Safety Department to ensure their safety awareness competency and has annually refresh by training and test. The Safety Man appointment will be rotated to build safety awareness and culture throughout the organization.

The root cause analysis indicates that regulation non-conformation is major cause associated with accident in 2015. Hence, IRPC has in place the mitigation to build the

safety awareness and culture by sharing lesson learnt from incidents knowledge both internally and in PTT Group, Safety Man and i-CAREs projects enrolment.

However, there is one contractor fatality caused by falling from scaffolding structure. This case was investigated and found that the fall was caused by a sudden collapse

in health condition, not lack of safety procedures. The physical examination prior to join did not show any anomalies. However, IRPC has set the related physical examination mitigation in order to prevent fatal recurrence.



Safety Culture



IRPC has encouraged safety culture through number of projects enrolment for employees and contractors training and communicate, for instance, Behavior Based Safety (BBS), Safety Awareness Program, Safety Operation Improvement project of which consist of Safety Man, i-CAREs, and daily safety talk and tool box talk activities

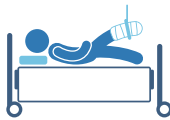
to serve the communication efficiency for contractor and employee to communicate update safety rules and regulations and weekly site visit. These aforementioned activities are effective tool to raise the safety awareness and culture in the organization.

Performance Summary












Fatality (person)

Total workforce & Contractor			Total workforce			Contractor		
0	0	0*	0	0	0*	0	0	1
—	—		—	—	—	—	—	
2013	2014	2015	2013	2014	2015	2013	2014	2015



Total Recordable Incident Rate: TRIR

Number of injured (person) per 1 Million work hours

Total workforce & Contractor			Total workforce			Contractor		
2013			2013			2013		
								
1.10			0.72			1.06		
2014			2014			2014		
								
0.47			0.95			0.23		
2015			2015			2015		
								
0.46			1.08			0.20		
0.60*			0.60*			0.60*		



Total Recordable Occupational Illness Rate: TROIR⁽¹⁾

0	0	0*
—	—	—
2013	2014	2015

*Target 2015

Remark : (1) TROIR had only been analysed based on employees, who, undertook health check



“

Zero lost work incident
of employee in 2015

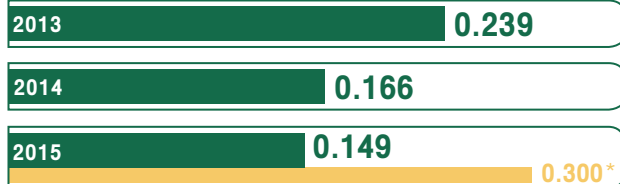
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Safe Logistics

In order to promote logistic safety awareness, IRPC organized a safe driving program for contractors and customer every year. In 2015, the logistic incident rate was 0.149 case per 1 Million kilometer which meets the target set of less than 0.3 case per 1 Million kilometer. Additionally, the targets of quality improvement have been set including on-time delivery, decreasing complaints from customer/supplier, and reduce fuel consumption.

Performance Indicators

Logistic Incident Rate
(cases per 1 Million kilometer)



*Target 2015



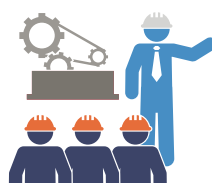
Process Safety

IRPC has in place high level process accident safeguarding measures, such as explosion, oil and chemical spill, and fire case through the Operational Excellence Management System and Process Safety Management of which, in 2015, has effectively developed. Moreover, process safety risk assessment was assured base on TIS/OHSAS 18001 once in 5 years or when the process revamp.

To develop safety awareness competency, IRPC committed Process Safety Management training target to fully cover every operation plants within 2016.

Moreover, IRPC, incorporate with PTT Group, conducted Process Safety Guideline for PTT Group of companies and international standard alignment.

Performance Indicators



Process Safety Management (PSM) Training Program (courses and participants)

2013

- courses / - participants

2014



5 courses / 318 participants

2015



16 courses / 799 participants

12 courses / 720 participants*

Tier 1 Process Safety Events (cases)

2013 9

2014 4

2015 0
0*

*Target 2015



Strengthening Our Employees

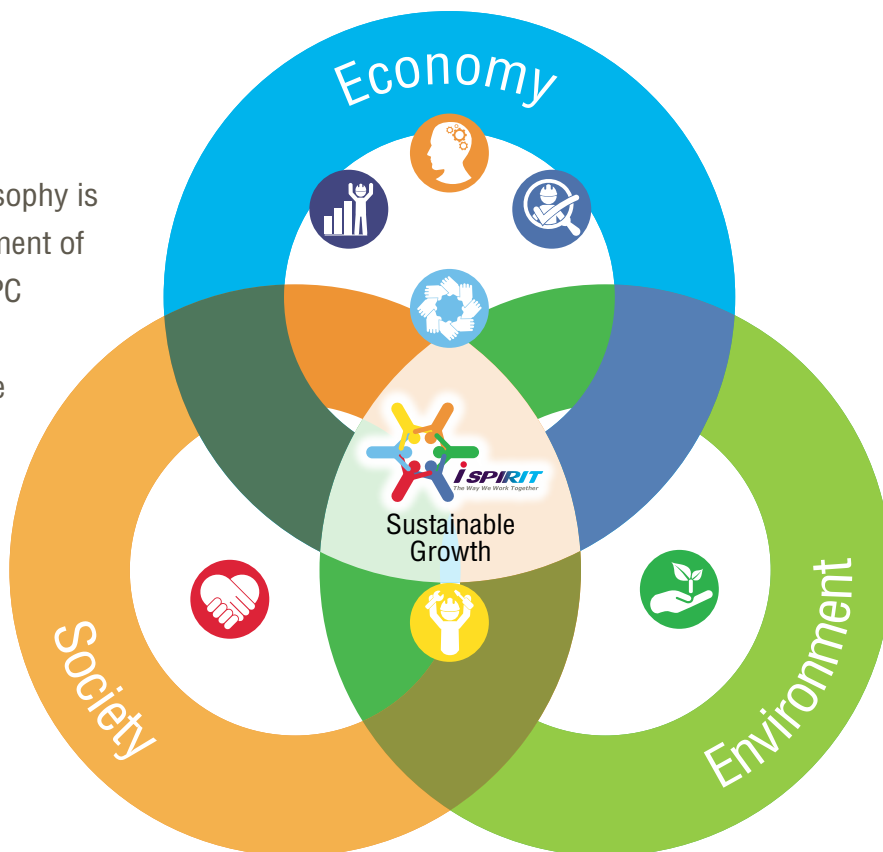
IRPC recognizes that in order to become a successful business, it is critical for the organization to be able to recruit, develop, and retain talented employees. For that, IRPC is striving to improve its human resource management, enhance employee capability, as well as maintain employee engagement. The management guideline is categorized into 3 aspects include human

resource management system improvement, employee capability development, and employee retention.

In 2015, IRPC has undergone organizational restructuring and job re-evaluation in order to align with the business strategy and also to improve human resource management process to level with the international standard. By doing so, IRPC has upgraded its Performance Management System (PMS), as part of the Human Resource Information System (HRIS) development project, to monitor employee performances through indicators, where supervisors are able to follow up ongoing performances of their subordinates through PMS. In addition, employee behavior assessment and 180° leadership assessment are available on the company's intranet.



IRPC's business philosophy is merged into every element of i SPIRIT, in which, IRPC believes, will drive the organization to achieve excellence and sustainability



IRPC has officially announced a new company core value "i SPIRIT" in October 2015. It is expected to guide IRPC's operations and employee behaviors in order to drive IRPC to achieve the vision to become "Leading Integrated Petrochemical Complex in Asia by 2020" and to build competitive advantages to ensure business growth

INDIVIDUAL OWNERSHIP



create awareness of shared responsibility towards the company's performance, be thoughtful and work proactively, be creative and take risk intelligently

SYNERGY



all employees to have good working relationships, make decision based on the common goals, proud to be part of the organization

PERFORMANCE EXCELLENCE



sets challenging targets, work systematically, develop capability, and strive for excellence

INNOVATION



encourage employees to learn, promote continuous development, be initiative and creative, think out of the box

RESPONSIBILITY FOR SOCIETY



instill employees with sense of responsibility to community, society, and the environment. Encourage resource efficiency. Work with awareness of impact to stakeholders, support business growth with regard to community, society and the environment.

INTEGRITY AND ETHICS



promote honesty, righteousness, reliability, transparency, ethics and moral

TRUST AND RESPECT



be respectful to each other, be empathetic, respect the differences, and have trust in the team



The executives joined "Leadership Greatness: Leading Organization Change" program

IRPC seeks to improve knowledge and skills of employees and develop leadership status to drive the organization to achieve its vision. In 2015, IRPC has allocated 61.3 Million Baht in budget to develop employee capability to be able to support business growth through various programs, for example, Top management development

program, Middle Management Leadership Program (MLDP), I-ChEPs project, Cubic Academy program, etc. These programs are intended to provide employees with knowledge, skills and the understanding of their role and responsibility to enable them to perform in line with the company's core value until eventually become culture as well as to prepare readiness for all employees to drive the business in line with the strategy. As a result, these programs were expected to generate more than 78 Million Baht in added value.

In 2015, IRPC has revised technical competency for employees and middle management to develop capability to align with the company's expectation and career path as this will enhance the organization's competitiveness and ensure growth. Moreover, IRPC also develops a system for employees to prepare individual development plan (IDP), where supervisors are to discuss with their subordinates to find the most appropriate development plan for each employee. For example, learning by doing, work assignment, on the job training, job rotation, project, self-development, studies, company visits, training and seminar.

Middle Management Leadership Program (MLDP) aims to develop the middle management to understand their roles and responsibility to take care and develop capability of their subordinates to be able to perform responsibly and efficiently. The program participants were provided with the opportunity to initiate a program that improves work process, management, and creativity to innovate for business benefits through learning, site visit, and exchange of experiences as well as attending the spiritual development course at the Young Buddhists Association of Thailand to exercise mind and improve concentration to work and live better. Since the kick-off of the program, 370 middle management level employees have participated in the program. In 2015, 6 courses were run with 72 participants and about 5 Million Baht in organizing budget. The program helps reduce costs and generate revenue of about 25 Million Baht from projects that require technical knowledge and human resource management skills in order for the projects to succeed, for example, steam reduction project, Lube Base Oil plant to jetty project, and ABS powder Business Stability Improvement project

MIDDLE MANAGEMENT LEADERSHIP PROGRAM (MLDP)



Middle Management Leadership Program participants visited Merck Co.Ltd (Thailand), a subsidiary of Merck GkaA (Germany), whose human resource development has created capable research and development personnel, which has resulted in various chemical and pharmaceutical products



Middle Management Leadership Program participants attended the spiritual development course at the Young Buddhists Association of Thailand to improve their concentration for better work and living



5th I-ChEPs opening ceremony and certification award ceremony for 4th I-ChEPs graduates

IRPC's Chemical Engineering Practice School (I-ChEPs) aims to develop production capability and prepare readiness to support the future production expansion for all operational level employees in order for them to be able to think and solve problems with logics and reasons through various projects. In 2015, the project had 21 participants, and a total of 69 participants since the project began in 2012. With the budget of 8 Million Baht in 2015, the project was able to generate 53 Million Baht in added value from cost reduction and productivity improvement projects include Lean Amine reduction project at Amine Absorber resulting in the reduce in chemical usage, Propane loss reduction project at the Propane Deasphalting Unit resulting in the reduce of lube production costs, Re-boiler efficiency improvement project

I-ChEPs PROJECT

at the Depropanizer Column by reducing the temperature of low pressure steam from 155°C to the designated temperature or lower resulting in the energy saving, etc.

IRPC Cubic Academy aims to create knowledge and understanding in corporate governance, corporate social responsibility, communication, green society, social image and trust, and sustainability. The program is opened to employees and people from outside. In 2015, there were 222 participants in the program.

IRPC CUBIC ACADEMY



the class of IRPC Cubic Academy in 2015



Prawit Sawasdipocha
Senior Legal Officer, Legal
Department
1st IRPC Cubic Academy
Participant

IRPC cubic academy improved skills, knowledge and capability of participants and also created awareness of the importance of running the business on the foundation that balances the economic, environmental and social aspects. The participants consist of both IRPC's employees and people from outside, whose occupational background were different, therefore resulting in exchange of knowledge, opinion, and perspectives.

What I am impressed the most about this program is the opportunity to take part in social activity, to be a voice for the company to communicate with the community about the operations that balance economic, social, and environmental aspects as well as to help build good relationship between IRPC and communities in order to achieve community acceptance and to grow together in a stable and sustainable manner.

IRPC pledged to retain talented employees with the company by recognizing the importance of engagement employees have toward the company through several engagement activities, for example, activity to promote morale of the employees include Presidential Awards given to those, who have shown outstanding behavior. Awards include 2 awards for Interaction with the community achievement, 20 awards for Value added achievement, 50 awards for Behavior achievement, and 10 awards for Safety achievement.

IRPC encourages employees to exercise their rights through 8 labor unions, in which 86.79% of employees are members. In 2015, 5 meetings between labor committee, appointed by the union, and the management representatives were held in order to resolve issues filed by employees. In 2015, 38 cases were filed through various receiving channels, where every case was addressed and resolved and the results were informed back to all related party in a systematic and transparent manner. IRPC truly believes that by having good labor relations will reduce conflicts and increase employee engagement to the organization in the long term.

Moreover, IRPC has allocated budgets to support 28 employee clubs with an aim to encourage employees to participate in activities to relax and exercise as well as to promote morale of employees. Additionally, IRPC also offers scholarships to employees' children and provides assistance to those, who are affected by such disaster as fire or flood, etc.

Based on 2014 Organization Health Index (OHI) survey result, it has been found that factors needed to be improved include leadership, organization's adaptability to changes, and organizational culture and core value. Therefore, in 2015, taking all findings into consideration, IRPC has carried out major improvement activities include organizational restructure and job re-evaluation as well as the implementation of new core value "i SPIRIT", which promotes leadership and internal communication developments, etc. As a result of such activities, the 2015 OHI survey result has bettered 2014 and IRPC is intending to continue improving the OHI performance even further.

In 2015, The average training hours per employee per year was **32.3 hours**



2015 Employee Satisfaction score



Performance Indicators

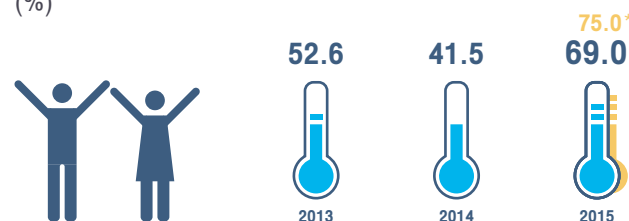
Average Training Hours of employee
(Hours/Year)



Employee Satisfaction
(%)



Organization Health Index
(%)



*Target 2015



Collaborative **PARTNERSHIP**

Suppliers are considered as critical business partner to IRPC. This is why IRPC is giving the utmost importance to managing supplier relations in line with sustainability management guideline. Moreover, IRPC also carries out supplier risk management to proactively prevent any risk from procurement and enhance competitiveness.



“

Procurement excellence operations has enabled IRPC to save total expenditure by more than

1,800 Million Baht

”



Sustainable Procurement

IRPC promotes sustainable procurement between IRPC and suppliers in order to achieve long term growth. The supplier must conform to the IRPC supplier code of conduct, which covers business ethic, human rights, environment, occupational health and safety aspects. Additionally, IRPC is too promoting green procurement to encourage purchase of products and services that are environmentally friendly. In 2015, 4 % of procurement budget were spent on environmentally friendly products and services

Procurement Excellence is one of the operational aspects under Delta project to improve efficiency in the procurement process, which consists of several operations include a collaboration between users and procurement functions to prepare the most viable procurement plan to increase bargaining power, Desk stock an inventory control and category management to set strategy for inventory management and prevent delivery risk, New supplier sourcing from countries with low production costs to reduce costs as well as supplier relations management plan to develop long term business partnership. As a result of such activities, Procurement excellence has saved a total of 1,800 Million Baht in procurement expenditure, which 375 Million Baht is accounted in 2015.

In order to increase IRPC's competitiveness to the international level, Organization capability development is another important factor to be addressed. In such case, IRPC has provided trainings to develop the capability of the procurement staff to be able to set strategy and bargain with efficiency. In 2015, 56 procurement staffs have attended SMART BUYER training session by the world-renowned consultant agency. Furthermore, IRPC Procurement Web Portal has been developed in order to interact with suppliers with better efficiency and offer suppliers ease of access to procurement news, tendering event, submit tender offers via internet, and information about payment of products and services as well as supplier registration. The web portal officially went live in 2015.

Moreover, IRPC collaborates with companies in PTT group under Petrochemical and Refining Integrated Synergy Management (PRISM) project by coordinating with other refineries in PTT group supply chain to manage crude loading with more efficiency. As a result, IRPC has managed to save about 57 Million Baht in crude transportation. Moreover, IRPC purchased 320,000 liters of crude produced from plastic waste in order to promote social and environmental program as well as reduce the amount of national waste more than 700 Tonnes.

Supplier Risk Assessment

In order to prevent and mitigate the magnitude of impact from any procurement risk and promote sustainable procurement, IRPC has carried out risk assessment for critical suppliers considering environmental, social, and governance (ESG) risk factors. In 2015, IRPC has assessed 313 suppliers and 24 contractors (17% of all supplier and contractors), 61 of which were new suppliers.

IRPC assessed suppliers' ESG performance to ensure that suppliers operate in conformance with IRPC guideline. In 2015, all assessed supplier passed the assessment.

In 2015, **17 %** of critical suppliers has **undergone supplier ESG risk assessment**



IRPC organized 2015 supplier conference with the theme "IRPC Sustainability Growth" to communicate the IRPC procurement policy that emphasizes on growing with suppliers in a sustainable manner

The agendas include to inform suppliers of IRPC Supplier Code of Conduct, to declare IRPC's anti corruptions policy and encourage supplier to conform, to announce an official launching of procurement web portal, which will provide suppliers with more convenience to receive news and support transparent and auditable procurement process as well as to awards suppliers, who received top 10 highest scores from the assessment.

In the event, the Sustainability Management Office communicated the issues on sustainability in the supply chain, which include those of supply chain management in line with PTT group Sustainability Management framework, procurement of environmentally friendly products and service as standardized in Eco Factory criteria, suppliers ESG risk assessment, and sustainable procurement, to create awareness and encourage all suppliers to improve and align their operations with IRPC in order to achieve a long term business growth together.



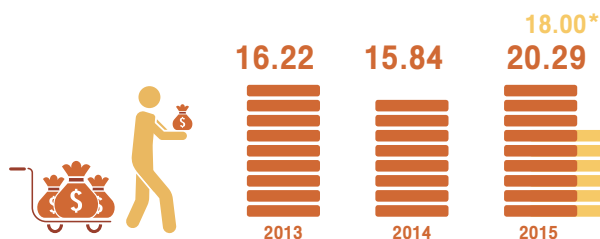
IRPC presented awards to suppliers, who passed the assessment and received 10 highest scores

SUPPLIER CONFERENCE 2015 IRPC SUSTAINABILITY GROWTH

Performance indicators

Local procurement

(Rayong province) (% of total procurement)



*Target 2015

Supplier and contractor that has undergone ESG risk assessment (% of supplier and contractor)



2013

N/A

2014

N/A

2015



17

15*

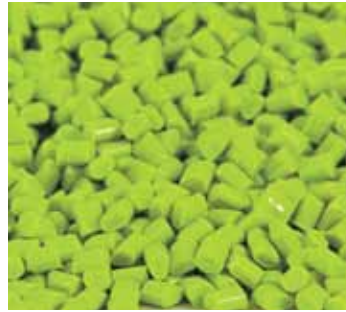
Product SPECIALTY



IRPC recognizes the importance of innovation development to increase value of the products and marketing opportunity as well as to respond to the customer's different needs. To meet those needs, IRPC has initiated commercial and research and development excellence strategy to ensure customers' maximum satisfaction.



Product Innovation



“ In 2015, IRPC
invested more than
127 Million Baht
in product research
and development ”

IRPC sees utmost importance in researching and developing innovation that meets customers' requirements of higher quality products. Therefore, IRPC is focused to developing value added products using environmentally friendly raw materials and expanding into specialty product market. In 2015, IRPC developed 103 prototyped products, 54 products or 52% of which have been continually developed into commercialized products, which generated more than 484 Million Baht in gross profit for new product category aged less than 3 years.



IRPC collaborated with Bluelight Co., Ltd. to manufacture luggages from POLIMAXX green ABS, in which IRPC was the world's first to come up with a way to mix natural rubber into plastic pellets to replace 10-40% of synthetic rubber used originally. Green ABS has similar strength and durability as normal ABS yet more environmentally friendly. Moreover, by using natural rubber, it also helps the rubber producers, who are currently struggling with a decline in rubber price.

Travelling luggage manufactured using POLIMAXX Green ABS, supporting national rubber industry as well as presenting an alternative choice for customers, who are increasingly aware of the environmental impact of the products.



IRPC Public Company Limited and Wonderworld Products Company Limited attended the opening event of the Wonder Trix Track product at Children Toys Department, 4th floor, Central Ladprao department store. Trix Track was manufactured using IRPC's innovative product "POLIMAXX Wood Plastic Composite"

Distinctive Quality

IRPC is fully aware that the quality of products and services are the keys to improving customer satisfaction. Therefore, IRPC is committed to operate in line with the PTT group Sustainability Management Framework under product stewardship element. IRPC, not only complies to the requirements of legal regulations, yet also to those of stakeholders and the public in terms of economic, social, and environmental requirements.

IRPC and the Wonderworld Products Co., Ltd. have worked collaboratively to develop "Trix Track", an innovative wooden toy that promote creativity, using "POLIMAXX Wood Plastic Composite". The wood composite was developed based on the concept of natural resources efficiency by adding sawdust or wood



fiber as part of raw materials. The product's distinctive properties include strength, flexibility, and durability, easier to mold, and zero heavy metal residues as well as reusability. Moreover, the product also passed EU10/2011 European standard test.

Additionally, IRPC has laid down strategy to improve efficiency in market channels by taking into consideration different customers' behavior and needs as well as their satisfaction, in which IRPC has been working relentlessly to respond to all customers' needs at the highest level. IRPC has, in place, information systems for each business in order to provide efficient services to customers, namely

- **IRPC Relationship Information System (IRIS)**

is a customer relationship management system for petroleum business. IRIS collects data on IRPC's past business transactions with customers and stores as a database, which will be analysed for opportunity for improvement and to systematically manage issues. Also, every customer's needs are followed up by a sale rep in order to create further business benefits. A sale process evaluation system helps unravelling sale opportunities with new customers by creating database for sales department and the management to be able to execute with highest efficiency

- **IRPC Customer Oriented Network System (ICONS)**

is a database system to manage petrochemical customers and related issues. ICONS improves capability to respond to customers' requirements and increase satisfaction to the highest level as well as being a source of solutions that generates knowledge for salespersons to improve for better customer services. Moreover, the system can be accessed by mobile phone and tablet application, likewise, these contribute the capability to respond to customers' requirements and increase their satisfaction.

- **CRM iAsset,**

commenced in 2015, is a customer relationship management system for asset management business. It is used to collect important information on customers for better coordination and issue management as well as area and utility management to support the business

- **IRPC Customer Relationship Oriented Wisdom Network (iCrown)**

is a system that manages customer information, issues, and collects results of satisfaction survey for latter analysis to improve services for port business. Moreover, there are 2 customer service stations, one in Bangkok and one in Rayong province, serving as hubs to receive orders, provide service information, and receive customer complaints

IRPC carries out satisfaction survey regularly every year. The survey consists of aspects including products, prices, sales, services, communication and delivery, etc. The result of the survey will be used as input for product and service improvement. In 2015, the overall customer satisfaction was 87.4%, which was more the 85.4% target

Additionally, IRPC provides channel for customer to file complaints regarding products and services and has in place a systematic mechanism to resolve them in order to improve for better operations. In 2015, IRPC has received 110 complaints, majority of which regarded the quality of packaging and the completeness of information of the product label, and taken them into considerations when strategizing for the improvement plan. More importantly, IRPC closely keeps track on customer satisfaction on a continuous basis.

With efficient internal product and service quality control, in 2015, there was no case of product and service incompliance of relevant law and regulations



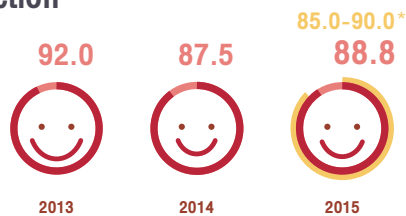
Performance Indicators

Customer Satisfaction

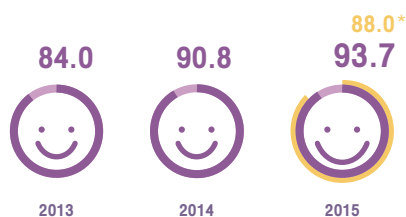
(%)



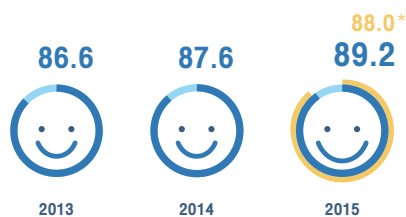
Petroleum Business



Petrochemical Business



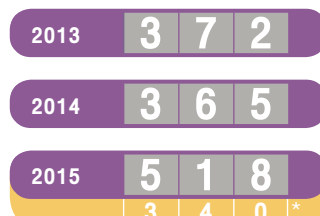
Port and Tank Business



Asset Management Business

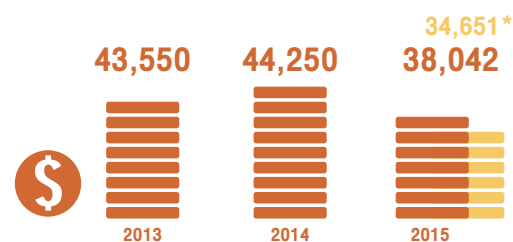


R&D Score



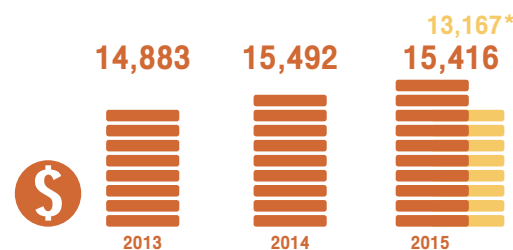
Revenue from total Petrochemical Products

(Million Baht)



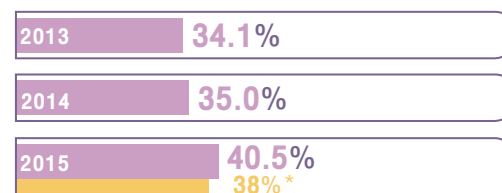
Revenue from Specialty Products

(Million Baht)



Ratio of Revenue from Specialty products to Revenue of total petrochemical products

(%)



*Target 2015

Responsibility to our ENVIRONMENT

IRPC place highly emphasizes on the effective operations and innovation development as well as aims for the efficient natural resources utilization and minimum environmental impact. In 2015, IRPC initiated the Sustainability 5-year work programs covering all 3 dimensions in line with business strategies including the environmental scheme.



IRPC has set the target to achieve Eco Factory of all every operation units within the year 2017 leading to be Eco Industrial Zone within the year 2020. In 2015, Ethylene Plant, Combined Heat and Power Plant, Refinery, and Lube Base Oil Plant have successfully achieved Eco Factory.



Dr. Atchaka Sibunrung, Minister of Industry, presented the Eco Factory Award to IRPC representatives from Ethylene Plant, CHP Plant, Refinery, and LBOP Plant in the “Eco Innovation and Solution 2015” hosts by The Industrial Environment Institute, The Federation of Thai Industries.

Managing Releases to Environment



“Zero case of oil and chemical spill in 2015”

Spills

Due to its business nature carries a certain risk of spillage, IRPC has strictly implemented the oil and chemical spill prevention plan in order to prevent the spillage and ensure not to affect the stakeholder and environment.

IRPC regularly practices both onshore and offshore oil and chemical spill, evacuation plan, and also has annually exercise with other companies and local and provincial authorities in Rayong. In 2015, the oil and chemical spill prevention and response training has been carried on for the involved employee.

In 2015, there were two insignificant spill cases (spill amount less than 100 barrels or 15.9 M³). First case, one cubic meter of chemical spilled onshore caused by Hexane pipeline thermal expansion of HDPE Plant. The case was corrected by pipeline replacement, automatic shut-off valve installation, procedure manual reconsideration and risk reassessment to prevent the reoccurrence. Second case was oil crude spilled into tankage drainage system. The spill was caused by the deactivation of rotary joint, whereby, the case was solved by maintenance and diaphragm pump installation at oil storage tank to discharge stormwater in case of emergency.

Performance Indicators

Significant Spill

(>100 Barrels or 15.9 M³)



2013 0
2014 0
2015 0
0*

2013 0
2014 0
2015 0
0*

Amount of Oil and Chemical Spill Cases (M³)

Number of Oil and Chemical Spill Cases (Cases)

Spill

(>1 Barrel or 0.159 M³)



2013 1.0
2014 8.5
2015 3.0
0.0*

2013 1
2014 3
2015 2
0*

Amount of Oil and Chemical Spill Cases (M³)

Number of Oil and Chemical Spill Cases (Cases)

*Target 2015



57% reduction of Oxide of Nitrogen Emission per Thousand Tonnes Throughput, and 2% reduction of Volatile Organic Carbon (VOCs) Emission per Thousand Tonnes of Production compare to 2013 base year.



Air Emissions

IRPC recognizes the adverse impact of air emission on the community health as well as impacts on the environment. Therefore, IRPC has in place the air management approach to achieve its target.

In 2015, IRPC has significantly reduced VOCs fugitive as a consequence of using VOCs camera to monitor the VOCs leakage and install VOCs trapping system throughout the operating process. Moreover, in 2016, IRPC set up plans for Breather Valve installation, Breather Valve replacement at chemical storage tank in order to control the pressure of Gas Vent System, and Vapor Recovery Unit installation at Benzene Toluene Xylene Plant and Ethylene Plant resulting to 94 Tonnes of VOCs emission reduction.

In term of NOx emission control performance in 2015, IRPC emitted totally 1,778 Tonnes or 0.17 Tonne per Thousand Tonnes of Production a 57% decrease

compared to 2013 performance. All NOx reduction was a result of the installation of 4 additional Dry Low NOx units at CHP1 Plant, resulting to 75% reduction compare with its normal operation.

Further to the above, IRPC was able to lower and maintain the SOx emission intensity at 0.14 Tonnes per a thousand Tonnes of Production by increasing the ratio of natural gas in overall fuel consumption and using fuel that has less than 0.75% sulfur. In addition to the aforementioned initiatives, IRPC invested 190 Million Baht on natural gas pipeline and Block Valve metering station within the industrial park project aiming to utilize natural gas as a fuel to use in EBSM Plant and Lube Base Oil Plant of which expecting to reduce of 25% SOx emission.

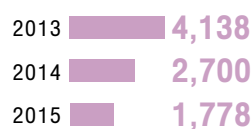


From the commitment and effort to comprehensively manage all environmental related aspects plus those of efficiency improvement investments, the number of environmental complaints was cut by 50% in 2015 compared to 2014 and the community satisfaction survey, environmental aspect, showed an increasing score in 2015 at 99.52%, which is higher than that of 2014.

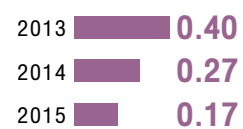


Performance Indicators

NOx

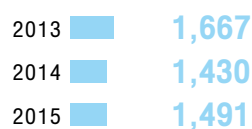


Released amount
(Tonnes)

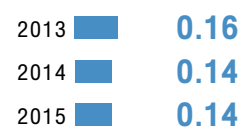


NOx Intensity
(Tonnes per Thousand Tonnes of Production)

SOx



Released amount
(Tonnes)



SOx Intensity
(Tonnes per Thousand Tonnes of Production)

VOCs



Released amount
(Tonnes)



VOCs Intensity
(Tonnes per Thousand Tonnes of Production)

^{*} Target 2015



Achieved the 2015 target of less than 5% hazardous waste landfilled to total waste



Waste

With its commitment of zero hazardous waste landfilled within 2020, IRPC strongly aim for maximize efficiency of resource utilization as it reflects the production efficiency as well as reduce environmental impact and waste operating cost.

In 2015, IRPC conducted waste flow analysis in order to develop waste reduction plan. By the year 2016, IRPC plans to carry out the dehydrogenizing waste sludge project at PTK catalyst production unit, which will reduce waste generated more than 600 Tonnes, resulting in 1.5 Million Baht reduction in waste management cost.

Performance Indicators

Waste generated from routine operations (Tonnes)



2013	<div></div>	21,238
2014	<div></div>	27,410
2015	<div></div>	34,404*

Landfilled Hazardous Waste compared to Total Generated Waste (%)



2556	<div></div>	1.5
2557	<div></div>	1.2
2558	<div></div>	2.4

Less than 5*

*Target 2015

Remark : Total routine waste generated exclude waste generated from scheduled maintenance



Water Stewardship

Since water is of criticality to global population, plus IRPC industrial park is located in the water stressed area. Therefore, IRPC is doing its best to achieve water efficiency by managing water risk, conducting prevention and mitigation plan to reduce any negative impacts to communities and the environment as well as setting target to reduce fresh water intensity by 5% in 2020 compared to 2013



Through 3Rs program,
IRPC has successfully reduced

1,007,400

M³ of water in 2015



Water management

IRPC efficiently manages water usage within the organization in line with QSHE policy in order to continue improving the efficiency in the operations and align with the sustainable development concept by implementing 3 Rs (reduce, reuse, recycle) guideline. In 2015, IRPC has carried out several important projects, for example, increased cooling water cycle from 5 to 7-8 cycles, reused waste water from Reverse Osmosis system as cooling water in the Heat Recovery Steam Generator, removed minerals from condensate water using resin filtration method to get demineralized water to feed into steam generation process, etc. As a result of these projects, IRPC was able to reduce 1,007,400 M³ of water usage or 7 Million Baht in costs. However, compared with 2014, the water usage was increased by 1,302,457 M³ due to salt water usage for sulfur scrubbing process in Power Plant and freshwater usage for UHV Project commissioning process.

IRPC efficiently utilizes water quota from the Royal Irrigation Department to mitigate any risks that may be caused by drought and to prevent conflicts with communities that may arise as a result of over usage of water. In addition, IRPC also has 5 reservoirs with combined capacity of 5.21 Million M³ to cope with drought situation in the area, in which IRPC will be able to continue its operations for another 72 days. These reservoirs can also be used to contain rain water to prevent flooding for the communities in a rainy season.

IRPC works collaboratively with other PTT Group company in the PTT Group Water Management Team (PTTWT) through a quarterly meeting to monitor and analyse the water situation in the eastern region and lay down the

overall water management plan for PTT group and set water management strategy in case of crisis, for example, drought, sub-standard water quality, etc. Furthermore, IRPC is currently a member of the Water War Room Rayong comprising of governmental and private agencies, whose responsibility is to oversee the quantity and quality of water for Rayong province as well as prepare provincial water shortage prevention plan. In the beginning of 2015, the Eastern region began to enter into drought, together PTTWT and the Water War Room Rayong have worked closely to monitor the situation and manage water from various sources with efficiency.

In terms of waste water treatment, IRPC has in place an efficient 2 step waste water treatment system, initial chemical treatment and Activated Sludge treatment, to treat waste water from IRPC plants before releasing to the environment. In 2015, IRPC has additionally installed Ultra Filtration System capable of filtering water with small sludge in order to increase clearness. The system has significantly improve the efficiency in waste water treatment



Water for Community

In 2015, IRPC shares about 320,000 M³ of water per year from the reservoirs to communities around the industrial park for consumption and initiated several important water related programs to improve the quality of life for communities in Rayong province using water management knowledge of IRPC employees. Programs include improve the water supply system for Nhong Pawa community, Bangbutr Sub-district, Baan Kai District, Rayong province which has population of 1,009 people, share knowledge and give advice about water production to Baan Lang community, 1,806 people in population, etc.



Promsilp Ratanaket
**Baan Lang Sub-district,
Mueng District,
Rayong Province**

“During the month of October 2015, there was a flooding situation in many areas in Rayong province, yet the area around IRPC industrial park, including Baan Lang community, has not been affected because IRPC dredged most of the shallow canals before a rainy season so that water can be drained better

Additionally, IRPC shares water from the reservoirs to Nhong Phraya community to produce water in the event of water shortage as well as offers assistance to search for the cause of water quality being inferior and to repair machinery. IRPC also gives advice and guideline in checking the quality of water to ensure that the quality is up to standard and to ensure water availability for community consumption throughout drought season”



Performance Indicators

Fresh Water Intensity

(M³/ Tonnes of Production)



Water saved from 3Rs program

(M³)



*Target 2015

Remark * In 2014, An increase in water usage was a result of Fire incident at VGOHT and Power Plant increased the production of electricity and steam to accommodate ABS expansion project, EBSM expansion project.

Climate Change Adaptation

IRPC is fully aware that its business operations result in the release of Greenhouse Gas into the Earth's atmosphere. Therefore, IRPC is committed to taking part in solving the climate change issues by improving its energy efficiency as well as developing a clean production process.



IRPC adheres to Greenhouse Gas emission management through low carbon & energy saving product development and green process.



In 2015, IRPC was able to reduce

28,953 Tonnes

of CO₂ equivalent from Carbon Reduction Label product.



In 2015, Gasohol and Biodiesel product from IRPC **was able to reduce**

230,602

Tonnes of CO₂ equivalent





IRPC place highly emphasis on the environmental impact as a result of climate change via the product research and development to meets the customer needs as well as to reduce the greenhouse gas emission and energy saving. In 2015, 33% of revenue generated from low carbon and energy saving product.



Product
revenue

8,237
Million Baht



**Greenhouse Gas
Emission Reduction**

53,595

Tonnes of CO₂ equivalent



Gasohol product has been developed as an alternative choice of fuel with the properties of increased combustion efficiency and less greenhouse gas emission. In 2015, IRPC produced and merchandised 343 Million liters of Gasohol.



Product Revenue

339 Million Baht



Expandable Polystyrene (EPS) product of construction grade with its distinguished properties of strength, lightweight, capability to bear 49 Kilograms per CM² and humidity, and inflammable of which applicable for insulation. In 2015, IRPC produced and merchandised 7,000 Tonnes of EPS.

“

Product Revenue**15** Million Baht

”

**Green ABS Product**

was World's First innovation of natural rubber replacement at 10%-40% to synthetic rubber and still keeps its properties and standard comparable to synthetic ABS. In 2015, IRPC produced and merchandised 260 Tonnes of ABS

“

Product Revenue**28,269**

Million Baht

”

Carbon Reduction Label Product namely High Density Polyethylene, Polypropylene, Polystyrene, and Expandable Polystyrene which applicable for various products, for instance, plastic bag, electrical appliance, heat insulation, etc. IRPC developed these products in term of energy saving and chemical usage reduction in the production process and registered Carbon Reduction Label. In 2015, IRPC produced more than 660,000 Tonnes of Carbon Reduction Label product.

Greenhouse Gas Emission Reduction**28,953**

Tonnes of CO₂ equivalent
compared with the year 2009





In 2015, IRPC has managed to reduce energy consumption by

1,611,884

Gigajoules or

154,591

Tonnes of CO₂ equivalent



Green Process

In 2015, IRPC initiated energy saving projects such as steam and heat management, saving light bulb replacement resulting to 1,611,884 GJ energy saving, 154,591 Tonnes of CO₂ equivalent Greenhouse Gas reduction, and 465 Million Baht saving. Additionally, IRPC conducted Greenhouse Gas scope 3 data collection for further energy management.

Furthermore, IRPC has developed logistic effectiveness as well as uphold green logistic management system, control safety, prevent and mitigate the environmental impact as a result of logistic activities. In 2015, IRPC Port was Thailand's first port that has been certified for Carbon Footprint Organization from Thailand Greenhouse

Gas Management Organization (Public Organization). As a consequence of CFO certification, IRPC has improved its management, such as tugboat management which could save fuel 14.73 Liter per trip and reduce 981,000 Baht expense, uphold Vessel Traffic Management System (VTMS) and rearrange shipment route to be more safe and appropriate.



“

In 2015, IRPC reduced fuel consumption by tugboat management of

14.73

Liter per trip equals to

90

Tonnes of CO₂ equivalent

”



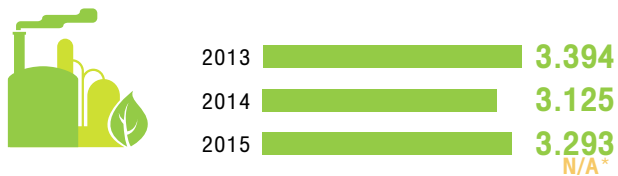
General Surasak Kanchanarat, Minister of Natural Resources and Environment, presented Carbon Footprint Organization of 2015 to IRPC Port.

Performance Indicators

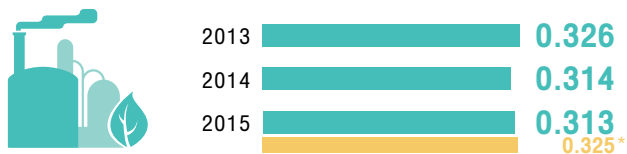
Energy Intensity Index (%EII)



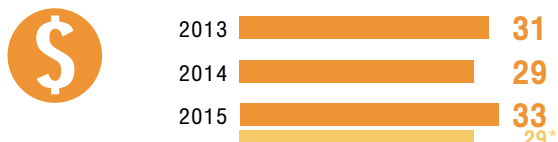
Direct and Indirect Greenhouse Gas Emission (Million Tonnes of CO₂ equivalent)



Greenhouse Gas Emission Intensity (Scope1&2) (Tonnes CO₂ equivalent per / Tonne of Product)



Low Carbon Product Revenue compared with Total Revenue (%)



*Target 2015

Remark: The base year of 2012 was referred in order to align with PTT Group.









Contribution to our SOCIETY

IRPC is committed to operating with responsibility towards society and communities surrounding the industrial area by aiming to promote community health and invest in social development to create shared value and prosper together with Thai society as well as to earn acceptance and trust for all IRPC's operations



Mobile clinic units
and Pan Naam Jai
clinic **have served**

6,591

people in 2015





Community Health

Other than operating with awareness for community health and safety through cautious and concise management in the production process, IRPC also carries out 3 health programs to respond to the people's needs in order to promote healthy living for the communities. Programs include

1. Mobile clinic program, which provides health check and basic treatment for people in the communities throughout the year. In 2015, the mobile unit was deployed 12 times serving 1,412 patients



As a result of public participation and community consultation sessions, it has been found that the shortage in public health service was still a persistent issue in Rayong provincial area. Therefore, IRPC has allocated funding to build an outpatient ward at Rayong hospital, Ta Pong branch. The construction was completed in 2015 and the new building is capable of accommodating more patients within Ta Pong, Baan Lang, Chong Nern Municipal, Na Ta Kwan Sub-districts, and other adjacent areas



2. Pan Nam Jai Clinic, one of many programs that show IRPC's awareness of the importance of the people's health. The clinic is located in the Community network development center, IRPC industrial park. The clinic provides general treatment and is opened to all Rayong people free of charge. The clinic was visited by 5,179 patients in 2015.
3. Health check and health monitoring program for people in the communities around IRPC's industrial park is a collaborative program between IRPC, Rayong hospital, and Rayong provincial health office aiming to collect data and analyze causes of diseases for the people within the at-risk areas as well as provide knowledge, cautions, and protection to the communities. In 2015, 900 samples of health data were collected and are in the process of analyzing for results. The results will later be used to lay out the health check plan for the mobile clinic units. Anyhow, the same group of samples will be continually collected for the next 2 years in order to be able to analyze trends

Additionally, in order to prevent other impacts that may occur to the communities, IRPC has conducted an assessment regarding health and environmental impacts that may be caused by a current project improvement or a new project development. In 2015, IRPC has conducted environmental impact assessment report for 2 projects, firstly Polypropylene expansion project, which has been approved by the committee of experts and is currently during construction, secondly, EPS project, which is in the process of conducting an Environmental Impact Assessment (EIA) report.

IRPC uses an Emergency Command Center (ECC) as a mean of communication between communities and the company to listen to their suggestions, concerns, and complaints. IRPC then sets up and deploys a team comprising of QSHE and CSR to investigate facts soon after complaint was received and work together with the operation unit to keep the situation under control



IRPC carried out community consultations for all 25 existing production plants or **100% of the operations**

IRPC carried out community consultations for 2 projects or **100% of developing projects**

and report findings back to the complainer. In 2015, IRPC received 3 odor related complaints. However, every complaint had been addressed, investigated, and resolved. Moreover, short term and long term preventive measures had also been planned to prevent any future reoccurrence

A new outpatient ward at Rayong hospital, Ta Pong branch, in which IRPC has allocated 12 Million Baht for construction



Society Investment

“ IRPC allocated its budget
totally of
465 Million Baht
for community
investments in 2015 ”



Through several programs, IRPC is truly determined to improving the quality of lives and education within the society to create better foundation of lives in order for the people to be able to independently stand of their own feet as well as looking after the quality of the environment. Programs include,

From Bench to Community Project: IRPC has been donating Polypropylene product, which has anti-bacterial attribute, to the Prostheses Foundation of H.R.H the Princess Mother to build prostheses for the disables to improve their living quality since 2011. Each year, IRPC donates 20-25 Tonnes of PP products on average and since 2013, IRPC's employees have joined the team of volunteers to build prostheses for disables. In 2015, 6 of IRPC's employees have volunteered at the Umphang Hospital in Tak Province. 232 protheses were built and given to 151 disables participated in the program



Kesinee Chaingsri, mother of Kanchanawat Chaingsri who received the prosthesis **from the Prostheses Foundation of H.R.H the Princess Mother**

“

The first time I know about IRPC was when I took my son to the Prostheses Foundation of H.R.H the Princess Mother at Nakhonpathom province. In March 2014, IRPC's employee came to gather information about my son and helped out with everything. After my son received the prosthesis, there was still regular follow ups enquiring about my son's well-being and when IRPC holds activities, my son is asked to attend almost every time. This actually makes me feel much attached to IRPC, every employee that has been offering and providing assistance to my son with care. I would like to thank IRPC for always helping and offering all kind of assistance to my son

”



IRPC employees volunteered in the program to improve the quality of water system in the Baan Nong Yang village, Nong Yang village, Nang Rong District, Buriram province



Sompong Pho-ngam,
Baan Nong Yang village headman,
Nong yang village, Nang Rong
prefecture, Buriram province

Lam Sai Yong Model Program ⁽¹⁾ : Initiated in 2014 to improve water sources and living quality of the people in Nhong Yang village, Nang Rong District, Buriram Province by applying skills and experiences in water management of IRPC employees into the program to ensure that the people have sufficient water reserved for consumption and agriculture during drought season. In 2015, IRPC employees, whose expertise is in water management, volunteered in the program to improve the quality of water system in the village to be able to produce clean water for consumption with better efficiency. As a result of this program, 440 households have benefited from having reserved water source in place and compared to 2014, each households has averagely earned 30,000 Baht in incremental income in 2015

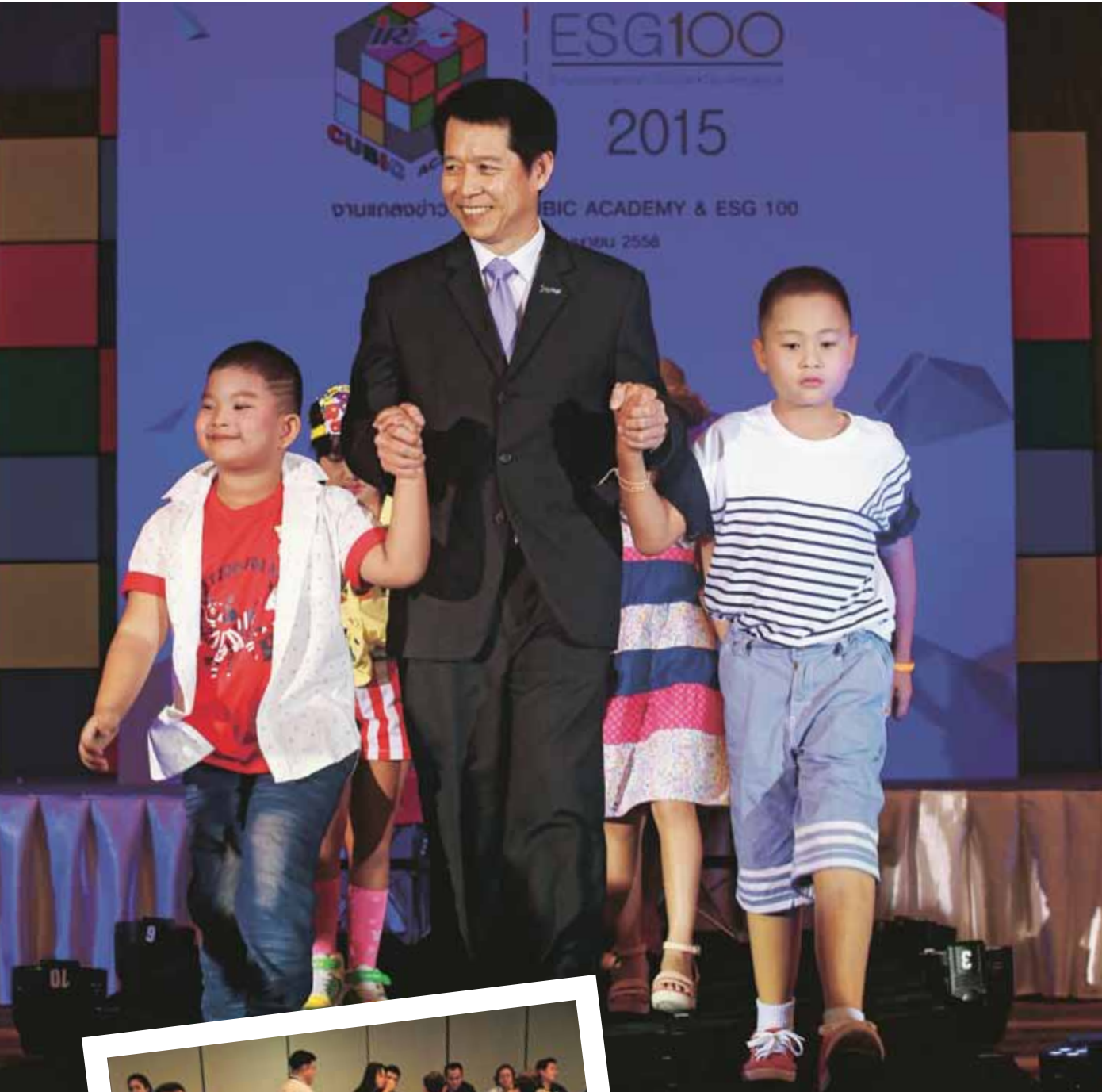
Remark: (1) Previous name as Sang Klong Sang Khon



In the past, Nang Rong district was relatively arid, especially at Baan Nong Yang village and the adjacent areas in Lam Sai Yong Sub-district, where there was only a small reservoir and insufficient water storage for annual consumption. Each year, they had to use large pumps to pump water from a canal 5 kilometers away from the village reservoir, which was very troublesome in drought season. It is very fortunate for our community to know IRPC, who offered financial support and knowledge and experience of their employees to dredge the reservoir to be able to store more water. The community would still have enough water, even there was to be in drought season for 2 more years. Nowadays, People at Nong Yang community are full of smiles and have no more worries about water shortage. They can rest assured that there will always be water available to grow vegetables for eating, selling, giving away to the people in the community according to their folkways.

I, on behalf of the people in Nong Yang community, would like to thank IRPC for continuously giving supports to the program. It definitely improved the living quality of the people for the better and would like to see IRPC carry on offering good programs for communities and society.





IRPC Cubic Academy: IRPC commenced IRPC Cubic Academy in 2015 with intention to drive the company to sustainability in line with PTT group policy and guidelines by establishing learning society with a focus to bring about the quality of people and governance of the organization. The program consists of 6 different curriculums include corporate governance, corporate social responsibility, communication, green society, social image and trust, and sustainability, in which IRPC offered opportunity for both employees and people from outside to participate in the program. Moreover, all participants were offered chance to volunteer in the CSR activity toward the end of the program. In 2015, the program ran for 2 courses with 187 employees participated and 35 people from outside. IRPC plan to carry on more courses in 2016



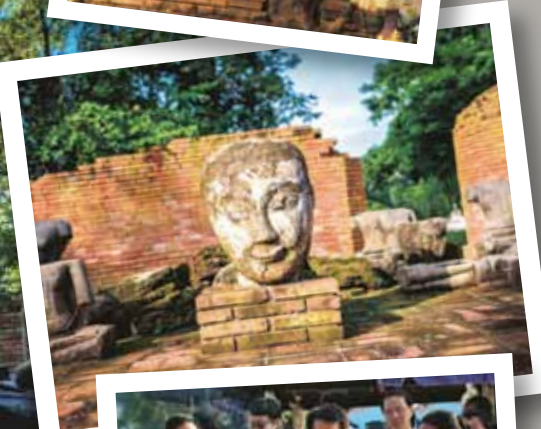
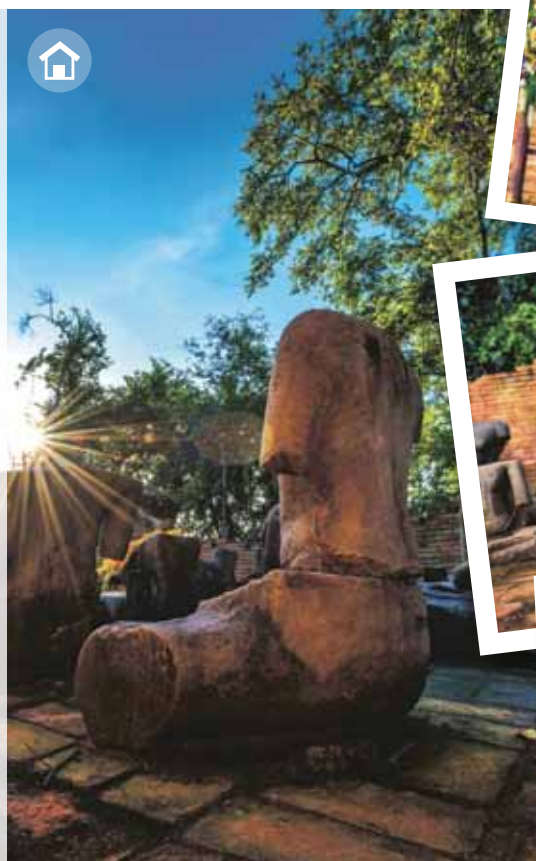
1 for 9 Program: IRPC has joined a network of 1 for 9 program, guided by the Office for National Education Standards and Quality Assessment (ONESQA), to improve a quality of education to a better standard. IRPC has continuously worked in collaboration with 9 academic institutions in Rayong province since 2012 focusing on developing academic knowledge, promoting ethics, health and safety of the students, and a school's roles in developing community and environment. In 2015, IRPC invited faculty from a school in the program and ONESQA officials to a plant visit and study visit at the organic group, sufficient economic community enterprise, Cherrng Nern Municipal Sub-district, Muang District, Rayong Province, to share

knowledge and experience in terms of organic farming in line with His Majesty the King's sufficiency economy concept, for example, horticultural farming, making of organic fertilizer and enzyme fermented water, in which case, the faculty has shown enthusiasm in applying newly learnt knowledge to develop community and environmental development program for the school. Moreover, IRPC has joined the FOUR U FOR YOU club to provide instructional supplementary lessons to develop capability in thought process and interpretation of O-NET mathematics and science examination for 64 6th graders at Beaconhouse Yamsaard Schools in order to prepare readiness to 2016 O-NET examination.

Wat Krou Ta Phet

Archaeological Site Restoration Project

In collaboration with the Fine Art Department, IRPC has carried out restoration of the archaeological site "Krou Ta Phet temple", which is estimated to be more than 300 years old located in the area of IRPC Ayuthaya depot. IRPC has donated 5,640,000 Baht in budget for restoration and archaeological study of the site. The restoration process of the temple began in 2009 and completed in 2015. After completion, IRPC publicly opens the site for the people to visit and conserves it as a historical source of learning for the community to be able to appreciate the value of cultural heritage that has been passed on over generations





IRPCT, in collaboration with Chitralada School (Vocational Program), embarked on the Eastern region BPP volunteer camp at Bor Chaom school, Baan Hang Meaw school, and Baan Klong Dang school located in King Hang Meaw Sub-district, Chanthaburi Province

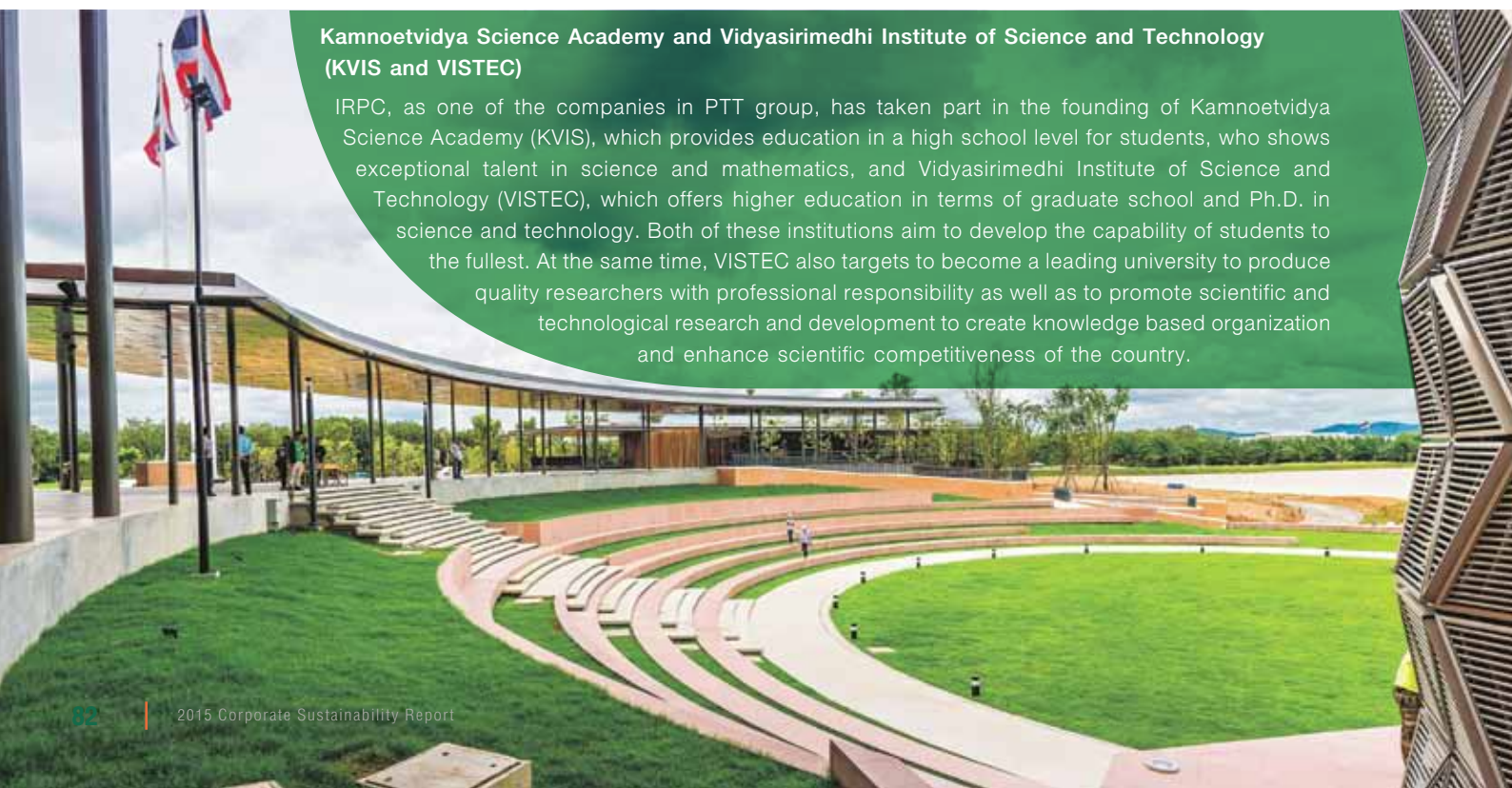
IRPC Technology College: Established in 1995 with an aim to offering a better educational opportunity for people in Rayong province under the concept “Create Social Value” with target to become 1 of the top10 vocational college in ASEAN in 2022. The curriculum has been designed for the students to be able to learn both theory and practical aspects in order to be equipped with skills and knowledge required in the competitive labor market. Moreover, the college aims to embed moral and ethics, discipline, as well as self and social responsibility to the students through various programs and activities include the Eastern region BPP volunteer camp, in which IRPCT

collaborated with Chitralada School (Vocational Program), to repair electrical system, build fences, install water pump for Bor Chaom school, Baan Hang Meaw school, and Baan Klong Dang school located in King Hang Meaw Sub-district, Chanthaburi Province.

In 2015, IRPC has given 30 scholarships to Thai students in order for them to have an opportunity for the better future and recruited 21 college graduates to work at IRPC. Moreover, IRPCT welcomes foreign students from ASEAN countries and at present, there are more than 100 students from ASEAN countries studying at IRPCT

Kamnoetvidya Science Academy and Vidyasirimedhi Institute of Science and Technology (KVIS and VISTEC)

IRPC, as one of the companies in PTT group, has taken part in the founding of Kamnoetvidya Science Academy (KVIS), which provides education in a high school level for students, who shows exceptional talent in science and mathematics, and Vidyasirimedhi Institute of Science and Technology (VISTEC), which offers higher education in terms of graduate school and Ph.D. in science and technology. Both of these institutions aim to develop the capability of students to the fullest. At the same time, VISTEC also targets to become a leading university to produce quality researchers with professional responsibility as well as to promote scientific and technological research and development to create knowledge based organization and enhance scientific competitiveness of the country.





Mount Ta Chud natural walk way: IRPC donated 2.2 Million Baht to the Natural Resources conservation club, Baan Lang district, to build a 2.2 Kilometers natural walk way in the area of Mount Ta Chud, which is one of many places in Rayong province with natural abundance. The walk way is opened to the public to visit for sightseeing. In addition, the project also created jobs and income to the community.



Tuanton Kammeesri
Counselor of The IRPC
Industrial Zone Project
Capability, Community and
Society Development
Multilateral Committee



From what I have seen, IRPC has tried to do their best for the people in Rayong. From executives to employees, they all have dedicated efforts into improving the production process. I truly understand that there are pros and cons to everything. The operational improvement may have more or less impacted the communities, both intentionally and unintentionally. Only if IRPC could maintain balances in the operations, they would certainly be able to sustainably co-exist with the communities. One thing I would like to address is that the communication with the communities is especially important; IRPC must ensure that every community is thoroughly informed in order to create understanding. In terms of their ongoing CSR program, I would suggest they use a development concept that will not affect the communities' folkways but will, instead, create harmonious development between community, society, and IRPC

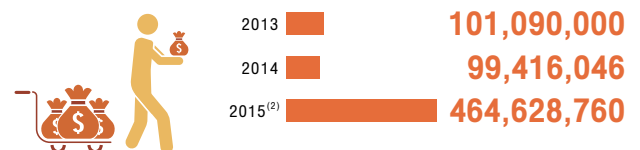


Performance Indicators

Community Satisfaction (%)



Community Investments⁽¹⁾ (Baht)



Employee Volunteer (Hour)



Remark (1) Community Investments include community development budget, charitable donations and Commercial Initiatives
(2) Allocation to the investment fund to found KVIS and VISTEC

Performance SUMMARY

ECONOMIC



Financial Performance						
GRI	Data	Unit	2012	2013	2014	2015
G4-EC1	Sale Revenues	Million Baht	292,430	292,593	281,589	214,172
	Operating Costs	Million Baht	289,770	287,695	287,930	197,913
	Employee Wages and Benefits	Million Baht	5,914	6,749	6,764	8,243
	Payments to Providers of Capital	Million Baht	816	1,632	2,041	1,633
	Payment to Governments	Million Baht	8,189	9,241	7,706	13,664
G4-EC4	Tax Privileges from the Board of Investment, Thailand	Million Baht	144	384	1,169	659
	Tax Compensation from Export	Million Baht	209	203	186	172

PRODUCTION



GRI	Data	Unit	2012	2013	2014	2015
	Annual Production	Tonne	9,992,059	10,421,615	9,965,199	10,518,179

SUPPLY CHAIN MANAGEMENT



GRI	Data	Unit	2012	2013	2014	2015
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	%	100	100	100	100
G4-LA14	Percentage of new suppliers that were screened using labour practices criteria	%	100	100	100	100
G4-HR10	Percentage of new suppliers that were screened using human right criteria	%	100	100	100	100
G4-SO9	Percentage of new suppliers that were screened using criteria impacts on society	%	100	100	100	100
G4-EC9	Spending on purchasing of products and services from suppliers and contractors in Rayong	Million Baht	2,539	1,594	2,096	2,312
	Percentage of spending in Rayong comparing to the total budget	%	19.86	16.22	15.84	20.29

CUSTOMER RELATIONSHIP MANAGEMENT



GRI	Data	Unit	2012	2013	2014	2015
G4-PR5	Annual customer satisfaction survey results ⁽¹⁾	Satisfaction rate	90	88	89	91
G4-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

Remark:

⁽¹⁾ Annual customer satisfaction rate has calculated from Petroleum and Petrochemical Business

PEOPLE



GRI	Data	Unit	2012	2013	2014	2015
G4-10	Workforce					
	Total Workforce ⁽¹⁾	Person	6,661	6,685	6,528	6,543
	Male	Person	5,552	5,593	5,495	5,499
	Female	Person	1,109	1,092	1,033	1,044
	Total Workforce by area					
	Bangkok	Person	839	817	774	759
	Male	Person	369	354	329	326
	Female	Person	470	463	445	433
	Rayong	Person	5,397	5,430	5,337	5,300
	Male	Person	4,790	4,837	4,747	4,735
	Female	Person	607	593	590	565
	Others	Person	425	438	437	484
	Male	Person	393	402	402	438
	Female	Person	32	36	35	46
	Total Workforce by employment type⁽²⁾					
	Full-time employee	Person	5,248	5,273	5,267	5,262
	Male	Person	4,382	4,409	4,420	4,417
	Female	Person	866	864	847	845
	Supervised Workers	Person	1,413	1,412	1,261	1,281
	Male	Person	1,170	1,184	1,075	1,082
	Female	Person	243	228	186	199
	Female in total workforce	%	16.65	16.34	15.82	15.96
		Person	1,109	1,092	1,033	1,044
	Employees					
	Total Employees	Person	5,248	5,273	5,267	5,262
	Employee by level					
	Executive (Level 13-18)	Person	84	81	72	72
	Male	Person	67	64	59	60
	Female	Person	17	17	13	12
	Middle Management (Level 9-12)	Person	338	346	705	708
	Male	Person	275	282	563	563
	Female	Person	63	64	142	145
	Supervisory (Level 6-8)	Person	951	933	2,281	2,407
	Male	Person	759	745	1,837	1,948
	Female	Person	192	188	444	459
	Operation (Level 1-5)	Person	3,875	3,913	2,209	2,075
	Male	Person	3,281	3,318	1,961	1,846
	Female	Person	594	595	248	229

GRI	Data	Unit	2012	2013	2014	2015
G4-LA12	Employee by age					
	Over 50 years old	Person	271	329	390	458
	Male	Person	219	270	319	375
	Female	Person	52	59	71	83
	30-50 years old	Person	4,516	4,477	4,396	4,324
	Male	Person	3,784	3,745	3,672	3,604
	Female	Person	732	732	724	720
	Below 30 years old	Person	461	467	481	480
	Male	Person	379	394	429	438
	Female	Person	82	73	52	42
G4-LA1	New Employee					
	Total new employee	Person	110	100	95	69
		% of total employees	2.10	1.90	1.80	1.31
	Male	Person	98	88	92	56
		% of total employees	1.87	1.67	1.75	1.06
	Female	Person	12	12	3	13
		% of total employees	0.23	0.23	0.06	0.25
	New employee by area					
	Bangkok	Person	25	11	0	1
		% of total employees	0.48	0.21	0.00	0.02
	Male	Person	16	4	0	0
		% of total employees	0.30	0.08	0.00	0.00
	Female	Person	9	7	0	1
		% of total employees	0.17	0.13	0.00	0.02
	Rayong	Person	85	89	95	68
		% of total employees	1.62	1.69	1.80	1.29
	Male	Person	82	84	92	56
		% of total employees	1.56	1.59	1.75	0.86
	Female	Person	3	5	3	12
		% of total employees	0.06	0.09	0.06	0.23
	Others	Person	0	0	0	0
		% of total employees	0.00	0.00	0.00	0.00
	Male	Person	0	0	0	0
		% of total employees	0.00	0.00	0.00	0.00
	Female	Person	0	0	0	0
		% of total employees	0.00	0.00	0.00	0.00
	New employee by age					
	Over 50 years old	Person	5	2	0	1
		% of total employees	0.10	0.04	0.00	0.02
	Male	Person	5	2	0	0
		% of total employees	0.10	0.04	0.00	0.00
	Female	Person	0	0	0	1
		% of total employees	0.00	0.00	0.00	0.02

GRI	Data	Unit	2012	2013	2014	2015
G4-LA1	30-50 years old	Person	15	4	1	1
		% of total employees	0.29	0.08	0.02	0.02
	Male	Person	9	1	0	0
		% of total employees	0.17	0.02	0.00	0.00
	Female	Person	6	3	1	1
		% of total employees	0.11	0.06	0.02	0.02
	Below 30 years old	Person	90	94	94	67
		% of total employees	1.71	1.78	1.78	1.27
	Male	Person	84	85	92	56
		% of total employees	1.60	1.61	1.75	1.06
	Female	Person	6	9	2	11
		% of total employees	0.11	0.17	0.04	0.21
	Employee Turnover					
	Total turnover	Person	47	70	83	69
		% of total employees	0.90	1.33	1.58	1.31
	Male	Person	38	57	66	55
		% of total employees	0.72	1.08	1.25	1.05
	Female	Person	9	13	17	14
		% of total employees	0.17	0.25	0.32	0.27
	Turnover by area					
	Bangkok	Person	14	20	21	14
		% of total employees	0.27	0.38	0.40	0.27
	Male	Person	8	9	11	7
		% of total employees	0.15	0.17	0.21	0.13
	Female	Person	6	11	10	7
		% of total employees	0.11	0.21	0.19	0.13
	Rayong	Person	33	49	59	54
		% of total employees	0.63	0.93	1.12	1.03
	Male	Person	30	47	53	47
		% of total employees	0.57	0.89	1.01	0.89
	Female	Person	3	2	6	7
		% of total employees	0.06	0.04	0.11	0.13
	Others	Person	0	1	3	1
		% of total employees	0.00	0.02	0.06	0.02
	Male	Person	0	1	2	1
		% of total employees	0.00	0.02	0.04	0.02
	Female	Person	0	0	1	0
		% of total employees	0.00	0.00	0.02	0.00
	Turnover by age					
	Over 50 years old	Person	7	10	13	12
		% of total employees	0.13	0.19	0.25	0.23
	Male	Person	5	9	11	10
		% of total employees	0.10	0.17	0.21	0.19
	Female	Person	2	1	2	2
		% of total employees	0.04	0.02	0.04	0.04

GRI	Data	Unit	2012	2013	2014	2015
G4-LA1	30-50 years old	Person	24	41	48	39
		% of total employees	0.46	0.78	0.91	0.74
	Male	Person	19	32	36	30
		% of total employees	0.36	0.61	0.68	0.57
	Female	Person	5	9	12	9
		% of total employees	0.10	0.17	0.23	0.17
	Below 30 years old	Person	16	19	22	18
		% of total employees	0.30	0.36	0.42	0.34
	Male	Person	14	16	19	16
		% of total employees	0.27	0.30	0.36	0.30
	Female	Person	2	3	3	2
		% of total employees	0.04	0.06	0.06	0.04
G4-LA3	Parental Leave					
	Employee Entitle for Parental Leave	Person	5,248	5,273	5,267	5,262
	Male	Person	4,382	4,409	4,420	4,417
	Female	Person	866	864	847	845
	Number of Employee Taken Parental Leave	Person	26	88	167	136
	Male	Person	1	74	152	126
	Female	Person	25	14	15	10
	Number of Employee Return to Work After Parental Leave	Person	26	88	167	136
	Male	Person	1	74	152	126
		% of Employee Taken Parental Leave	100	100	100	100
	Female	Person	25	14	15	10
		% of Employee Taken Parental Leave	100	100	100	100
	Employee Entitle for Parental Leave Who Still Employed for the Next 12 Months	Person	25	26	87	166
		% of Employee Return to Work After Parental Leave	100	100	99	99
	Male	Person	0	1	73	151
		% of Employee Return to Work After Parental Leave	100	100	99	99
	Female	Person	25	25	14	15
		% of Employee Return to Work After Parental Leave	100	100	100	100
G4-11	Total Employees Covered by Collective Bargaining	%	86	86	86	87
G4-LA9	Training Hours of <u>Male</u> Employees Based in Bangkok	Hours	10,274	5,925	4,509	7,683
	Executive (Level 13-18)	Hours	1,831	976	321	477
	Middle Management (Level 9-12)	Hours	3,144	2,046	1,562	3,552
	Supervisory (Level 6-8)	Hours	4,312	2,376	2,157	3,264
	Operation (Level 1-5)	Hours	988	528	470	390
	Training Hours of <u>Female</u> Employees Based in Bangkok	Hours	12,331	8,925	7,384	10,273
	Executive (Level 13-18)	Hours	542	123	144	213
	Middle Management (Level 9-12)	Hours	3,855	3,256	2,041	3,791
	Supervisory (Level 6-8)	Hours	6,993	5,189	4,640	6,058
	Operation (Level 1-5)	Hours	942	357	560	211

GRI	Data	Unit	2012	2013	2014	2015
G4-LA9	Training Hours of <u>Male</u> Employees Based in Rayong	Hours	156,637	133,187	125,780	143,162
	Executive (Level 13-18)	Hours	1,727	1,046	183	574
	Middle Management (Level 9-12)	Hours	21,872	14,065	11,445	14,189
	Supervisory (Level 6-8)	Hours	81,139	79,108	65,521	85,671
	Operation (Level 1-5)	Hours	51,899	38,969	48,631	42,728
	Training Hours of <u>Female</u> Employees Based in Rayong	Hours	15,356	13,803	10,474	9,288
	Executive (Level 13-18)	Hours	0	0	0	0
	Middle Management (Level 9-12)	Hours	2,166	1,492	1,100	1,696
	Supervisory (Level 6-8)	Hours	6,254	6,077	5,186	4,668
	Operation (Level 1-5)	Hours	6,937	6,234	4,189	2,924
	Training Hours of <u>Male</u> Employees Based in Other Areas	Hours	11,532	12,136	12,428	10,661
	Executive (Level 13-18)	Hours	0	0	0	0
	Middle Management (Level 9-12)	Hours	917	714	637	882
	Supervisory (Level 6-8)	Hours	5,414	7,398	550	4,230
	Operation (Level 1-5)	Hours	5,202	4,024	11,241	5,549
	Training Hours of <u>Female</u> Employees Based in Other Areas	Hours	676	1,034	928	803
	Executive (Level 13-18)	Hours	0	0	0	0
	Middle Management (Level 9-12)	Hours	54	19	32	5
	Supervisory (Level 6-8)	Hours	262	429	342	364
	Operation (Level 1-5)	Hours	360	586	555	434
G4-LA6	Absentee Rate ⁽³⁾					
	Male	%	0.022	0.038	0.013	0.031
	Female	%	0.001	0.004	0.041	0.001

Remark:

⁽¹⁾ IRPC has calculated Total Workforce by including Supervised Worker since 2014.

⁽²⁾ IRPC has no part-time employees.

⁽³⁾ Absentee Rate has been calculated from employee only.^(G4-22)

SAFETY

Oil and Chemical Spills

GRI	Data	Unit	2012	2013	2014	2015
G4-EN24	Significant Oil & Chemical Spills	Cases	0	0	0	0
		M ³	0	0	0	0

Process Safety

GRI	Data	Unit	2012	2013	2014	2015
G4-OG13	Number of Tier 1 Process Safety Events	Cases	10	9	3	0
	Number of Tier 2 Process Safety Events	Cases	17	19	6	4

Occupational Health and Safety ^{(1), (2)}						
GRI	Data	Unit	2012	2013	2014	2015
G4-LA6	Total Recordable Injury Rate (TRIR)					
	Total Workforce	Case/Million hours worked	0.65	0.55	0.95	1.08
	Contractor	Case/Million hours worked	1.37	1.52	0.23	0.20
	Lost Time Injuries Frequency Rate (LTIFR)					
	Total Workforce	Case/Million hours worked	0.37	0.28	0.36	0.43
	Contractor	Case/Million hours worked	0.95	0.76	0.04	0.03
	Occupational Illness Frequency Rate (OIFR) ⁽⁴⁾					
	Total Workforce	Case/Million hours worked	0	0	0	0
	Contractor	Case/Million hours worked	0	0	0	0
	Lost Day Rate (LDR)					
	Total Workforce	Day/Million hours worked	5.66	2.02	12.47	2.02
	Contractor	Day/Million hours worked	9.45	4.84	1.09	0.00
	Fatalities					
	Total Workforce	Person	0	0	0	0
	Contractor	Person	0	0	0	1

Remark:

⁽¹⁾ Occupational Health and Safety records based on OSHA incident report, which is per one million hours worked for injury, illness rates, lost day and fatality rates.

⁽²⁾ Reporting data not include IRPCT. IRPC plan to report in 2017.

⁽³⁾ IRPC includes supervised workers in the total workforce since 2014.

⁽⁴⁾ Occupational Illness from employee was investigated base on complete health checked of employee

ENVIRONMENTAL

Materials Consumption						
GRI	Data	Unit	2012	2013	2014	2015
G4-EN1	Crude Oil	Tonne	8,443,110	8,638,824	8,233,754	8,737,143
	Naphtha	Tonne	740,741	781,570	745,450	787,527

Energy Consumption ⁽¹⁾						
GRI	Data	Unit	2012	2013	2014	2015
G4-EN3	Total energy consumption ^{(2), (3)}	GJ	41,663,057	41,571,700	41,438,061	45,015,597
	Total direct energy consumption	GJ	46,996,572	46,514,605	46,802,327	49,427,071
	Fuel Oil	GJ	4,799,448	3,260,643	3,232,745	3,639,238
	Natural Gas	GJ	18,196,884	19,746,980	19,541,406	18,002,986
	LPG	GJ	5,204,768	4,500,009	5,264,745	1,151,317
	Diesel	GJ	694,938	544,483	306,776	395,884
	Fuel Gas	GJ	10,545,398	11,751,676	11,283,953	18,082,921
	Coke	GJ	2,302,937	2,344,800	2,196,671	2,383,627
	H ₂ S	GJ	167	135	110	134
	Coal	GJ	5,228,391	4,365,879	4,951,037	5,300,941
	H ₂	GJ	N/A	N/A	N/A	447,583
	Recycle monomer	GJ	23,641	0	24,884	22,440

GRI	Data	Unit	2012	2013	2014	2015
G4-EN3	Total indirect energy consumption	GJ	14,688	6,617	18,636	889,249
	Electricity purchased from PEA ⁽⁴⁾	GJ	14,688	6,617	18,636	89,268
	Electricity purchased from IRPC Clean Power	GJ	0	0	0	292,062
	Steam purchased by IRPC Clean Power	GJ	0	0	0	507,919
	Total electricity sold	GJ	1,726,049	1,748,048	2,161,886	2,108,913
	Total steam sold	GJ	3,622,154	3,201,474	3,221,016	3,191,809
G4-EN5	Energy intensity ⁽²⁾	GJ/Tonne of production	4.17	3.99	4.16	4.28
G4-EN6	Energy saved due to conservation and efficiency improvements	GJ	1,397,443	5,149,700	372,357	1,611,884
G4-EN30	Total diesel consumed by IRPC owned marine vessels	Litre	831,056	810,386	726,146	852,094

Remark:

⁽¹⁾ Standards, methodologies, and assumption of energy consumption used are identified relevant regulations.

⁽²⁾ Total energy consumption and Energy Intensity for year 2012-2014 are recalculated by take account total steam sold.^(G4-22)

⁽³⁾ Total energy consumption in 2015 increased from 2014 due to increase of annual production, unplanned shut down and produce premium grade at HDPE and Polyol plants

⁽⁴⁾ IRPC has calculated Electricity purchased from PEA by including Electricity purchased from PEA for IRPC Bangkok Office since 2015.^(G4-22)

Flared and Vented Hydrocarbon

GRI	Data	Unit	2012	2013	2014	2015
G4-OG6	Volume of flared hydrocarbon					
	Petroleum Business	Million M ³	15.93	15.10	19.12	12.55
	Petrochemical Business	Million M ³	6.84	16.16	19.55	11.65

Greenhouse Gas⁽¹⁾

GRI	Data	Unit	2012	2013	2014	2015
G4-EN15 G4-EN16 G4-EN17	Operational Control					
	Direct emissions of greenhouse gas (Scope 1) ⁽²⁾	Million tCO ₂ e	3.424	3.393	3.121	3.223
	CO ₂	Million tCO ₂ e	N/A	N/A	N/A	3.190
	CH ₄	Million tCO ₂ e	N/A	N/A	N/A	0.028
	N ₂ O	Million tCO ₂ e	N/A	N/A	N/A	0.004
	HFC	Million tCO ₂ e	N/A	N/A	N/A	0.001
	Biogenic CO ₂ Emissions	tCO ₂ e	N/A	N/A	N/A	195
	Indirect emissions of greenhouse gas (Scope 2)	Million tCO ₂ e	0.006	0.001	0.004	0.070
	Other indirect emission of greenhouse gas (Scope 3) ⁽³⁾	Million tCO ₂ e	N/A	N/A	N/A	7.662
	Equity Basis ⁽⁴⁾					
	Direct emissions of greenhouse gas (Scope 1)	Million tCO ₂ e	N/A	N/A	3.124	3.307
	Indirect emissions of greenhouse gas (Scope 2)	Million tCO ₂ e	0.006	0.001	0.004	0.070
G4-EN18	GHG Emission Intensity ⁽⁵⁾	tCO ₂ e/Tonne of production	0.343	0.326	0.314	0.313

Remark:

⁽¹⁾ GHG emission calculation is based on API 2009, IPCC 2006, ISO14064-1, and The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition). GWP used is IPCC Fourth Assessment Report (AR4-100year).

⁽²⁾ GHG emissions comprise Carbondioxide, Methane, Nitrousoxide, Hydrofluorocarbons, Perfluorocarbons and Sulphur hexafluoride.

⁽³⁾ Other indirect emission of GHG (Scope3) reported on travel of employees and use of B5, E10 and E20 products.

⁽⁴⁾ GHG emission from IRPC, IRPC Oil, Thai ABS and IRPC Polyol which IRPC holds more than 50% equity and UCHA (IRPC holds 25% equity) and IRPC Clean Power (IRPC holds 49% equity).

⁽⁵⁾ GHG Emission Intensity included in the intensity ratio: direct (Scope 1) and energy indirect (Scope 2)

⁽⁶⁾ The base year of 2012 was referred in order to align with PTT Group.

Air Emissions ⁽¹⁾						
GRI	Data	Unit	2012	2013	2014	2015
G4-EN21	Total NOx	Tonne	2,745	4,138	2,700	1,778
	NOx Intensity	Tonne/Thousand Tonne of production	0.27	0.40	0.27	0.17
	Total SOx	Tonne	1,357	1,666	1,430	1,491
	SOx Intensity	Tonne/Thousand Tonne of production	0.14	0.16	0.14	0.14
	Total Suspended Particulate (TSP)	Tonne	335	323	325	298
	TSP Intensity	Tonne/Thousand Tonne of production	0.03	0.03	0.03	0.03
	Total VOCs ⁽²⁾	Tonne	1,557	1,576	1,416	1,565
	VOCs Intensity	Tonne/Thousand Tonne of production	0.156	0.151	0.142	0.149

Remark:

⁽¹⁾ Standards, methodologies, source of emission factors and assumptions used are identified relevant regulations. The measurement approaches include direct measurement.

⁽²⁾ Restatement 2012-2014 data due to data coverage expansion.^(G4-22)

Water Consumption and Wastewater ⁽¹⁾						
GRI	Data	Unit	2012	2013	2014	2015
G4-EN8	Water withdrawn by source ⁽²⁾	M ³	36,521,591	36,918,347	37,635,997	38,938,454
	Surface water	M ³	19,001,591	19,398,347	19,298,917	19,607,178
	Rain water	M ³	0	0	817,080	1,111,159
	Municipal water supply	M ³	N/A	N/A	N/A	21,625
	Ground water	M ³	N/A	N/A	N/A	769
	Salt / brackish water	M ³	17,520,000	17,520,000	17,520,000	18,197,723
	Fresh water withdrawal intensity ⁽³⁾	M ³ /Tonne of production	1.90	1.86	2.02	1.91
G4-EN10	Total volume of recycled/reused water	M ³	2,600,000	64,500	450,775	1,007,400
		% of total water withdrawal	7.12	0.17	1.20	2.59
G4-EN22	Total volume of water discharge	Million M ³	2.21	2.51	2.51	2.32
	Chemical oxygen demand (COD) in treated wastewater discharged	Tonne	188	211	179	172
	Biochemical oxygen demand (BOD) in treated wastewater discharged	Tonne	5	16	17	23
	Total suspended solid (TSS) in treated wastewater discharged	Tonne	60	74	47	40

Remark:

⁽¹⁾ Information drawn from water meters and calculations derived from available water data.

⁽²⁾ Total water withdrawn during 2012 to 2014 has recalculated by take account for all business under IRPC group only.^(G4-22)

⁽³⁾ Water Intensity calculation for year 2015 exclude water consumption for new project (UHV) and salt/brackish water

Solid Waste ⁽¹⁾					
GRI	Data	Unit	2013	2014	2015
G4-EN23	Total waste disposed	Tonne	21,238	27,410	34,404
	Non-hazardous waste	Tonne	15,643	22,848	28,843
	Reuse	Tonne	0	0	0
	Recycling	Tonne	13,974	15,812	18,587
	Recovery	Tonne	0	144	48
	Incineration	Tonne	42	41	0
	Landfill	Tonne	1,627	4,620	6,302
	On-site storage	Tonne	N/A	359	1,856
	Others	Tonne	0	1,873	2,050

GRI	Data	Unit	2013	2014	2015
G4-EN23	Hazardous waste	Tonne	2,386	4,111	5,508
	Reuse	Tonne	0	42	32
	Recycling	Tonne	147	440	441
	Recovery	Tonne	787	2,234	3,255
	Incineration	Tonne	1,175	860	813
	Landfill	Tonne	277	312	766
	On-site storage	Tonne	N/A	57	189
	Others	Tonne	0	166	12
	Waste from non-routine operation	Tonne	3,209	451	53
	Non-hazardous waste	Tonne	N/A	336	16
	Landfill	Tonne	N/A	92	16
	Recovery	Tonne	N/A	244	0
	Hazardous waste	Tonne	N/A	115	38
	Incineration	Tonne	N/A	0	21
	Landfill	Tonne	N/A	1	2
	Recovery	Tonne	N/A	114	14
G4-EN25	Hazardous waste transportation	Tonne	N/A	4,169	5,356
	Hazardous waste import to IRPC	Tonne	N/A	0	0
	Hazardous waste export from IRPC	Tonne	N/A	4,169	5,356
	Hazardous waste treated	Tonne	N/A	0	0
	Hazardous waste shipped internationally	Tonne	N/A	165	89

Remark:

⁽¹⁾ Information provided by the waste disposal contractor.

⁽²⁾ The total waste disposal in 2015 was increased from 2014 due to changing source of coal resulting in increase of non-combusted waste, furnace refractory at Ethylene Plant, and inspection and cleaning of 6 crude oil tanks.

Environmental Protection Expenditures and Investment and Fines

GRI	Data	Unit	2012	2013	2014	2015
G4-EN31	Environmental protection expenditures and Investments (e.g. operation related costs, etc.) ⁽¹⁾	Million Baht	599	407	626	1,059
G4-EN29	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:

⁽¹⁾ IRPC has calculated Environmental protection expenditures and Investments by include investment for energy saving projects and Delta projects that can reduce GHG emissions.

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GRI	Data	Unit	2012	2013	2014	2015
G4-EC1	Cash contribution ⁽¹⁾	Baht	124,109,082	101,090,000	99,416,046	464,628,760

Remark:

⁽¹⁾ In year 2015, cash contribution included allocation to the investment fund to fund Kamnoetvidya Science Academy (KVIS) and Vidyasirimedhi Institute of Science and Technology (VISTEC)

About This REPORT

IRPC's sustainability report has been produced in line with the G4 Sustainability Reporting Guideline: Oil and Gas Sector Disclosure by Global Reporting Initiative (GRI) in accordance with Core option. The guideline is recognized at the international level to be used to communicate issues that are material to the organization's sustainability and stakeholder's interests.

The report presents the organization's performances in terms of economic, social, and environmental management of the past 12 months of 2015. To ensure accuracy and credibility of disclosed information, IRPC has seek an assurance service from Lloyd's Register International (Thailand) Limited to verify environmental, health, and safety performance data to ensure that data being reported is as accurately as possible. Moreover, IRPC also discloses the Communication of Progress: Advance level to the United Nation Global Compact (UNGC) in this report.



Report Boundary (G4-17, G4-18)

The sustainability report and the Annual report of 2015 have common boundary that cover 100% of IRPC, its subsidiaries where the company holds more than 50 percent of the share capital namely IRPC Oil Co.,Ltd. Thai ABS Co., Ltd. , IRPC Polyol Co., Ltd., and Technology IRPC Co., Ltd., and the company of which its subsidiaries holds more than 50 percent of the share capital namely IRPC A&L Co., LTd., and Rak Pasak Co., Ltd.

Stakeholder Engagement (G4-24, G4-25, G4-26)

Stakeholder Engagement is of the importance to IRPC's sustainability management. IRPC has defined and categorized stakeholders into 5 major groups include shareholders, customers, suppliers, competitors and creditors, employees, and society and environment. IRPC has provided communication channels for stakeholders to express their concerns and suggestions and take them into considerations in order to improve for the better sustainability management

Stakeholder	Communication Channel	Material Issues
Shareholder	<ul style="list-style-type: none"> Annual Shareholder Meeting Road show and company visit Analyst Meeting Co-activities with Stock Exchange of Thailand to disseminate company information Public release Quarterly Journal to shareholders Shareholder site visit 	<ul style="list-style-type: none"> Decent and continuous return on investment Adequate disclosure of information Transparent corporate governance Legal issues and business impact New market expansion
Customers	<ul style="list-style-type: none"> Annual customer survey Customer relation function www.irpc.co.th / www.irpcmarket.com 	<ul style="list-style-type: none"> Products' quality and ability to respond the customers' needs
Suppliers	<ul style="list-style-type: none"> Supplier newsletter Supplier Conference http://www.irpc.co.th/pdf/Procurement-Manual.pdf 	<ul style="list-style-type: none"> Fair compensation Transparent procurement process Sustainable procurement guideline Transparency in corporate governance Compliance to the agreed terms and conditions Legal matters and impact to business Business disruption
Competitors	<ul style="list-style-type: none"> Meeting with third party organization, such as the Federation of Thai Industries, Thai Plastic Industries Association, etc. 	<ul style="list-style-type: none"> Abidance to the competition rules Not sabotage the reputation of competitors with untruthful allegation
Creditor	<ul style="list-style-type: none"> Letters to creditor Creditor Conference 	<ul style="list-style-type: none"> Adequate disclosure of information Transparency in corporate governance Legal issues and business impact Uphold and comply to creditors' terms and conditions Prior inform the creditor when unable to fulfil the obligations in the agreement and cooperatively find solutions



Stakeholder	Communication Channel	Material Issues
Employee	<ul style="list-style-type: none"> Employee Journal "I-Oon" E-newsletter Executive-employees meetings Labour Committee Labour Union 	<ul style="list-style-type: none"> Communication on business direction and financial performance Strengthening good labour relations Appropriate welfare and compensation Career path development Safety and health care
Society and Environment	<ul style="list-style-type: none"> Community relation activities EIA/EHIA public participation Open house Communication through SMS Communication through broadcasting centre Communication through mobile broadcasting vehicle Communication through local radio channels Local media Multilateral Meetings (EIA Monitoring) Sub-district / village members meeting 	<ul style="list-style-type: none"> Provision of social, environmental, and health care to people around the industrial area Local economic development

Stakeholder expectations ^(G4-27)

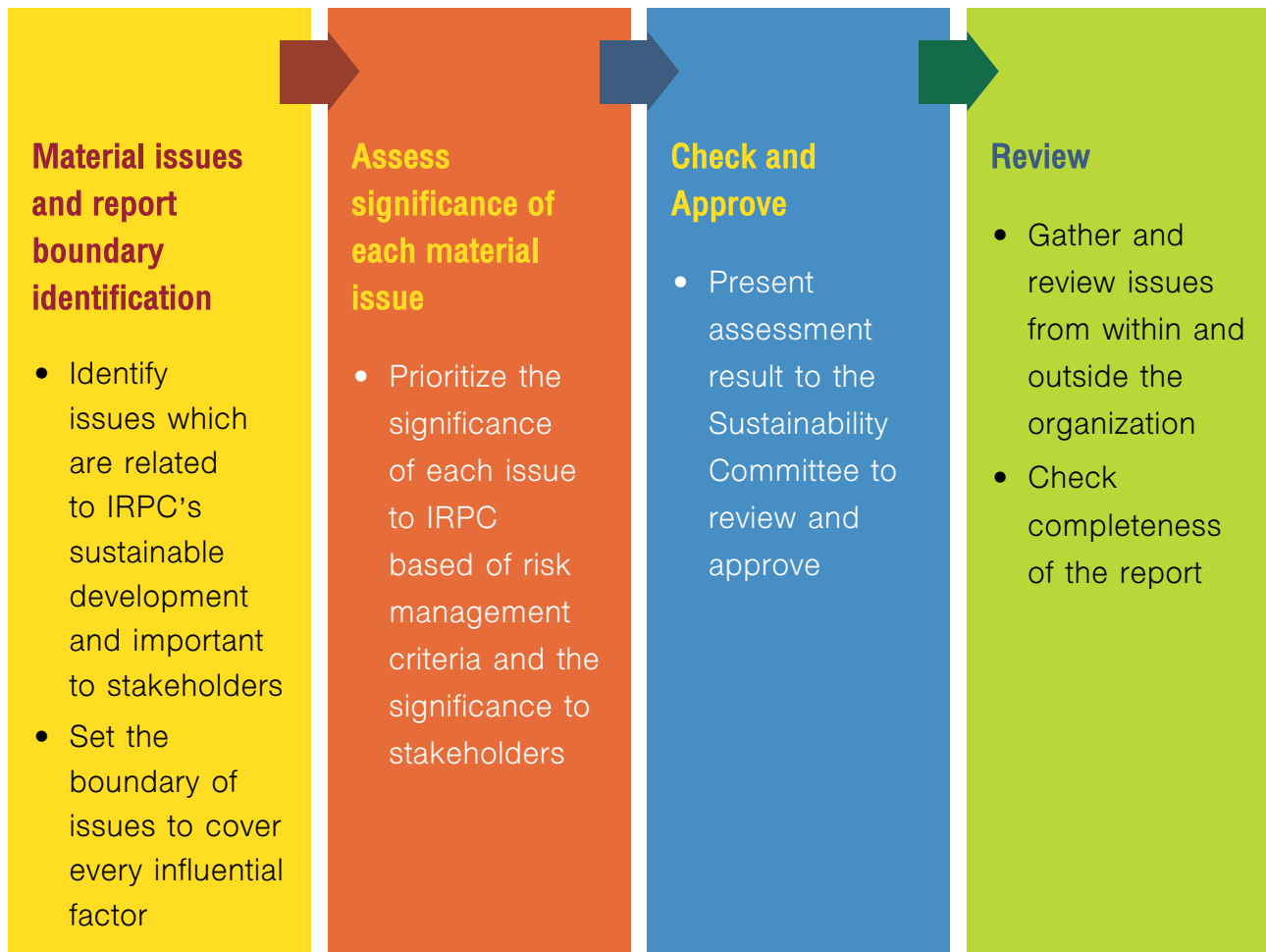
IRPC has incorporated the material issues that have been raised by 5 stakeholder groups through stakeholder engagement in to this report . Such material issues are as followed

- Public disclosure transparency
- Corporate governance and transparency through assured information disclosure
- Procurement transparency and fair operation
- Product and service development
- Commercial service and distribution excellence and effective communication
- Clean technology and eco industrial park development

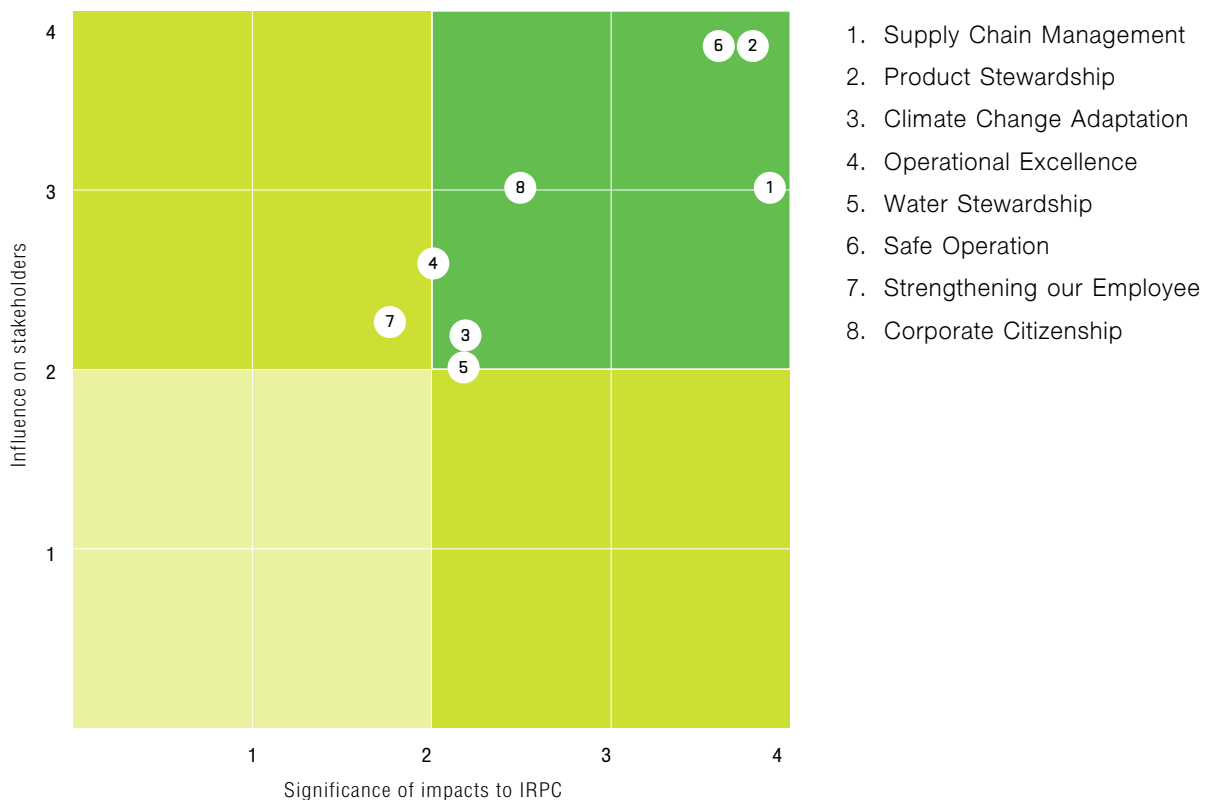
- Emission reduction for environmental impact and community health
- Community and society development
- Share value creation and activities
- Employee functional competency training and development

Materiality Assessment ^(G4-18)

IRPC has adopted GRI's reporting principles for defining report content to assess issues that are material to sustainability and report management approaches and performances related to those material issues in this report.



IRPC's 2015 Materiality Assessment Result ^(G4-19)



IRPC's material issues and report boundary (G4-19, G4-20, G4-21)

Rank	Material Issues	GRI Aspects	Report Boundary	Report Topic
1	Supply Chain Management	<ul style="list-style-type: none"> Supplier Environmental Assessment Supplier Assessment for Labor Practices Supplier Assessment for Impacts on Society Supplier Human Rights Assessment 	<ul style="list-style-type: none"> IRPC Subsidiary Supplier 	<ul style="list-style-type: none"> Collaborative Partnership Performance Summary
2	Product Stewardship	<ul style="list-style-type: none"> Product Compliance 	<ul style="list-style-type: none"> IRPC Subsidiary Customer 	<ul style="list-style-type: none"> Product Specialty
3	Climate Change Adaptation	<ul style="list-style-type: none"> Energy Emission Products and Services 	<ul style="list-style-type: none"> IRPC Subsidiary Customer Supplier Society and environment 	<ul style="list-style-type: none"> Responsibility to our Environment Performance Summary
4	Operational Excellence	<ul style="list-style-type: none"> Energy Emission 	<ul style="list-style-type: none"> IRPC Subsidiary Customer Supplier Society and environment 	<ul style="list-style-type: none"> Responsibility to our Environment Performance Summary
5	Water Stewardship	<ul style="list-style-type: none"> Water Effluents and Waste 	<ul style="list-style-type: none"> IRPC Subsidiary Society and environment 	<ul style="list-style-type: none"> Responsibility to our Environment Performance Summary
6	Safe Operation	<ul style="list-style-type: none"> Occupational Health and Safety 	<ul style="list-style-type: none"> IRPC Subsidiary Society and environment 	<ul style="list-style-type: none"> Accountability to our People Performance Summary
7	Strengthening our Employee	<ul style="list-style-type: none"> Employment Training and Education Labor Practices Grievance Mechanisms 	<ul style="list-style-type: none"> IRPC Subsidiary Employee 	<ul style="list-style-type: none"> Accountability to our People Performance Summary
8	Corporate Citizenship	<ul style="list-style-type: none"> Local Communities Grievance Mechanisms for Impacts on Society 	<ul style="list-style-type: none"> IRPC Subsidiary Society and environment 	<ul style="list-style-type: none"> Contribution to our Society Performance Summary

For more information, please contact : Sustainability Management Office

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Tel: 66 (0) 2649-7000, 66 (0) 2649-7777 Fax: 66 (0) 2649-7001

LRQA Assurance Statement

Relating to IRPC Public Company Limited's Sustainability Report for the calendar year 2015

This Assurance Statement has been prepared for IRPC Public Company Limited in accordance with our contract but is intended for the readers of this Report.

Terms of Engagement

Lloyd's Register Quality Assurance Ltd. (LRQA) was commissioned by IRPC Public Company Limited (IRPC) to provide independent assurance on its Sustainability Report 2015 ("the report") against the assurance criteria below to a limited level of assurance and at the materiality of the professional judgement of the verifier using LRQA's verification approach. LRQA's verification procedure is based on current best practice and uses the principles of AA1000AS (2008) - inclusivity, materiality, responsiveness and reliability of performance data and processes defined in ISAE3000.

Our assurance engagement covered IRPC's operations and activities in Thailand, IRPC's subsidiary companies in Thailand where IRPC holds higher than a 50% share and specifically the following requirements.

- Confirming that the report is in accordance with:
 - GRI G4's reporting guidelines and core option
 - GRI G4's Oil and Gas Sector Disclosure
 - Evaluating the reliability of data and information for only those selected specific standard disclosures listed below:
 - Environmental: Energy consumption within the organization (G4-EN3), Total water withdrawal by source (G4-EN8), Direct greenhouse gas emission (G4-EN15), Energy indirect greenhouse gas emission (G4-EN16), NO_x, SO_x, and other significant air emissions (VOCs) (G4-EN21), Total weight of Waste by type and disposal method (G4-EN23)
 - Social: Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work related fatalities, by region and by gender (G4-LA 6) ⁽¹⁾
- Note: ⁽¹⁾ G4-LA6 does not include performance data from IRPC Technology Co., Ltd.

Our assurance engagement excluded the data and information of IRPC's subsidiaries where it has no operational control and all its operations and activities outside of Thailand.

LRQA's responsibility is only to IRPC. LRQA disclaims any liability or responsibility to others as explained in the end footnote. IRPC's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the report and for maintaining effective internal controls over the systems from which the report is derived. Ultimately, the report has been approved by, and remains the responsibility of IRPC.

LRQA's Opinion

Based on LRQA's approach nothing has come to our attention that would cause us to believe that IRPC has not:

- Met the requirements above
- Disclosed reliable performance data and information as no errors or omissions were detected within the selected specific standard disclosures
- Covered all the issues that are important to the stakeholders and readers of this report.

The opinion expressed is formed on the basis of a limited level of assurance and at the materiality of the professional judgement of the verifier.

Note: The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites.

LRQA's Approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Assessing IRPC's approach to stakeholder engagement to confirm that issues raised by stakeholders were captured correctly. We did this by interviewing IRPC employees who engage directly with stakeholder groups as well as reviewing documents and associated records.
- Reviewing IRPC's process for identifying and determining material issues to confirm that the right issues were included in their report. We did this by benchmarking reports written by IRPC and its peers to ensure that sector specific issues were included for comparability. We also tested the filters used in determining material

- issues to evaluate whether IRPC makes informed business decisions that may create opportunities that contribute towards sustainable development.
- Auditing IRPC's data management systems to confirm that there were no significant errors, omissions or misstatements in the report. We did this by reviewing the effectiveness of data handling procedures and systems. We also spoke with those key people responsible for compiling the data and drafting the report.
- Visiting IRPC's Power plant, utilities at the ETP Plant and IRPC's central waste yard at their complex in Rayong province to sample evidence for the selected specific standard disclosures in-order to confirm their reliability. LRQA did not verify the data back to its original sources, nor did it assess the accuracy and completeness of the data reported by individual locations.

Observations

Further observations and findings, made during the assurance engagement, are:

- **Stakeholder inclusivity:**
We are not aware of any key stakeholder groups that have been excluded from IRPC's stakeholder engagement process. IRPC has maintained open dialogue with all of its stakeholders. The report content, as well as IRPC's visions for addressing sustainability development, have then been informed by the views and expectations of these stakeholders.
- **Materiality:**
We are not aware of any material issues concerning IRPC's sustainability performance that have been excluded from the report. However, future reports should disclose IRPC's biodiversity strategy, to allow stakeholders to compare IRPC's performance against other oil and gas operatives.
- **Responsiveness:**
IRPC has processes for responding to concerns from various stakeholder groups. We believe that these communication processes are effective in explaining IRPC's aim in contributing towards sustainable development. However, we believe that future reports should disclose safety data performance of IRPC Technology Co., Ltd, even though it is not a key business of IRPC, in-order to be fully accountable.
- **Reliability:**
Data management systems are considered to be defined for the data and information collection and calculation associated with the selected specific standard disclosures. However, systematically and periodically implementing internal verification within IRPC's subsidiaries will further improve the reliability of its data and information.

LRQA's competence and independence

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

This verification assessment is the only work undertaken by LRQA for IRPC and as such does not compromise our independence or impartiality.



Paveena Hengsitawat
LRQA Lead Verifier

Dated: 29 February 2016

On behalf of Lloyd's Register Quality Assurance Ltd.
Lloyd's Register International (Thailand) Limited
14th Floor, Sirinrat Building, 3388/46 Rama IV Road
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LRQA reference: BGK6028968

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Materiality Disclosures

IRPC Public Company Limited

Mar 2016
Service

GLOBAL REPORTING INITIATIVE

IRPC Sustainability Report 2015 was prepared according to the GRI G4 Guidelines at in accordance core option and submitted for and completed the Materiality Disclosures Service.

GENERAL STANDARD DISCLOSURES

General Standard Disclosures		Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Strategy and Analysis	G4-1	4-5	-	-	19
	G4-2	28-29	-	-	19
Organizational Profile	G4-3	14-15	-	-	-
	G4-4	14-19	-	-	-
	G4-5	14	-	-	-
	G4-6	14	-	-	-
	G4-7	14	-	-	-

General Standard Disclosures		Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Organizational Profile	G4-8	14-19	-	-	-
	G4-9	18-19, 84-85	Key financial performance, refer to Annual Report 2015, Consolidated Financial Position, page 150	-	-
	G4-10	85, 103	Majority of IRPC's workforce are employees and supervised workers. No significant variation in employment numbers.	-	-
	G4-11	88	-	-	-
	G4-12	45-49	-	-	2
	G4-13	103	No significant changes during the reporting year.	-	2
	G4-14	28-29	-	-	-
	G4-15	26, 27	-	-	-
	G4-16	26, 64	-	-	-
Identified Material Aspects and Boundaries	G4-17	96	-	✓	-
	G4-18	96-97	-	✓	-
	G4-19	98-99	-	✓	-
	G4-20	99	-	✓	-
	G4-21	99	-	✓	-
	G4-22	89, 91-92	-	✓	-
	G4-23	103	No significant changes in scope and boundary from previous reporting periods.	✓	-
Stakeholder Engagement	G4-24 _{OGSS}	96	-	-	21
	G4-25	96	-	-	21
	G4-26	96	IRPC regularly engages with all stakeholder groups to ensure that their expectations and concerns are taken into consideration.	-	21
	G4-27 _{OGSS}	97	-	-	21

General Standard Disclosures		Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Report Profile	G4-28	95	-	-	-
	G4-29	104	http://www.irpc.co.th/en/sustainable_report.php	-	-
	G4-30	104	http://www.irpc.co.th/en/sustainable_report.php	-	-
	G4-31	99	-	-	-
	G4-32	95, 100-101, 102-109	-	-	-
	G4-33	104	IRPC engaged Lloyd's Register Quality Assurance Ltd. to provide limited independent assurance service to IRPC's 2015 Corporate Sustainability Report. IRPC has process to ensure transparent external assurance.	-	-
Governance	G4-34	104	http://www.irpc.co.th/en/cg_chart.php	-	1, 20
	G4-35	31	-	-	1, 20
	G4-36	31	-	-	1, 20
	G4-37	104	Channels to Communicate with the Shareholders in Annual Report 2015.	-	1, 20
	G4-38	104	Composition of the Board and Committees, refer to Annual Report 2015, Management Structure.	-	1, 20
	G4-39	104	Role of the Chairman, refer to Annual Report 2015, Roles and Responsibilities of the Chairman	-	1, 20
	G4-40	104	Nomination and selection process of the Board, refer to Annual Report 2015, Committee and Top Management Recruitment and Appointment and Nomination Process.	-	1, 20
	G4-41	104	http://www.irpc.co.th/en/pdf/CG/policy/Revised2_IRPC%20CG%20FINAL%204-2-2016.pdf	-	1, 2, 20
	G4-42	104	Sustainability management, refer to Annual Report 2015, page 188-189.	-	1, 20
	G4-43	104	Board Development in Annual Report 2015.	-	1, 20

General Standard Disclosures		Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Governance	G4-44	105	Committee Evaluation, in Annual Report 2015,	-	1, 20
	G4-45	105	Risk Management Committee and Risk Management, refer to Annual Report 2015, page 120-121.	-	1, 20
	G4-46	105		-	1, 20
	G4-47	105		-	1, 20
	G4-48	98	-	-	1, 20
	G4-49	27	-	-	1, 20
	G4-50	26	-	-	1, 20
	G4-51	105	Board of Director nomination process, refer to http://www.irpc.co.th/en/pdf/Board-of-Directors-Nomination-Process-7-9-15.pdf Nomination and Remuneration Committee Charter, refer to http://www.irpc.co.th/en/pdf/bord/Nomination%20and%20Remuneration%20Committee-eng.pdf	-	1, 20
	G4-52	105	No remuneration consultants were involved in the process. http://www.irpc.co.th/en/pdf/bord/Nomination%20and%20Remuneration%20Committee-eng.pdf	-	1, 20
	G4-53	105	Rights of Shareholders, refer to page 17-18 of http://www.irpc.co.th/en/pdf/CG/policy/Revised2_IRPC%20CG%20FINAL%204-2-2016.pdf	-	1, 20
Ethics and Integrity	G4-54	Not reported	Information is confidential.	-	1, 20
	G4-55	Not reported	Information is confidential.	-	1, 20
	G4-56	105	IRPC Corporate Governance Handbook, refer to http://www.irpc.co.th/en/pdf/CG/policy/Revised2_IRPC%20CG%20FINAL%204-2-2016.pdf	-	12-14
	G4-57	26-27, 77	-	-	12-14
	G4-58	26	-	-	12-14

SPECIFIC STANDARD DISCLOSURES

Material Aspects	DMA and Indicators	Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
ECONOMICS					
Indirect Economic Performance	G4-DMA _{OGSS}	75-83	-	✓	15-18
	G4-EC1	84	-	-	-
	G4-EC4	84	-	-	-
	G4-EC7	75-83	-	-	-
	G4-EC8	75-83	-	-	-
	G4-EC9	84	-	-	-
ENVIRONMENTAL					
Material	G4-EN1	90	-	-	-
Energy	G4-DMA _{OGSS}	70	Energy Management, refer to http://www.ircpc.co.th/en/corporate_nature.php	✓	9-11, 15-18
	G4-EN3	90-91	-	✓	9-11
	G4-EN4	Not available	Information is currently unavailable. IRPC will improve the data collection process.	-	2, 9-11
	G4-EN5 _{OGSS}	91	-	-	9-11
	G4-EN6	70, 91	-	-	9-11
	G4-EN7	67-72	-	-	9-11
	G4-OG2	Not material	IRPC's core businesses are petroleum refinery and petrochemical.	-	-
	G4-OG3	Not material	IRPC's core businesses are petroleum refinery and petrochemical.	-	-
Water	G4-DMA	63-65	-	✓	9-11, 15-18
	G4-EN8 _{OGSS}	92	-	-	9-11
	G4-EN9 _{OGSS}	63-65	IRPC uses water from its water reservoirs where water threshold for IRPC equals to water quota from the Royal Irrigation Department. IRPC manages water together with PTT Group (PTT Group Water Management Team.)	-	9-11
	G4-EN10	65, 92	-	-	9-11

Material Aspects	DMA and Indicators	Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Emissions	G4-DMA	66-71	-	✓	9-11, 15-18
	G4-EN15 _{OGSS}	91	-	✓	9-11
	G4-EN16 _{OGSS}	91	-	✓	9-11
	G4-EN17 _{OGSS}	91	Information is currently unavailable. IRPC will improve the data collection process.	-	2, 9-11
	G4-EN18 _{OGSS}	91	-	-	9-11
	G4-EN19 _{OGSS}	66-71	GHG gases include CO2, CH4, N2O, HFCs, PFCs, and SF6. NF3 is not applicable to IRPC's business. 2012 is the base year. Identified GHG reduction is under IRPC's control; as a result, it is considered as GHG emission reduction in Scope I	-	9-11
	G4-EN20	Not material	IRPC is in the process of phasing out the usage of the ozone-depleting substances (ODS) by substituting ODS with non-ODS refrigerants.	-	9-11
	G4-EN21 _{OGSS}	92	Standards, methodologies, source of emission factors and assumptions used are identified relevant regulations.	✓	9-11
Effluents and Waste	G4-DMA _{OGSS}	62	Waste Management, refer to http://www.irpc.co.th/en/corporate_nature.php	✓	9-11, 15-18
	G4-EN22	92	-	-	9-11
	G4-EN23 _{OGSS}	92-93	-	✓	9-11
	G4-EN24 _{OGSS}	89	-	-	9-11
	G4-EN25	93	-	-	9-11
	G4-EN26	Not material	IRPC has processes in place to prevent impacts on the environment. IRPC continuously improves the management approach and mitigation measures to control risks on biodiversity associated with our activities e.g. ship-to-ship lightering and loading/unloading at IRPC Ports.	-	9-11
	G4-OG5	Not applicable	Not applicable to IRPC's business.	-	-
	G4-OG6	91	-	-	-
	G4-OG7	Not applicable	Not applicable to IRPC's business.	-	-

Material Aspects	DMA and Indicators	Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Supplier Environmental Assessment	G4-DMA	47-49	-	✓	2, 9-11, 15-18
	G4-EN32	84	-	-	2, 9-11
	G4-EN33	Not available	Information is currently unavailable. IRPC will improve the data collection process.	-	2, 9-11
LABOR PRACTICES AND DECENT WORK					
Employment	G4-DMA _{OGSS}	39-43	-	✓	6-8, 15-18
	G4-LA1	86-88	-	-	6-8
	G4-LA2	43	-	-	6-8
	G4-LA3	88	-	-	6-8
Occupational Health and Safety	G4-DMA _{OGSS}	34-38	-		6-8, 15-18
	G4-LA5	Not available	Information is currently unavailable. IRPC will improve the data collection process.	-	6-8
	G4-LA6 _{OGSS}	89-90	-	✓	2, 6-8
	G4-LA7	34-35	-	-	6-8
	G4-LA8	108	Local formal agreement includes IRPC's management approach and standards in all aspects such as labor practice, health and safety, etc. which applies to IRPC workforce.	-	6-8
Training and Education	G4-DMA	39-43	-	✓	6-8, 15-18
	G4-LA9	88-89	-	-	6-8
	G4-LA10	41-42	-	-	6-8
	G4-LA11	39, 41	-	-	6-8
Supplier Assessment for Labor Practices	G4-DMA	47-49	-	✓	2, 6-8, 15-18
	G4-LA14	84	-	-	2, 6-8
	G4-LA15	Not available	Information is currently unavailable. IRPC will improve the data collection process.	-	2, 6-8

Material Aspects	DMA and Indicators	Page Number (or Link)	Omissions/ Remarks	External Assurance	UNGC Advanced Level
Labor Practices Grievance Mechanisms	G4-DMA	43	-	✓	6-8, 15-18
	G4-LA16	43	-	-	6-8
SOCIETY					
Local Communities	G4-DMA _{OGSS}	75-83	Community engagement and society development, refer to http://www.ircp.co.th/en/corporate_relation.php	✓	15-18
	G4-SO1	77	-	-	-
	G4-SO2 _{OGSS}	77	-	-	-
	G4-OG10	Not applicable	Not applicable to IRPC's business.	-	-
	G4-OG11	109	None.	-	-
Supplier Assessment for Impacts on Society	G4-DMA	47-49	-	✓	2, 15-18
	G4-SO9	84	-	-	2
	G4-SO10	Not available	Information is currently unavailable. IRPC will improve the data collection process.	-	2
Grievance Mechanisms for Impacts on Society	G4-DMA	27, 77	-	✓	15-18
	G4-SO11	109	Refer to G4-58	-	-
PRODUCT RESPONSIBILITY					
Compliance	G4-DMA	52-53	-	✓	15-18
	G4-PR9	54	-	-	-

UNGC

(United Nations Global Compact
Communication on Progress: UNGC COP)

UNGC Advanced Level Criteria		IRPC Implementation	Location in the IRPC's Sustainability Report
UNGC criteria integration with Strategy and Operations			
1	The COP describes mainstreaming into corporate functions and business units	<ul style="list-style-type: none"> • CEO statement • IRPC's Sustainability Management Policy • 2016 – 2020 Sustainability Work Program • Vision "Leading Integrated Petrochemical Complex in Asia by 2020" 	4-5, 20-21, 30-31
2	The COP describes value chain implementation	<ul style="list-style-type: none"> • Sustainable Supplier Manual • IRPC Supplier Code of Conduct • Supplier Risk Assessment 	47-49
Human Rights Implementation			
3	The COP describes robust commitments, strategies or policies in the area of human rights	<ul style="list-style-type: none"> • IRPC's Sustainability Management Policy • Business Code of Conduct 	30, 25-27
4	The COP describes effective management systems to integrate the human rights principles	<ul style="list-style-type: none"> • Human Resource Management • Safe operations and the promotion of safety culture to employees and other stakeholders 	34-43, 45-49
5	The COP describes effective monitoring and evaluation mechanisms of human rights integration	<ul style="list-style-type: none"> • Complaint Channels and fair and transparent investigation process and protection of identity of witness 	26-27
Labor Implementation			
6	The COP describes robust commitments, strategies or policies in the area of labor	<ul style="list-style-type: none"> • IRPC's Sustainability Management Policy • Business Code of Conduct 	30, 25-27
7	The COP describes effective management systems to integrate the labor principles	<ul style="list-style-type: none"> • Human Resource Management System 	39-43
8	The COP describes effective monitoring and evaluation mechanisms of labor principles integration	<ul style="list-style-type: none"> • Complaint Channels and fair and transparent investigation process and protection of identity of witness • Employee Engagement Survey 	26-27, 43

UNGC Advanced Level Criteria		IRPC Implementation	Location in the IRPC's Sustainability Report
Environmental Management Implementation			
9	The COP describes robust commitments, strategies or policies in the area of environmental stewardship	<ul style="list-style-type: none"> • QSHE Policy and Energy Management • QSHE Management System • IRPC's Sustainability Management Policy 	30, 56-72
10	The COP describes effective management systems to integrate the environmental principles	<ul style="list-style-type: none"> • QSHE Management System • Operations in line with the criteria of Eco Factory by The Industrial Environment Institute, The Federation of Thai Industries • PTT Group Water Management Team: PTTWT and Water War Room Rayong • 3Rs program to reduce, reuse, and recycle water • Research and development of the products that meet customers' needs 	50-53, 56-72
11	The COP describes effective monitoring and evaluation mechanisms for environmental stewardship	<ul style="list-style-type: none"> • QSHE Management System • Complaint channels for the community • Area inspection by the community relation division 	56-72, 77
Anti-Corruption Implementation			
12	The COP describes robust commitments, strategies or policies in the area of anticorruption	<ul style="list-style-type: none"> • A certified member of Thailand's Private Sector Collective Action Coalition Against Corruption • Whistleblowing Policy • Business Code of Conduct • Supplier Code of Conduct 	25-26, 47
13	The COP describes effective management systems to integrate the anticorruption	<ul style="list-style-type: none"> • Corporate governance and Transparency 	25-27
14	The COP describes effective monitoring and evaluation mechanisms for the integration of anti-corruption	<ul style="list-style-type: none"> • Complaint channels for employees and the people from outside 	26-27

UNGC Advanced Level Criteria		IRPC Implementation	Location in the IRPC's Sustainability Report
Contributions to UN goals and issues			
15	The COP describes core business contributions to UN goals and issues	<ul style="list-style-type: none"> • Compliance to UNGC Advanced Level • Listed member of Dow Jones Sustainability Indices (DJSI) in an Emerging Market of the Oil and Gas Industry 2015 	75-83
Social Management Implementation			
16	The COP describes strategic social investments and philanthropy	<ul style="list-style-type: none"> • Mobile clinic and Pan Naam Jai clinic for people in the community • Community health monitoring program with Rayong hospital and Rayong provincial health office to share knowledge and advices to the community • Donation of POLIMAXX BANBAX PP plastic to the Prostheses Foundation of H.R.H the Princess Mother to build prostheses to the disables • Lam Sai Yong Model project to improve the water source and the living quality of the people in Nong Yang village, Sai Yong sub-district, Nang Rong district, Buriram Province • IRPC Technology College to provide educational opportunity to young people in Rayong province with the concept "Community college for the community" 	75-83
17	The COP describes advocacy and public policy engagement	<ul style="list-style-type: none"> • Commitment to reduce GHG emission by IRPC's port business through Carbon Footprint for Organization 	70-71
18	The COP describes partnerships and collective action	<ul style="list-style-type: none"> • Community and Social Development • Oil and chemical spill preventive and responsive actions with related parties in the area 	75-83, 59
Organization Governance and Leadership			
19	The COP describes CEO commitment and leadership	<ul style="list-style-type: none"> • CEO Statement 	4-5
20	The COP describes Board adoption and oversight	<ul style="list-style-type: none"> • Corporate governance and Transparency 	http://www.irpc.co.th/th/cg_chart.php
21	The COP describes stakeholder engagement	<ul style="list-style-type: none"> • Communication channels for stakeholders to raise issues material to the organization • Stakeholders' Expectation 	97, 117

Awards

Excellence and Sustainability

MEMBER OF
Dow Jones Sustainability Indices
In Collaboration with RobecoSAM

Listed member of the Dow Jones Sustainability Indices (DJSI) in an Emerging Market of the Oil and Gas Industry 2015

RobecoSAM and S&P Dow Jones Indices



Gold Class Sustainability Award 2016 of Oil and Gas Industry which has been announced in Sustainability Yearbook 2016

RobecoSAM



Thailand Top Company Awards 2015: Top Business Strategy Award

Business+Magazine in ARiP Group and University of the Thai Chamber of Commerce



Thailand ICT Excellence Awards 2015 at Excellence level from Excise Integrated System Project and an Honorable Mention from Intelligence PORT & TANK Service

Thailand Management Association



Sustainability Report Award 2015 at excellent level

Stock Exchange of Thailand



Thailand Sustainability Investment Awards 2015

Stock Exchange of Thailand

Environmental Responsibility



Eco Factory Award from the 4 following plants: Ethylene plant, Combined heat & power plant, Refinery plant and Lube base oil plant

The Industrial Environment Institute, The Federation of Thai Industries



Quality Person of the Year Award 2015 in Energy Business and Public Utility Sector

Foundation of Science and Technology Council of Thailand



Carbon Footprint Organization Certification 2015 from IRPC Port

Thailand Greenhouse Gas Management Organization (Public Organization)



Certification of ISO 50001: Energy Management Standard for the production and development of natural and color compounded Styrene Acrylonitrile (SAN) at SAN1 Plant and SAN2 Plant, natural and color compound Polystyrene (PS) at PS Plant, natural color Polypropylene (PP) resin, and manufacture of Benzene, Toluene, Mixed Xylene, C9 Aromatic, Ethylbenzene rich mixed xylene, Ethylene, Propylene, Butadiene and Acetylene Black

International Organization for Standardization

Social Responsibility



Asia Responsible Entrepreneurship Awards 2015 in Social Empowerment with “From Bench to Community”

Enterprise Asia



National Award 2015 of Excellent Establishment of Safety, Occupational Health and Work Environment for BTX Plant, Ayutthaya, Phrapradaeng, and Chumporn Depots

Department of Labor Protection and Welfare



Outstanding Practice Awards in Occupational Health, Safety and Environment for Ayutthaya Depot for 3 consecutive years

Safety and Health at Work Promotion Association



Commemorative Certificate for Safety Establishment Project in the honor of Her Royal Highness Princess Maha Chakri Sirindhorn from Phrapradaeng, Ayutthaya and Chumporn Depots

Ministry of Labor



CSR-DIW Award for all plants since 2014. In 2015, there were 11 plants (out of 23 plants) have awarded CSR-DIW Continuous Awards 2015, and Ethylene plant has been awarded Commemorative Certificate for Excellent Community Plan at Good Level

Department of Industrial Works



Zero Accident Campaign Awards 2015 for Ayutthaya and Phrapradaeng Depots

Department of Labor Protection and Welfare



National Award 2015 of Excellence Performance of Occupational Health and Safety Board and Work Environment for Ayutthaya Depot

Ministry of Labor



Honorary Awards for One for Nine Projects

National Education Standards and Quality Assessment (ONESQA)

Corporate Governance



Golden Peacock Global Award for Excellence in Corporate Governance 2015

Institute of Directors (IOD), India



ASEAN Corporate Governance Awards 2015 TOP 50 ASEANS PLCs Evaluation in Accordance to ASEAN CG Scorecard 2015

Association of Southeast Asian Nations (ASEAN)



Board of the Year Awards 2015 and Audit Committee of the Year Awards 2015

Thai Institutes of Directors



The Best Corporate in Asia 2015 for Asia's Outstanding Company on Corporate Governance

Corporate Governance Asia Magazine



Corporate Governance Asia Recognition Awards 2015: Best Investor Relations Company in 2015

Corporate Governance Asia Magazine

Survey of Readers' Opinions

Your suggestions will be valuable inputs for us to improve the better IRPC Sustainability Report.

Please mark X into ☐ and fill the blank.

1. Please specify your personal information

Sex ☐ Female ☐ Male
Age ☐ Under 30 years ☐ 30-45 years ☐ Over 45 years

2. Which best describes you as a stakeholder?

☐ Employee ☐ Customer ☐ Shareholder/investor ☐ Public / communities
☐ Supplier ☐ Academic institution ☐ Financial institution/creditor
☐ Media ☐ Government officer ☐ Others (please specify.....)

3. Which channel did you received the Sustainability Report

☐ IRPC website ☐ Seminar/ presentation/exhibition ☐ IRPC's employee
☐ Other website ☐ Annual general meeting ☐ Others (please specify.....)

4. What is your objective in reading the Sustainability Report 2015?

☐ Knowing about IRPC ☐ Investment in IRPC ☐ Research and education
☐ Serving as guideline for your Sustainability/CSR report preparation
☐ Special interest (please specify.....) ☐ Others (please specify.....)

5. Please specify your satisfaction on 2015 Sustainability Development Report

Completeness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Topics	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Attractiveness	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Ease to understand	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Report design	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied
Overall satisfaction	<input type="checkbox"/> High	<input type="checkbox"/> Medium	<input type="checkbox"/> Low	<input type="checkbox"/> Dissatisfied

6. What issue in the report have you found most interesting? (Please specify your reason)

.....
.....

7. What issue in the report have you found least interesting? (Please specify your reason)

.....
.....

8. Have you found IRPC's strong commitment and intention to perform through the Sustainability Report? How?

.....
.....

9. Have you found the completeness in the report?

☐ Complete ☐ Incomplete

If not, please specify additional issues that should be included in the Sustainability Report?

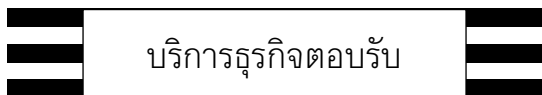
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10. Please provide additional recommendations/ suggestions for the next Sustainability Report improvement. (if any)

.....
.....

Please fill in and send back to IRPC Plc.
We appreciate your valuable inputs.





▼ พัฒนารายประ



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