



# SUSTAINABILITY REPORT 2013

SCG



**SCG passes on sustainability to the next generation**



HRH Princes Maha Chakri Sirindhorn's Trophy for Thailand Corporate Excellence Awards 2012 from Thailand Management Association (TMA) and Sasin Graduate Institute of Business Administration Of Chulalongkorn University

MEMBER OF  
**Dow Jones Sustainability Indices**  
In Collaboration with RobecoSAM

Industry Leader in Construction Materials for the 3<sup>rd</sup> consecutive year (2011-2013) from Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM) and ranked highest level in Gold Class for the 6<sup>th</sup> consecutive year



SET Award of Honor in Best Corporate Social Responsibility from the Stock Exchange of Thailand for the 6<sup>th</sup> consecutive year (2008 – 2013)



LEED Platinum in Building Design and Construction (LEED BD+C Platinum) for the SCG 100 years Building from the U.S. Green Building Council (USGBC)



Sustainability Report Award 2013 in excellence from the Securities and Exchange Commission, CSR CLUB Thai Listed Companies Association, and Thaipat Institute

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About SCG



SCG, a leading business conglomerate in ASEAN, has firmly grown along side Thai society for the past century since its establishment in 1913 following a royal decree of His Majesty King Rama VI to produce cement, the main building material during that period. SCG has determined to develop products and services for the betterment of customers' quality of life while contributing to the prosperity of society and responsible for environment of the communities where it operates. Due to its adherence to conduct business strictly in line with corporate governance, dedication to sustainable

development, and pledge for operational excellence in all dimensions, SCG has become one of the country's leading companies. All SCG's success stories today stem from the collaboration of over 49,000 SCG's employees from over 200 companies throughout ASEAN. SCG is stepping towards another century of conducting business by ceaselessly learning, adjusting and improving the organization to increase business efficiency and prepare for business expansion in ASEAN. Therefore, SCG has restructured its businesses into three core businesses, Cement-Building Materials, Chemicals and Paper.





SCG Cement-Building Materials is the result of internal restructuring of the company that merged three core businesses together- SCG Cement, SCG Building Materials and SCG Distribution to boost production capacity of innovative products and services, to respond to the customers' needs quickly and efficiently, and to support business expansion in ASEAN. This has made SCG Cement-Building Materials a large integrated manufacturer and distributor of cement, building materials and home decor in ASEAN.

SCG Cement-Building Materials has continuously expanded business all over ASEAN by constructing cement plant in Maw Lamyang of Myanmar, expanding cement production capacity in Cambodia, acquiring shares of Prime Group Joint Stock Company (leading ceramic tile manufacturer in Vietnam) and establishing MG Stone and Precast plants in Thailand.

Moreover, SCG Cement-Building Materials supports research and development of High Value Added Products and Services (HVA) and green products such as Eco Solution - innovation for energy-saving and reduction of natural resource use – for future residences, with Passive Green technology that reduces the heat absorption of the house while increasing heat release, production and thermoforming technology of wood alternative products, Portland Composite Cement (PCC) that reduces CO<sub>2</sub> in production process, and Elderly Experience (CARE) – innovative home products and services for the elderly to live their lives happily and safely.

In applying sustainable development to its business activities, SCG Cement-Building Materials joined networks of cooperation with international organizations such as the World Business Council for Sustainable Development –Cement Sustainability Initiatives (WBCSD—CSI). At the community level, it has pushed

for establishment of stakeholders' collaboration network, established factories that are supportive to communities and the environment through projects like Cement Partnership Initiative, Community Partnership Project. One Cell One Project (OCOP), Garbage Bank, SCG skills Development School for logistic drivers development.



SCG Chemicals manufactures and supplies complete a range of chemical products encompassing upstream chemicals including olefins, intermediate chemicals including vinyl chloride monomer, styrene monomer, PTA powder, propylene oxide, and methyl methacrylate (MMA) and downstream chemicals including all five types of plastic resins - polyethylene, polypropylene, polyvinylchloride, polystyrene and PET resin.

SCG Chemicals is constantly expanding investment in ASEAN, such as entering into a joint venture agreement with PT Chandra Asri Petrochemical Tbk (CAP), a leading petrochemical entrepreneur in Indonesia, to fulfill the increasing demand of petrochemical products in Indonesia through expansion of olefins plant's production capacity; and establishment of HVA synthetic rubber plant in collaboration with Michelin Co., Ltd.

Moreover, SCG Chemicals has jointly invested with A.Schulman Inc. in Malaysia to produce raw materials for large plastic products such as water tank, furniture and kayaks, using both Malaysia and Thailand as production bases which support market expansion in ASEAN, Africa, the Middle East and former Soviet Union countries.

As for HVA, SCG Chemicals has developed special grade polymer resins to meet various demands such as for medical devices, pipes, electronic appliances,

automotive and packaging. In addition, it has collaborated with prince of Songkhla University, Pacific Healthcare Co., Ltd., and National Innovation Agency in the design and development of surgical equipments from polypropylene for carpal tunnel syndrome. The equipment shortens the operation time of operations by one-third and reduces the size of the wound by one-fourth making the complicate surgery easier and more patients can undergo this surgery due to lower rate.

Regarding sustainable business, SCG Chemicals follows the World Class Operations and Green Manufacturing Standard to reduce the use of natural resources and greenhouse gas emissions and was able to reduce annual energy use for more than 100 million baht. Its Rayong Olefins Co., Ltd., and Map Ta Phut Olefins Co., Ltd. are certified by ISO 50001 standard.

SCG Chemicals is committed to continuously improving society and the community by collaborating with other leading industrial companies in Thailand in founding 'Community Partnership Association' in Rayong province and has been consciously implementing the project for the fourth year in order to develop Map Ta Phut Industrial Estate as a model of an Eco Industrial Town to improve the communities living standard.



SCG Paper, the largest integrated manufacturer of paper and packaging products in ASEAN, comprises two main businesses: Packaging Business Value Chain and Fibrous Business Value Chain producing world-class quality products. It is also a member of The Sustainable Forest Products Industry (SFPI) of the World Business Council for Sustainable Development (WBCSD).

SCG Paper has continually expanded investment in ASEAN. Acquiring shares of PT Primacorr Mandiri, packaging company in Indonesia, is its first to enter Indonesia's packaging market. SCG Paper also signed a memorandum of understanding with Nippon Paper Industries Co., Ltd. to jointly operate a fibrous business chain which will contribute to productivity growth, product development and market expansion.

SCG Paper values HVA innovation development that truly fulfills customers' demand, namely, Eucalyptus genetic improvement, offset and digital printing technology for packaging, innovative packaging such as food contact paper manufactured in a highly hygienic manner from the phase of raw materials selection, clean manufacturing process and product safety. With this approach, this product has become Thailand's first packaging paper that has obtained the GMP (Good Manufacturing Practice) standard and was certified by food contact paper standard in Europe and USA.

SCG Paper conducts sustainably business and pledges to develop innovative products and services taking into account the balanced development of economy, society and environment via the 3G Concept, Green Process – uses Eucalyptus as its source of production, uses inexhaustible and sustainable resources, and products that are easily recyclable and biodegradable via waste management process, Green Product – is the Green Value Chain involving application of technologies that are the most modern and the best, friendly to environment and surrounding communities, and Green Mind – builds environmental awareness among employees and customers, promotes activities within communities to be a model of income and career development, and establishes a learning centre for public.

## Message from our President & CEO



A handwritten signature in black ink, reading "Kan Trakulhoon".

**Kan Trakulhoon**  
President & CEO, SCG

Throughout 2013 our world has faced with countless disasters, natural or man-made. The world community is also grappling with grave consequences as a result of imbalance between natural resource availability and expanding consumption demands. The reasons range from increase in world's population, rapid urbanization, excessive production and consumption. Whatever the reasons, we must-have, as a matter of urgency, restoration and rehabilitation for the lost and damaged. International organizations, governments, business organizations, NGOs, and the public have shown the strength of collaboration in post-disaster relief and refurbishment. Yet no matter how powerful the force of cross-sectoral collaboration can be, more frequent and intense disasters tend to accelerate in the future.

In recent years, the world community, in particular the business sector, recognizes and gives priority to sustainable development. But to translate this concept into practical reality remains fraught with many hurdles such as lack of understanding on how to integrate sustainability into business plan, or sustainability work is compartmentalized, and separated from the business sphere.

The world community as we speak is entering a critical turning point. We need to enhance the power of collaboration by working proactively to truly make change happen in creating partnership to execute sustainable development substantially.

SCG has been in business for 100 years, with commitment to develop people and organization for sustainable growth. We are also committed to making our organization recognized by the society as an organization worth working with, as a role model. We have

taken concrete measures to this end and systematically, starting with every aspect of internal organization development including:

- Inculcate business culture, upholding principles, ethics and good governance
- Improve works that have impact on ecology and safety and bring the company on par with the league of global industrial leaders for instance, Zero Waste to Landfill, Green Procurement, environmentally friendly products and services, SCG Contractor Safety Certification System, and SCG Supplier Code of Conduct.

SCG is committed to empowerment of the community and society, as reflected in our projects such as SCG Conserving Water for Tomorrow, Innovative Technological for the Restoration of Saline Land, the Tales in the Garden Festival for child development.

Through our efforts and constant improvement, SCG is ranked as the world Industry Leader in Construction Materials by Dow Jones Sustainability Indices for the third consecutive year, and we are the first in ASEAN to be recognized.

SCG embarks on the next century with full commitment to create values to the world community through our environmentally friendly business practice. We are prepared to share our knowledge, experience and achievements with all sectors through participatory process, be it business related to SCG from upstream to downstream, business organizations, social institutions, communities where SCG operates.

SCG believes that the power of collaboration in working proactively throughout the entire business chain will bring about change for the better and value creation to the world community.



## Sustainability Highlights

| Performance  | 2012   | 2013   | Page |
|--|--|--|------|
| HVA Products and Services  | 34 percent of revenue from sales   | 35 percent of revenue from sales   | 29   |
| 'SCG eco value' Products and Services  | 14 percent of revenue from sales   | 26 percent of revenue from sales   | 29   |
| Green Procurement Volume   | 3,811 million baht   | 5,198 million baht   | 25   |
| Alternative Fuel   | 11 percent   | 13 percent   | 40   |
| Hazardous/Non-Hazardous Waste to Landfill  | 0.3/3.6 percent  | 0.01/0.00 percent  | 45   |
| Carbon Label Certified (Carbon Reduction Label and Carbon Footprint Label)                             | 54 items   | 134 items  | 29   |
| LEED Certified for Energy Saving and Environmentally Friendly Building                                 | LEED Platinum for Existing Buildings   | LEED Platinum for New Buildings  | 46   |
| Enhance Professional Skill of Fleet Carrier Employees through Trainings from Skills Development School | 9,273 persons  | 10,702 persons   | 51   |
| Number of check dam  | 51,898 units   | 62,812 units   | 62   |
| Sharing Opportunities, Drawing the Future Program  | 137 projects, 12.0 million baht  | 208 projects, 29.8 million baht  | 64   |
| Social Contribution  | 563 million baht   | 525 million baht   | 72   |
| GRI Application Level  | G3.1, A+   | G3.1, A+   | 80   |
| Dow Jones Sustainability Indices (DJSI)/Robeco Sustainable Asset Management                            | Sector Leader for the 2 <sup>nd</sup> consecutive year, ranked Gold Class for the 5 <sup>th</sup> consecutive year | Industry Leader for the 3 <sup>rd</sup> consecutive year, ranked Gold Class for the 6 <sup>th</sup> consecutive year | 94   |

## SCG Business Philosophy and Vision



SCG's business philosophy is to operate business with ethics and responsibility to our stakeholders. This has been consistently adopted and practiced by the Board of Directors, managements and employees at all levels, which allows SCG to be trusted as leading organization that conducts its business openly, transparently, accountably, and provides fair treatment to all stakeholders. Moreover, SCG has also established its vision for all its employees to adopt as their main work goals.

### SCG Business Philosophy Adherence to Fairness

SCG is committed to the concept of fair and equal treatment to all stakeholders.

### Dedication to Excellence

SCG earnestly focuses on right performance striving to consistently provide excellence in all aspects.

### Belief in the Value of Individuals

SCG believes that employees are valuable assets and consistently develops the potential of employees at all level.

### Concern for Social Responsibility

SCG recognizes its duty towards society while doing business and will fully perform its duty as a good corporate citizen by contributing to the communities and countries where it operates.

### SCG Vision

By the year 2015, SCG will become a regional leader that is committed to operate business while contributing to sustainable development in ASEAN and the communities where it operates, as well as creating value for employees, suppliers, customers and stakeholders by world-class quality management in line with corporate governance principles and high safety standards. SCG will strive to enhance the quality of life and well-being of people by our high quality productions, technological development and creation of excellent innovations.

SCG will be recognized as an innovative workplace of choice and a role model in corporate governance and sustainable development. SCG believes in the value and potentiality of employees to creatively work together in an honest, transparent and enthusiastic work atmosphere. Every SCG employee will adhere to and comply with the SCG Business Philosophy and the SCG Code of Conduct. During the past several years, SCG has valued the development of employees of diverse nationalities, cultures and experiences to be committed to fulfilling customers' needs, have a wide vision and be both smart and ethical people.



# Our Sustainability Approach



## Our Sustainability Approach

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# SCG 100<sup>th</sup> Anniversary of Innovation for Sustainability

On the occasion of our 100<sup>th</sup> Anniversary, SCG has communicated this concept through activities that celebrated 100<sup>th</sup> anniversary organized throughout 2013 with key activities.

‘SCG Open House to Sustainability’ is an activity that all business units join hands in welcoming communities around plant, suppliers, customers, shareholders, media and stakeholders to explore our eco-manufacturing processes and visit social activities that each business have been working with local communities demonstrating model of industry that can sustainably coexist such as: ‘SCG Cement - Building Materials Open House’ a green factory with environmentally friendly manufacturing innovation, sustainable mining, and extension of water conservation activities through construction of check dams which have created Ban Sam Kha clean energy community enterprise for the environment in Lampang province; ‘SCG Paper Open House’ our commitment to run business for future betterment by handing over the community health center of outpatient department at Banpong Hospital in Ratchaburi province for wider public health service coverage; ‘SCG Chemicals Open House’ an ideal eco-factory that can helpfully and sustainably coexist with communities; and ‘SCG Saves Water for Future’ a project-celebrating the construction of 50,000 check dams for sustainable community by pooling efforts of communities and network of alliances nationwide throughout seven years.

SCG 100<sup>th</sup> Anniversary Innovative Exposition - exhibition of innovative products and services researched and developed by SCG responding to future trends for a better quality of life and sustainable environment, such as, innovative home for sustainable future which helps reduce energy consumption use in the household, innovative paper for food packaging with certified standard and 90-day biodegradable, innovative clean and sterile plastic for medical use. And ‘Thailand Innovation Forum’ which is the national forum that high-rank executives from government agencies, education, private sector and researchers collaborated to drive the country forward by science and technology through research and development for commercial purposes and creation of sustainable research and development network to increase competitiveness in ASEAN level.

‘SCG 100<sup>th</sup> Anniversary of Innovation for Sustainability’ has written the history of business conducts that keeps pace with the changes of Thailand throughout the past century while compiling the lessons learnt through the crisis in all periods of time by a quick adjustment and learning in conjunction with creation of innovative products and services in order to be role model on good governance and sustainable development.



“SCG always realizes that we are a part of the society and are required to grow sustainably towards the new century together with the society. Therefore, we will not stop improving ourselves, will not stop creating innovative products and services, and will strive to become a role model in driving the society towards prosperity strongly and sustainably.”

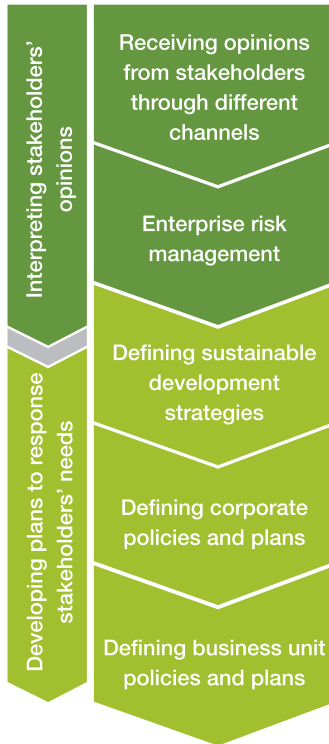
**Tanawong Areeratchakul**  
Vice President  
Corporate Administration, SCG



# Stakeholder Engagement

Over the past century, SCG has been engaged to creating mutual value between the company and stakeholders, ranging from defining policies and guidelines on stakeholders to be a standard wherever SCG operates. Top managements are responsible for the stakeholders' engagement to constantly improve channels and mechanisms for passing on stakeholders' opinions to responsible functions, and to create the process which ensures the stakeholders' needs are responded under the organizational management with the Board of Directors' advice.

SCG prioritizes stakeholders based on enterprise risk management by assessing the impact of business operations on stakeholders and allocating resources according to the defined priority of associated operations. In order to respond to each stakeholders' needs on a uniform basis at the highest efficiency and effectiveness, the needs are integrated with our strategic sustainable development plan. Stakeholders that are directly affected by business operations are employee, shareholder, supplier, customer, surrounding community and civil society.



Listening and responding to stakeholder's needs are the most important key of SCG shared value business.

## International Collaboration



## Local Collaboration



### Employee

**Channel** 'Management meets Employees' Activity  
Suggestions or complaints  
Employee opinion survey

**Function** Human Resource Department of all business units

**Report to** Management Committee

The survey of employee opinions in 2013 confirms that CSR activities and successful implementation on sustainable development practices are the biggest pride of employees as SCG people.



### Shareholder

**Channel** Shareholders' annual meeting  
Suggestions or complaints  
Whistle blower, CSR activities

**Function** Corporate Governance Department

**Report to** Board of Directors

SCG has been organizing social and environmental activities with shareholders' participation for four consecutive years. In 2013, our largest turnout, there were over 1,000 participants in seven activities.



### Supplier

**Channel** Supplier visits  
Suggestions or complaints

**Function** Marketing and Procurement Departments

**Report to** Management Committee/ Sustainable Development Committee/Board of Directors

SCG has initiated an SCG Code of Conduct on good governance for Suppliers which was the beginning of our commitment to be a role model of sustainable development and to become ready to extend to the entire supply chain.



### Customer

**Channel** Satisfaction survey  
Suggestions or complaints

**Function** Marketing Department of all business units

**Report to** Management Committee/Sustainable Development Committee/Board of Directors

With Operational Excellence and Human Value Marketing strategies, SCG has received customer satisfaction scores for over 90 percent for 10 consecutive years.



### Community

**Channel** Demand and satisfaction survey, 'Management Meets Communities' Activity, Open House, Suggestions or complaints

**Function** Human Resources Department of all business units/Corporate Communications Office

**Report to** Management Committee/ Sustainable Development Committee/Board of Directors

SCG is determined to constantly provide knowledge and understanding on sustainable development activities so that communities become friendly and cooperate with the factories in a long term basis.



### Civil Society

**Channel** Opinions from experts

**Function** Center of Excellence and Sustainability Development

**Report to** Sustainable Development Committee/Board of Directors

Views from civil society can identify the topics for improvement of SCG. Management of relationships with civil society not only reduces the risks but also creates opportunities for the company to level up value creation towards a wider society.

## Opinion Panel

In 2013, SCG Sustainable Development Committee held an opinion panel with the participation of experts from government agencies, the private sector and independent organizations. This panel was held for the fourth consecutive year. Key issue for this year is sanitation and safety for a better quality of life in order to create value for society and community while extending the outcome to the industries throughout SCG's supply chain.

## Recommendations from the opinion panel

- SCG people as role models, are encouraged in promoting good deeds because employee is organisation's symbol and with the number of over 40,000 employees, social trends can be created. SCG should demonstrate to society the concrete good practice of its employees.
- Use SCG's potentiality to create activities that can influence systematic and structural changes. SCG should utilize the strength of quality people and knowledge which is the main force for any creations of High impact and High recognition from society.
- Reform CSR conducted in Thailand. As SCG's way of conducting CSR activities benefits the society practically and sustainably, it is recommended to interpret the knowledge and transfer it to other companies while cooperating with other organizations in order to maximize and build on the outcome aiming for social structural changes such as the Social Enterprise model.



## SCG Corporate Governance and Code of Conduct

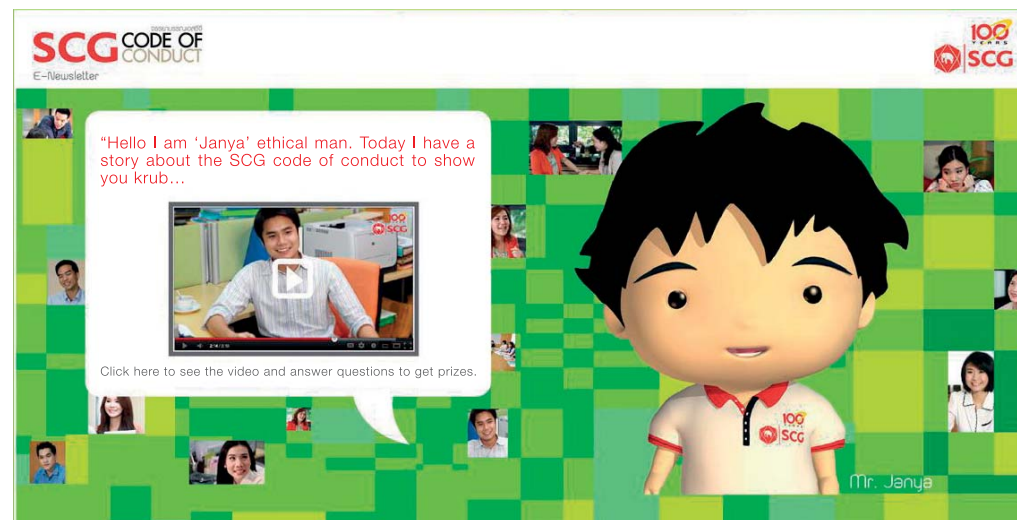


SCG conducts its business under the principle of corporate governance which is the internationally recognized concept for organizational management and relevant to SCG code of conduct. The company's Board of Directors has determined that corporate governance requires annual monitoring and evaluation, and must be updated in line with ever-changing economic and social situations, as well as being included in the Board of Directors meeting as a main agenda.

SCG also monitors compliance with corporate governance and encourages employees in all levels to ethically practice by instilling values amongst employees from their entry-level through the SCG Code of

Conduct guideline which provides knowledge on correct practices. Employees can also seek consultations on matters relating to SCG's codes. The 'Complaint System' is based on Whistleblower Policy which protects and provides justice to anyone who report or provide information about fraud, non-compliance with laws, regulations, rules, code of conduct and anti-corruption policy. In 2013, SCG has established another reporting channel for external parties through [www.scg.co.th](http://www.scg.co.th), in addition to e-mail and letter, with the Corporate Audit Office in charge of receiving complaints.

SCG has been relentless in raising employees' awareness to perform their duties in accordance with the SCG Code of Conduct and maintaining the standards of SCG Corporate Governance on the topics that each employee can apply in day-to-day operations through various communication channels such as E-Newsletter, intranet, journal, and video clip about conduct that conforms to SCG Code of Conduct presented in the forms of informative, but easy-to-understand, drama and animation. Moreover, when employees have doubts or questions, they can consult any level of their supervisors whom they trust or compliance officers via the established channels.



### Anti-Corruption Practice

SCG places importance on anti-corruption practices. In 2012, the company has declared its intention and commitment to counteract all forms of corruption with ratification by our President & CEO acknowledging the collective action coalition of Thai private sector against corruption. In order to bring about appropriate practices within the company, SCG's Board of Directors have formally approved the enforcement of 'Anti-Corruption Policy' on May 29, 2013 to be the policy framework with guidelines for business conduct and communications on anti-corruption practices which involves the activities of directors, management, and employees added-ons from SCG Code of Conduct, Corporate Governance and Business Philosophy, Stakeholders Engagement Policy, and others of SCG.

SCG had submitted a request to become Certified Company by tasking our audit committee to review the self-evaluation form on anti-corruption measures and finally has been certified as a Certified Company on July 5, 2013. It is the first large company in Thailand that passes the certification as Certified Company by Private Sector Collective Action Coalition Against Corruption Council.

SCG places importance on communication and implementation of an anti-corruption policy in the entire organization. The President & CEO will inform employees at all levels through 'Message from CEO' disseminated via company's intranet system. As for external individuals, details on SCG Code of Conduct, Corporate Governance and Anti-Corruption Policy can be obtained at [www.scg.co.th](http://www.scg.co.th).

### SCG Whistleblower System

In 2013, SCG has added channels for stakeholders to file complaints or provide information on fraud or non-compliance with the laws, regulations, rules, SCG Code of Conduct and Anti-Corruption Policy or SCG Supplier Code of Conduct via 'SCG Whistleblower System' in [www.scg.co.th](http://www.scg.co.th), or to report directly to the company via the independent directors or audit committee. This is in addition to the existing channels for employees where they could file complaints in person, via letters, emails and intranet. Contact channel information is clearly indicated in the company's website and annual report for verification according to company's procedure and then reporting to the Board of Directors. Furthermore, the Audit Office focuses on organizing workshops to urge all SCG's business to constantly comply with SCG's corporate governance and code of conduct. In 2013, SCG has received 10 complaints under Whistleblower Policy. Two of them were found substances of fraud and investigated, but the amount of financial loss was insignificant. Improvements have already been made to define preventive measures.



# Sustainable Growth in ASEAN



From SCG vision to be a sustainable business leader in ASEAN with confidence that the ASEAN Economic Community will become strong and grow sustainably, SCG has continually expanded its investment both domestically and internationally, constantly developed and improved organizational management in line with changing conditions, as well as identified strategies to prevent and reduce economic, social and environmental impacts.

In 2013, SCG invested over 50 billion baht in expanding its business all over ASEAN.

**Myanmar:** SCG has set up the first cement complete entire manufacturing plant in Maw Lamyang with production capacity of 1.8 million tons per year. The project will be carried out under sustainable development concept by using clean technology which is modern and minimizes environmental impacts. The Waste Heat Power Generation (WHG) plant, port and other infrastructures will also be constructed to support future expansion.

**Vietnam:** SCG has acquired 85 percent share in Prime Group Joint Stock Company, the leading ceramic tile manufacturer in Vietnam, resulting in SCG's total ceramic production capacity increased to 225 million square meters which is the highest capacity in the world. As for the feasibility study of investment in the first petrochemical complete entire business in Vietnam, SCG has cooperated with Thai Plastic and Chemicals Public Company Limited and joint investors from Vietnam and Qatar. The financial advisor has been appointed, and the project is in the process of contractors bidding and seeking finance.

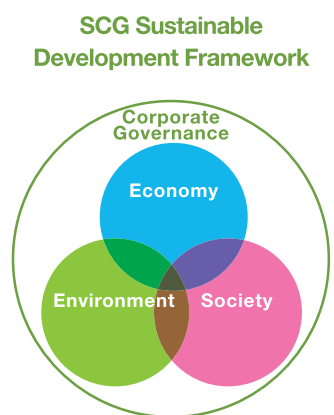
**Indonesia:** SCG has acquired 90 percent share in PT Primacorr Mandiri, Indonesia's leading packaging manufacturer with production capacity of 37,000 tons per year. This is considered the first step of SCG to enter into this country's packaging market which is expected to grow rapidly in the future.

**Cambodia:** SCG has expanded its cement production capacity in Cambodia for another 900,000 tons per year and installed Waste Heat Power Generation which will help to reduce the purchase of electricity.

SCG has applied its sustainable development framework to all locations where it operates. This allows the company to improve manufacturing process and productivity, depend less on natural resources, create environmentally friendly products and services, strengthen communities, while boosting the participation of employee and business partners in improvement of the process for sustainable growth based on a corporate governance principle.

Like in Thailand, SCG places importance on social strengthening by taking part in building capacity of members in the communities where SCG's businesses operate, such as through SCG Sharing the Dream project that offers 1,000 scholarships to the smart and ethical students in all ASEAN countries where SCG operates, Green Dream project in Vietnam which inculcates environmental conservation awareness into children and youth through views sharing and environmental management educational trips, Sharing 100 Cares for SCG 100 Years project in Indonesia where employees have a chance to support community and society development in celebration of SCG's 100 Years Anniversary, and financial support to disaster victims in the Philippines.

By operating in line with sustainable development concept and with cooperation from all sectors, SCG could grow firmly in ASEAN, as attested by revenue from sales in ASEAN countries excluding Thailand which continue rising with an increase of 25 percent from the previous year, resulting in the 20 percent of total revenue from sales comes from production and export to ASEAN. Currently, in ASEAN, SCG has assets valued 71.84 billion baht or about 16 percent of total assets and employs 14,950 persons in ASEAN countries excluding Thailand, or about 30 percent of total SCG's employees.



# Management towards Sustainability

## Analysis on Sustainable Development Issues

Being ranked by Dow Jones Sustainability Indices (DJSI) as the world leader on sustainable development is a great challenge for SCG to always maintain its leadership status especially amid rapid and continuous changes in economic, social and environmental conditions. Since SCG vision is to become a sustainable business leader in ASEAN, SCG is expected by society to be a role model in many areas of sustainable development such as a leader of greenhouse gas management or a leader of industrial waste management. Therefore the sustainable development is the key that responds to SCG vision. Business conducts and the sustainable development approach must be developed together and in the same direction.

Annually Sustainable Development Committee works with representatives from all units in reviewing sustainable development issues by examining opinions from stakeholders in industrial sector, educational institutions, communities, suppliers and SCG's employees that are gained through several activities in each occasion and in different formats. These sustainable development issues are reviewed with a risk assessment result (details of risk and opportunity assessment are presented in SCG Annual Report 2013, page 53-61) and corporate sustainability assessment report by DJSI. SCG's significant sustainability issues of 2013 can be summarized as shown in the table below. It is found that this year additional sustainable development issues are value chain management, human rights and community strengthening.

## Sustainability Issues



## Management Structure for Sustainability

SCG Sustainable Development Committee defines and regularly reviews sustainable development policy, guidelines, and goals in order to clearly drive the company towards SCG vision to be a role model of sustainable development. Currently, the committee comprises the SCG Paper president as chairman while presidents and vice presidents of all business units as committee members. All business units are required to report their progress of their sustainable development performances on a quarterly basis. This committee also performs monitoring the sustainable development committee in a business unit level to ensure that policies and programs are effectively implemented.

To ensure that policies and directions of each sustainable development aspect are implemented by related parties or experts

responsible in each field. Several committees, subcommittees and several working groups are appointed for each aspect to be inclusive and relevant to the defined work plan such as Industrial Waste Management Committee, SCG Green Procurement Committee, SCG eco value Committee, and SCG Green Building Committee. Due to the increasing severity of climate problems, SCG has formed the Climate Change Committee in 2013 to establish policy, strategies, targets, short-and-long term plans in order to reduce the impact from climate change and mitigate greenhouse gas emissions from SCG's business activities. SCG will also set up the Water Management Committee in the beginning of 2014 to conduct water management in a more concrete manner with an aim to help solving a national water balance problem.



## Sustainable Development Guidelines

### 1. Governance

- 1.1 Corporate Governance
- 1.2 Integrated Risk Management
- 1.3 Disclosure & Reporting

### 2. Economy

- 2.1 Direct Economic Value Generation
- 2.2 Economic Value Distribution

### 3. Society

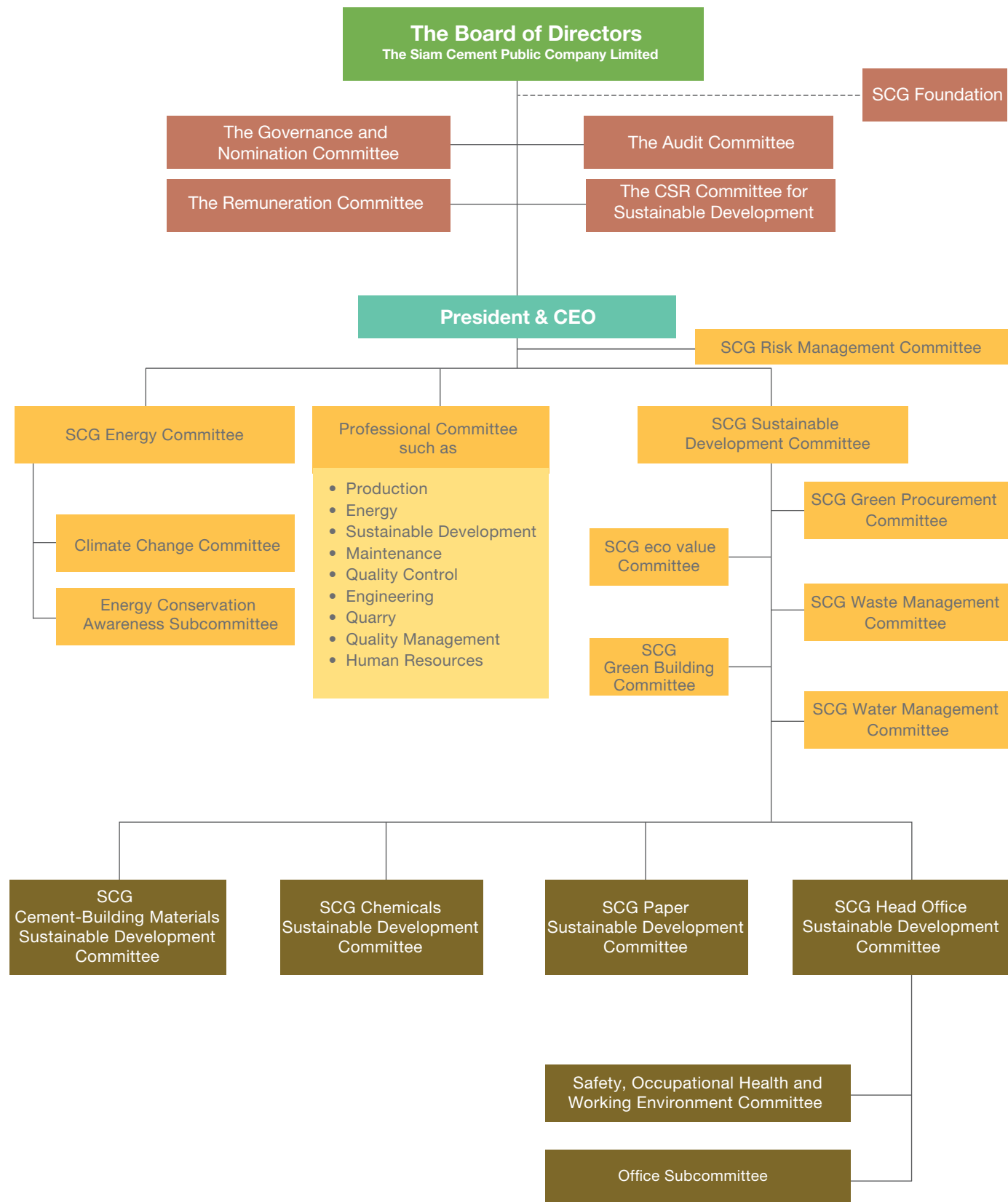
- 3.1 Community Investment and Donation
- 3.2 Labor Standards and Practices
- 3.3 Human Rights
- 3.4 Human Resources and Human Capital Development
- 3.5 Occupational Health & Safety
- 3.6 Stakeholder Engagement

### 4. Environment

- 4.1 Energy
- 4.2 Climate Change
- 4.3 Water Management
- 4.4 Waste Management
- 4.5 Ecosystem & Biodiversity
- 4.6 Eco-product
- 4.7 Logistics



## Sustainability Management Structure



## Management Approach to Sustainability

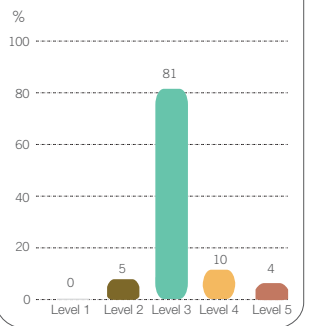
'SCG Sustainable Development Guidelines' was developed in 2008 as an extension of 'Environmental Conservation and Safety Policy' announced in 1991 to include the issues that promote company's sustainable development. Other guidelines were also developed to cope with different aspects of approach in a more appropriate and explicit manner such as Green Procurement Guidelines, Stakeholder Engagement Guidelines, and SCG Safety Framework.

Risk analysis data and sustainable development issues will be taken into account while drafting the medium-term plan and the annual plan, both in business level and corporate level, in order to ensure that SCG's business growth is in line with sustainable development. Furthermore, SCG people at all levels are instilled with awareness of sustainable development, both through their day-to-day operations and by application of the concept into their operations via various methods including trainings and participatory processes.

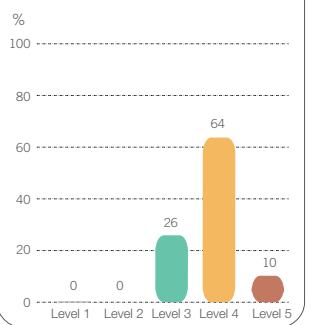
SCG's subsidiaries apply several management system standards such as the Environmental Management System (ISO 14001), the Occupational Health and Safety Management System (OHSAS 18001), Social Responsibility (ISO 26000), Total Quality Management (TQM), Total Productive Maintenance (TPM), and the Energy Management System (ISO 50001). To ensure that every companies within the country and in ASEAN proceed with sustainable development approach in compliance with international standards, SCG has conducted Safety Performance Assessment Program (SPAP) and Environmental Performance Assessment Program (EPAP) which evaluate and compare performance of all subsidiaries in order to encourage each business to improve their companies and to generate exchanges of information and best practices within SCG.

Furthermore, by being membership of The World Business Council for Sustainable Development (WBCSD) which has prescribed Vision 2050 as future business directions for members to collaborate in generating big change in the world within 2050, SCG applied the Action 2020 concept that WBCSD has developed as the path for all its businesses to move forward to the Vision 2050.

### SPAP Result



### EPAP Result



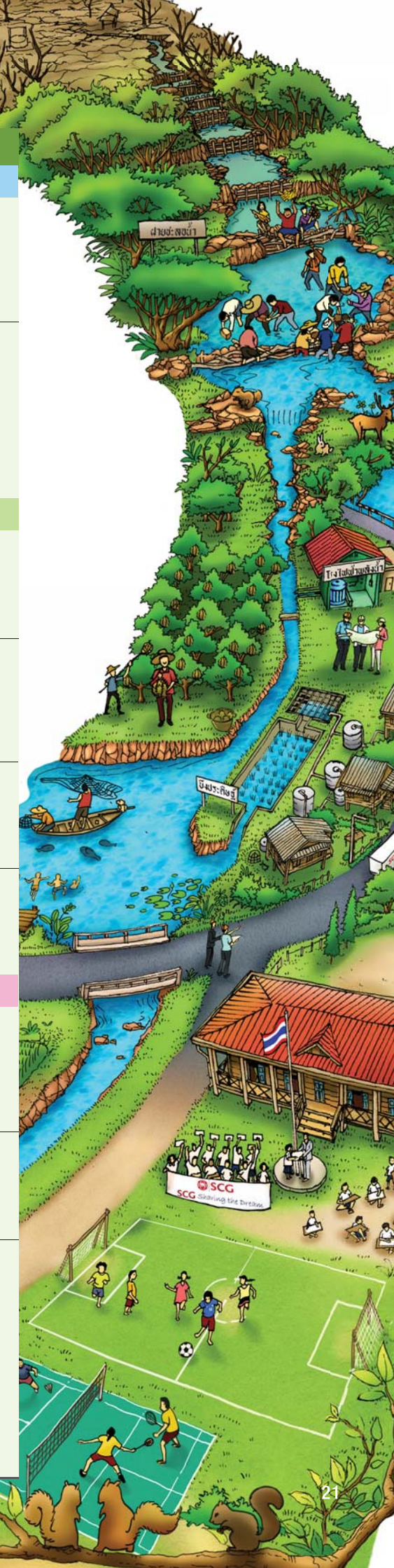
Level 1 Lack of responsibility  
 Level 2 Problems are dealt immediately  
 Level 3 Prevention of possible problems  
 Level 4 Business integration  
 Level 5 Leadership



## Performance of Sustainable Approach in 2013

| Program                           | Action Plan  | Actual Performance  |
|-----------------------------------|--|---|
| <b>Economic Dimension</b>         |  |   |
| Value Chain Management            | <ul style="list-style-type: none"> <li>Promote and support sustainable development in the entire value chain</li> </ul>  | <ul style="list-style-type: none"> <li>Purchase 5.20 billion bath of environmentally friendly products under the Green Procurement list</li> <li>Declare SCG Code of Conduct as a guidelines for suppliers to conduct business</li> </ul>   |
| Sustainable Products and Services | <ul style="list-style-type: none"> <li>Study and develop innovative technology for products and services that respond to customers' need aiming at high value added and environmentally friendly products and services</li> <li>Encourage customers and stakeholders to understand and choose high value added products and services and SCG eco value products</li> </ul> | <ul style="list-style-type: none"> <li>High value added products sales revenue accounted for 35 percent of revenue from sales</li> <li>82 products certified with SCG eco value, accounted for 26 percent of revenue from sales</li> </ul>  |
| <b>Environmental Dimension</b>    |  |   |
| Water Management                  | <ul style="list-style-type: none"> <li>Invest in installation and improvement of manufacturing process to reduce use of water, increase water recycled and improve water quality following 3R principles</li> </ul>  | <ul style="list-style-type: none"> <li>Reduced water withdrawal for 6 percent</li> <li>Proportion of water recycled reduced by 3 percent</li> </ul>   |
| Energy and Climate Change         | <ul style="list-style-type: none"> <li>Increase efficiency of manufacturing processes and reduce greenhouse gas emissions</li> </ul>   | <ul style="list-style-type: none"> <li>Energy consumption increases by 1-5 percent</li> <li>Reduced greenhouse gas emissions per unit of production for 0.3- 1 percent, except for SCG Chemicals</li> <li>Reduced greenhouse gas emissions from contractors' transportation to 13,000 tons</li> </ul>   |
| Biodiversity                      | <ul style="list-style-type: none"> <li>Preserve, rehabilitate, and mitigate environmental impacts on biodiversity</li> </ul>   | <ul style="list-style-type: none"> <li>All quarries were rehabilitated and studied on biodiversity, survival rate of seedlings accounted for 80 percent</li> <li>Sustainable forest management of over 50,176 rais in accordance with the Forest Stewardship Council (FSC) standard, with community forest more than 10 percent</li> </ul>  |
| Green Building                    | <ul style="list-style-type: none"> <li>Improve existing buildings and construct new SCG buildings to be prototypes of buildings that save energy, environmentally friendly which improve quality of life and working environment for employees</li> </ul>  | <ul style="list-style-type: none"> <li>SCG's head office buildings 1 &amp; 2, and SCG building 5 which are older than 25 years and 100 years Building, certified as energy saving and environmentally friendly building at the highest level, LEED Platinum</li> </ul>  |
| <b>Social Dimension</b>           |  |   |
| Health and Safety                 | <ul style="list-style-type: none"> <li>Enhance the quality of safety management in accordance with safety guidelines both for SCG and contractors</li> <li>Constantly improve safety control system in logistics</li> </ul>  | <ul style="list-style-type: none"> <li>Reduced employees' and contractors' accidents which result in days away from work to 0.07 and 0.06 cases per 200,000 man-hours, respectively</li> <li>Number of accidents resulted in total fatalities were 1 employee and 11 contractors (from process 3 cases and from logistics 8 cases)</li> </ul>   |
| Employee Care                     | <ul style="list-style-type: none"> <li>Enhance readiness, capabilities, working condition, quality of life aiming at a sustainable leader in ASEAN</li> </ul>  | <ul style="list-style-type: none"> <li>Complied with UN Global Compact principles for the advance level</li> <li>Equal treatment and high level of satisfaction survey</li> <li>Resignation rate lowered to 1 percent</li> <li>Increased R&amp;D employees to 3 percent</li> </ul>  |
| Community and Society Development | <ul style="list-style-type: none"> <li>Support and strengthen society via engagement of community and related parties</li> </ul>   | <ul style="list-style-type: none"> <li>Communities were able to solve basic problems resulting in creation of knowledge exchange network which led to self-help and self-development in other aspects</li> <li>Cooperated with independent agencies in two projects, studied restoration of saline land, and researched on Thai economic development to strengthen production sector</li> <li>Organised national-level forum to disseminate innovative ideas and sustainable development know-how to over 800 high-rank executives from every sectors to be alert, be aware of benefit and bring it to application</li> </ul> |

| Next Step  | Page |
|--|------|
| <ul style="list-style-type: none"> <li>Develop supplier management approaches taking into account management system, legal compliance and supplier's materialities</li> <li>Enhance operations of dealers to be able to grow together with SCG</li> <li>Expand networks of dealers, technicians, real estate developers for future business growth</li> </ul>                          | 24   |
| <ul style="list-style-type: none"> <li>Create products and services with high value added and environmentally friendly for better quality of life of all generations</li> </ul>  | 28   |
|  |      |
| <ul style="list-style-type: none"> <li>Support R&amp;D to reduce water consumption, reduce water discharge to the environment, and increase recycled water</li> <li>Expand the anaerobic wastewater treatment technology to all business units</li> </ul>  | 36   |
| <ul style="list-style-type: none"> <li>Support R&amp;D on efficient fuel consumption, manage energy resources to prevent energy shortage, and extend to reduce greenhouse gas emissions</li> </ul>   | 38   |
|  |      |
| <ul style="list-style-type: none"> <li>Expand study by collaborating with external expert agencies, prepare and plant local seedlings</li> <li>Expand FSC sustainable forest management by collaborating with community and academics to closely monitor plant and animal species and promote community forest management</li> </ul>   | 34   |
| <ul style="list-style-type: none"> <li>Summarise knowledge to disseminate our success, and provide consultations to other companies and agencies through the Green Solution department</li> </ul>  | 46   |
|  |      |
| <ul style="list-style-type: none"> <li>Support preventive measures of accident from transportation and vehicles</li> <li>Conduct road safety project with external agencies</li> <li>Promote safety behavior and design of a control system based on safety guidelines in production process</li> <li>Extend a scope of information for accident reports to cover all areas</li> </ul> | 50   |
| <ul style="list-style-type: none"> <li>Summarise knowledge, improve human resources management system to lay foundation for sustainable growth of business in ASEAN</li> </ul>   | 54   |
|  |      |
| <ul style="list-style-type: none"> <li>Begin initiatives to be one of the role models in conducting social projects and extend the success</li> <li>Support specialist agencies to study and conduct projects for social benefits</li> </ul>   | 60   |





# Sustainable Economy



## Sustainable Economy

Value Chain Management

24

Sustainable Products and Services

28

# Next Step towards Sustainable Business Development

Value chain management is the approach that SCG employs to create sustainability for stakeholders. Value added to all business activities and benefits are transferred all through the process ranging from upstream, sellers and suppliers, to downstream, consumers and customers. The ultimate goal is not only profit-making, but also helpful and sustainable co-creation of community and society.

In managing value chain, SCG applies sustainability approach to develop green operational system and manufacturing process and applies Total Quality Management system throughout the company. For suppliers, SCG conducts the policy of developing, strengthening and increasing opportunities for all suppliers to be able to compete, by transparent selection process, fair treatment, and improving their professionalism and competitiveness through projects like SCG Contractor Safety Certification System, Enhancing Professional Skills of Fleet Carrier and Greening the Supply Chain project.

In 2013, SCG organized Thailand's first Supply Chain Sustainability Forum to promote sustainability concept, which involves ethical business conducts together with care for society and environment, amongst the suppliers. SCG Supplier Code of Conduct was also established as guidelines for suppliers to perform their operations ethically, honestly, transparently, and take fair responsibilities of stakeholders.

Mr. Roongrote Rangsiyopash, chairman of Sustainable Development Committee, said "Suppliers have always been role playing an important role in SCG's sustainable growth throughout the past 100 years. Synergy suppliers and SCG is the first step towards mutual business growth while creating sustainable society and environment. Supply Chain Sustainability Forum and 'SCG Supplier Code of Conduct' did not only benefit the suppliers, but SCG expects that suppliers will also extend the outcome to the next chains in order to expand sustainable development networks and generate overall growth to the country's economy, society and the environment."

SCG determines to create value to customers by developing products and services that respond to their real needs, providing correct, clear and fair information, after-sales service, complaint letters, and most importantly, ensuring products and services are of quality, and standard as well as environmentally friendly.

Furthermore, SCG has managed the value chain in conjunction with other supporting activities such as efficient operational and human resource management as well as continuous development and support on R&D. Apparently, SCG places importance on various activities in order to benefit stakeholders in the entire value chain which is the approach that SCG believes would bring about truly happiness and sustainability.



"Supply Chain Sustainability Forum and 'SCG Supplier Code of Conduct' did not only benefit the suppliers, but SCG expects that suppliers will also extend the outcome to the next chains in order to expand sustainable development networks and generate overall growth to the country's economy, society and the environment."

## Roongrote Rangsiyopash

Chairman  
Sustainable Development Committee

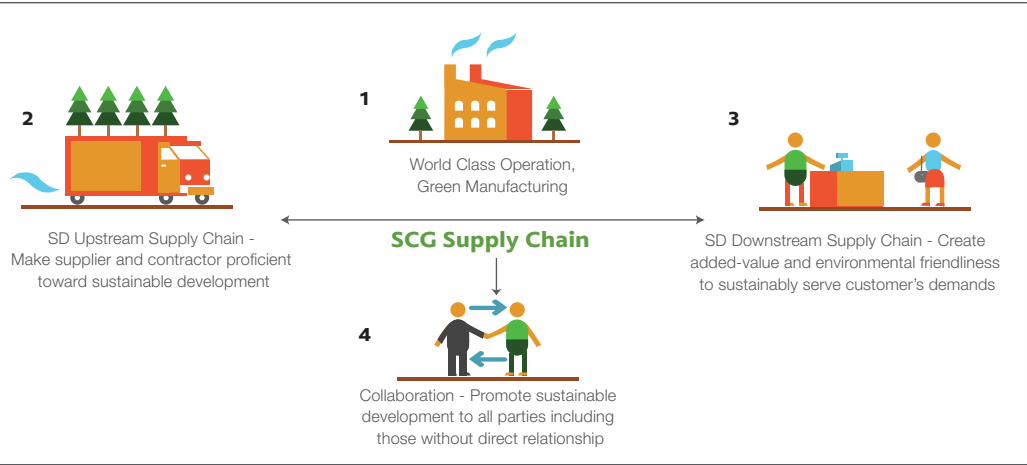






SCG promote its suppliers to conduct their business ethically while taking care of society and environment for sustainable prosperity. SCG provides support for ethical business conducts and published ‘SCG Supplier Code of Conduct’ identifying ethics on business, labor and human rights, occupational health and safety, environment, and applicable law and regulations.

Sustainable Supply Chain



Extending the sustainable approach to strengthen other businesses, especially SCG’s contractors both in the upstream and downstream, to make them proficient and respond to the stakeholders’ demand with an aim to grow sustainably with the company, is important for SCG as an business policy that needs to be concretely implemented under the concept of SCG Sustainable Supply Chain.











World-class Manufacturing Process

SCG has been incessantly carried out adjustment, control and development of manufacturing process in order to become the role model of environmentally friendly organization in line with international standard through Total Quality Management and Total Productive Maintenance approaches.

Upstream Leveraging Upgrading Suppliers’ Management

SCG strives to enhance suppliers’ eco-efficiency by improving management efficiency and conducting environmental and

safety risk management so that suppliers are ready to grow sustainably in changing environment and become more professional. Suppliers’ guidelines for sustainability has been established on issues that are significant and relevant to suppliers’ risks such as compliance with related laws and regulations, management system, efficient use of energy and resource, waste reduction, water management, and safety. SCG continuously provides advice and monitors improvements leading to cost reduction, more efficient manufacturing, safety and environmentally friendly working condition with the focus on supportive and collaborative approaches. These lead to development of supplier to grow together with SCG. This project not only provide benefits to supplier but also leverage participated suppliers’ good practices throughout the supply chain.

|          |   | Process   | Target   |  |            |
|----------|---|---|--|--|------------|
| Upstream | <br>Manufacturer | <br>SCG Supplier Code of Conduct<br>Prioritization | <br>Management System and Eco-efficiency        | <br>Eco-Manufacturer        | Disclosure |
|          | <br>Contractor   |   | <br>Contractor Safety System and Eco-efficiency | <br>Professional Contractor |            |
|          | <br>Trader       |   | <br>Management System and Eco-efficiency        | <br>Eco-Trader              |            |

Value Adding to Downstream

Due to higher competition, SCG has expanded business approach, from an aim for business excellence, to innovative and customer centric integration that values mutual benefit of upstream and downstream businesses, especially responding to customers’ needs, while focusing on developing contractors and distributors’ businesses as to grow together with SCG. The concept has led to value chain design that responds to the real needs and close collaboration among SCG, dealer, constructor, technician and real estate entrepreneur, which ensures all related parties have delivered the best products and services to end customers. This is an approach leading to mutual and sustainable business growth.

Engagement with Dealers

Differentiation of products and services by efficiently adding value based on the customers’ needs received through the channel gathering voice of customers and dealers key market information. In this connection, development of collaboration approach with dealers is important to synthesize the customers’ needs and market data while building trust in information exchange. A working team has been set up to enhance efficiency of dealers’ operations as to sustainably develop business together. Key projects are namely:

- **Dealer Integration:** Customer database management that reflects characteristics and sale capabilities of the dealer is utilized to enhance efficiency of inventory management and lay out appropriate dealers’ distribution and marketing plans. In 2013, there were 263 dealers participated in the program representing revenue from sales of 85 percent from total revenue.
- **Dealer enhancement:** In order to enhance the capacity for sustainable growth, working team has been formed to provide

advice on management of building materials store such as inventory management, development of handling equipment which enhance products distribution and cost saving, human resources management and development as foundation of the organization, and data analysis for sales and marketing plans. SCG also established SCG Retails & Services Academy to educate dealers’ personnel, both in theory and in practice, and organized forums on basic store management for experience exchange. In 2013, the program was attended by 801 participants.

- **Real estate entrepreneur development:** Engagement in business development with real estate entrepreneurs and use of high value added products which are friendly to environment is part of the project that responds to the needs of home owner customers, which was participated by leading real estate companies.

Development of technicians and network

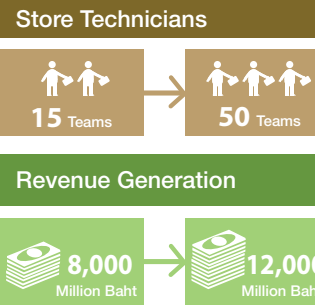
SCG has been encouraging the development of downstream network in line with consumers’ needs, namely, the collaboration with networks of dealers, technicians and home owners in the form of SCG HOME SOLUTION which covers integrated services starting from design, products recommendation, consultation, provision of quality technicians for installation services and guarantee of quality and after-sales service. The solution pattern is an innovation of building downstream network that is well accepted by the customers and enhance the capacity of dealers and technicians to grow with SCG and form the technician network. As a result of this approach, in 2013, there were 15 branches of SCG HOME SOLUTION, 1,883 certified technicians from Nai Chang Dee Academy (Technical Skills Development), 50 teams of store technicians, and over 12,000 million baht revenue generated through store technician teams.



“In selling products, we have to consider all elements relating to product delivery from the start, until the products reach the customers. Technicians are important because they act both in the upstream as supplier of installation and in the downstream as our buyers. Therefore, we are required to understand the real needs of this group and give them support both on their quality of work and quality of life so that they deliver quality projects to customers’ hand and grow together with SCG.”

**Nithi Patarachoke**  
Vice President  
Domestic Market  
SCG Cement-Building Materials

Home Solution Performance (2012-2013)







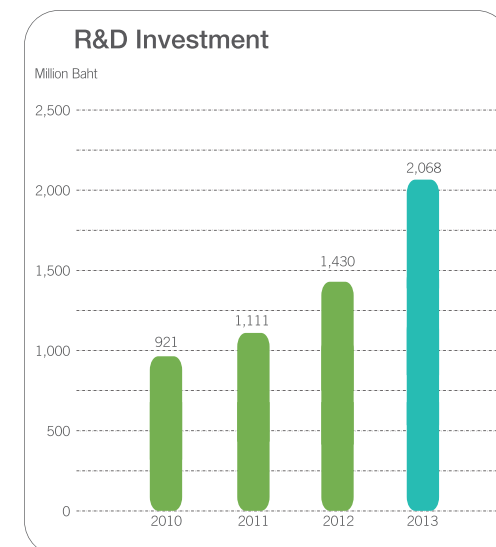
## Sustainable Products and Services

### Research and Development to Create Sustainable Innovative Products and Services

With dedication to constantly develop products and services in response to the customers' need which has increased in both number and complexity, SCG's research team is required to continually research and develop technologies. Patent searching and market trend analysis have been conducted to identify strategy and roadmap for technological development with screening procedure by Technological Development Committee in conjunction with Products Development Committee, to ensure that SCG has modern technology that responds to future demand of customers, produces High Value Added Products and Services (HVA) and environmental friendly under SCG eco value label. This is the key process to drive SCG

towards the organization of innovation for sustainability.

Currently, R&D team at SCG comprises 1,262 members where 73 members hold Ph.D. SCG has spent 2,068 million baht on R&D in 2013.



### High Value Added Products and Services (HVA)

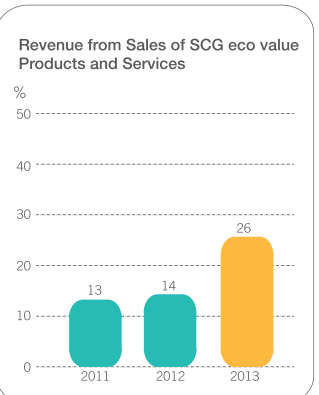
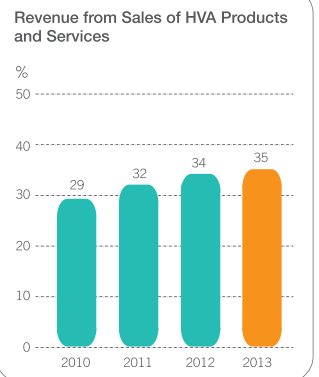
SCG develops HVA from research and development for better products and services or Solution Provider and extends to develop variations from basic products to gain new product and service as well as new business that can truly fulfil customers' need. This has resulted in HVA sale contribution reached 35 percent of revenue from sales in 2013 with its revenue goal for HVA at 50 percent of revenue from sales by 2015.

- Tra Chang saline water and soil resistant cement: suitable for the land where soil acidity is high. Its special qualification is resistance to chloride and sulfate corruptions helping structure to be more durable and has longer usability.
- Surgical instruments made from polypropylene: used to heal carpal tunnel syndromewhichshortendurationofoperationsfor one-third and reduce the size of the wound for one-fourth, making the complicate surgery easier and more patients can obtain this surgery due to lower price.
- High Strength Extensible Sack Kraft (EH): high quality kraft paper for bags used in cement industry, manufactured specific refining technology and chemical treatment , competitive to imported paper.

### SCG eco value products and services

As the first company in Thailand, SCG has set a self-proclaimed recognizable label for environmental friendly products and services under 'SCG eco value' since 2009, the first self-declared label in Thailand. By adopting ISO 14021: Environmental Labels and Declarations-Self-Declared Environmental Claims standard together with stakeholders' requirements and product life cycle assessment, for examples, product design, reduction of raw material, energy and water consumption during production, the use of renewable raw materials and energy, raw material recycling, waste and greenhouse gases emission reduction. In 2013, SCG has 82 'SCG eco value' products and services certified contributing to 26 percent of revenue from sales, while the target SCG eco value sales volume is one-third of revenue from sales in 2015.

- Tra Chang Portland Composite Cement: reduces greenhouse gas emission during production for at least 70 kilograms per ton of cement.
- Shinkolite Acrylic Sheet - DX Grade: saves energy used for thermoforming for at least 10 percent.
- Windsor Wall Décor System: reduces the heat transfer through the wall and saves the energy for at least 14 percent.
- CS - Super Flute: environmental friendly corrugated paper that reduces the use of pulp for at least 8 percent.



#### 24 Products



Carbon Reduction Label

#### 110 Products



Carbon Footprint Label

#### 82 Products

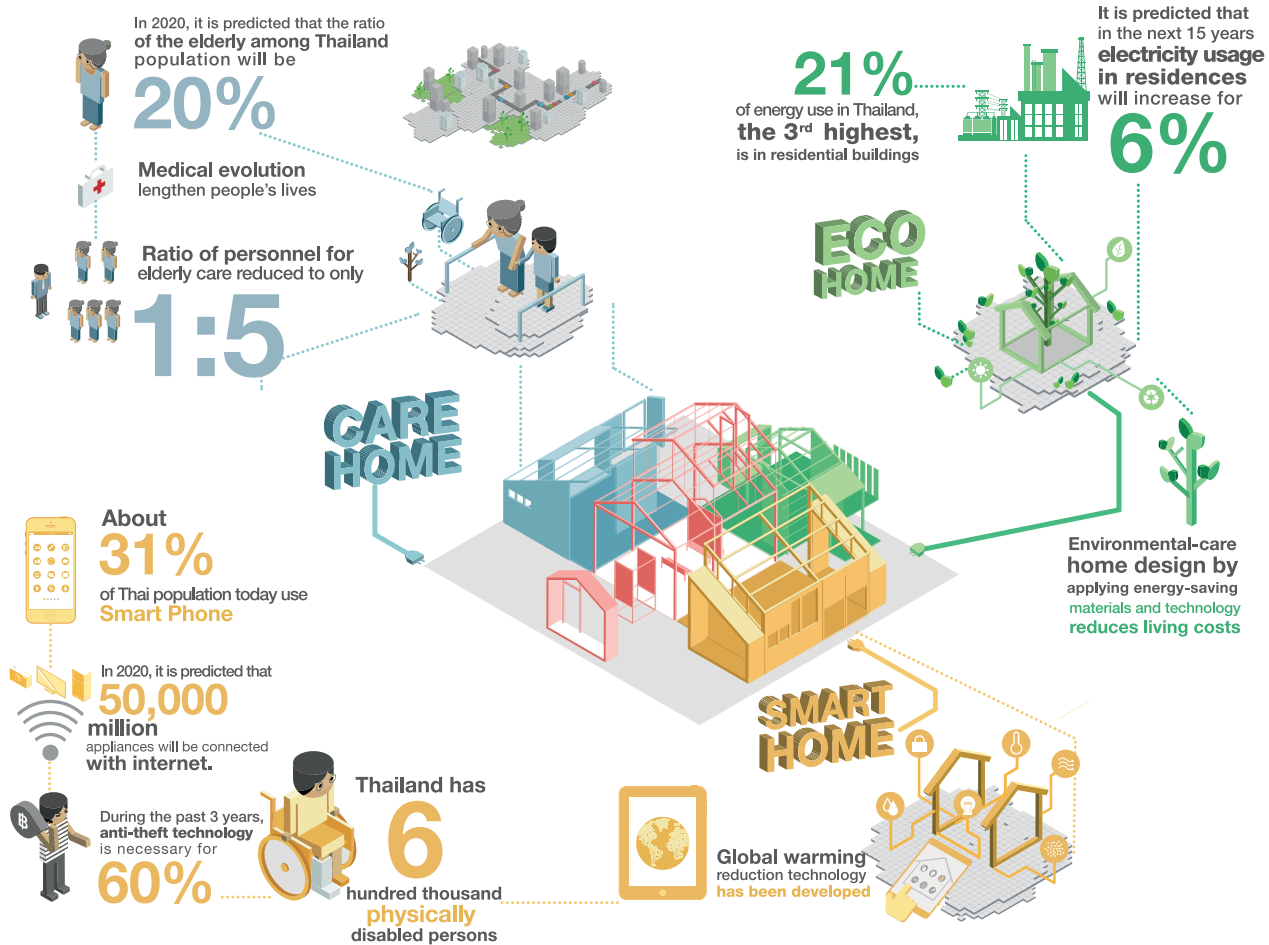


SCG eco value Label

## Living For Tomorrow

To cope with future changes which include aging society, quantity of natural resources, climate change and other phenomenon, SCG has developed innovative products and services for all generations' quality of life, for them to live comfortably, safely and with environmental awareness for today's and future's sustainability. The innovations that are integrated are: Care Solution - home innovation

for living together with the elderly; Eco Solution - innovative products and services for reduction of energy use and environmental conservation; Smart Solution - residential systems control that has been researched and developed for residence, both houses and buildings, by providing expert's consultations since the design phase for quality living place.



### Care Solution

Care Solution is innovation for the elderly which involves expert's consultations on the design and use of materials and equipment in living places supportive of elderly persons' physical changes - including cane or wheelchair users - so that they can live their daily lives alone or with people of different ages comfortably, carefree and privately, and most importantly, with physical and mental happiness.

### Eco Solution

Eco Solution is innovation for system and building materials design which care for environment by utilization of resources that is worthwhile and achieves maximum benefit - starting from construction designs, selection of materials and equipment, application and maintenance methods that reduce the use of energy and resources, and quantity of waste that may emerge during the process - so that the home can be truly friendly to environment.

### Smart Solution

Smart Solution is wireless system connected with household electronic appliances which is controlled by one-finger touch via computer screen, remote control or smartphone in order to turn hectic urban lifestyles into easy, convenient and comfortable lifestyles while reducing energy use and potential risk of dangers. The solution also enhance daily life of elderly and disabled persons in their home to be more convenient and safer.

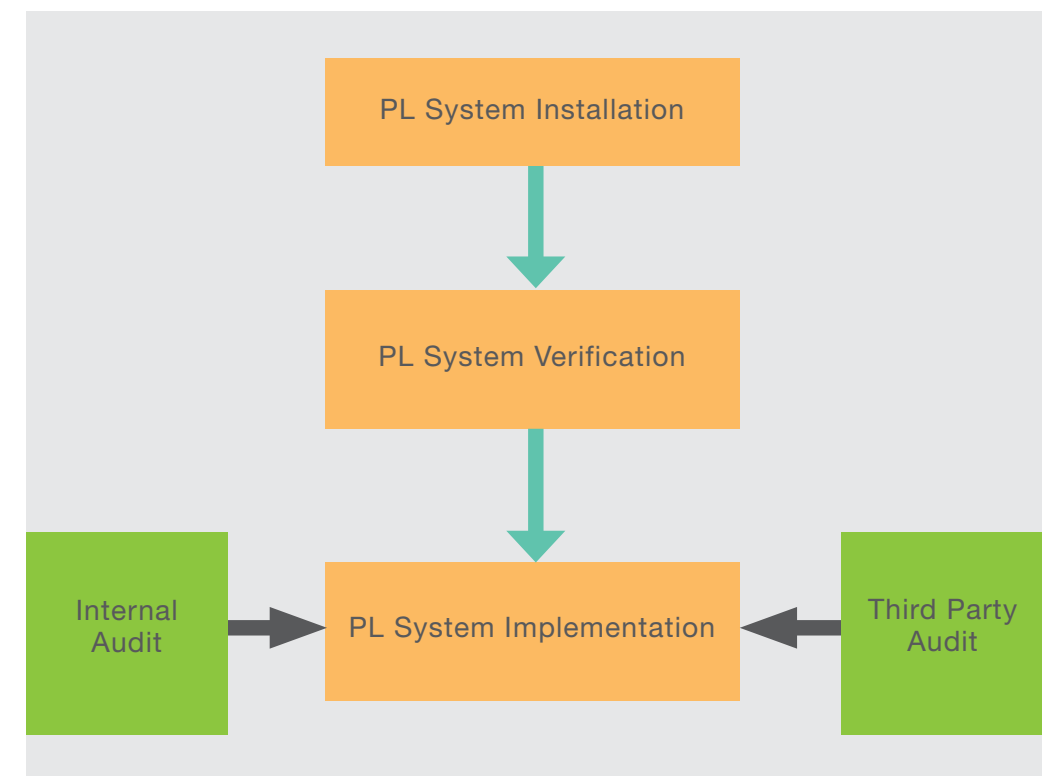
## Products and Services Responsibility

From 2009 to 2012, SCG developed Quality Assurance system in alignment with Product Liability Law through PL Health Check Program. In 2013, SCG has conducted assessment programme with purpose of evaluating the productivity of the approach and seeking opportunity to improve management standard of SCG's Product Liability (PL). The program comprises two levels of approach: Internal Audit and Third Party Audit.

Moreover, SCG has developed SCG Quality Assurance Fundamental Guidelines (SCG QAFC) which derives from related TQM,

TPM and ISO standards, including principles and guidelines, as an extension of PL Health Check Program, through developments in all quality assurance dimensions and prepared proper guidelines pack as references for each SCG's business, such as, SCG QAFC for Manufacturing, SCG QAFC for Service, SCG QAFC for Sourcing. Due to our consistent dedication and determination towards quality assurance, there were no significant complaints from customers that arise from health and safety regulatory violation from customers' product usage, products and services information provision, product labels or advertisement.

### PL Health Check Program





# Environmentally Friendly Business Operation



## Environmentally Friendly Business Operation

|                                 |    |
|---------------------------------|----|
| Biodiversity and Ecosystem      | 34 |
| Sustainable Water Management    | 36 |
| Energy and Climate Change       | 38 |
| Sustainable Resource Management | 42 |
| Green Building                  | 46 |

# Integrated Environmental Management

Integrated environmental management is a process to include environmental consideration as a part of business operation. Managements must have commitment to adjustment on attitude related to natural resources, stakeholder engagement and serving the needs of stakeholder especially the social sector demonstrating increased involvement in environmental aspects. SCG, an industrial sector that uses energy and resources as raw materials in manufacturing of products and services responding to various customer's needs, has implemented sustainable development guidelines, best management practices and corporate governance principles in planning, manufacturing, and transporting processes. Moreover, establishment and monitoring of economic, social and environmental indicators have been implemented.

Mr. Chartchai Luekulwatanachai, Managing Director of Siam Kraft Industry Co.,Ltd. under SCG Paper, said about company's environmental management approach being aligned with overall SCG operations that "SCG Paper's businesses are operated with an integration concept by adopting 3R policies (i.e. Reduce, Reuse/Recycle and Replenish) starting from environmentally friendly design of factory; implementing modern technologies and regularly maintain machineries to reduce

energy consumption; reducing coal usage by substitution of biomass; product logistics that reduce environmental and social impacts with cooperation from SCG Logistics by defining route and method proper to each area, reducing empty backhaul, and using of technology that maximize effectiveness of transportation."

Integrated environmental management is a strategy that SCG implemented in all countries where its business runs to build stakeholders' confidence that all social and environmental aspects are considered, assessed and tracked continuously with reporting system that can evaluate and compare results against the defined targets in order for further improvement and standardization.

SCG has defined proper indicators for regular monitoring, reporting and evaluating against targets such as reduction of energy consumption and greenhouse gas emissions by 10 percent in 2020 comparing to the base year of 2007; using alternative energy including biomass, biogas, wastewater sludge and community's waste; zero waste to landfill by reducing waste from production process and effective recycling. Establishment of indicators supports clear demonstration of outcomes from environmental management to achieve the targets.



"Integrated environmental management reflects value and behavior of SCG's employees and suppliers that enables process to define goals together, reasonably listen to opinions, allow participation from all stakeholders and adhere to policies for effective planning. It is a challenge to the organization that the results from balancing business operation with environment conservation and co-existence with society are unforeseen. This is not about renouncing one portion to gain another portion but it is more on innovation for responding to all stakeholders' need sustainably"

**Chartchai Luekulwatanachai**  
Managing Director  
Siam Kraft Industry Co., Ltd.



# Biodiversity and Ecosystem

## Quarry Rehabilitation in Parallel with Biodiversity Conservation

### Building Collaborative Network

- World Wildlife Fund (WWF)'s Thailand office established database of wild plants and animals.
- Faculty of Forestry, Kasetsart University, studied on forest tree species in rehabilitation practice.
- Forest Restoration Research Unit of Science Faculty, Chiang Mai University, developed restoration practice in line with forest restoration principles by Framework Species Method.
- Foundation for Environmental Education for Sustainable Development (Thailand) surveyed wild animals in the quarry and buffer zones.
- Local authorities and surrounding communities: collecting native seeds, tree planting, and evaluating quarry restoration outcome.

### Biodiversity & Rehabilitation Learning Center

- Create 'Biodiversity & Quarry Rehabilitation Education Center' in all quarries to provide knowledge and extend the techniques of rehabilitation at limestone quarries.

### Forest Restoration

Build over 62,812 check dams in collaboration with all related parties:

- Restoring moisture to evergreen forests;
- Rehabilitation of ecosystem both species of plants and quantity of birds;
- Constant reduction of 'forest fire'.

### Buffer Zone

- 50 percent of quarry's area are preserved as buffer zone.

### Define Success Indicators

- **Plantation**  
Survival rate and growth rate of the native plant species
- **Biodiversity Index**

## Plantation of Eucalyptus Forest for Economic Benefit in Parallel with Conservation of Community Forest

### Sustainable Forest Management

- Forest Sustainable Stewardship (FSC) certified eucalyptus forest of 50,176 rais;
- Support community forest of 8,018 rais in 4 provinces.

### Soil Improvement

- Improvement of saline soil in Northeastern region for 10,000 rais in collaboration with Land Development Department to generate income for communities.

## Restoration of Marine and Coastal Resources

### Knowledge Network and Awareness Building

- Cooperate with government agencies, educational institutions and coastal communities to restore marine resources by local wisdom of Koh Libong community using artificial reefs and sea grasses with concrete block weighed over 400 kilograms;
- Work with communities, government agencies, seaside entrepreneurs and fishermen in Rayong province, altogether over 1,860 persons, to collect over 9,576 kilograms of garbage on the beach and build awareness on environmental conservation;
- Hand out 100 artificial fish homes made from polyethylene pipes to local fishery communities in Rayong province and plan to expand knowledge network throughout the eastern region.

Buffer zone around the quarry

50%

FSC certified forest area

50,176 rais





## Sustainable Water Management

UASB (Upflow Anaerobic Sludge Blanket) Wastewater Treatment System of Vina Kraft Paper Co., Ltd, Vietnam, is the best system in SCG Paper designed to support water management according to 3R Principles.

With the commitment to an effective use of natural resources, reduction of environmental impacts and conservation of natural resources, SCG operates with care in the environment throughout its supply chain with 3R principles i.e.

- Reduce;
- Reuse / Recycle;
- Replenish.

### Risks and Opportunities Management

Each year, SCG withdrew water from different sources including surface water, underground water and water supply to use in manufacturing for more than 100 million cubic meters. Hence, SCG has set up SCG Water Management Committee to define policy, targets and guidelines in line with international approaches for water management that maximize utilization effectiveness including to establish measures for managing water throughout product life cycle ranging from upstream to downstream.

1.Risks on Water Scarcity and Quality of Water Utilized in Manufacturing - Fluctuating of water price in scarcity circumstance causes a direct impact to manufacturing costs of SCG products and services. Hence, survey and monitoring of water quantity from water sources were executed with establishment of supporting measures, initiation of projects and development of tools to reduce water consumption in production processes.

2.Risks on Quality and Quantity of Water Discharged from Manufacturing - Investment on installation of wastewater treatment system to improve efficiency was performed together with monitoring and tracking water quality via measurement devices to ensure results continuously better than regulatory standards. Cooperation with communities and stakeholders was executed to allocate treated water for agriculture during a dry season and to carry out a water resource conservation awareness raising project to enable stakeholders to be able to manage water in their own communities sustainably.

### Manufacturing Process Improvement Project

- Install pumps to utilize clear water from a recycling system to dissolve limestone used in the paper manufacturing process resulting in reducing water consumption of 43,200 cubic meters per year,
- Install reverse osmosis systems to increase recycling efficiency resulting in water recycled for 200,000 cubic meters per year,
- Improve a drainage system and dike to retain diluted black liquor and being returned to the paper manufacturing process which reduces amount of wastewater and chemicals used in treatment system and a manufacturing process,
- Install ponds to store wastewater and contaminated storm water in order to enhance stability and efficiency of wastewater treatment system which results in reducing wastewater discharge,
- Increase efficiency of a wastewater treatment system by upgrading from aeration type to SBR type which results in better treated water quality and reduce pollution discharged to water source.

### Engagement with Business Partners

SCG Chemicals has utilized raw water from several reservoirs located in Rayong Province through supply from Eastern Water Resources Development and Management Public Company Limited. As a result, SCG tracked and monitored quantity and quality of water as well as water management every year, and involved with various organizations in governmental and private sectors in

monthly evaluation of water risk. SCG also participated in provision of opinions on adjusting the water pricing structure that suitable for industrial entrepreneurs.

### Response to Customers' Needs

SCG is not only committed to managing water resources within the organization to meet international standards but also develop products with innovation that enhances competitiveness in the markets and responds to customers' needs from planning through manufacturing and product delivery. Currently, SCG has manufactured a number of green products and services to the market especially sanitary ware and fittings that help customers save water usage at least 20 percent.

### Development of Sustainable Water Sources to Communities

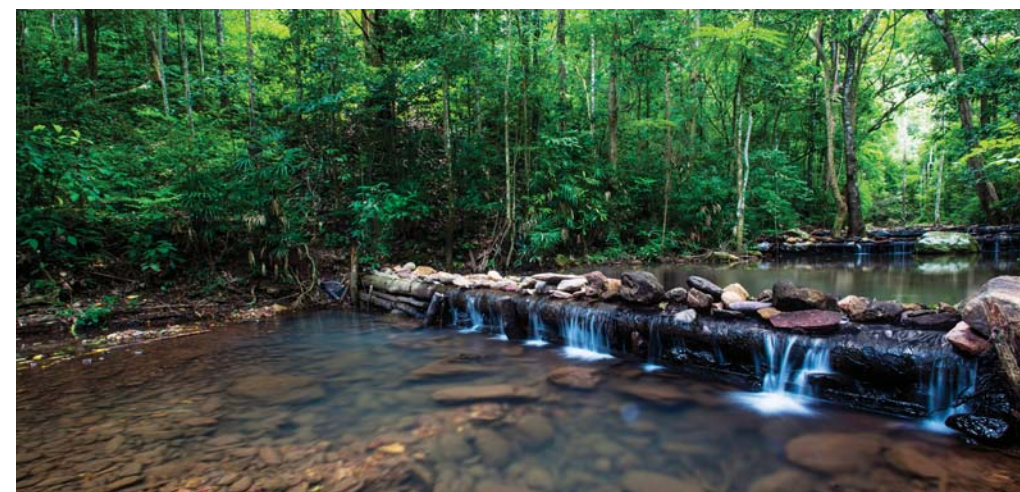
SCG has applied the Royal Initiative of His Majesty the King on water management as guidance and encouraged communities and society to participate in managing water shortage and inundation through 'SCG Conserving Water for Tomorrow' project by building check dams to slow the flow of surface run off, trap sediments, prevent flooding and restore forests to good health, and conserve water to be sufficient for communities to consume and use in agriculture for the entire year.

SCG cooperated with different communities such as Chukadon Community in Kanchanaburi Province to resolve wastewater problems and restore water condition in Mae Klong river through systematic water treatment; removal of water hyacinth from river; installation of grease traps in households and building a wetland to filtrate water prior to discharge to a river.

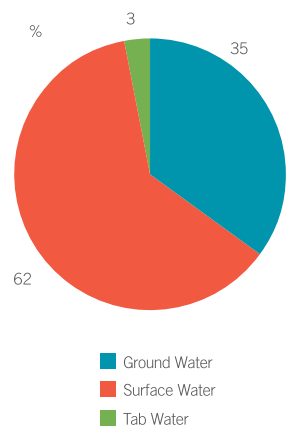


"Water is a main raw material for paper manufacturing. Hence, we have to study and design manufacturing processes to include water management in line with 3R principles which all SCG's companies try to reduce water usage as much as possible. Wastewater treatment system of Vina Kraft Paper Co.,Ltd. in Vietnam is the best system of SCG Paper as the treated water quality is comparable to clean water in river."

**Sangchai Wiriyaumpaiwong**  
General Director  
Vina Kraft Paper Co., Ltd.  
Vietnam



### Proportion of Water Withdrawal Sources







## Energy and Climate Change

### Energy and Climate Change Risks

SCG involves with industry that consumes energy. Global economic fluctuation has direct impact to raw material prices for energy production whilst climate change risks cause a wide-range of impacts including natural disasters, extreme weather, super typhoon, and severe flooding causing damage to life and business operation.

For the energy aspect, SCG has prepared long-term measures to reduce risk, defined targets to increase renewable fuel consumption, explored new fuel sources, implemented financial measures through long-term purchase

agreements and hedging as well as performed management and improvement of manufacturing process to be ready for business competition. These energy reduction programs also directly and indirectly help reduce emission of greenhouse gases to the atmosphere.

For the climate change aspect, SCG has prepared measures both to avoid emission of greenhouse gases, and prepare for natural disaster to organizational level in which business cannot be operated normally and at individual level in which assistance to victims and alleviation of affliction spreading to society and external organizations.

### SCG Strategies

SCG has reduced probability and severity of energy risks by implementation of management strategies such as energy source management to ensure sufficiency for manufacturing and energy source diversification e.g. purchase coal from the Philippines besides Indonesia and explore coal sources in Myanmar. Moreover, SCG increased utilization of other alternative energy for example processing agricultural waste to substitute coal or supplying to gasification process to substitute natural gas. These reduced greenhouse gas emissions and smog from open burning waste.

Machine improvement using new technologies helped improve energy efficiency, lower energy demand as well as reduce burden on energy sourcing.

A campaign of energy conservation awareness was conducted via competition functions and Show & Share activities resulting in expanding energy conservation concepts throughout units, factories and offices effectively.

### Greenhouse Gas Emissions Inventory and Reporting

SCG is the first Thai company giving priority to disclosure of energy and greenhouse gas emissions data to the public on an annual basis since 2004 with adherence to the sustainability reporting guidelines of World Business Council for Sustainable Development and ISO 14064-1.

### Defining Performance Indicators

Every SCG business unit has defined energy consumption per production unit as one of the key performance indicators in order to demonstrate efficiency and directly reflect energy cost of each manufacturing process. At cement plants, the proportion of renewable energy consumption is another indicator that is regularly reviewed and monitored by management teams.

SCG has defined performance indicators on greenhouse gas emissions for monitoring and reporting as well as defining target on reducing greenhouse gas emissions per ton of product by at least 10 percent by 2020 from the base year of 2007 which is the year that SCG completed verification of greenhouse gases emission inventory at all businesses units.

### Establishment of Monitoring Committee

SCG has set up the Energy Committee comprising representatives from management of all business units and energy department in order for solid management, forming direct accountable committee and creating program continuity. This committee tracks all energy programs to ensure consistence with sustainable energy management policy and guidelines, enhance energy conservation, appropriate use renewable energy, and minimize environmental impact. Moreover, the committee communicates, campaigns and builds energy conservation awareness with employees as well as promotes an image of the organization using energy responsibly. It also closely tracks the programs on energy efficiency improvement. For example, management of coal sourcing resulting in over 10 percent decrease of coal purchasing cost over the previous year.

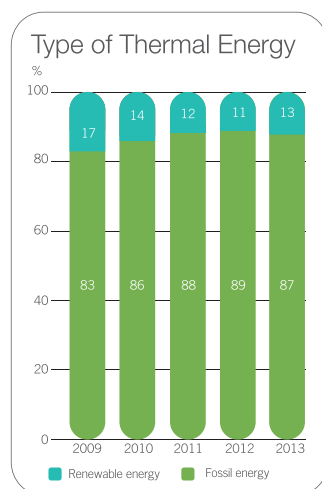
Moreover, SCG has set up the Climate Change Committee responsible for defining policies, strategies and goals on reducing climate change impacts and SCG's greenhouse gas emissions. The committee closely monitors climate change trends by cooperating with Thailand Greenhouse Gas Management Organization (Public Organization) and supports carbon credits to compensate activities arranged by different organizations for international forums such as the 31<sup>st</sup> National Seminar of the Chamber of Commerce at Trang Province.



"SCG manages energy sources and controls greenhouse gas emissions to reduce risks of energy shortage and energy cost, demonstrate social responsibility, and create opportunities to innovate products and services that respond to customer's needs. SCG has set the target on reduction of greenhouse gas emissions throughout manufacturing by at least 10 percent within 2020 from the base year 2007 by using technology to improve machine efficiency, using renewable energy as well as providing green products and services as options for customers."

**Pinyo Harnseelawat**  
Chairman  
Climate Change Committee





## Performance

SCG has continuously committed to energy reduction through efficiency improvement by replacing new technology machineries and implementing Total Quality Management (TQM) and Total Productive Maintenance (TPM) in order to serve rapid manufacturing expansion. These resulted in 2 percent reduction of electricity consumption due to cooperation from employees and contractors in the electricity consumption reduction campaign driven by the increase of electricity price. The company could save electricity cost whilst the total electricity consumption was increased for 1 percent.

Rises in the price of natural gas which is the main fuel source in the ceramic industry is another factor that caused ceramic floor and wall tiles and ceramic sanitary ware factories to adjust their manufacturing processes to reduce the energy usage.

However, the use of renewable energy could not yet achieved the goal due to economic reason – industries still used high proportion of coal because the coal price had become much cheaper so that alternative fuels did not yield attractive return as before.

### Efficiency Enhancement and Reduction of Greenhouse Gas Scope 1

- Use of the ceramic coating substance (Emisspro™) in furnaces at olefins and vinyl chloride monomer manufacturing factories contributed to the reduction of natural gas consumption by 2-6 percent, or 36,500 tons per year, which was equivalent to the reduction of greenhouse gas emission of 100,000 tons per year.

- Efficiency enhancement by installing highly efficient burners which lowers natural gas usage at Thai Ceramic Co., Ltd; recovery of waste heat from furnaces and used in dryer at the Siam Ceramic Group Industries Co., Ltd and Thai Ceramic Roof Tiles Co., Ltd; and the use of a ceramic coating substance to reduce heat loss from furnaces at the Siam Ceramic Group Industry Co., Ltd. These contributed to reduction of natural gas consumption, saving energy for over 87,000 gigajoules per year and lowering greenhouse gas emissions for 5,000 tons per year.

- Use of community waste as alternative fuel at our cement plants under Refuse Derived Fuel (RDF) Project. During the past year, the use of community waste has increased to 14,000 tons per year and greenhouse gas emissions were reduced by 12,600 tons per year.

- Installation of a High Pressure Casting Machine which enabled sanitary ware moldings to proceed without molds at Siam Sanitary Ware Co., Ltd contributed to the reduction of energy consumption in molds production by 8,900 gigajoules per year, lowering greenhouse gas emissions for 500 tons per year and reducing wastes from expired molds for 1,300 tons per year.

- Installation of an Absorption Heat Pump to recover waste heat in the water from the cooling tower in order to warm the water in boiler, which could reduce energy consumption as well as work load at the cooling tower. This contributed to the reduction of coal usage by

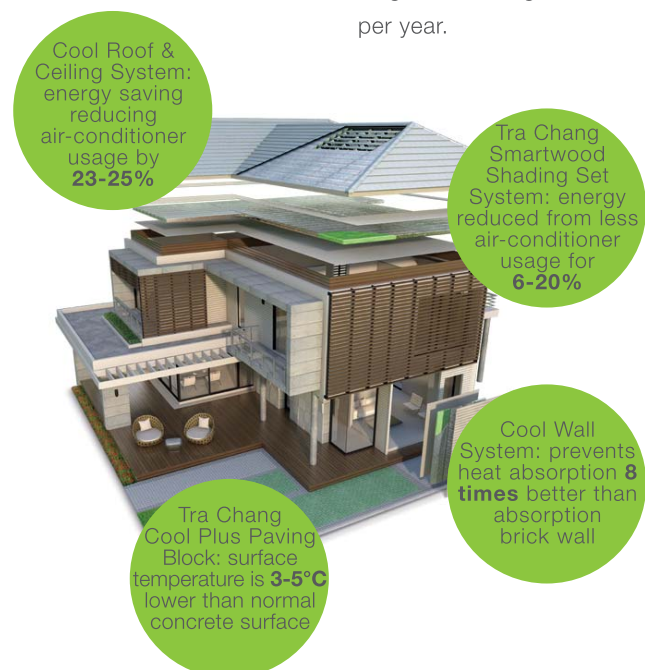
## Any houses...can be cool

Tra Chang's House Cooling System Innovation is product group with the SCG eco value label which certifies its efficiency on saving electricity cost from air-conditioner and environmental-friendliness.

1. Cool Roof & Ceiling System prevents heat by heat reflective roof tiles, low thermal conductivity materials, air circulation system in the roof, heat reflective sheet and soffits enabling heat dissipation.

2. Cool Wall System is light weight wall system fixed with steel framing and insulation in between, which can be used for either interior or exterior.

3. Interior Heat Preventive System reduces the heat in the attic by lathing design preventing heat but not blocking air flow, and special paving blocks that absorb and retain water inside and release cool air that lowers temperature around the house.



512 tons per year and greenhouse gas emission of 2,800 tons per year.

- Use of biogas from up-flow anaerobic sludge blanket wastewater treatment system to generate power at Vina Kraft Paper Co., Ltd that can produce biogas of up to 8,500 cubic meters per day, substituting for coal usage of 2,750 tons per year, resulting in greenhouse gas emissions reduced over 7,500 tons per year.

### Improvement of Manufacturing Process and Reduction of Greenhouse Gas Scope 2

- Use of excess heat at pre-heater tower and clinker cooler in clinker manufacturing process, where the heat is as high as 350-400°C, to produce steam that drives a steam turbine to generate electricity back to the manufacturing process. This could replace the purchased electricity of 100 megawatts and lower greenhouse gas emissions over 327,000 tons per year.

- Installation of a pre-grinding system for cement mill of The Siam Cement (Kaeng Khoi) Co., Ltd resulted in lower usage of electricity at cement mill by 13 gigawatt-hours per year and reduction of greenhouse gas emissions for over 6,500 tons per year.

- Replacement of raw mill with vertical mill at The Siam Cement (Ta Luang) Co., Ltd contributed to electricity consumption reduction over 10 gigawatt-hours per year and reduction of greenhouse gas emissions for over 5,000 tons per year.

### Business Partners' Enhancement and Reduction of Greenhouse Gas Scope 3

- Promote energy saving and reduce greenhouse gas emissions from products and services through research and development that fulfills customers' need under SCG eco value label, such as, Home Cooling Innovation and CeraFino Solar Tile that generate electricity from solar energy, in order that customers be aware of and protect environment while saving money from energy costs.

- Adoption of a multimodal system for integrated logistics management which can reduce deadhead and enhance travel flow by C-Move system with Global Positioning System which identifies routes, manages transportation plan, reduces distance and number of trips. Moreover, drivers were educated on economical and safe driving techniques to enhance service quality aiming for professionalism. This has reduced greenhouse gas emissions from normal logistic process by at least 13,000 tons per year.

## Carbon Credit

Although currently ASEAN countries where SCG conducts operations are not yet controlled by Kyoto Protocol for reducing greenhouse gas emissions, and the outcome of the previous Climate Change Conference could not yet conclude clear guidelines of practices, SCG still continues to define strategies and projects to reduce greenhouse gas emissions in every country where SCG operates.

In 2013, SCG continued its attempt to apply for carbon credit certification – Certified Emission Reductions 11,084 tons of CO<sub>2</sub> equivalent and Voluntary Emission Reductions 419,655 tons of CO<sub>2</sub> equivalent.



SCG can reduce greenhouse gas emission throughout life cycle of the products by collaborating with Thailand Greenhouse Gas Management Organisation (Public Organisation) and National Metal and Materials Technology Center in carrying out a study on the quantity of greenhouse gas emission throughout products' life cycle. SCG is the first company in Thailand which studies on greenhouse gas emission from cement products and has certified by Carbon Footprint Label.





## Sustainable Resource Management

Due to the increasingly competitive business environment, limited resources and growing population, natural resources have become insufficient and near to scarcity. SCG has adopted a sustainable approach for natural resource management with an aim to become an international business model - starting from sourcing, research, development, manufacturing process, and recovery of excessive materials to manufacturing process - with Total Quality Management, Total Productive Maintenance, maximizing the use of recycled and renewable materials in substitution for natural resources while generating a minimum amount of waste. SCG has identified the target of waste disposal to achieve "Zero Waste to Landfill" by 2012.



## Renewable Resources

### Alternative Fuel

- Use biomass residue as fuel for 16 percent in cement industry.
- Substitute chemical substances derived from the pulping process, residues from the production process, sludge from the water treatment system, and bark, for fossil fuels for 31 percent in paper production.

### Alternative Raw Materials

- Use wastewater treatment sludge, fly ash from a power plant, and slag from a steel industry as substitutes for main materials in our cement industry.
- Develop a fiberglass insulation manufacturing process to utilize glass scrap as raw materials to substitute natural silica sand by 100 percent.
- Grind process-based ceramic tiles and mix for use as raw materials in the production of COTTO floor tile: Eco Touch and Eco Rockrete by 60 percent.
- Enhance all paper production technologies to enable the use of paper scraps as main materials in substitution for natural pulp by 100 percent yielding paper of higher quality. SCG Paper has invested in setting up 27 buying outlets and Bailing Station, both in Thailand and abroad, to buy used paper direct from users and the number is continuously increasing.

## Recyclable Resources

### Bio-PET

In manufacturing of Polyethylene Terephthalate or PET for Bio-PET drinking water bottle, SCG Chemicals uses plant-based raw materials such as molasses, rice straw, and bagasse, as substitutes for petroleum for 5-30 percent which has similar characteristics to general PETs. Today, Bio-PET is used for many products such as bottles for drinking water or carbonated beverages and recyclable for production of other bottles or products.

### Sustainable Forest Management

SCG Paper places importance on forest management for sustainable recycled resources. It was the first company in Thailand to be certified by Forest Stewardship Council which ensures that wood and paper with the FSC symbol are derived from plantation and production that is not the result of deforestation and conserve the natural forest, while also helping to generate income for surrounding communities. Currently, SCG Paper is responsible for FSC certified forest of 50,176 rais.



FSC is an international organization that promotes environmentally responsible management of the forest from plantation to packaging paper. Its Forest Certification applies to forest management, wood-based products and other forest products with an aim to create the balance of economy, society and the environment for sustainable future.





## Waste Management

### Concrete Waste Separator

Concrete Product and Aggregate Co., Ltd. has developed a concrete waste separator to reuse raw materials by separating stones and sands from excess cement slurry from customers' orders and reuse the slurry in the washing and mixing process of concrete production. The separator was designed for usages in each specific area and controlled by automatic system with one-time button push per usage. Currently, the concrete waste separator has been increasingly established and utilized in more plants nationwide.

### Salt-waste Separating Process

SCG Chemicals has collaborated with SCG Paper in R&D of a mixed salt recovery project for a high quality pulp production by transforming spent caustics resulted from olefins production into salt compound which can be substituted for chemicals used in a pulp boiling process and reduce usage of sodium sulfate in the process by 4 tons per day.

### Transforming Microbial Sludge into Fertilizer by Earthworms

Biological wastewater treatment at SCG Chemicals' plants generates microbial sludge which is usually transferred to cement kiln for disposal. A research team, in collaboration with

Maejo University, has adopted a natural method by carrying out experiments to let earthworms eat microbial sludge. The result showed that feces and urine of earthworms become compost and organic fertilizers. It was the first time that petrochemical sludge was used to produce organic fertilizer by natural methods throughout the process which creates value from waste. SCG Chemicals has established an experiment center for a demonstrative plantation and knowledge transfer to communities.

### Waste Segregating Center

SCG Trading Co., Ltd. has initiated a recycling business by setting up 'Recycling Station' to collect scrap paper, steels and PET plastic bottles for separating and compression before delivering to main customers and trading partners for use as raw materials both inside and outside SCG. Since the number tends to increase, SCG is now studying the possibility of adding other recycled materials in line with the increasing demands of business in the region.

SCG's resource management approach has resulted in the increase of raw materials for sustainable manufacturing process, enhancement of production efficiency, cost-saving, and increase of marketing



competitiveness throughout the supply chain. The outcome has also been extended to new businesses such as bailing stations and recycling business, both in the country and abroad, to meet the increasing demand for

recycled materials.

The concept has been transferred to suppliers by setting it as part of assessment and consultation under the Green Procurement project.



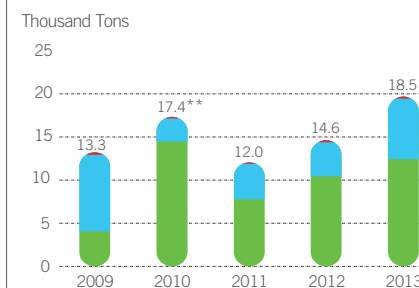
"Collaboration from all parties in developing waste recovery technology in order to achieve the Zero Waste to Landfill goal has resulted in several technologies developed by SCG which can bring waste to usage in substitute for natural resources. Today, we still continue to extend the success to generate the innovations that add value to the wastes making them high value added products that respond to the market's and society's trends towards more environmental awareness."

### Amnuay Ponpued

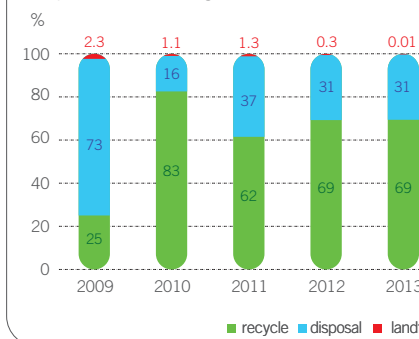
Chairman  
Waste Management Committee

In 2013, SCG was able to increase rate of recycled materials usage by 98 percent. There remained only 0.01 percent of hazardous waste to landfill. The latter are waste of insulation type and the research is now under way to make them reusable as alternative raw materials in cement plant.

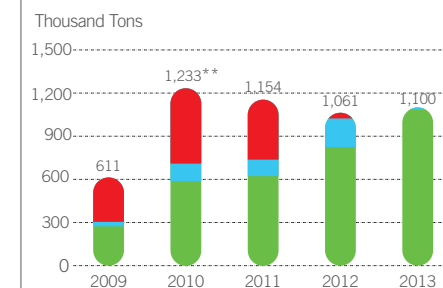
#### Hazardous waste Manageable Amount\*



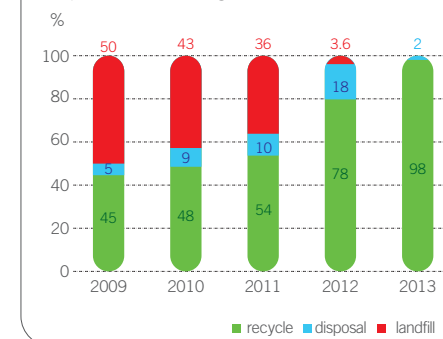
#### Proportion of Management



#### Non Hazardous waste Manageable Amount\*



#### Proportion of Management



\*Waste in the storage waiting for waste management is excluded.  
\*\*SCG Paper has revised data form "as dry basis" to "as recieved basis" since 2010

Map Ta Phut Olefins Co., Ltd. has conducted 'Naphtha Blending Project' to improve supplying system of naphtha from raw material tank. It contributes to a better control of reaction in cracking furnace and reduce fluctuation of fuel produced from the process. It also reduces imported fuel and fuel sent to the flare. Moreover, due to more stable level of naphtha in the tank, it reduces vapor naphtha and required activated carbon accordingly. The company is the first and only that conducts naphtha blending with only two tanks resulting in lower expense for 67 million baht each year and the company receiving the Good Economic Return Award - Gold Medal from Department of Industrial Works in 2013.





# Green Building



“We are very proud of the latest achievement of Starbucks Coffee, Porto Chino’s branch, which is certified by LEED standard with Gold Level. I would like to thank our green alliance ‘SCG Cement-Building Materials’ for determination of working together with us, as well as advice on choosing building materials for our green coffee shop.”

**Murray Darling**  
Managing Director  
Starbucks Coffee  
(Thailand) Co.,Ltd.

## SCG 100 Years Building

The design concept of the SCG 100 Years Building is derived from the idea of sustainable coexistence between organization and surrounding community, and an organizational culture and vision to sustainability that responds to the demand of people of several generations including the new generations who are becoming the main resources of the company. It is a landmark, with unique shape that wavers and not geometric shape, has a shady landscape which can be used as a resting area and other functions and, most importantly, promotes the betterment of employee's health and life at workplace.

- 1 Increase green areas to more than 50 percent of open space
- 2 Set up parking spaces for bicycles and special parking spaces for Eco Cars
- 3 Reduce water consumption by using water-saving sanitary wares
- 4 Treat Wastewater and use rainwater to water all plants onsite
- 5 Broaden building balconies around the building to provide shade
- 6 Install heat prevention glass with low heat transfer coefficient (U Value 1.55 watt per square meter Kelvin)
- 7 Use T5 energy saving lamps and LED lamps
- 8 Install a high efficiency chiller (COP 6.5) and no CFC substance
- 9 Install Solar Cell generating alternative energy of 99,000 kilowatt-hours per year
- 10 Use products that are composed of recycled materials
- 11 Use local materials in order to reduce transportation
- 12 Recycle wastes from constructions by 91 percent
- 13 Reduce the use of hazardous chemicals, paints, coatings and adhesives which has low VOC
- 14 Manage the building with Building Automation System



More energy saving  
according to  
ASHRAE standard

32%





Sustainable Society

|                                  |    |
|----------------------------------|----|
| Health and Safety                | 50 |
| Employee Caring                  | 54 |
| Community and Social Development | 60 |

Organizational Culture, Safety Culture

Safety is important measure that SCG always emphasizes and accredits. All SCG's companies implement and adapt SCG safety framework and the occupational health and safety management standards i.e. TIS/OHSAS 18001 in operation. 'Think Safe Work Safe' is a safety campaign used to raise safety awareness for all levels of employees to strictly follow without compromising. Management are leader in building of sustainability safety culture which also extends to the contractors of SCG by the contractor safety certification system and development of logistics partner with safety driving program. Since the implementation, it is continuously reducing accidental records and also engaging stakeholders and surrounded community incur safety environment.

According to statistic record of road safety, Thailand ranks the 3<sup>rd</sup> in the world in high fatality rate from road accidents. It clearly indicates that traffic hazard is urgent issue that needs immediate solution. SCG believes the organizational safety culture has been growing for decade, with safety experiences in traffic of employees and contractors and with efficiency of

working system, it has potential to solve this problem and with hope to extend the safety culture overwhelm supply chains of Thai society and in ASEAN. Therefore, in 2013, the CSR Committee for Sustainable Development agrees to conduct the 'Road Safety' Program to promote safety in life and properties of people on road that are risk from traffics. It is significant sustainability program that SCG dedicates effort and cooperation of safety culture within organization and pass through to community and Thai society.

Dr. Thanapong Jinwong, Manager of Academic for Road Safety Center, National Health Foundation, stated that "Road accident is severe problem that impacts life, economy, society and credit of Thailand. I agree with SCG's thought that we have to provide what social lack and society has to sustain by its social structure. Decision of SCG on the Safety Road campaign is an advance step in developing safety knowledge in Thailand and creating safety prototype. SCG will be role model and extend result to the other fields. All of us would like to see changes in Thai social structure that encourage Thai people awareness about root causes of road accident, who is real culprit".



"I agree with SCG's thought that we have to provide what social lack and society has to sustain by its social structure. Decision of SCG on the Safety Road campaign is an advance step in developing safety knowledge in Thailand and creating safety prototype. SCG will be role model and extend result to the other fields. "

**Dr. Thanapong Jinwong**  
Manager of Academic for Road Safety Center





## Health and Safety

Employee  
Incident Rate

0.36

Health and safety at workplace for employee and contractor are risk of organization that needs cooperation from all parties in order to address and prevent. Besides, establishment of clear Health and Safety Policy throughout SCG management structure, encouraging contractors to participate in health and safety programs is another approach that SCG uses to promote with the aims to build safety culture and enable sustainable free injury and illness organization.

Safety at workplace is important duty of employees in all levels that have to seriously implement. Besides safety culture building, SCG has conducted Safety Performance Assessment Program (SPAP) at all companies. SCG has also continuously encouraged contractors to involve with safety management enhancement through SCG Contractor Safety Certification System (SCS). In 2013, subsequently, SCG invented new methodologies to reduce risk in each business and severity of accident; for example,

### SCG Cement-Building Materials

Cement factory has potential to create work-related hazards due to massive machines, therefore, the production professional committee, which composes of employees from production section from all factories, identified hazards together to develop safe operating procedures to be a standard for safe machine operation. In addition, assesement approaches were defined to evaluate implementation at each factory in order to further execute in an effective way. In 2013, the committee established 19 standards including:

- Raw material crusher inspection
- Raw mill inspection
- Cement mill inspection
- Solid fuel mill inspection
- Biomass grinder inspection
- Bucket elevator inspection
- Pulverized coal bin/silo inspection
- Rotary valve inspection
- Rotary feeder inspection
- Inspection of refractory brick in kiln
- Reject removal from solid fuel mill
- Riser pipe clearing
- Riser pipe clearing with air
- Cyclone clogging clearing
- Reclaimer operation
- Packer operation
- Palletizer operation
- Belt conveyer operation
- Safely product distribution operation

SCG Logistics continuously prevents accident from logistics addressing preliminary cause of accidents by establishing SCG Skills Development School to educate fleet crews to be aware of and to be skillful on defensive driving. Up to date, 10,702 drivers passed the course. In order to enhance safety to drivers, control overhead cost and build satisfaction to SCG's contractors and customers, SCG Logistics implemented several initiatives such as establishing resting area in each route to relieve driver's fatigue; installing GPS in trucks; and setting up Logistics Command Center to constantly track and control logistics. Moreover, Driver Centric Management System was initiated to develop maps to identify risks along each route and to enable recording into GPS in order to allow drivers to realize and to alarm drivers while approaching risky locations.

However, in 2013, accidents were still being continuously occurred because of traffic infringement and lack of discipline from commuters and unsafe road conditions.

The CSR Committee for Sustainable Development consequently concluded that SCG will conduct Road Safety program to promote and enhance safety to commuters continuously. SCG will seriously involve in this program to become a role model by developing resolution for national traffic accident.

### SCG Paper

Safety culture at workplace is core approach tools to reduce safety risk in paper business. The approach to sustainably and continuously enhance safe behavior and culture to employees was implemented through learning and demonstration of safety leadership from executives in order to further extend to medium-management. Moreover, safe operating procedures were reviewed and upgraded to be more specific and suitable for paper business including:

- Safe operating procedures for chemical management
- Safe operating procedures for working in confined space
- Safe operating procedures for electrical works
- Safe operating procedures for hot works
- Procedures for safety performance data collection
- Safe operating procedures for working at height



"Safety...It is developed from caring, helping each other, taking care and suggesting to work together safely"

#### Pichit Maipoom

President  
SCG Cement-Building Materials



"We strictly focus on safety since employees are the most important resource of organization"

#### Roongrote Rangsiyopash

President  
SCG Paper





“Don’t think that doing safety makes you exhaust. For if not, we may have more fatality.”

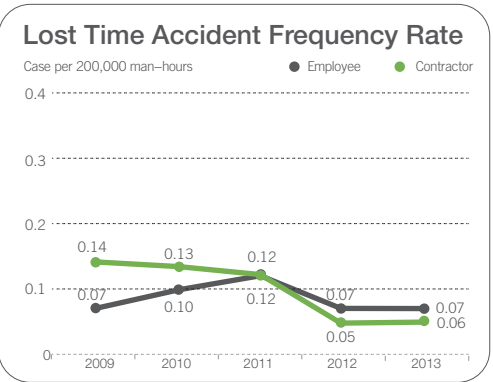
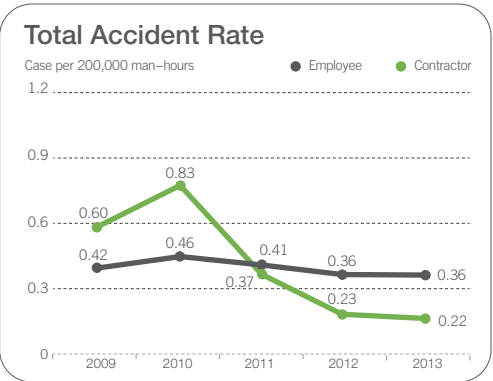
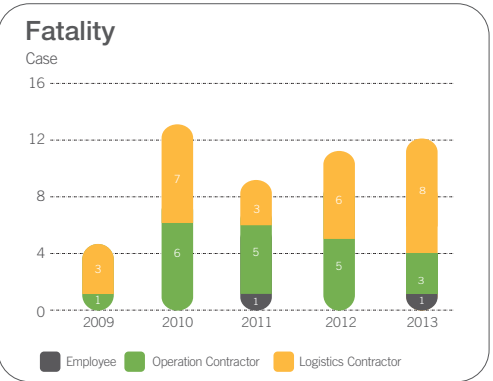
**Cholanut Yanaranop**  
President  
SCG Chemicals

**SCG Chemicals**

Major risk of chemicals business is hazards from process incident and chemical spill that may cause impacts to environment and communities. So, SCG Chemicals has put its attempt on fostering safety culture at work sustainably within the organization by continuously developing capability of management at all levels to be Safety Felt Leadership. This will build safety awareness and behavior at work. Moreover, process safety management system, a system accepted by global petrochemical industry to control risk in manufacturing process and prevent catastrophic events, was launched at two pilot companies and planned to leverage to all companies within the business. In 2013, the company has signed a memorandum of agreement with Faculty of Public Health, Mahidol University to develop industrial hygiene management system in accordance with the guidelines of International Labour Organization. The implementation at 5 pilot companies can classify employee into Similar Exposure Group (SEG) based on exposure rating to each risk factor. Health Risk Assessment (HRA) was also conducted to prioritize risk level which benefits to identification of control measures to reduce risk down to an acceptable level. Risk level obtained from the assessment was also used as guidance to determine measures to control exposure to occupational risk factors through medical surveillance such as annual health check-up and biological monitoring. These help control and prevent the employees from occupational diseases to become sustainable occupational diseases free workplace. This program will be leveraged to all companies accordingly.

**Accident Statistics**

The result of cause analysis on occurred accident indicates that the main cause is from not following the existing measures. Hence, resolution approach still emphasize on building safety behavior and designing control system strictly based on Process Safety Management concept. Moreover, awareness on safe driving is continuously promoted.



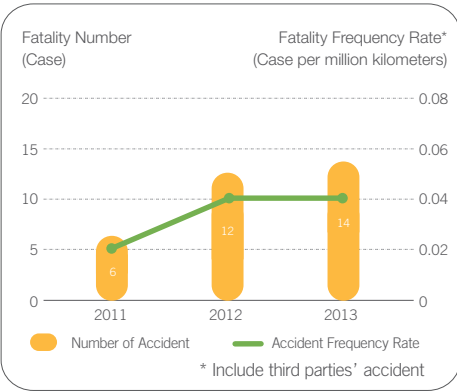
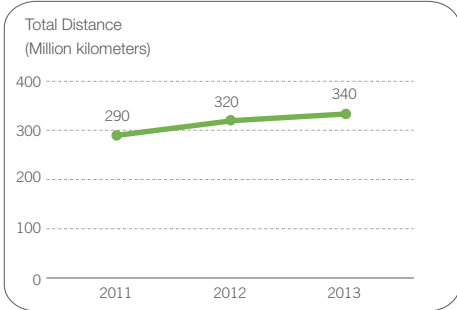
**Driver Centric Management System**

SCG Logistics tried to initiate and innovate new approaches to reduce and control logistics accidents. Due to various causes of accident driving behavior, route selection and other uncontrollable factors, Driver Centric Management System was adopted by collecting and analyzing the causes of previously occurred accidents as well as defining preventive measures addressing all causes. Moreover, drivers have been trained on Safety Driving Course and In-Cap Coaching as well as implementation of random alcohol and drug testing; rest time control & checking; vehicle inspection before each trip; following delivery plan; toolbox meeting; time-based vehicle maintenance; random vehicle inspection; GPS installation; and In-Cab camera installation to observe and control driving behavior.

Furthermore, SCG Logistics has cooperated with logistics companies in controlling and reducing accident through individual development plan of each logistics company and provision of support on education and knowledge on reduction and control of occurred accident.

Although the outcomes from the

above programs were still not able to significantly reduce number of accident, logistics accident rate was maintained the same. Henceforth, SCG Logistics will extend such programs to cover all logistics companies as the business goal is to create profit based on sustainable customer’s satisfaction and contractor’s safety.



“We all together have to investigate for root cause of accidents. Each accident is not only about insurance claim but it is lesson learnt that needs to be transferred to prevent recurrence. We demonstrate our care to the drivers through regular visit, listening to their problems, counseling, and emphasizing on how important they are not only to their family but also the work and reputation attached with SCG logo on each truck. Moreover, valuing on what they share to colleagues or problems they share to supervisor and trainer will make them proud with their job, maintain their driving discipline and not bypassing safety procedures.”

**Wanchai Kaewsod**  
Trainer  
SCG Skills Development School



“It is not easy to change drivers’ attitude but it is the first thing that trainers have to overcome by making them confident in trainers using our competencies and experiences. We have to indicate them the risks and impacts arisen from unsafe behaviors and emphasize that they are the core pillar of a house. I am always happy to hear from students how they utilize the knowledge obtained from me to make them safe. I am also proud to be a trainer of SCG, the organization that cares of employees’ safety more than profit.”

**Prapapant Sopeepot**  
Trainer  
SCG Skills Development School





## Employee Caring

SCG supports the hiring of the physically challenged people and focuses on searching channels to hire more physically challenged people. In 2013, SCG hired totally 26 physically challenged people. All of them received salary, benefit, and welfare equal to other employees. moreover, SCG began to study the possibility of supporting activity and quality of life promoting activity for physically challenged people in many forms, e.g. concession area for physically challenged people, agricultural center for tourism, and publishing center working in collaboration with social enterprise in Thailand.

### Human Resource Management and Organization Development Strategy

- Enhance readiness for business expanding toward the ASEAN region.
- Build capacity in the development of high value added products and services
- Create future workplace and build next generation leader.

SCG believes in the international principles on human rights, labor force, environment and anti-corruption. SCG devotes to care and promote the better life quality of its employees and business partners in accordance with the SCG's ethics and ideology.

Due to the guideline to promote equality, the proportion of female employees has been increasing continuously. Furthermore, the first female committee was selected into the company's board of committee in March 2013. Employees have opportunities to form up groups and express opinions through forms of welfare committee, employee committee

or labor union. As a result, employees in the workplace which has labor union have increased to 10 percent in 2013.

SCG's policy is not to lay-off its employees even in the economic crises in Thailand and ASEAN in 1997, business takeover of 3 main business sections in 2012 which the total employees were approximately 8,500 people and business structural adaptation which has combined cement business, building material business and distribution business together in 2013 which the total employees were approximately 27,500 people.

### Enhance readiness for business expanding toward the ASEAN region

Human resource development in the SCG's invested country is considered the key of success. Employee development system in Thailand is used and adapted in accordance with surroundings, culture and way of life in each country. Not only care toward its employees, SCG has expanded development toward students, university students and communities nearby the SCG's plants. SCG believes that the sustainable development of the community and the company must start from human resource. In addition, the recruitment system for employees who will be working abroad is developed and improved in order to fit the destination of working countries. Employees will be trained and developed in knowledge, competency, local language and assimilation with different cultures

in harmony. These employees will become effective and efficient leaders, similar to SCG employees in Thailand.

In the meantime, SCG is preparing career progress system for employees in each country the opportunity to thrive into higher management level systematically and continuously. It carries out the development plan which is appropriate with each employee's roles and responsibilities at present and in the future. Apart from the highest enhancement of employees' effectiveness and efficiency, SCG also supports its employees to create their own self-development plan and to create good employee relations.

In order to create high speed in activity implementation which supports business abroad, SCG has established organizational support unit called Country Business Support Office (CBSO) in strategic country to support its business operations to go well and fast.







“I highly admire SCG management guidelines which balance work and activity very well and open an opportunity to let the family of employee to participate in the activity. I feel the sense of being a family and see the SCG 4 Core Values in genuine practice”

**Pham Hung Thinh**  
Administration Manager  
Long Son Petrochemical Co.,Ltd.

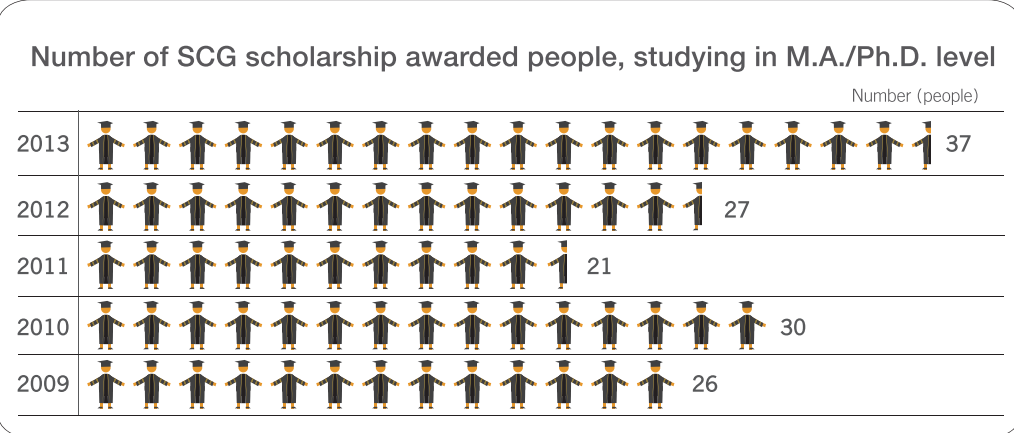
**Build capacity in the development of high value added products and services**

In order to response the development of high value added products and services. SCG focuses on research and development (R&D). Apart from the continuous increasing in Research and Development budget, SCG also focuses on recruiting qualified research and development employees. Employees in this field are highly increased by SCG’s efforts in the previous five year round, from 364 people (Ph.D., 9 people) in 2009 was increased to 1,262 people (Ph.D., 73 people) in the previous year in order to support the aforementioned strategy.

Besides the requirement to hire more research and development employees, the business expansion results in the SCG needs of more employees in other field. Recruitment process is improved to select more efficient

employees. Furthermore, SCG focuses on hiring more experienced employees (Mid-career). In the past, SCG mostly hired new graduates. In 2013, SCG hired more mid-career employees in the proportion of 45 percent of new employees in order to have qualified employees that meet the business expansion according to the business strategy.

SCG has policy to launch collaboration project with external units to develop employees in continuity, including SCG employees working in research and development field. Employee development activities are comprised of Ph.D. scholarship for researcher and research development, and support in science and technology in the industrial sector. SCG development project will develop its employees and enhance competency in the development of high value added products and services.



**Create future workplace and build next generation leader**

**1. Employee and new generation leader development**

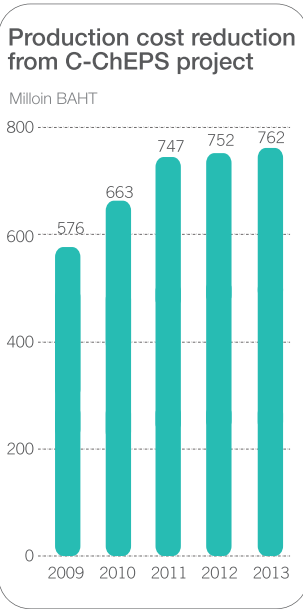
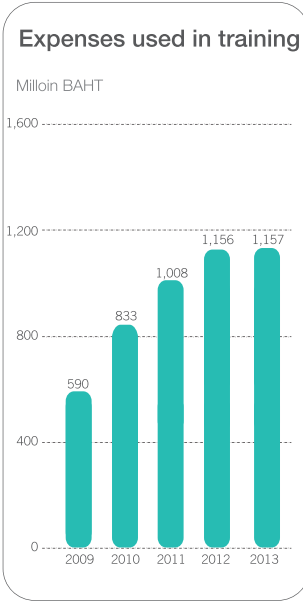
SCG attempts to develop and improve systems of employee development continuously by focusing on leadership with capability, competency, moral and ethics in work implementation. In the context of SCG, in order to achieve the status of leader completely, you need to lead yourself, lead your colleagues, lead in the organization, including lead in social change. At present, SCG designs and develops a course on leadership build-up for new generation employees who will become the organization leaders. SCG also develops knowledge in business, international business relations, general management, and vocational profession to ensure that the new SCG organization leaders are ready to drive the organization to move forward in the future.

In 2013, SCG had expenses in employee development approximately 1,150 million baht and set up its 2014 budget at 1,582 million baht which increased from the previous year to 37 percent. An effort to develop employees in continuity was shown. Each employee will be developed in skills approximately 10 days per year. Most of the budget is used in technical curriculum to develop production skill, improvement of efficiency and safety at work. Besides, SCG has established training company related to technical training, service and management to train and develop efficiency in different groups of employees.

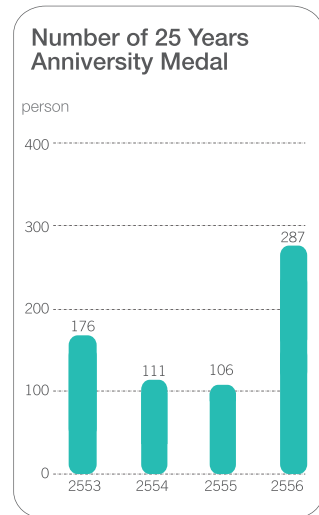
Example of training outcome measure is C-ChEPS project from SCG Chemicals which uses constructionism development principle that illustrates the efficient and sustainable development of employee self-studying, knowledge expanding, enhancing employee’s knowledge, skill and experience. Even though SCG does not focus mainly on outcomes from development, the project can reduce production

costs of 762 million baht. Expense use during 14 years of this project is approximately 72 million baht which can be calculated as almost 10-time-profit.

Under the business changes and fast business expansion, including extend the scope of business implementation in ASEAN, customer needs in products and services and stakeholders’ expectations toward business, SCG has changed its strategy in employee development under the project “Learning and Talent Transformation” in order to ensure that SCG’s products and services have meet the standard in both quality and business ethics by setting up the new way of learning (70:20:10 Learning Approach) and focusing on the integration of classroom-based learning and learning through real working experience under the supervision and experience transferring from experts. In addition, learning management system is adopted to facilitate employees to manage learning by themselves at anytime and anywhere which creates learning culture within the organization. Furthermore, SCG focuses on the development of leadership by setting up systematic development framework called SCG Leadership Profile to help the SCG leaders to step into every stakeholder’s heart, including employees, customers, business partners, community and society in the ASEAN region (engagement) and create future with full competency (imagination), including capacity in business management and leading the business toward excellence (excellence). SCG’s new generations of leaders at every level have knowledge and high competency, including good attitude toward competition and business implementation along with the awareness of sustainable community and society at present and tomorrow. With SCG working culture, the company can thrive sustainably as a leader of the ASEAN region.







“From the past 25 years, I was one of the people who dreamed of working with SCG. When I joined SCG as an employee, I felt that I was so lucky and proud of being a part of SCG, the company which operated with ethics and beliefs in human values under the 4 aspects.”

#### Kritaya Suparnpongs

Assistant Manager of Quality Assurance  
Center of Excellent and Sustainable Development

## 2. Human resource management system improvement

Due to SCG’s goals of being business leader in ASEAN by the year of 2015, and being the support of expanding business, especially in the region, SCG has improved its human resource management system in 4 aspects, comprise of Strategic Workforce Planning, Performance Management System, and Job Evaluation System. For overseas operations and review of relevant policies in recruitment & selection, hiring, and retention & motivation, SCG has improved them to support with the system improvement.

To support the diversity of SCG’s business expansion in the region, the company is preparing ‘Diversity & Integration Policy’ which considers on the employee differences in nationality, culture, gender and age in order to accept diversity in the organization and benefit from the diversity which creates innovation and engagement in employee caring according to diversity segmentation.

SCG’s improvement lays important foundation in sustainable business growth and builds up confidence in personnel management in accordance with SCG’s business philosophy, especially setting up standards to create fairness and equity among diversity in the SCG. The company clearly focuses on SCG Talent in every country which SCG operates its business currently and will be operating business in the future in order to create development and growth for SCG Talent regarding knowledge and skills, foundation of ASEAN Company.



Apart from Employee Engagement Survey which SCG uses to survey employees’ opinions every two year, SCG also surveys employees’ opinions in other aspects regularly, for example, SCG President & CEO, Business Vice President, Senior Executives conduct a survey on employees’ opinions for continuous development in communication for understanding in SCG’s vision, direction, support and leadership in changes, focusing on human resource management and development, supporting business plan and strategy, being a role model in SCG code of conduct and philosophy, leadership in different aspects and so on. The survey results are likely to be better in continuity.



## SCG employees celebrate SCG 100<sup>th</sup> anniversary

In occasion of the 100<sup>th</sup> anniversary of the SCG establishment in 1913, SCG has opened its SCG 100 years Building for use and renovated the workplace and working environment for employees. Various activities were launched to celebrate the SCG’s 100<sup>th</sup> anniversary of establishment. Medal of Appreciation, books and stamp souvenirs were



granted to all employees as gifts to build up morale, relationship and commitment to walk together in the future. In addition, SCG has collected and prepared its history data and disseminate through its website and permanently exhibited in the cement supply building which was renovated and conserved to create affection bonding and pride in every SCG employee.



“Looking into the future, when SCG acquires or expands its business in ASEAN region, SCG begins with care and preparation of employees’ adaptation (Introductory Program). It communicates with employees about SCG’s business philosophy. The first thing that we said with our employees was that we would retain every employee with our organization and exchange successful practices. SCG would utilize employee training and development as communication channels for them to know more about SCG and be confident that SCG is committed to their development.”

#### Kiti Madiloggovit

Director  
Corporate Human Resources





# Community and Social Development

SCG has always been committed to the social responsibility. We believe that if the organization can contribute to well-beings of communities around our facilities, social quality will be enhanced.

For efficiency of our society and community development work, SCG divides the task into two components.

Social development work is supervised by the CSR Committee for Sustainable Development. The Committee makes policy decision and provides overall guidelines for capacity building and quality of life-related work, through projects that are responsive to social needs while integrating organization knowledge and expertise with the community's own strength.

Development of society and communities near the company's facilities is supervised by the SCG Sustainable Development Committee under the themes Green Business and Green Community within the framework of the Organization's Sustainable Development (regarding Sustainability Management Structure on page 18).

SCG Foundation plays an instrumental role in implementing social activities. The Foundation has the mission to human development in order that they will be capable and ethical citizens who will be major part of Thailand's developments.

## SCG's Social Projects Classification Strategy



"In preparing the 'people' we should start with empowering children and youth. A good society is made up of talented people with sound mind and strong sense of social responsibility. That's why 'development of people' is the most important commitment. SCG Foundation wants to be a part of the drivers in this respect by focusing on developing people's intellectual capacity and social obligations."

**Suvimol Chivaluk**  
Director and Manager  
SCG Foundation

The CSR Committee for Sustainable Development classifies projects to guide decision on types of support the organization can lend. These range from technical expertise, funding, and employees' participation, to contribute to improving quality of life of the people, which will in turn strengthen aspects of national development.

### The Leader in Sustainable Social Development (Leadership)

SCG believes that strong society and communities form a solid foundation supporting national development. The Company thus focuses on social and community development particularly quality of life. We work in partnership with experts in different fields to empower communities to solve problems. The approach emphasizes collective learning, collaboration and partnership to strengthen community's capacity. Moreover, the Company is committed to support other aspects that are crucial to

national development such as human development, research and development, designing pilot projects that can be scaled up, replicated elsewhere or taken up by other organizations.

### SCG Conserving Water for Tomorrow Project

Water resources are critical to human existence, providing means for agriculture and industry. As water stresses manifest in frequency and intensity in recent years, SCG reaffirms its commitment to contribute to water conservation efforts. 'Conserving Water for Tomorrow' project is inspired by His Majesty the King's philosophy of sufficiency economy showcased at Huay Hong Khrai Royal Development Study Center. SCG implements the project with the objective to enable communities to be self-sufficient in water resources, to have means of income generation and better quality of life.



‘SCG Conserving Water for Tomorrow’ project has been actively implemented since 2003 in active partnership with communities and networks of supporters. The center piece is the construction of check dams. To date, 62,812 check dams have been built in collaboration with 67 communities and over 56,400 volunteers all over Thailand in the provinces of Lampang, Lamphun, Chiang Mai, Phrae, Nan, Saraburi, Kanchanaburi, Ratchaburi, Rayong, Khon Kaen and Nakhon Si Thammarat.

Communities participating in this project have generated a body of knowledge leading to establishment of ‘Learning Center’ in different locations. Some well-known ones are those at Ban Samkha and Ban Sa Sob-Hok where community members can share real-life practical experiences of developing check dams as lessons learnt for development agencies and other communities. These ‘Learning Center’ also play a role in raising awareness among younger generation on water conservation and the functions of check dam.

This approach of sustainable water conservation opens up an opportunity for a successful community enterprise, as demonstrated by the case of Ban Paen-tai in Lampang province. The community encourages members to eat brown rice that is organically grown in the village, and to thanks to clean water resources produced by the check dam. Aside from the healthy aspect, the community formed a collective to operate a ‘Brown Rice Mill’ to produce for their own consumption and sell extra outputs to external market. This community enterprise

is now a living classroom to school community members in business management, and as a case study for other communities.

Another success story is Tha-nam Chukadon community in Kanchanaburi. Applying His Majesty the King’s approach to waste water management demonstrated at Laem Phak Bia Environmental Research and Development Project, this particular community campaigned for every household to stop littering into public water ways, and to install grease trap in every single household. The community installed a piping system to direct household wastewater to a wastewater treatment center before release into the Mae-Klong River. As a result of these efforts, the community now has its own source of clean water supply, and better quality of life. A surprise by product of the drainage pipe project is a 475-metre stretch of sandy beach along Mae-Klong River which has become a popular recreational spot, and where community members can do income-generating activities. Another livelihoods scheme is to turn waste and grease from grease traps into biogas that people use for domestic cooking thereby saving on household expenses.

#### **Innovative Technological for the Restoration of Saline Land Project**

Soil salination in the Northeast of Thailand is wreaking heavy tolls on agriculture and farmers’ livelihoods. Starting in 2008, SCG in collaboration with the National Center for Genetic Engineering and Biotechnology, and Land Development Department launched a project using science and technology to develop varieties of rice and cash crops that give good yield on saline soil. These are eucalyptus, Manila



tamarind, sweet bamboo, neem, among others. The project also disseminates simple solutions that farmers can use to neutralize the saline soil. For example, creating organism in the soil, planting big trees. To date the project has helped to rehabilitate more than 42,000 rais of such land in 70 villages, helping to increase yield per rai from below 200 kilograms to average of 400-1,000 kilograms per rai. Knowledge generated through the project has been shared, and network of practitioners expanded leading to creation of ‘Farmers Incubation Centre’ with 36 branches covering 4,000 households.

Farmers also have ways to supplement their income through activities such as mushroom cultures, selling cattle dung for fertilizer, vegetables farming. With these, activities farmers are now able to have savings, pay off household debt and are setting up a community enterprise as secure income stream. Some good practices include the Rice Mill Group of Ban Ponesoong, Udonthani, the Organic Fertilizer Enterprise run by Ban Toey Village in Nakhon Ratchasima, the Organic Vegetables Farmers’ Group at Ban Pueyyai in Khon Kaen.

#### **Community Partnership Association in Map Ta Phut, Rayong Province**

Community Partnership Association was founded in 2010 by SCG along with PTT Public Company Limited, BLCP Power Co.,Ltd., Dow Chemical Thailand Co.,Ltd., and Glow Energy Public Company Limited. The Association aims to turn Map Ta Phut Industrial Estate into an Eco Industrial Town, where production activities care for the environment and enhancing quality of life of people in the communities.

Now in its 4<sup>th</sup> year, Community Partnership Association has 13 member companies on board sharing good practices on environment



and safety. Some joint activities include a seminar on wastewater treatment technology for 200 factories.

A key focus area of this partnership is to develop quality of life for members of communities in matters such as health and hygiene, capacity building on public health in the form of scholarships for nurse to local people to address shortage of nurses facing the areas. To date 297 scholarships were given to recipients who will work in Rayong after graduation. Another project is sourcing medical staff to improve delivery of health services. In education, the Association operates a tutorial program to prepare students for university entrance examination, and offers 18 undergraduate scholarships to local students who will come back to work in Map Ta Phut area once they graduate.

#### **Cement Partnership Initiative in Saraburi and Community Partnership Project in Phra Nakhon Si Ayutthaya Province**

Building on the successful model of Community Partnership Association in Rayong, the Cement industry formed the Cement Partnership Initiative project. Now in its second year, the Project brings on board cement companies with production facilities in Saraburi namely SCG Cement-Building Materials, Thai Cement Manufactures Association, Siam City Cement Public Company Limited, and Asia Cement Public Company Limited. The idea is to implement a good practice in cement industry to ensure environmentally friendly operations and co-existence with communities nearby.

In 2013, similar project is implemented in Tambon Phu Krang-Khao Wong, Saraburi province. This ‘Cement Partnership Initiative’ operates knowledge transfer and experience sharing on environmentally friendly production, mining that minimizes an environmental impact and post-mining rehabilitation through a biodiversity-based approach, and a Green Truck campaign to train safe driving skills. The project also features engaging with youth on conservation activities.

SCG has joined force with 9 other organizations which operate in the cement and imported coal businesses in Amphoe

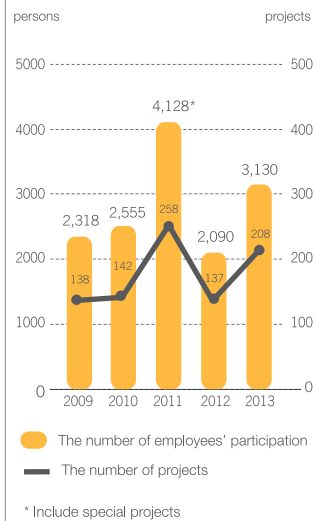




“With our two hands, we put in our efforts for 3 years. We planted 4,500 trees for Thailand’s mangrove forest. The only word I can think of is ‘happiness’ and share happiness that we enjoy with the communities, society and any living things that benefit from the mangrove forest.”

**Prinyanee Suthibutr**  
SCG employee  
Bang Pu Rum Luek project

**The number of Sharing Opportunities, Drawing the Future project and employees’ participation from 2009 - 2013**



Nakhon Luang, Phra Nakhon Si Ayutthaya province to launch ‘Community Partnership Project’ along the line of its counterpart projects in Rayong and Saraburi provinces. Being aware that sectoral cooperation among operators to develop model of environmentally friendly production is a major step towards sustainable development. This project endeavors to tackle three tasks which are monitoring environmental impacts, checking of ports, and social activities.



**Thailand Innovation Forum: R&D to Commercialization**

To generate ideas exchange and highlight the importance of research and development, SCG organized ‘Thailand Innovation Forum: R&D to Commercialization’ in 2013. It is the first forum of its kind reflecting SCG’s commitment to be the catalyst in Thailand’s R&D sector. We invited world-class scientists and managers responsible for cutting edge R&D and commercialization to share their experiences with a full-house audience of 800 participants from the government agencies, academia, research houses and private sector. SCG hopes this knowledge forum contributes and inspires all sectors to pay attention to R&D works that enhance Thailand’s competitiveness and business sustainability.

### Sharing Opportunities, Drawing the Future Program

In an innovative approach to raise awareness on giving back to the society among our employee, and with support of SCG Foundation, the Company encourages staff members to form a group of at least 3

persons to do social service projects in partnership with communities all over Thailand. In 2013, there is 208 projects worth 29.80 million baht.

Since the program started in 2007, 18,069 employees of SCG got together to complete 1,182 projects with a budget of 117.76 million baht. Staff also donated a matching fund of 5.5 million baht to the purpose. Through these activities, SCG volunteers had the opportunity to get to know and bond with local communities.

### Early Childhood Development through Books

SCG Foundation supports parents to use books and reading as parenting and child development tools for children aged up to six. Picture books are the most economical yet most powerful media to bond with and educate children, while instilling the habit of reading. In 2004, SCG Foundation started organizing a series of activities to encourage reading as parenting tools for toddlers and children aged up to six.

**Tales in the Garden Festival** ‘Tales in the Garden Festival’ has established itself as an annual event amongst many parents. Every Saturday between December to February, a public park in Bangkok is transformed into a shady reading room where parents and children get together to read stories, interact, and listen to experts’ advice on how to use story books, effective reading and story-telling.

For 10 years of the project until 2013, over 52,000 parents and children joined the activities. SCG has plans to expand this project to other regions in the future.



### Bring Good Books to Thai Children program

Since 2008, SCG Foundation sponsored publication of selected titles of picture books that are recognized worldwide for early child learning in Thai language to widen the public access to good reading materials. In 2013, the Foundation launched 4 sets of illustrated books - ‘Where is my hand?’ ‘Paper-bag Princess’ ‘Trace of the Sea’ and ‘This is Book’. A special project titled ‘Ding Ding Ding Ding’ is the first Braille picture book for visually-impaired early aged children is given to 12 schools for the Blind all over Thailand.

### Develop Potentials and Expertises (Advance)

At SCG we believe that human’s potentials know no boundaries. So we support other organizations in creating the environment conducive to optimizing people’s potentials, and providing technical expertise required to foster innovation that can be applied to the benefit of the society.

### Thailand Rescue Robot and Robot@Home Championship

Robot represents an innovation that is increasingly instruments to humankind in many ways. Robots are now helping hands in agriculture, industry, medical work, day-to-day mundane tasks. SCG in partnership with the Thai Robotics Society and academic institutions held the SCG Thailand Rescue Robot Championship since 2004. This serves as a venue for students to experiment and develop rescue robots with top performers chosen to represent Thailand at the World RoboCup Rescue event. The Thai Youth Team has won top prizes for 7 years consecutively.

SCG Thailand Robot@Home Championship in 2010 followed on the trail blazed by the rescue robot endeavor. This new category provides an open field for youth to take their expertise up another level to design features enabling robots to interact with humans, and can offer help in the household, tending to people with illness or disabilities.

At the World RoboCup 2013 in the Netherlands, the Stabilize Team representing Thailand won the Second Prize and the Best Mobility Award from World RoboCup Rescue Robot Competition. Meanwhile the Dong Yang team from Thailand is ranked the 10<sup>th</sup> in the World RoboCup Robot@Home Competition.



“My wife and I believe that books will help to develop and instill good deeds to our children. We regularly bring our son to participate ‘The Tales in the Garden Festival’ He likes the tale plays and inventing activities conducted by -SCG Foundation. After going back, he repeatedly asks to read stories creating his imagination. Personally, picture books are good media to embed various stories to children incredibly”

### Teera Tanyapaibul

The Parent who joined Tales in the Garden Festival.



### Young Thai Artist Award

To encourage children and youth with artistic talent, SCG hosts the Young Thai Artist Award, now considered the most important annual art event for youth in Thailand. The Award takes entries in 6 categories namely 2-dimensional Art, 3-dimensional Art, photography, film, literary and musical composition. Since its inception in 2004, the Young Thai Artist Award has sought to promote and support Thai youth in their artistic expressions and unleashing their endless creativity and imagination. The Award has enabled some young contests to embark on art as a career choice, as well as winning Thailand recognition in the global art scene.

### Responsibility to the Society (Commitment)

Business cannot succeed in a society that fails. SCG thus accords importance to helping the society and community development by lending supports through organizations recognized for their work in the field.

#### Philanthropy

SCG makes it a regular commitment to provide funding support to foundations and entities active in social and human empowerment. In 2013, SCG donated a total of 170 million baht to 140 foundations and charity organizations to support their activities for public good. This is not only to provide a better quality of life for the Disadvantage, but also help the government to mitigate social problems.



### Supporting disaster relief work in the Philippines

Following an earthquake magnitude of 7.2 Richter scale that struck Bohol and Cebu in Central Visayas of the Philippines, affecting over 600,000 households, SCG and staff managed to raise 3.6 million baht or about 5 million peso for disaster relief. The sum was presented to the Philippine Red Cross. In addition, SCG provided other forms of help including United Pulp and Paper Inc., a subsidiary of SCG Paper donated 1 million peso, Mariwasa-Siam Ceramics Inc. which is part of SCG Cement-Building Materials donated 20,000 sets of survival kits worth 2.04 million peso, and these kits were packed by company's staff.

### The Renovation of Ban Pong Hospital's Health Center in Ratchaburi Province

To mark SCG's 100<sup>th</sup> anniversary, SCG Paper pledged a donation of 20 million baht to renovate and refurbish the local Urban Health Center operated by Ban Pong General Hospital. The Center functions as out patients department the area that serves 354,000 patients per annum.

### Tra Chang Builds in the Cause of Communities

To celebrate 100<sup>th</sup> Anniversary, Elephant Brand implemented a project to develop 10 public service buildings in 10 provinces. The idea is to design a facility with functionalities that respond to specific community's needs. Under the criteria that the proposed structure must serve the themes of child and youth development, communities that practice self-sufficiency economy and capacity building for people with disabilities, this Project has received proposals ranging from a community learning centre, an activity therapy building, a multi-purpose building for children with disabilities, school, and a library.

### Enhancing other Aspects of Capacity Development (Engagement)

SCG also recognizes the importance of other aspects of capacity building for Thai citizens. In this context, the company actively supports a variety of activities including education, sports, and the environment.

#### SCG Sharing the Dream Scholarships

Since 1981, SCG operates a scholarship program for children from poor families who wish to pursue higher education. In recent years, the scholarship program has been expanded and targeting beneficiaries in rural, and remote areas, and from primary to college education. Now the program is divided into 18 categories, with 4,000 scholarships on offer. Each year the company allocates up to 35 million baht for this purpose and cumulatively from the 1981 till now the Company has spent 550 million baht on scholarships, with over 88,000 recipients in Thailand.



As SCG ventures more into ASEAN, SCG is implementing the scholarship program for youth in ASEAN countries where it operates. Partnering with civil society sector and local organizations develop criteria to select recipients of SCG scholarship for secondary school students to pursue higher education. Vietnam is the first country outside Thailand in 2007 and SCG subsequently implemented this scholarship program in the Philippines, Indonesia, Myanmar and Lao PDR To date, 1,250 scholarships were given each year within ASEAN excluding Thailand.

#### SCG Badminton Academy

For over 30 years, SCG has been a staunch supporter of badminton sports through sponsorship for various tournaments including SCG Junior Badminton Championships, SCG All Thailand Badminton Championships and SCG Thailand Open Badminton Championships which is an international event. It has also committed resources to train young promising players for the national team.

To groom young talent following sport science, SCG established the SCG Badminton Academy in 2007, the first of its kind in Thailand. At present there are 28 players (19 male and 9 female players) aged 12-18. In addition to professional coaching, the Academy also sponsors trainees to compete in national and international matches. Some of the achievements in 2013 for these young Thai players include the top prize in single, male, category at the Dutch Junior International 2013, women double at Hanoi Vietnam International Challenge, and single male under 18 for Thai National Youth Championship.





### Children's Day in Vietnam

SCG started the project to renovate the School for Children with Disabilities in Ba Ria-Vung Tau, south of Vietnam since 2009. And from 2011, SCG organized activities on Children's day, giving scholarships and participating in improving the School's internet infrastructure. It is planned that the Company will do Children's Day celebration at this School every year.

### Chung Uoc Mo Xanh Project in Vietnam

SCG and Muc Tim, a popular publication among Vietnamese youth, jointly undertake a project to promote environmental awareness among children and youth. Among the activities are publications of articles about conservation activities, Green Dream Ambassador program to identify youth leaders to champion conservation in daily life. The project also organizes plant visits to look at how factories manage to care for the environment to Vina Kraft Paper Co. Ltd., an affiliate of SCG Paper, Vietnam Electricity, a power plant in Ho Chi Minh City. This group of youth leaders will become agents of change to spread the awareness to their families, peers and communities.



### SCG Sci-Camp

SCG and the Science Association of Thailand sponsor an annual science camp for junior high school students to encourage the learning of science, technology and the environment among bright young minds. During the Science Camp, children will get to conduct scientific experiments, observation and analysis. Now in its 24<sup>th</sup> year there are so far 2,400 students attending the Camp. SCG constantly updates the contents each year to keep up with changes in close consultation with technical advisors.

### Green Youth Camp by SCG Paper

Amidst urgent need to care for the environment and how youth need to be aware and lead efforts in this direction, SCG Paper organized Green Youth Camp. In its 6<sup>th</sup> year, the program selected students from Grade 5 to Grade 9 for an intensive course on environmental sustainability, energy efficiency, and life skills. To date over 1,300 students have joined the camp. SCG Paper's staff also contributed to design and contents of the learning. The Thai Health Foundation provides inputs into the life-skills component of the camp.



### A Century of Science in Thailand: website and publication project

SCG believes that science and technology constitute are the foundation for Thailand's development. To raise public awareness, SCG, the Foundation for the Promotion of Science and Technology under the Patronage of H.M. the King, and Rama IX Art Museum Foundation collaborated to launch a website and publication titled 'A Century of Science and the Role of Thailand.' The aim is to document and present evolution of science and technology over 100 years, and its role and contribution to Thailand. The website hosts a rich variety of materials and contents specifically targeted at young generation.



### Vocational Students for the Nation Scholarships

Thailand is currently short of 120,000 vocational college graduates to work in the manufacturing sector annually. Vocational education remains an unattractive route of education for Thais who are more inclined to opt for university education. Yet, employment figures show a mismatch in that in recent years 100,000 university graduates are jobless. To make vocational education more appealing to Thai youth, SCG Foundation runs an 'SCG Sharing the Dream' Program. It offers 500 scholarships to vocational students in the field of industrial technology. No strings attached, these scholarships are given on a rolling basis for students who wish to pursue advanced diploma. The program also assists to secure traineeship to prepare them for a real life employment. Other related skills development are provided to scholarship recipients including an English language, and support for them to sit in the skilled labor certification examination of the Labor Department.

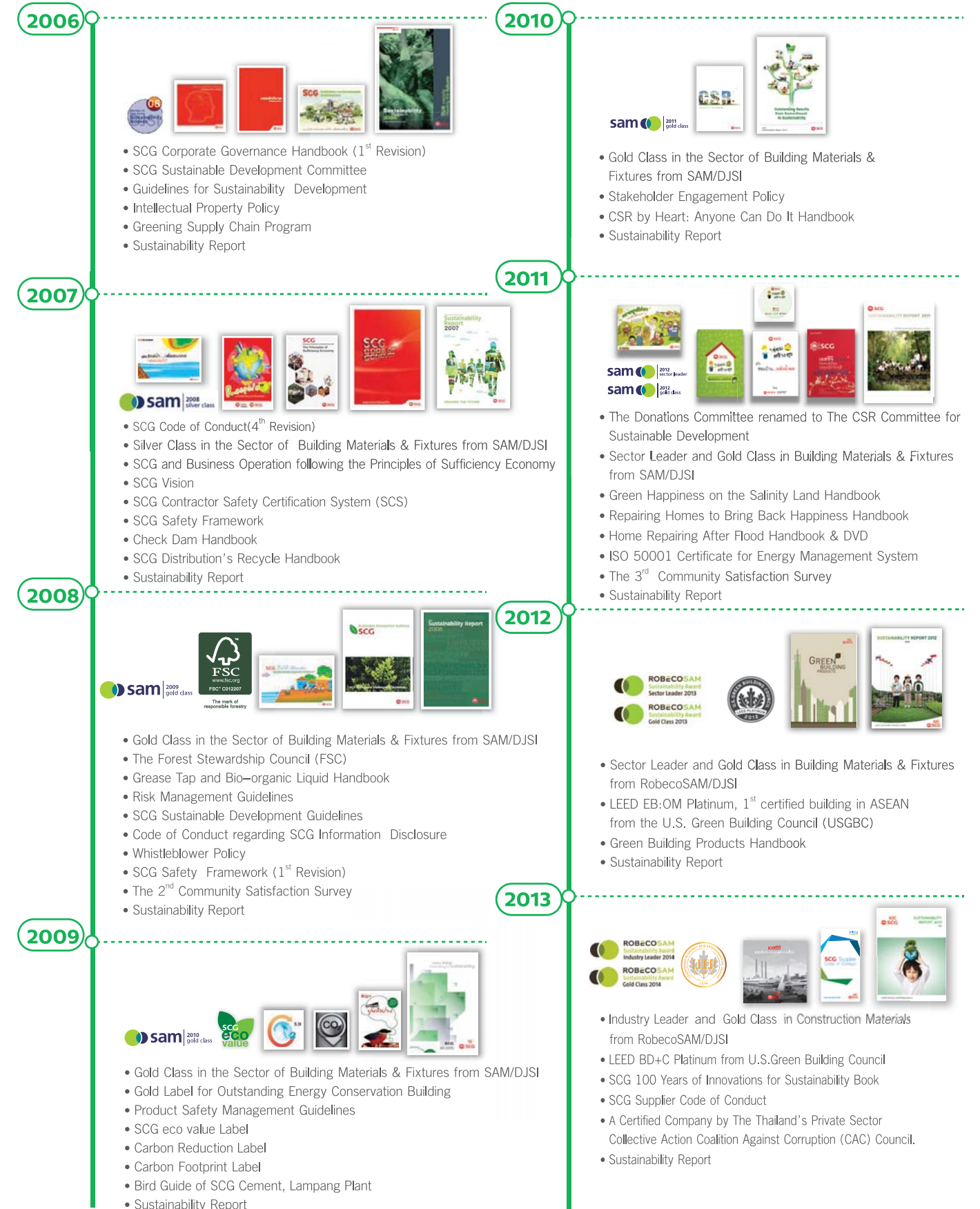
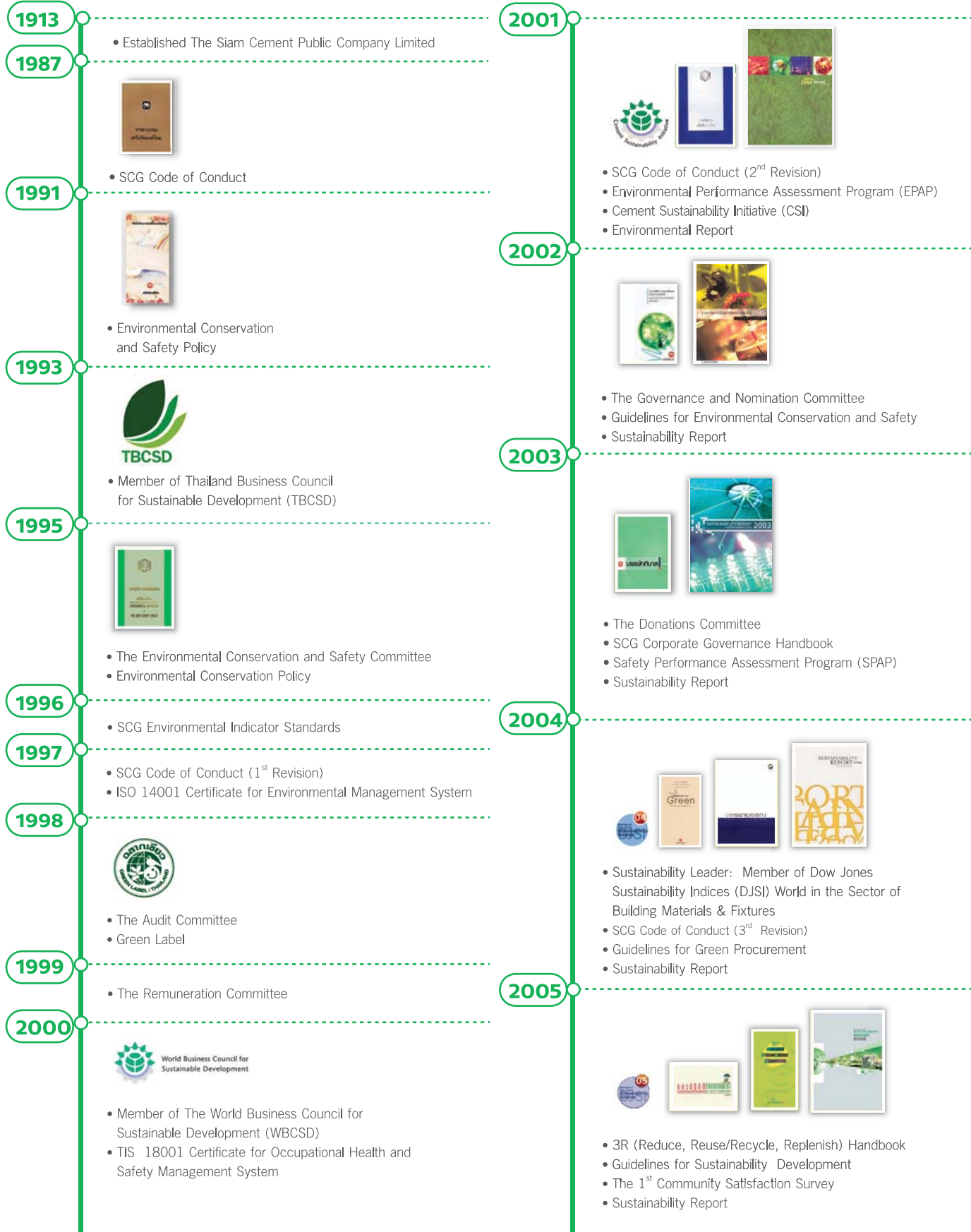
### Young Blood for Social Prosperity

Recognizing youth's positive force and enthusiasm, SCG Foundation initiated a youth volunteer program. This program provides opportunities for undergraduate and vocational students to implement projects that contribute to sustainability in partnership with community. SCG Foundation would provide funding support of up to 100,000 baht for each project.





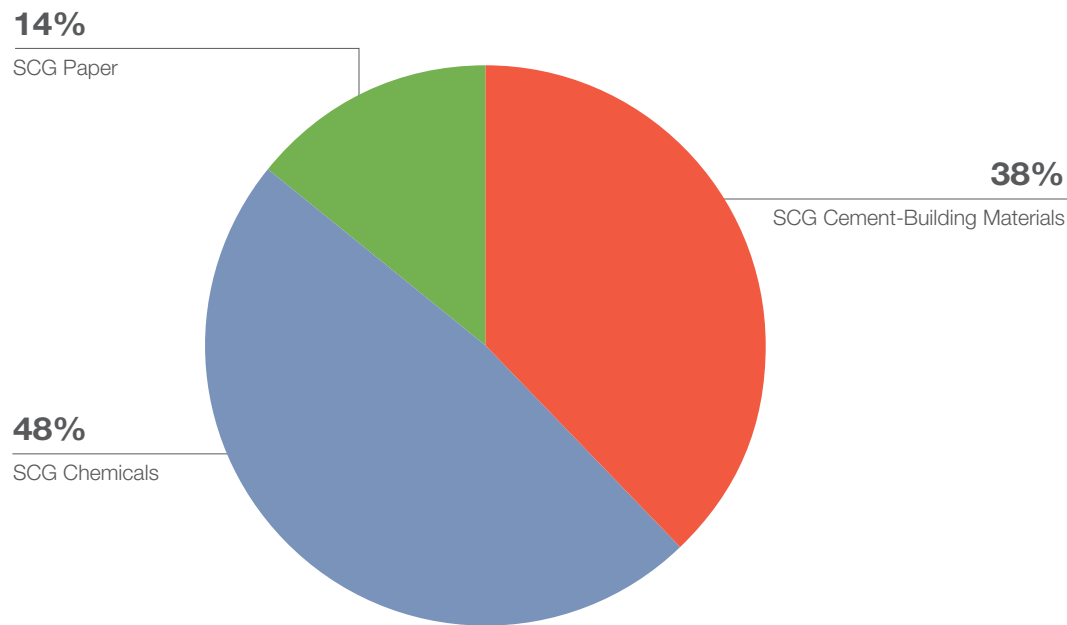
# Road to Sustainability





# Sustainability Performance Data

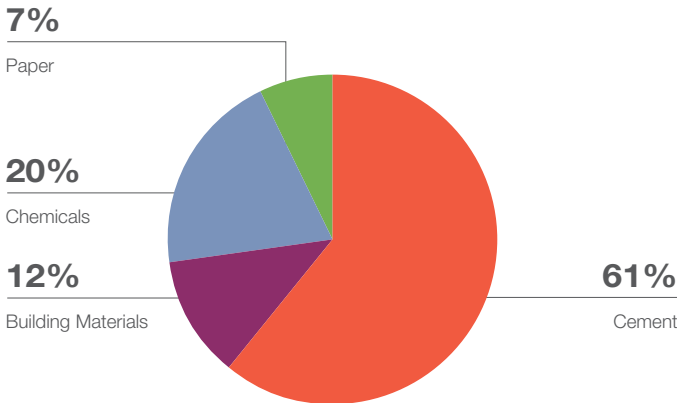
Revenue from Sales



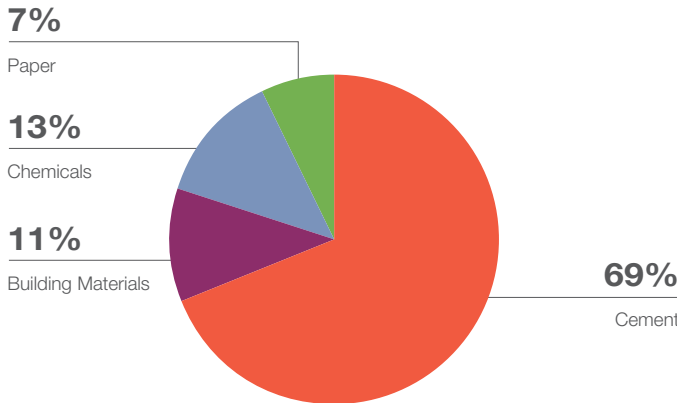
| Performance Data  |                | 2009   | 2010   | 2011   | 2012   | 2013   | GRI  |
|---|----------------|--------|--------|--------|--------|--------|------|
| Economic Performance  |                |        |        |        |        |        |      |
| Revenue from sales  | (Billion Baht) | 238.7  | 301.3  | 368.6  | 407.6  | 434.3  | EC1  |
| Profit for the year   | (Billion Baht) | 24.3   | 37.4   | 27.3   | 23.6   | 36.5   | EC1  |
| EBITDA  | (Billion Baht) | 47.1   | 45.9   | 46.3   | 45.7   | 61.3   | EC1  |
| Benefits to employees comprising salary, wage, welfare and regular contributions  | (Million Baht) | 18,903 | 21,270 | 23,997 | 27,361 | 32,417 | EC1  |
| Dividend to shareholders  | (Million Baht) | 10,200 | 15,000 | 15,000 | 13,200 | 18,600 | EC1  |
| Interest and financial expenses to lender   | (Million Baht) | 5,649  | 4,670  | 6,048  | 6,321  | 8,193  | EC1  |
| Taxes to government and local government authorities such as income tax, local maintenance tax, property tax and other specific taxes | (Million Baht) | 5,047  | 13,045 | 8,190  | 5,567  | 5,792  | EC1  |
| Privilege tax and others from investment promotion, and research and development  | (Million Baht) | 904    | 1,187  | 1,734  | 1,277  | 1,156  | EC4  |
| Investments and expenditures regarding community development, social infrastructure and environment                                   | (Million Baht) | 331    | 480    | 712    | 563    | 525    | EC1  |
| Environmental expenditures  | (Million Baht) | 854    | 1,146  | 1,741  | 1,964  | 2,687  | EN30 |

| Performance Data          |                 | 2009   | 2010   | 2011   | 2012   | 2013   | GRI |
|---------------------------|-----------------|--------|--------|--------|--------|--------|-----|
| Environmental Performance |                 |        |        |        |        |        |     |
| Production                | (Thousand Tons) | 29,036 | 32,168 | 34,784 | 37,702 | 37,132 |     |
| Raw Materials             | (Thousand Tons) | 37,337 | 38,413 | 41,078 | 45,822 | 44,007 | EN1 |
| Recycled Materials        | (Thousand Tons) | 2,011  | 1,623  | 1,612  | 1,567  | 1,814  | EN2 |

Production

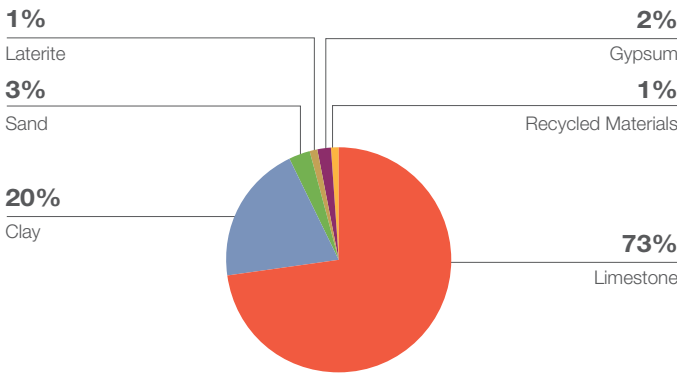


Raw Materials

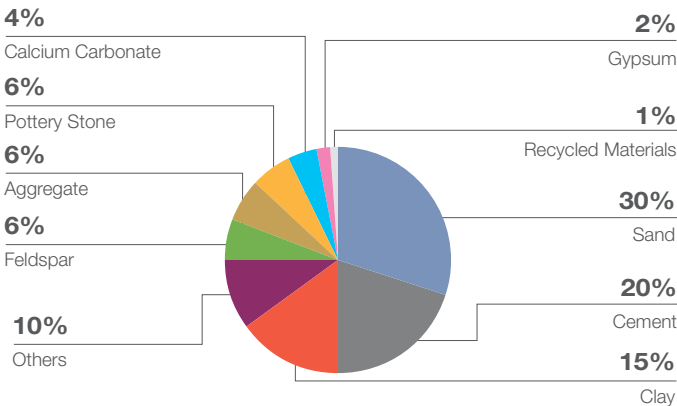


Proportion of Raw Materials

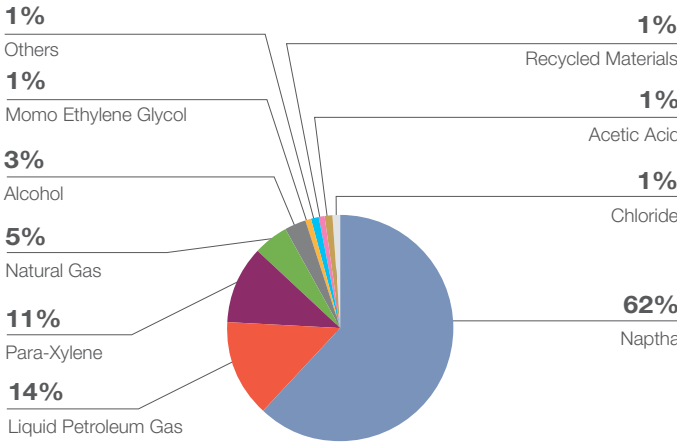
Cement



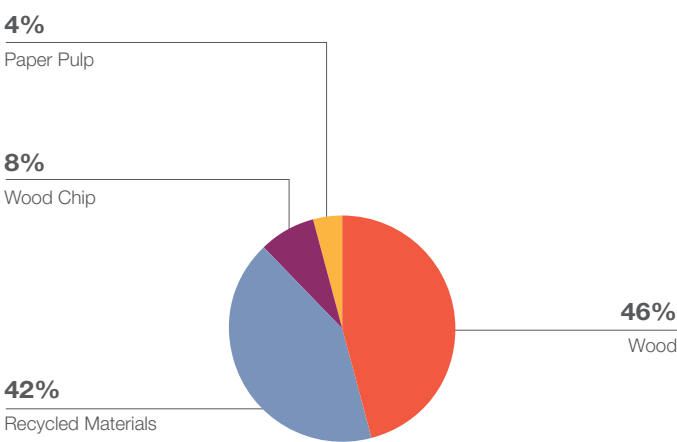
Building Materials



Chemicals

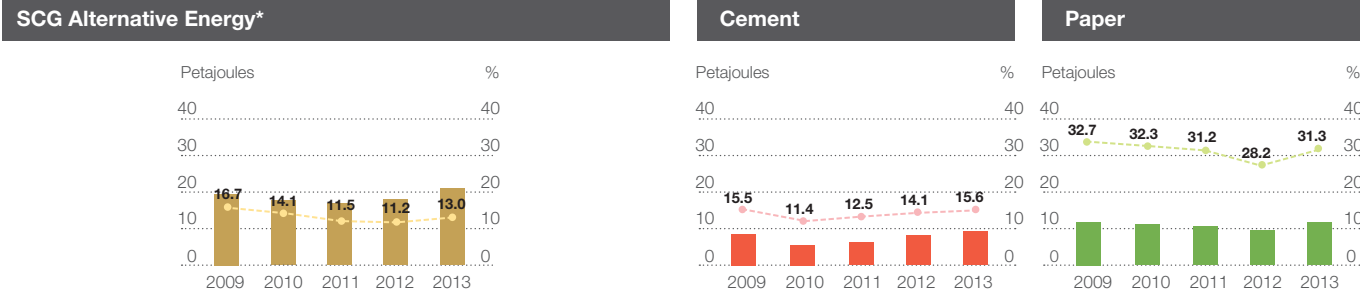
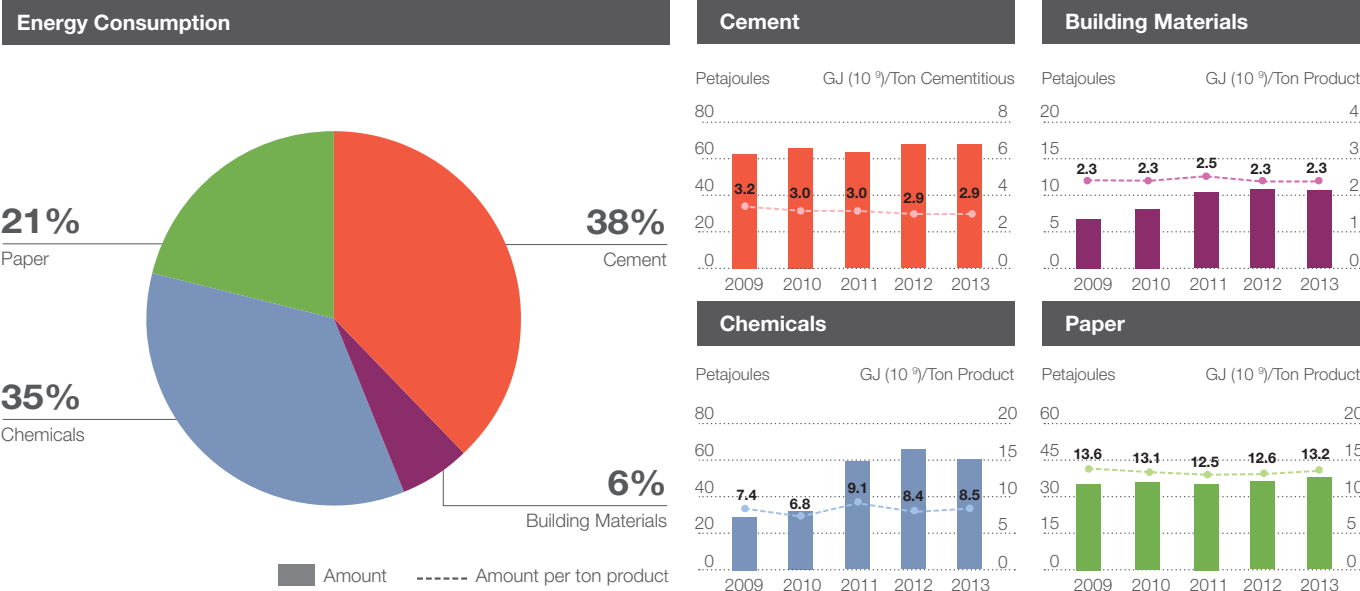
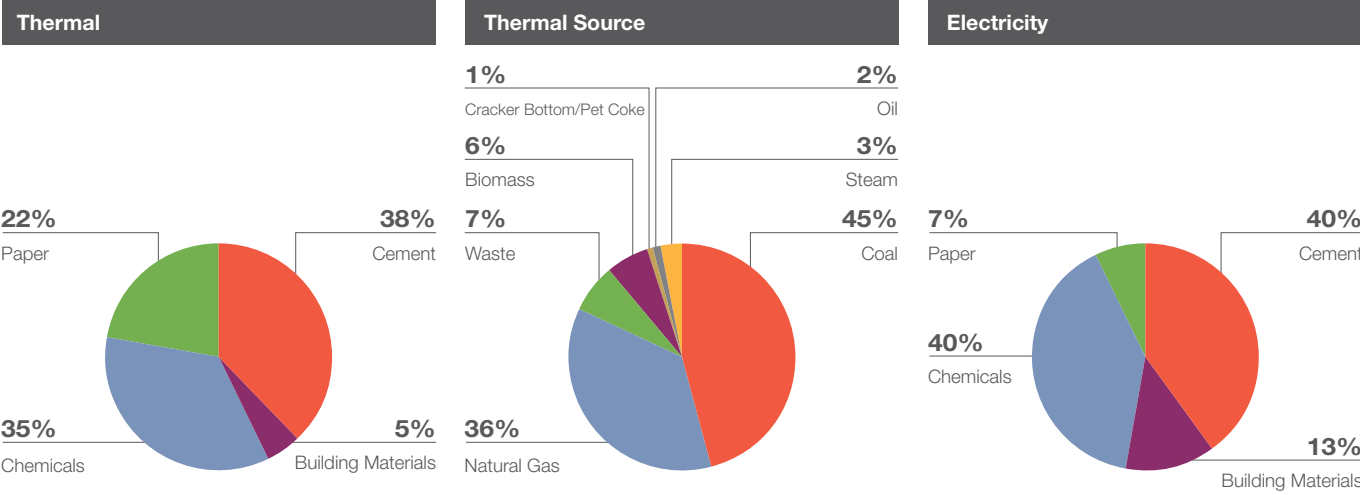


Paper



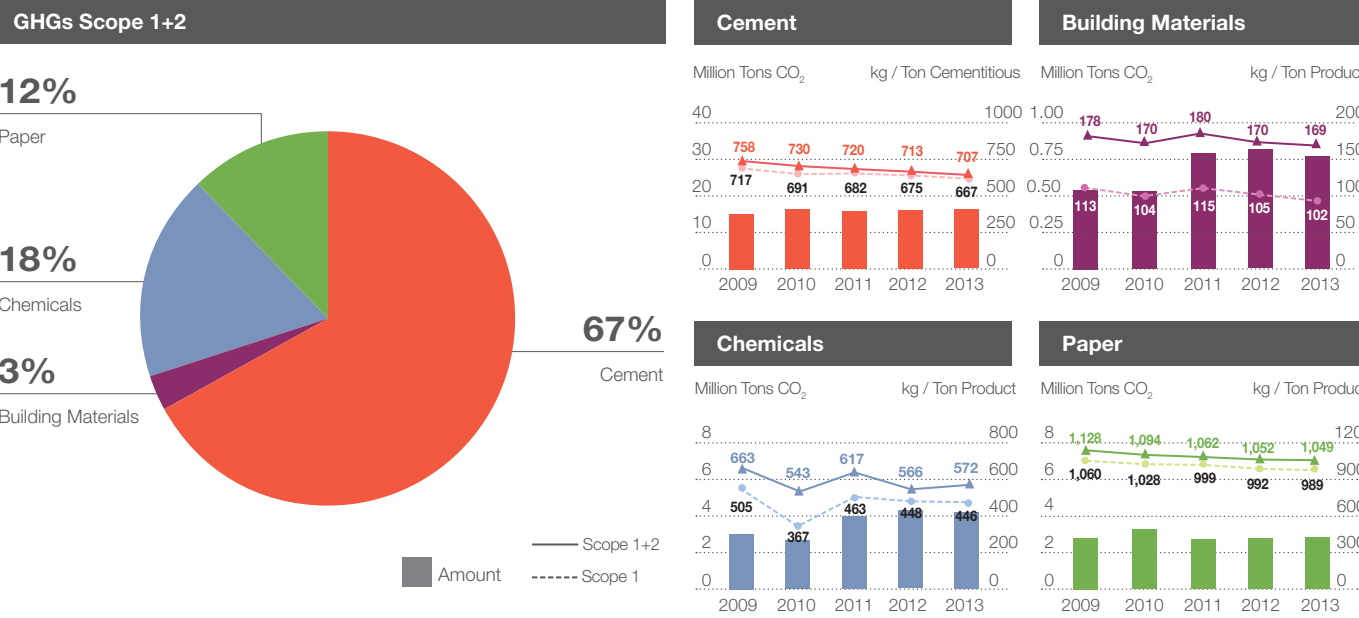


| Performance Data               |                          | 2009   | 2010   | 2011   | 2012   | 2013   | GRI |
|--------------------------------|--------------------------|--------|--------|--------|--------|--------|-----|
| Total Energy Consumption       | [Petajoules]             | 135.49 | 140.68 | 167.68 | 174.58 | 175.93 | EN3 |
| Thermal Consumption            | [Petajoules]             | 123.77 | 128.30 | 153.65 | 159.70 | 161.50 | EN3 |
| Alternative Energy Consumption | [Petajoules]             |        |        |        |        |        | EN3 |
| Biomass                        |                          | 8.84   | 7.31   | 9.10   | 9.86   | 10.26  |     |
| Industrial Waste               |                          | 10.90  | 10.71  | 8.78   | 8.35   | 10.70  |     |
| Electrical Consumption         | [Million kilowatt hours] | 3,254  | 3,441  | 3,895  | 4,133  | 4,008  | EN4 |

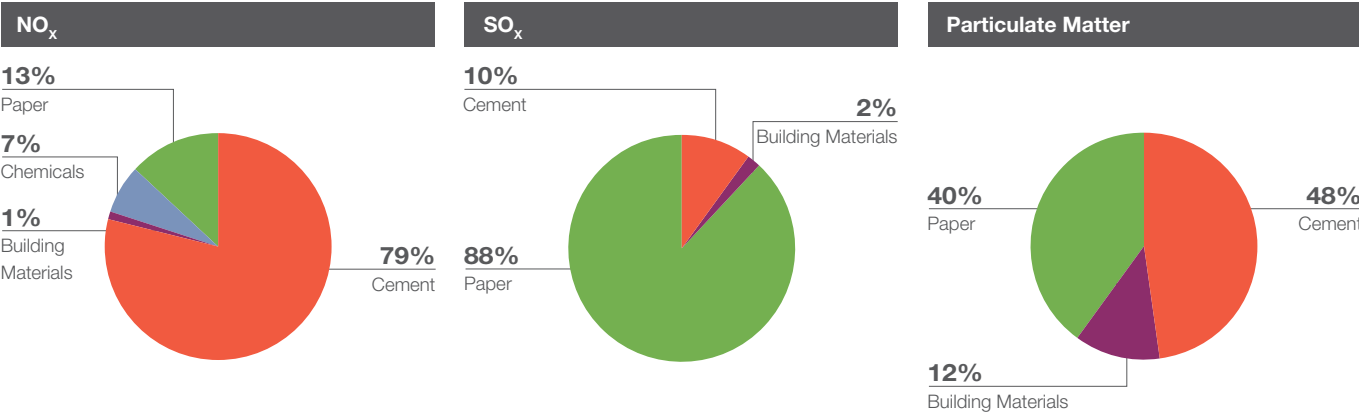


\*Cement and Paper are main utilizers of alternative energy

| Performance Data |                | 2009  | 2010  | 2011  | 2012  | 2013  | GRI  |
|------------------|----------------|-------|-------|-------|-------|-------|------|
| GHGs Scope 1     | [Million Tons] | 18.92 | 19.66 | 20.73 | 21.96 | 21.51 | EN16 |
| GHGs Scope 2     | [Million Tons] | 1.86  | 2.09  | 2.27  | 2.23  | 2.28  | EN16 |



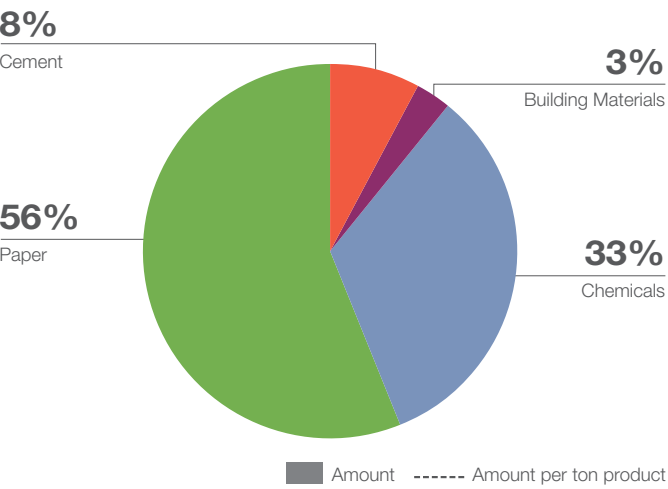
| Performance Data   |                 | 2009  | 2010  | 2011  | 2012  | 2013  | GRI  |
|--------------------|-----------------|-------|-------|-------|-------|-------|------|
| Oxides of Nitrogen | (Thousand Tons) | 21.27 | 18.92 | 20.02 | 19.45 | 23.95 | EN20 |
| Oxides of Sulfur   | (Thousand Tons) | 6.91  | 6.06  | 7.52  | 7.68  | 5.26  | EN20 |
| Particulate Matter | (Thousand Tons) | 3.35  | 2.57  | 2.36  | 2.13  | 2.03  | EN20 |





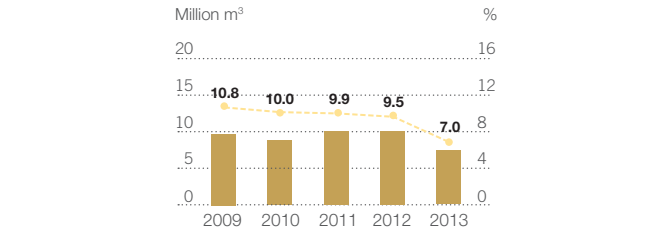
| Performance Data             |                        | 2009  | 2010  | 2011   | 2012   | 2013   | GRI  |
|------------------------------|------------------------|-------|-------|--------|--------|--------|------|
| Water Withdrawal             | [Million Cubic Meters] | 91.89 | 95.50 | 104.55 | 110.80 | 104.52 | EN8  |
| Proportion of Recycled Water | [%]                    | 10.78 | 9.99  | 9.90   | 9.52   | 6.98   | EN10 |
| BOD                          | [Thousand Tons]        | 0.48  | 0.51  | 0.46   | 0.59   | 0.49   | EN2  |
| COD                          | [Thousand Tons]        | 7.78  | 7.50  | 7.34   | 8.20   | 6.75   | EN21 |
| TSS                          | [Thousand Tons]        | 1.00  | 0.90  | 0.87   | 1.35   | 0.96   | EN21 |

### Water Withdrawal



\*Cement has revised scope of water withdrawal

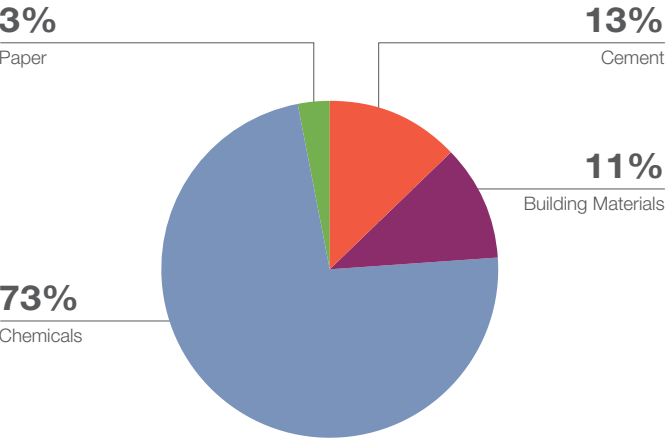
### SCG Recycled Water\*\*



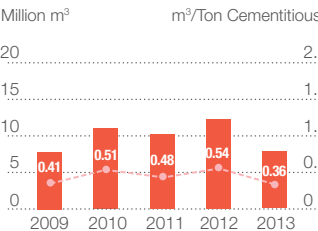
\*\*SCG Chemicals and SCG Paper are main utilizers of recycled water

| Performance Data    |                 | 2008   | 2009     | 2010     | 2011     | 2012     | GRI  |
|---------------------|-----------------|--------|----------|----------|----------|----------|------|
| Hazardous Waste     | [Thousand Tons] | 13.44  | 17.02    | 12.21    | 14.65    | 19.60    | EN22 |
| Non-Hazardous Waste | [Thousand Tons] | 653.60 | 1,176.12 | 1,305.30 | 1,215.07 | 1,130.67 | EN22 |

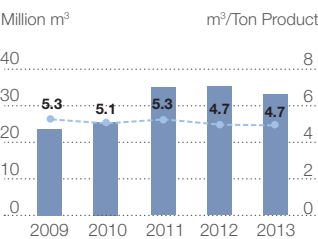
### Hazardous Waste\*\*\*



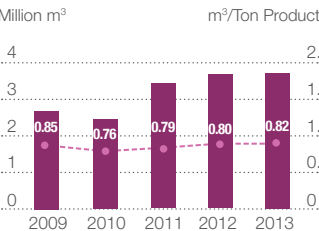
### Cement\*



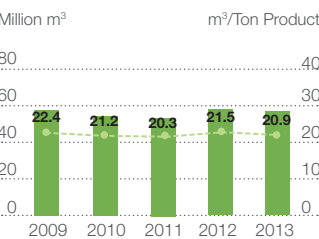
### Chemicals



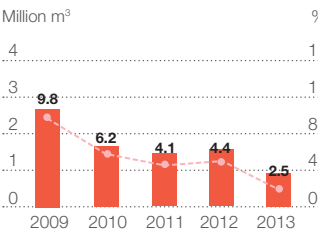
### Building Materials



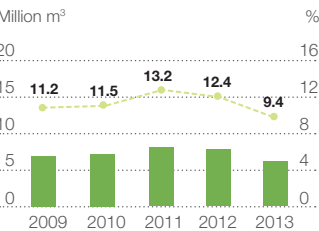
### Paper



### Chemicals



### Paper



| Performance Data  | 2009   | 2010   | 2011   | 2012   | 2013   | GRI  |
|---|--------|--------|--------|--------|--------|------|
| <b>Social Performance</b>   |        |        |        |        |        |      |
| Employee Information  |        |        |        |        |        |      |
| Number of Employees   | 28,515 | 30,820 | 34,725 | 38,883 | 49,287 | LA1  |
| Proportion of Employees by Level                                    |        |        |        |        |        | LA1  |
| - Management  | 4.7    | 4.0    | 3.7    | 4.8    | 3.4    |      |
| - Supervisor and Technical Staff                                    | 31.5   | 31.8   | 31.0   | 32.2   | 27.4   |      |
| - Operator  | 63.8   | 64.1   | 65.3   | 63.0   | 69.2   |      |
| Proportion of Employees by Gender                                   |        |        |        |        |        | LA13 |
| - Male  | 80.7   | 79.0   | 78.0   | 78.5   | 77.8   |      |
| - Female  | 19.3   | 21.0   | 22.0   | 21.5   | 22.2   |      |
| Proportion of Basic Salary of Female to Male                        |        |        |        |        |        | LA14 |
| - Management  | 1.01   | 0.96   | 0.86   | 0.83   | 0.83   |      |
| - Supervisor and Technical Staff                                    | 0.94   | 0.91   | 0.92   | 0.93   | 0.94   |      |
| - Operator  | 0.97   | 0.92   | 0.93   | 0.95   | 0.95   |      |
| Proportion of Local Senior Management*                              |        |        |        |        |        | EC7  |
| Proportion of Absence by Type                                       |        |        |        |        |        | LA7  |
| - Sickness  | 14.7   | 14.3   | 14.9   | 15.0   | 14.0   |      |
| - Work-Related Injuries   | 0.3    | 0.4    | 0.3    | 0.2    | 0.2    |      |
| - Others  | 85.0   | 85.3   | 84.8   | 84.8   | 85.8   |      |
| Return to Work after Parental Leave of Female Employees**           |        |        |        |        |        | LA15 |
| Number of Empltyees that Took Parental Leave                        | NA     | NA     | NA     | 217    | 202    |      |
| Number of Employees who Returned to Work after Parental Leave Ended | NA     | NA     | NA     | 210    | 202    |      |

\* Calculate from percentage of overseas senior mangement and supervisor over total overseas staff

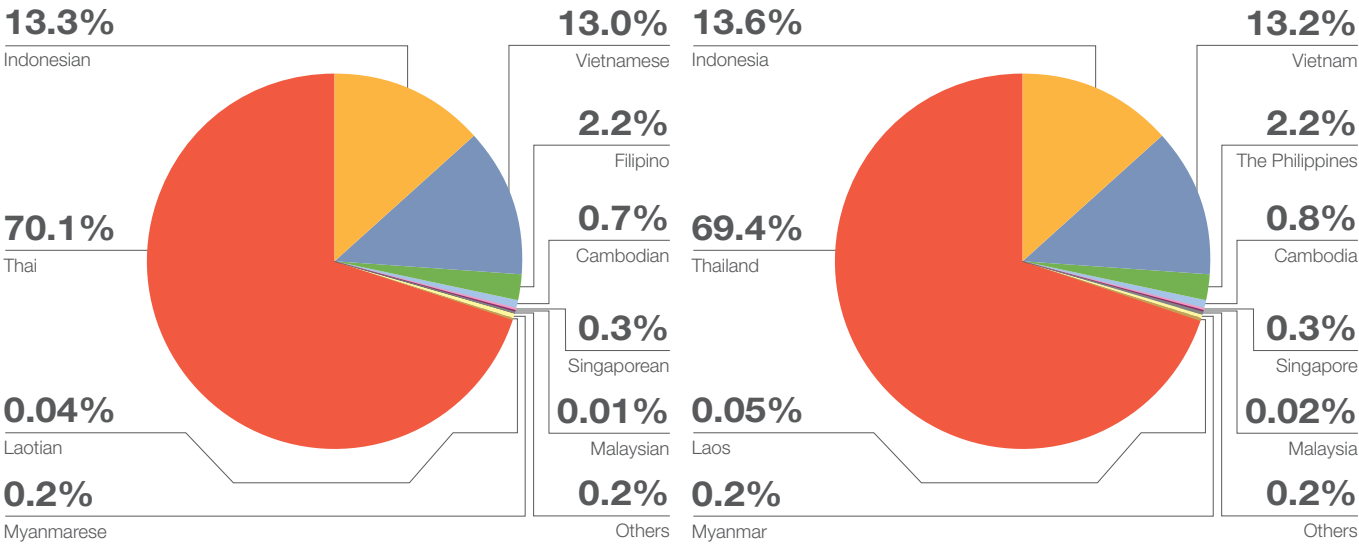
\*\* Only female employees are entitled to parental leave by Thai law

### Proportion of Employees by Nationality

LA1

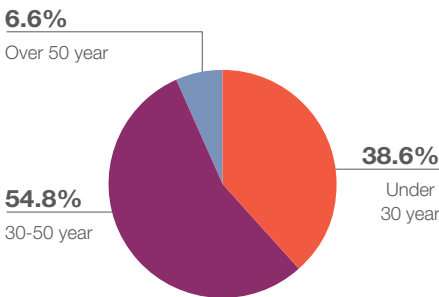
### Proportion of Employees by Country

LA1

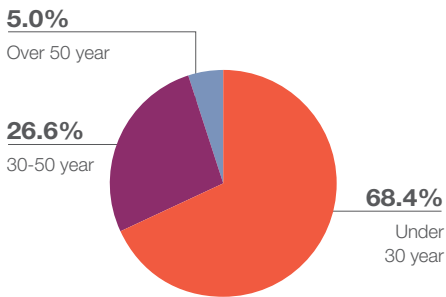




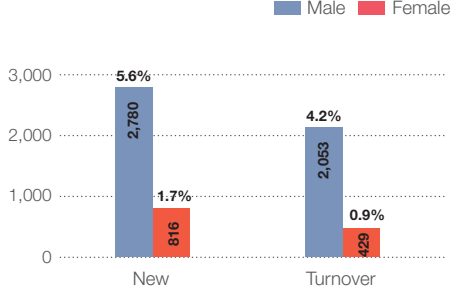
Proportion of Employees by Ages LA2



Proportion of Employees Turnover by Ages LA2



Number of New Employees Hires and Turnover\* LA2



| Performance Data                                  |                             | 2009  | 2010   | 2011  | 2012   | 2013   | GRI  |
|---|-----------------------------|-------|--------|-------|--------|--------|------|
| Social Performance                                |                             |       |        |       |        |        |      |
| Health and Safety Information                     |                             |       |        |       |        |        |      |
| Total Incident Rate                               | (Cases / 200,000 Man-Hours) |       |        |       |        |        | LA7  |
| - Employee  |                             | 0.42  | 0.46   | 0.41  | 0.36   | 0.36   |      |
| - Contractor                                      |                             | 0.60  | 0.83   | 0.37  | 0.23   | 0.22   |      |
| Incident Rate (Lost Time Cases)                   | (Cases / 200,000 Man-Hours) |       |        |       |        |        | LA7  |
| - Employee  |                             | 0.07  | 0.10   | 0.12  | 0.07   | 0.07   |      |
| - Contractor                                      |                             | 0.14  | 0.13   | 0.12  | 0.05   | 0.06   |      |
| Severity Rate                                     | (Days / 200,000 Man-Hours)  |       |        |       |        |        | LA7  |
| - Employee  |                             | 1.01  | 2.77   | 2.34  | 0.84   | 1.69   |      |
| - Contractor                                      |                             | 2.94  | 1.88   | 1.91  | 1.15   | 1.58   |      |
| Total Number of Fatalities                        | (Cases)                     |       |        |       |        |        | LA7  |
| - Employee  | (Male:Female)               | 0 : 0 | 0 : 0  | 0 : 1 | 0 : 0  | 1 : 0  |      |
| - Contractor                                      | (Male:Female)               | 3 : 1 | 12 : 1 | 5 : 3 | 11 : 0 | 11 : 0 |      |
| Number of Fatalities from Motor Vehicle Accidents | (Cases)                     |       |        |       |        |        | LA7  |
| - Employee  | (Male:Female)               | 0 : 0 | 0 : 0  | 0 : 1 | 0 : 0  | 1 : 0  |      |
| - Contractor                                      | (Male:Female)               | 3 : 0 | 7 : 0  | 1 : 2 | 6 : 0  | 8 : 0  |      |
| Number of Chemical Spillage**                     | (Cases)                     |       |        |       |        |        | EN23 |
| Level 1 : High Severity                           |                             | 4     | 1      | 0     | 1      | 0      |      |
| Level 2 : Moderate Severity                       |                             | 2     | 3      | 1     | 2      | 2      |      |
| Level 3 : Low Severity                            |                             | 4     | 8      | 2     | 1      | 6      |      |

Level 1 : High severity means that the volume of chemical spills is more than 2,500 kg (plastic powder or granule is more than 5,000 kg) that leak from primary containment or any spills to environment or causes injury.

Level 2 : Moderate severity means that the volume of chemical spills is between 500-2,500 kg (plastic powder or granule is between 2,500-5,000 kg) that can be contained (not reaching to environment), and no injury occurred.

Level 3 : Low severity means that the volume of chemical spills is between 50-500 kg (plastic powder or granule is between 500-2,500 kg) that can be contained (not reaching to environment), and no injury occurred.

Remarks \* Turnover means those who were resigned, dismissed, fired, retired, or passed away.  
 \*\* Excludes flammable gas and utility chemicals, e.g. raw water, filtrated water, distilled water, Nitrogen gas, instrument air, service air, or Carbon dioxide.

## WBCSD-CSI Operating Results of Cement Plants\*

| Performance Data  |                                       | 2009   | 2010   | 2011   | 2012   | 2013   |
|---|---------------------------------------|--------|--------|--------|--------|--------|
| Climate Protection**  |                                       |        |        |        |        |        |
| Number of plants adopting WBCSD                               | Number of Plants                      | 6      | 6      | 6      | 6      | 6      |
| CO <sub>2</sub> Protocol                                      | %                                     | 100    | 100    | 100    | 100    | 100    |
| Absolute Gross CO <sub>2</sub>                                | Million Tons of CO <sub>2</sub>       | 13.66  | 14.86  | 14.50  | 15.46  | 15.17  |
| Absolute Net CO <sub>2</sub>                                  | Million Tons of CO <sub>2</sub>       | 13.58  | 14.73  | 14.45  | 15.36  | 15.04  |
| Specific Gross CO <sub>2</sub>                                | kg CO <sub>2</sub> / Ton Cementitious | 721    | 697    | 685    | 680    | 673    |
| Specific Net CO <sub>2</sub>                                  | kg CO <sub>2</sub> / Ton Cementitious | 717    | 691    | 682    | 675    | 667    |
| Fuels and Raw Materials                                       |                                       |        |        |        |        |        |
| Heat Consumption  | MJ/Ton Clinker                        | 3,299  | 3,314  | 3,283  | 3,219  | 3,326  |
| Alternative fossil fuel                                       | % by heat                             | 2.1    | 2.7    | 1.2    | 2.3    | 2.8    |
| Biomass   | % by heat                             | 12.9   | 8.8    | 11.3   | 11.8   | 12.8   |
| Alternative Raw Materials                                     | % by weight                           | 0.85   | 0.62   | 0.50   | 0.70   | 1.15   |
| Clinker/Cementitious Ratio                                    | %                                     | 82.2   | 79.9   | 79.5   | 79.4   | 79.8   |
| Emission Reduction  |                                       |        |        |        |        |        |
| % of clinker produced by kilns covered by a monitoring system | %                                     | 99.5   | 100    | 100    | 100    | 100    |
| Dust Emissions  | Tons                                  | 1,467  | 1,160  | 1,022  | 947    | 982    |
| Dust Emissions Rate   | g / Ton Clinker                       | 88     | 65     | 58     | 51     | 54     |
| SO <sub>2</sub>   | Tons                                  | 1,506  | 1,232  | 1,367  | 1,122  | 534    |
| SO <sub>2</sub> Emissions Rate                                | g / Ton Clinker                       | 90     | 69     | 77     | 60     | 29     |
| NO <sub>x</sub>   | Tons                                  | 17,166 | 14,602 | 14,887 | 15,274 | 18,845 |
| NO <sub>x</sub> Emissions Rate                                | g / Ton Clinker                       | 1,027  | 817    | 844    | 820    | 1,033  |
| Local Impacts   |                                       |        |        |        |        |        |
| Quarry sites with rehabilitation plans                        | Number of Site                        | 4      | 4      | 4      | 4      | 4      |
|   | %                                     | 100    | 100    | 100    | 100    | 100    |
| Sites with community engagement plans                         | %                                     | 100    | 100    | 100    | 100    | 100    |
| Sites where biodiversity issues are addressed                 | Number of Site (accumulate number)    | 4      | 4      | 4      | 4      | 4      |
| Employee Health and Safety                                    |                                       |        |        |        |        |        |
| Fatality  |                                       |        |        |        |        |        |
| Employee  | Cases                                 | 0      | 0      | 0      | 0      | 0      |
| Contractor  | Cases                                 | 0      | 2      | 0      | 0      | 2      |
| Third Party   | Cases                                 | 0      | 0      | 0      | 0      | 0      |
| Lost-time Injury Accident                                     |                                       |        |        |        |        |        |
| Employee  | Cases                                 | 4      | 4      | 0      | 0      | 2      |
| LTIFR (Employee)  | Case/1,000,000 Man-hours              | 0.79   | 0.76   | 0.00   | 0.00   | 0.38   |
| Contractor  | Cases                                 | 19     | 7      | 5      | 5      | 4      |
| LTIFR (Contractor)  | Case/1,000,000 Man-hours              | 0.81   | 0.28   | 0.19   | 0.19   | 0.15   |

Remarks \* Includes domestic and overseas cement plants  
 \*\* The collection and reporting of GHGs data is accordance with WBCSD, The Cement CO<sub>2</sub> Protocol based on company's own control



# About this Report

The Siam Cement Group (SCG) has been publishing the sustainability report every year since 2001.

SCG consists of 3 core business units namely, SCG Cement-Building Materials, SCG Chemicals and SCG Paper. Information disclosed in this report includes the performance of The Siam Cement Public Company Limited and all of its domestic and overseas subsidiaries.

## Reporting scope

The reporting period for the information in this report is 1 January 2013 to 31 December 2013. This 2013 sustainability report and its data is prepared in accordance with GRI 3.1 but throughout the report, inspiration has been taken from G4. The information in this report offers an update on United Nations Global Compact (UNCG) at the Advance Level and the disclosure of cement business performance according to WBCSD-CSI (see details on page 79).

## Reporting assurance

Financial data has been obtained from financial management system similar to those presented in SCG Annual Report 2013 and is verified by independent audit. To assure the integrity and the transparency of environmental and safety data in this report, SCG has requested external party to verify and assess the data against GRI-G3.1 criteria (see details on page 92-93).

## Reporting principles for environmental and safety data

Environmental and safety data from all business units are included in the report except for overseas operations, newly acquired companies (less than 3 years for new establishment and 4 years for M&A) and companies outside of SCG management control. Exclusivity of the data is noted in 'Subsidiaries included in this report' on page 82-83.

The selection of information included is based on what that is determined by SCG's management to be responsible, relevant and of valuable for its stakeholders when measuring sustainability performance.

## Environment

The environmental data cover those activities that, based on an overall environmental assessment and determined by SCG management, could have a significant impact on the environment. Sites with production process are included while sites with activities considered not to have a significant impact are not included, for examples; sales offices, R&D laboratories, services and holding companies.

The environmental data is based on data sources from bills, meter reading, data from production system and estimation with ground rules.

## Energy

Total energy consumption includes thermal energy and electricity used in production.

Alternative energy is a part of thermal energy and defined as biomass, industrial or rejected wastes, e.g. used tyres, used oil, RDF and black liquor.

Calculation method of energy consumption is based on fuel weight multiply by heating value of each fuel type (provided by laboratory test or

suppliers). In case of fuel measured in volume, data will be estimated by volume purchased or volume of stockpile.

## Greenhouse Gas Emissions (GHGs)

GHGs in this report represent an account of GHG emissions from the operation of SCG based on WRI/WBCSD GHG Protocol. When choosing the inventory boundary, we considered a number of factors as follows;

### 1. Operational boundary:

1.1 Direct GHG emissions (Scope 1): GHG emissions occur from sources owned by SCG, for example, emissions from combustion of coal or natural gas in incinerators, boilers, furnaces, vehicles, etc. In addition, we include GHG emissions occur from chemical production process such as calcinations in cement plant. On the other hand, emissions from the combustion of biomass and alternative fuels are excluded.

1.2 Indirect GHG emissions (Scope 2): GHG emissions occur from the generation energy purchased by SCG, such as electricity, steam, and hot air

### 2. Inventory:

2.1 Scope 1 GHG emissions will be calculated based on the purchased quantities of commercial fuels (such as coal and natural gas) using Thailand Greenhouse Gas Management Organization (Public Organization) emission factors. If there is no Thai emission factor, Intergovernmental Panel on Climate Change 2006 (IPCC) emission factors will be used. For cement business, emission factors from WBCSD-CSI will be applied. Calculation of GHG from process, e.g. limestone, is estimated and calculated using raw materials reaction in stoichiometry.

2.2 Lab test data is used as emission factors where available.

2.3 Scope 2 GHG emissions will be calculated from purchased electricity, steam or hot air consumption using emission factors from suppliers.

**3. Reporting of GHG emissions:** The type of GHG emissions to be reported includes CO<sub>2</sub>, SF<sub>6</sub>, CH<sub>4</sub>, N<sub>2</sub>O, FCs, and PFCs, converted to the universal unit of measurement by Global Warming Potential (GWP) as CO<sub>2</sub> equivalent. Referred GWP factors are defined by IPCC.

## Air emissions

Air emissions are the quantity of air pollution (for example NO<sub>x</sub>, SO<sub>x</sub>, Particulate Matters) deriving from combustions and other components during the production process. This depends on the production process of each operation in which chemical substance is produced. It is based on a result and measurement as stipulated by Thai laws. The measurement of air emissions is at the stacks during the operation according to US EPA Method or equivalent standard.

## Water

Water management (water withdrawal, water discharge, water treatment and water recycle) is considered in order to assess efficiency and any risks that may have when SCG withdraws water from nature.

Water withdrawal is the quantity of fresh water taken from external sources for use in any activities of SCG. The quantity of water withdrawal

includes water used in production process, offices, maintenance and utilities and is obtained from bills or meter reading. Sources of water are divided into surface water, ground water and tap water. Recycled water is the quantity of treated water return to the process but excludes non-treated reused water such as cooling water.

Effluent Water Quality is the quality of water discharged to external sources such as BOC, COD and TSS. The quality of water will be tested using standardized measurement.

## Waste

Waste Management is considered in order to assess the efficiency of production process, improvement of product quality and a decrease of production cost. SCG has established 'SCG Waste Reporting Guideline' in March 2010 by SCG Waste Management Committee.

The quantity of waste from production process is reported and any waste which can be recycled in the production process (Work in Process, WIP) is excluded.

Type of industrial wastes is classified by the Notification of Ministry of Industry on Industrial Waste Disposal 2005. It can be divided into 2 categories, Hazardous Waste and Non-Hazardous Waste. Each category of waste is treated as recycle, disposal or landfill.

Waste data is measured as generated (P.45) and managed volumes (P.76) by reading from weighting scale. Estimation according to academic measurement is also used if weighting scale is not available.

## Efficiency indexes/Specific data

Efficiency indexes or specific data is calculated from environmental data divided by tons production.

Tons production data used in the efficiency indexes is measured based on data from production system. Estimation will be used if it is applicable.

For cement business, tons production of clinker will be used for air emission and heat consumption (referring to WBCSD-CSI) efficiency indexes while other efficiency indexes, tons production of cementitious will be used.

## Social

Social data includes information from three work streams: SCG Employees, contracted employees and contractors with the following definitions;

1. Employee - a full time worker according to SCG lifetime employment contract.

2. Contracted employee - a full time worker employs on a yearly contracted basis.

Employees and contracted employees are categorized into 3 levels: operational, supervisor, and management.

Operational level is a front line worker who spends most of their time operating machines using their technical skills. Supervisor level is a middle manager who is responsible for subordinates in operational level. Management level is a top manager who responsible for addressing business strategies or policies. They delegate and control supervisor level employees who implement policy and daily jobs.

All employees and contracted employees are covered in the data.

3. Contractor is an individual who gets consent from SCG to perform any job on SCG behalf but not an SCG's employee. Contractor is divided into 3 groups as follows:-

- Routine contractor is a contractor who performs an assigned job regularly or on a day-to-day basis under SCG's working procedures.

- Non-routine contractor is a contractor who performs any specific job using their own working procedures.

- Transport Contractor is a contractor performs transportation of raw materials or products under SCG's management (both with and without SCG Brand Logo) and those without SCG's management but having SCG Brand logo on their transportation vehicles.

All contractors are included in the data except for non-routine contractor where cases will be recorded but man-hours are excluded. Transport contractor in logistics under Cement-Building Material Business Unit records unit as kilometer.

Other than three work streams, there is a Third party who does not categorize as directly employed or contractors and third party is not covered in the data.

## Diversity

SCG understands the uniqueness of each individual and is committed to developing a diverse workforce, fostering innovation and an inclusive working culture. Diversity in this report is presented in gender, age, and nationality.

## Safety

SCG records 3 groups of safety data for all types of work streams as the follow definitions;

1. Number of fatality; death resulting from work-related accident where the victim is passed away suddenly or thereafter due to such accident.

2. Total incident rate; number of cases per 200,000 man-hours.

3. Incident rate (lost time cases); number of cases per 200,000 man-hours. Lost Time Injury (LTI) is a work-related injury causing the absence of one or more working days (or shifts). This includes any work-related injury or illness which prevents that person from doing any work the day after the accident.

## Working hours (Man-Hours)

To calculate the man-hours, the following data shall be referred respectively: -

1. Data from clock-in system, HR database system or bills from contractual agent of the company/plant is used for operation level and all contractors.

2. In case the companies/plants do not have a clock-in system or HR database, the below formula shall be employed to estimate the average man-hours of management and supervisor level. It is noted that holidays and leave days are excluded.

Calculation formula of man-hours for supervisor and management level;

Man-hours = [Total no. of employees and contracted employees X total no. of working days X normal working hours (8 hr./day)]



Subsidiaries included in  
the SCG Sustainability Report 2013 \*

| Business / Company  |  | Production   | Environment |             |      |                 |                 |       |                  |                |     |     |     |    | Waste | Safety |
|---|--|--|-------------|-------------|------|-----------------|-----------------|-------|------------------|----------------|-----|-----|-----|----|-------|--------|
|   |  |  | Energy      |             | Air  |                 |                 | Water |                  |                |     |     |     |    |       |        |
|   |  |  | Thermal     | Electricity | Dust | SO <sub>x</sub> | NO <sub>x</sub> | GHG   | Water Withdrawal | Recycled Water | BOD | COD | TSS |    |       |        |
| SCG   |  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | The Siam Cement Public Company Limited   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| SCG Cement-Building Materials                             |  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | SCG Cement-Building Materials Co., Ltd.  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 2   | SCG Cement Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 3   | The Concrete Products and Aggregate Co., Ltd.  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 4   | The Siam Cement (Kaeng Khoi) Co.,Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 5   | The Siam Cement (Ta Luang) Co., Ltd.<br>(Ta Luang, Khoa Wong)  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 6   | The Siam Cement (Thung Song) Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 7   | The Siam Cement (Lampang) Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 8   | Siam Mortar Co., Ltd.**  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    | **    | ✓      |
| 9   | The Siam White Cement Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 10  | The Siam Refractory Industry Co., Ltd.**   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    | **    | ✓      |
| 11  | Cementhai Energy Conservation Co., Ltd.**  | Data included in The Siam Cement (Ta Luang) Co., Ltd. The Siam Cement (Kaeng Khoi) Co.,Ltd. The Siam Cement (Thung Song) Co., Ltd. |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | **     |
| 12  | ECO Plant Services Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 13  | SCI Eco Services Co., Ltd.**   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    | **    | ✓      |
| 14  | SCG Building Materials Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 15  | The Siam Fibre-Cement Co., Ltd.<br>(Saraburi / Ta Luang / Thung Song / Nongkae)  | ✓  | ✓           | ✓           | ✓    | NR              | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 16  | The Fibre-Cement Products (Lampang) Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | NR              | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 17  | SCG Landscape Co., Ltd.<br>(Khonkaen / Thung Song / Ladkrabang / Lamphun /<br>Sriracha / Nongkae)  | ✓  | ✓           | ✓           | NR   | NR              | NR              | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 18  | Saraburirat Co., Ltd.  | ✓  | ✓           | ✓           | NR   | NR              | NR              | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 19  | Siam Fiberglass Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 20  | Thai Ceramic Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 21  | The Siam Ceramic Group Industries Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 22  | Cementhai Home Services Co., Ltd.  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 23  | The CPAC Roof Tile Co., Ltd.<br>(Saraburi 1 / Saraburi 2 / Nakorn Prathom / Chonburi /<br>Nakorn Rajchasrima / Lamphun / Khonkaen /<br>Nakorn Sri Thammaraj) | ✓  | ✓           | ✓           | NR   | NR              | NR              | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 24  | Thai Ceramic Roof Tile Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 25  | The Siam Sanitary Fittings Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 26  | Thai-German Ceramic Industry Public Company Limited  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 27  | Siam Sanitary Ware Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 28  | Siam Sanitary Ware Industry Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 29  | Siam Sanitary Ware Industry (Nongkae) Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 30  | Quality Construction Products Public Company Limited   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 31  | Q-Con Eastern Co., Ltd.  | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 32  | Sosuco Ceramic Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 33  | SCG-Sekisui Sales Co., Ltd.  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 34  | SCG Distribution Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 35  | SCG Trading Co., Ltd.  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 36  | SCG Logistics Management Co., Ltd.   |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| Associates, Jointly-Controlled entity and Other Companies |  |  |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | Sekisui-SCG Industry Co., Ltd.   | ✓  | ✓           | ✓           | NR   | NR              | NR              | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |
| 2   | Noritake SCG Plaster Co., Ltd.   | ✓  | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | NR  | NR  | NR  | NR | ✓     | ✓      |

Subsidiaries included in  
the SCG Sustainability Report 2013 \*

| Business / Company  |   | Production | Environment |             |      |                 |                 |       |                  |                |     |     |     |    | Waste | Safety |
|---|---|------------|-------------|-------------|------|-----------------|-----------------|-------|------------------|----------------|-----|-----|-----|----|-------|--------|
|   |   |            | Energy      |             | Air  |                 |                 | Water |                  |                |     |     |     |    |       |        |
|   |   |            | Thermal     | Electricity | Dust | SO <sub>x</sub> | NO <sub>x</sub> | GHG   | Water Withdrawal | Recycled-Water | BOD | COD | TSS |    |       |        |
| SCG Chemicals   |   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | SCG Chemicals Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 2   | Thai Polyethylene Co., Ltd.   | ✓          | ✓           | ✓           | NR   | NR              | NR              | ✓     | ✓                | ✓              | ✓   | ✓   | NR  | ✓  |       | ✓      |
| 3   | Rayong Engineering & Plant Service Co., Ltd.  |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 4   | Thai Plastic and Chemicals Public Company Limited   | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | NR  | ✓  |       | ✓      |
| 5   | TPC Paste Resin Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 6   | Siam Stabilizers and Chemicals Co., Ltd.  |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 7   | The Nawaplastic Industries (Saraburi) Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 8   | Nawa Plastic Industries Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |
| 9   | Map Ta Phut Tank Terminal Co., Ltd.**   | NR         | NR          | NR          | NR   | NR              | NR              | NR    | NR               | NR             | NR  | NR  | NR  | ** |       | ✓      |
| 10  | Rayong Terminal Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 11  | Rayong Pipeline Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 12  | Map Ta Phut Olefins Co., Ltd.   | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | NR  | ✓  |       | ✓      |
| 13  | Rayong Olefins Co., Ltd.  | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | NR  | ✓  |       | ✓      |
| Associates, Jointly-Controlled entity and Other Companies |   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | Siam Mitsui PTA Co., Ltd.   | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | NR  | ✓  |       | ✓      |
| 2   | Thai MMA Co., Ltd.  | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | NR  | ✓   | ✓   | NR | ✓     | ✓      |
| 3   | Grand Siam Composites Co., Ltd.   | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | NR  | ✓   | ✓   | NR | ✓     | ✓      |
| 4   | Thai MFC Co., Ltd.  | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | NR | ✓     | ✓      |
| 5   | Thai PET Resin Co., Ltd.  | ✓          | ✓           | ✓           | NR   | NR              | ✓               | ✓     | ✓                | ✓              | NR  | ✓   | ✓   | NR | ✓     | ✓      |
| SCG Paper   |   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 1   | SCG Paper Public Company Limited  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 2   | Thai Paper Co., Ltd.  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 3   | Thai Union Paper Public Company Limited   | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 4   | Siam Kraft Industry Co., Ltd. (Banpong / Wangsala)  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 5   | Siam Cellulose Co., Ltd.  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 6   | The Siam Forestry Co., Ltd.   | NR         | NR          | NR          | NR   | NR              | NR              | ✓     | NR               | NR             | NR  | NR  | NR  | NR |       | ✓      |
| 7   | Phoenix Pulp & Paper Public Company Limited   | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 8   | Phoenix Utilities Co., Ltd.   |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       |        |
| 9   | Thai Cane Paper Public Company Limited<br>(Kanchanaburi / Prachinburi)  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 10  | Thai Containers Group Co., Ltd.<br>(Chonburi / Nawanakorn / Pathumthani / Prachinburi /<br>Rachaburi / Samut Prakarn / Saraburi / Songkhla) | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 11  | Thai Containers Khonkaen Co., Ltd.  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 12  | Thai Containers Rayong Co., Ltd.  | ✓          | ✓           | ✓           | ✓    | ✓               | ✓               | ✓     | ✓                | ✓              | ✓   | ✓   | ✓   | ✓  |       | ✓      |
| 13  | Thai British Security Printing Public Company Limited   |            | ✓           | ✓           |      |                 |                 | ✓     |                  |                |     |     |     |    | ✓     | ✓      |
| 14  | InfoZafe Co., Ltd.  |            | ✓           | ✓           |      |                 |                 | ✓     |                  |                |     |     |     |    | ✓     | ✓      |
| 15  | Thai British DPost Co., Ltd.  |            |             |             |      |                 |                 |       |                  |                |     |     |     |    |       | ✓      |

\* Economic performance covers all significant consolidated subsidiaries, associates, jointly-controlled and other companies according to SCG Annual Report 2013

\*\* Data collection started in 2013

NR Non Relevance



GRI Content Index

| G3.1                                    | Description  | AR                  | SR                             | 2013 Disclosure |
|---|--|---------------------|--------------------------------|-----------------|
| Indicator                               |  | Page Number         |                                |                 |
| Strategy and Analysis                   |  |                     |                                |                 |
| 1.1                                     | Statement from the most senior decision-maker of the Organisation                    | 4-5                 | 4-5                            | Full            |
| 1.2                                     | Description of key impacts, risks, and opportunities                                 | 48-61               | 18-19                          | Full            |
| Organisational Profile                  |  |                     |                                |                 |
| 2.1                                     | Name of the organisation   | 1                   | 1                              | Full            |
| 2.2                                     | Primary brands, products, and/or services  | -                   | 2-3                            | Full            |
| 2.3                                     | Operational structure of the organisation  | 6                   | 18                             | Full            |
| 2.4                                     | Location of organisation's headquarters  | 1                   | 96                             | Full            |
| 2.5                                     | Countries where the organisation operates  | -                   | 14                             | Full            |
| 2.6                                     | Nature of ownership and legal form   | 83-84               | -                              | Full            |
| 2.7                                     | Markets served   | 10-15               | 1-3                            | Full            |
| 2.8                                     | Scale of the reporting organisation  | 64-81               | 82-83                          | Full            |
| 2.9                                     | Significant changes during the reporting period in size, structure, ownership        | 10-15               | 1-3                            | Full            |
| 2.10                                    | Awards received in the reporting period  | Inside cover, 18-20 | Inside cover, 94-96            | Full            |
| Report Parameters                       |  |                     |                                |                 |
| 3.1                                     | Reporting period (e.g. fiscal/calendar year) for information provided                | 1                   | 80-81                          | Full            |
| 3.2                                     | Date of most recent previous report (if any)   | -                   | 80-81                          | Full            |
| 3.3                                     | Reporting cycle (annual, biennial, etc.)   | -                   | 80-81                          | Full            |
| 3.4                                     | Contact point for questions.   | 1                   | 96                             | Full            |
| 3.5                                     | Process for defining report content  | -                   | 16                             | Full            |
| 3.6                                     | Boundary of the report   | 64-81               | 82-83                          | Full            |
| 3.7                                     | Any specific limitations on the scope or boundary of the report                      | -                   | 80-81                          | Full            |
| 3.8                                     | Basis for reporting on joint ventures, subsidiaries, etc.                            | 64-81               | 82-83                          | Full            |
| 3.9                                     | Data measurement techniques and the bases of calculations                            | -                   | 80-81                          | Full            |
| 3.10                                    | Explanation of effect of re-statements of information provided previously            | -                   | -                              | Full            |
| 3.11                                    | Significant changes in scope, boundary, or measurement methods                       | -                   | 80-81                          | Full            |
| 3.12                                    | Table identifying the location of the Standard Disclosures in the report             | -                   | 84-87                          | Full            |
| 3.13                                    | Policy and current practice on seeking external assurance for the report             | 108-109             | 80-81                          | Full            |
| Governance, Commitments, and Engagement |  |                     |                                |                 |
| 4.1                                     | Governance structure of the organisation   | 6                   | 18                             | Full            |
| 4.2                                     | Indicate if Chair of the board is also an executive officer                          | 6-7                 | -                              | Full            |
| 4.3                                     | The board members that are independent and/or non-executive members                  | 6, 29               | -                              | Full            |
| 4.4                                     | Ways for shareholders and employees to provide recommendations or direction          | 18-28               | 10-13                          | Full            |
| 4.5                                     | Link between compensation of board and management with performance                   | 41-43               | -                              | Full            |
| 4.6                                     | Processes in place for the board to ensure conflicts of interest are avoided         | 24                  | -                              | Full            |
| 4.7                                     | Process for determining the qualifications and expertise of the board                | 37-38               | -                              | Full            |
| 4.8                                     | Internally developed statements of mission or values, codes of conduct, & principles | 18-20               | 7, 12-13                       | Full            |
| 4.9                                     | Procedures of the board for overseeing identification and management of performance  | 38-43               | -                              | Full            |
| 4.10                                    | Processes for evaluating the boards own CSR performance                              | 39-40               | -                              | Full            |
| 4.11                                    | Explanation of whether and how the precautionary approach or principle is addressed  | 48-61               | 16-21                          | Full            |
| 4.12                                    | Externally developed economic, environmental, and social charters, principles        | -                   | 70-71                          | Full            |
| 4.13                                    | Memberships in associations  | -                   | Inside cover, 70-71, 79, 88-90 | Full            |

AR = Annual Report  
SR = Sustainability Report

| G3.1          | Description  | AR          | SR                         | 2013 Disclosure |
|---------------|--|-------------|----------------------------|-----------------|
| Indicator     |  | Page Number |                            |                 |
| 4.14          | List of stakeholder groups engaged by the organisation   | 24-27       | 10-11                      | Full            |
| 4.15          | Basis for identification and selection of stakeholders with whom to engage                                       | 24-27       | 10-11                      | Full            |
| 4.16          | Approaches to stakeholder engagements  | 24-27       | 10-11                      | Full            |
| 4.17          | Key topics and concerns that have been raised through stakeholder engagement                                     | 24-27       | 10-11                      | Full            |
| Economic      |  |             |                            |                 |
| EC1           | Direct economic value generated and distributed  | 8-9         | 72                         | Full            |
| EC2           | Financial implications and other risks and opportunities for the organisation's activities due to climate change | 55-60       | 38-39                      | Full            |
| EC3           | Coverage of the organisation's defined benefit plan obligations  | -           | 54-55, 72                  | Full            |
| EC4           | Significant financial assistance received from government  | -           | 72                         | Full            |
| EC5           | Additional: Range of ratios of standard entry level wage by gender compared to local minimum wage                | -           | 77-78                      | Full            |
| EC6           | Policy, practices, and proportion of spending on locally-based suppliers   | 25, 27      | 23-26                      | Full            |
| EC7           | Local hiring and proportion of senior management hired from the local community                                  | -           | 77                         | Partial         |
| EC8           | Development and impact of infrastructure provided primarily for public benefit                                   | -           | 60-69                      | Partial         |
| EC9           | Additional: Understanding and describing significant indirect economic impacts                                   | 48-61       | 16-19                      | Full            |
| Environmental |  |             |                            |                 |
| EN1           | Materials used by weight or volume   | -           | 42-43, 73                  | Full            |
| EN2           | Percentage of materials used that are recycled input materials   | -           | 73                         | Full            |
| EN3           | Direct energy consumption by primary energy source   | -           | 40, 74, 79                 | Full            |
| EN4           | Indirect energy consumption by primary source  | -           | 40, 74, 79                 | Full            |
| EN5           | Additional: Energy saved due to conservation and efficiency improvements   | 11, 13      | 40-41, 74,79               | Full            |
| EN6           | Additional: Energy-efficient or renewable energy products and services   | -           | 28-29, 38-41, 46-47        | Full            |
| EN7           | Additional: Indirect energy consumption reduction initiatives and results  | -           | 38-41, 46-47               | Full            |
| EN8           | Total water withdrawal by source   | -           | 36-37                      | Full            |
| EN9           | Additional: Water sources significantly affected by withdrawal of water  | -           | 36-37                      | Full            |
| EN10          | Additional: Percentage and total volume of water recycled and reused   | -           | 73                         | Full            |
| EN11          | Location and size of land by protected areas and areas of high biodiversity value                                | -           | 34-35, 79                  | Full            |
| EN12          | Description of significant impacts of activities, products and services on biodiversity                          | -           | 34-35, 43                  | Full            |
| EN13          | Additional: Habitats protected or restored   | -           | 34-35                      | Full            |
| EN14          | Additional: Managing impacts on biodiversity   | -           | 20-21, 34-35               | Full            |
| EN15          | Additional: IUCN Red List species and other list species with habitats affected by operations                    | -           | None                       | Full            |
| EN16          | Total direct and indirect greenhouse gas emissions by weight   | -           | 20-21, 38-41, 75, 79       | Full            |
| EN17          | Other relevant indirect greenhouse gas emissions by weight   | -           | 20-21, 38-41               | Full            |
| EN18          | Additional: Initiatives to reduce greenhouse gas emissions and reductions achieved                               | -           | 20-21, 28-29, 38-41, 46-47 | Full            |
| EN19          | Emissions of ozone-depleting substances by weight  | -           | 46-47, 75, 79              | Full            |
| EN20          | NOx, SOx, and other significant air emissions by type and weight   | -           | 75, 79                     | Full            |
| EN21          | Total water discharge by quality and destination   | -           | 76                         | Partial         |
| EN22          | Total weight of waste by type and disposal method  | -           | 20-21, 75, 76              | Full            |
| EN23          | Total number and volume of significant spills  | -           | 78                         | Full            |
| EN24          | Additional: Weight of waste deemed hazardous   | -           | 76                         | Partial         |
| EN25          | Additional: Details of water and habitats significantly affected by discharges of water and runoff               | -           | -                          | Partial         |

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| G3.1 Indicator                            | Description   | AR<br>Page Number   | SR  | 2013 Disclosure |
|---|---|---|---|-----------------|
| EN26                                      | Initiatives and extent of environmental impacts of products and services mitigation   | -   | 20-21, 28-29  | Partial         |
| EN27                                      | Percentage of products sold and their packaging materials reclaimed by category   | -   | Not Available   | -               |
| EN28                                      | Significant fines and non-monetary sanctions for non-compliance with environmental law  | Note: no significant fines  |   | -               |
| EN29                                      | Additional: Significant environmental impacts of transporting products etc. and workforce   | -   | 41, 53  | Partial         |
| EN30                                      | Additional: Total environmental protection expenditures and investments by type   | -   | 72  | Full            |
| Social : Labour Practices and Decent Work |   |   |   |                 |
| LA1                                       | Total workforce by employment type, employment contract, and region broken down by gender   | -   | 77  | Full            |
| LA2                                       | Total number and rate of new employee hires and employee turnover by age group, gender, and region  | -   | 77-78   | Full            |
| LA3                                       | Additional: Benefits for full-time employees not provided to temporary or part-time   | Note: benefits provided to temporary and part-time employees are as specified by Thai law |   |                 |
| LA4                                       | Percentage of employees covered by collective bargaining agreements   | -   | Non Relevance   | -               |
| LA5                                       | Minimum notice period(s) regarding significant operational changes  | Note: comply with Thai law  |   | Full            |
| LA6                                       | Additional: % workforce in formal management-worker health and safety committees  | Note: comply with Thai law  |   | Full            |
| LA7                                       | Rates of injury, occupational diseases, lost days and absenteeism, & number of work-related fatalities by region and by gender  | -   | 52-53, 78-79  | Partial         |
| LA8                                       | Education, training, Counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases                                      | -   | 50-59   | Partial         |
| LA9                                       | Additional: Health and safety topics covered in formal agreements with trade unions   | -   | Non Relevance   | Partial         |
| LA10                                      | Average hours of training per year per employee by gender and by employee category  | -   | 54-59   | Partial         |
| LA11                                      | Additional: Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings   | -   | 27, 53-59   | Partial         |
| LA12                                      | Additional: % employees with regular performance & career development reviews by gender   | -   | 54-59   | Partial         |
| LA13                                      | Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity                                    | -   | 77-78   | Full            |
| LA14                                      | Ratio of basic salary and remuneration of women to men by employee category   | -   | 77  | Full            |
| LA15                                      | Return to work and retention rates after parental leave, by gender  | -   | 77  | Full            |
| Social : Human Rights                     |   |   |   |                 |
| HR1                                       | Percentage and total number of significant investment agreements and contracts that include human rights clauses or that have undergone human rights screening  | Note: all agreements are in compliance with Code of Conduct                               |   | Partial         |
| HR2                                       | Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening and actions taken.   | 27  | 23-24   | Partial         |
| HR3                                       | Hours and % of employee training on policies and procedures in human rights   | -   | 54-59   | Partial         |
| HR4                                       | Total number of incidents of discrimination and corrective actions taken  | Note: no incidents  |   | Full            |
| HR5                                       | Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights | 27  | 23-26, 88-90<br>Code of Conduct<br>SCG Supplier Code of Conduct | Full            |
| HR6                                       | Operations and significant suppliers with significant risk for incidents of child labor, and measures taken to effective abolition of child labor   | 27  | 23-26, 90<br>Code of Conduct<br>SCG Supplier Code of Conduct    | Partial         |
| HR7                                       | Operations and significant suppliers with significant risk of forced or compulsory labor, and measures to eliminate of all forms of forced or compulsory labor.   | 27  | 23-26, 90<br>Code of Conduct<br>SCG Supplier Code of Conduct    | Partial         |

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| G3.1 Indicator                  | Description   | AR<br>Page Number                                     | SR            | 2013 Disclosure |
|---------------------------------|---|---|---------------|-----------------|
| HR8                             | Additional: Percentage of security personnel trained in the organisation's policies or procedures concerning aspects of human rights that are relevant to operations                            | Note: all are trained according to contract agreement |               | Partial         |
| HR9                             | Additional: Incidents of violations involving rights of indigenous people & actions taken   | Note: no incidents                                    |               | Full            |
| HR10                            | Percentage of total number of operations that have been subject to human rights reviews and/or impact assessment  | 100% reviewed by Code of Conduct                      |               | Full            |
| HR11                            | Number of grievances related to human rights files, addressed, and resolved through formal grievance mechanisms   | Note: no incidents                                    |               | Full            |
| Social : Society                |   |   |               |                 |
| S01                             | Percentage of operations with implemented local community engagement, impact assessments, and development programs  | -   | 60-69         | Full            |
| S02                             | Percentage and total number of business units analysed for risks related to corruption  | 18-20   | -             | Full            |
| S03                             | Percentage of employees trained in organisation's anti-corruption policies and procedures   | -   | 12-13         | Full            |
| S04                             | Actions taken in response to incidents of corruption  | 18-20, 44-47  | 12-13         | Partial         |
| S05                             | Public policy positions and participation in public policy development and lobbying   | 18-20   | 89-90         | Full            |
| S06                             | Additional: Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country   | -   | Non Relevance | Full            |
| S07                             | Additional: Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes   | -   | Non Relevance | Full            |
| S08                             | Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations   | Note: no significant fines                            |               | Full            |
| Social : Product Responsibility |   |   |               |                 |
| PR1                             | Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories                      | -   | 28            | Full            |
| PR2                             | Additional: Incidents of non-compliance with regulations and voluntary codes on health and safety impacts of products and services during their life cycle, by type of outcomes                 | -   | 31            | Full            |
| PR3                             | Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements                                    | -   | 31            | Full            |
| PR4                             | Additional: Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes                      | -   | 31            | Full            |
| PR5                             | Additional: Practices related to customer satisfaction, including results of surveys measuring customer satisfaction  | -   | 10-11, 27     | Full            |
| PR6                             | Programmes for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship   | -   | 31            | Full            |
| PR7                             | Additional: Total number of incidents of non-compliance with regulations and voluntary codes on marketing communications, including advertising, promotion, and sponsorship by type of outcomes | -   | 31            | Full            |
| PR8                             | Additional: Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data   | -   | 31            | Full            |
| PR9                             | Additional: Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services  | -   | 31            | Full            |

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## United Nations Global Compact (UNGC)

### Communication on Progress for the Advanced Level

| Criteria for the GC Advanced Level         | Action   | Page  |
|--|--|---|
| <b>Strategy, Governance and Engagement</b> |  |   |
| 1  | High-level sustainability strategy in line with Global Compact principles                  | <ul style="list-style-type: none"> <li>Message from Our President &amp; CEO</li> <li>Business philosophy and vision</li> </ul> 4-5<br>7   |
| 2  | Effective decision-making processes and systems of governance for corporate sustainability | <ul style="list-style-type: none"> <li>Management approach to sustainability</li> <li>SCG Code of Conduct</li> </ul> 16-19<br>12-13   |
| 3  | Engagement with all important stakeholders   | <ul style="list-style-type: none"> <li>Defined stakeholder engagement policy and practices</li> </ul> 10-11   |
| <b>UN Goals and Issues</b>                 |  |   |
| 4  | Actions taken in support of broader UN goals and issues                                    | <ul style="list-style-type: none"> <li>Management approach to sustainability</li> <li>Defined sustainable development approaches for community and society</li> </ul> 16-19<br>60-61  |
| <b>Human Rights Implementation</b>         |  |   |
| 5  | Robust commitments, strategies or policies in the area of human rights                     | <ul style="list-style-type: none"> <li>Continuous caring and development of employee</li> <li>Support of increased proportion of female and physically challenged employees</li> <li>Employees' opportunity to express opinions or complaints via Whistleblower system</li> </ul> 54<br>54<br>12-13   |
| 6  | Effective management systems to integrate the human rights principles                      | <ul style="list-style-type: none"> <li>Identified strategies of human resources development and employees care</li> <li>Complied with CSR-DIW, ISO 26000</li> </ul> 57-58<br>19   |
| 7  | Monitoring and evaluation mechanisms of human rights integration                           | <ul style="list-style-type: none"> <li>Employee opinion survey and engagement</li> </ul> 58   |
| 8  | Key outcomes of human rights integration   | <ul style="list-style-type: none"> <li>Proportion of employees' nationalities</li> <li>Proportion between new hires and leavers</li> <li>Proportion of wages for female and male employees</li> <li>Number of female executives</li> <li>Number of labor unions</li> </ul> 77<br>77<br>77<br>77<br>54 |
| <b>Labor Principles Implementation</b>     |  |   |
| 9  | Robust commitments, strategies or policies in the area of labor                            | <ul style="list-style-type: none"> <li>Compliance with labor and safety laws as minimum standards</li> <li>Set up SCG Safety Framework and defined Injury &amp; Illness Free target</li> </ul> 7<br>49-52   |
| 10   | Effective management systems to integrate the labor principles                             | <ul style="list-style-type: none"> <li>Complied with Occupational Health and Safety Management System Standard (TIS/OHSAS 18001) and Thai Labor Standard (SA8000)</li> <li>Upgraded contractors' safety standards by SCG Contractor Safety Certification System</li> </ul> 49-53<br>25                |

## United Nations Global Compact (UNGC)

### Communication on Progress for the Advanced Level

| Criteria for the GC Advanced Level     | Action  | Page   |
|--|---|--|
| <b>Labor Principles Implementation</b> |   |  |
| 11                                     | Effective monitoring and evaluation mechanisms of labor principles integration      | <ul style="list-style-type: none"> <li>Safety Performance Assessment Program</li> <li>Employees caring</li> </ul> 19<br>54-59  |
| 12                                     | Key outcomes of integration of the labor principles                                 | <ul style="list-style-type: none"> <li>Summarised accident statistics and social indicators (community satisfaction) and WBCSD-CSI indicators</li> </ul> 52,78-79  |
| <b>Environmental Implementation</b>    |   |  |
| 13                                     | Robust commitments, strategies or policies in the area of environmental stewardship | <ul style="list-style-type: none"> <li>Promote management approach as per sustainable development guidelines to companies</li> <li>Targeted to reduce greenhouse gas emission for at least 10 percent by 2020 from base year (2007)</li> <li>Achieved Zero Waste to Landfill target for non-hazardous waste. Remaining hazardous waste of insulator only 0.01 percent</li> </ul> 16-17, 33<br>33<br>45 |
| 14                                     | Effective management systems to integrate the environmental principles              | <ul style="list-style-type: none"> <li>Sustainable development guidelines</li> <li>Complied with TIS/ISO 14001 and TIS/ISO 50001</li> <li>Greening the Supply Chain project</li> <li>Promote manufacturing of green products (SCG eco value Label, Carbon Reduction Label, Carbon Footprint Label)</li> </ul> 16-19<br>19<br>24-27<br>28-29  |
| 15                                     | Effective monitoring and evaluation mechanisms of environmental stewardship         | <ul style="list-style-type: none"> <li>Progress of sustainable development plan</li> <li>Environmental Performance Assessment Program</li> <li>Contractors audit</li> </ul> 20-21<br>19<br>24-27   |
| 16                                     | Key outcomes of integration environmental principles                                | <ul style="list-style-type: none"> <li>Environmental performance</li> </ul> 73-76  |
| <b>Anti-Corruption Implementation</b>  |   |  |
| 17                                     | Robust commitments, strategies or policies in the area of anti-corruption           | <ul style="list-style-type: none"> <li>SCG business philosophy and vision</li> <li>Announced anti-corruption policy and guidelines through corporate governance handbook and SCG's Code of Conduct</li> <li>Announced SCG Supplier Code of Conduct</li> <li>Enhanced awareness and understanding on SCG's Code of Conduct to employees</li> </ul> 7<br>12-13<br>23<br>12-13                            |



## United Nations Global Compact (UNGC)

### Communication on Progress for the Global Compact Advanced Level

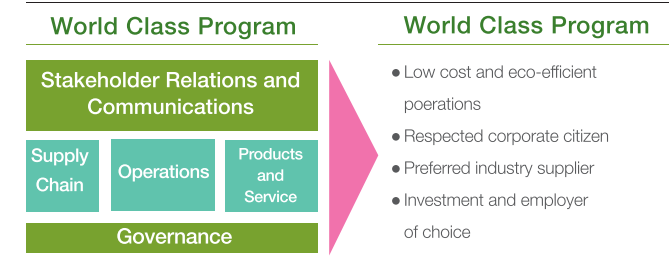
| Criteria for the GC Advanced Level    |   | Action   | Page  |
|---------------------------------------|---|--|-------|
| <b>Anti-Corruption Implementation</b> |   |  |       |
| 18                                    | Effective management systems to integrate the anti-corruption principle               | <ul style="list-style-type: none"> <li>Clearly defined authority of each levels of executives</li> <li>Employees communicated opinions or complaints via Whistleblower system</li> <li>Strict internal audit system</li> </ul>   | 12-13 |
| 19                                    | Effective monitoring and evaluation mechanisms for the integration of anti-corruption | <ul style="list-style-type: none"> <li>Audit reporting system to Board of Directors via audit committee</li> <li>Regular workshops for each business</li> </ul>  | 12-13 |
| 20                                    | Key outcomes of integration of the anti-corruption principle                          | <ul style="list-style-type: none"> <li>10 complaints found through Whistleblower system</li> <li>Investigations of corruption cases reported by audit committee (substances of fraud found in two cases but the amount of financial loss was insignificant)</li> </ul>   | 12-13 |
| <b>Value Chain Implementation</b>     |   |  |       |
| 21                                    | Implementation of the Global Compact principles in the value chain                    | <ul style="list-style-type: none"> <li>Identified Value Chain Management guidelines</li> <li>Green Procurement</li> <li>SCG Contractor Safety Certification System</li> <li>SCG Supplier Code of Conduct</li> <li>Dealer Collaboration</li> <li>Installer Network Development</li> </ul>   | 24-27 |
| <b>Transparency and Verification</b>  |   |  |       |
| 22                                    | Provides information on the company's profile and business context                    | <ul style="list-style-type: none"> <li>About SCG</li> </ul>  | 1-3   |
| 23                                    | Incorporates high standards of transparency and disclosure                            | <ul style="list-style-type: none"> <li>Sustainability Performance Data</li> <li>GRI Guideline Reference Table (G3.1, A<sup>+</sup>)</li> <li>Top Sustainability Report Award 2013 by Stock Exchange of Thailand</li> <li>Industry leader in construction material by Dow Jones Sustainability indices(DISI) for three consecutive years</li> </ul> | 72-79 |
| 24                                    | Independently verified by a credible third-party                                      | <ul style="list-style-type: none"> <li>Environmental Performance Assessment Program</li> <li>Independent assurance statement on Sustainability Report 2013</li> </ul>  | 91    |

## Assurance Statement

### SCG

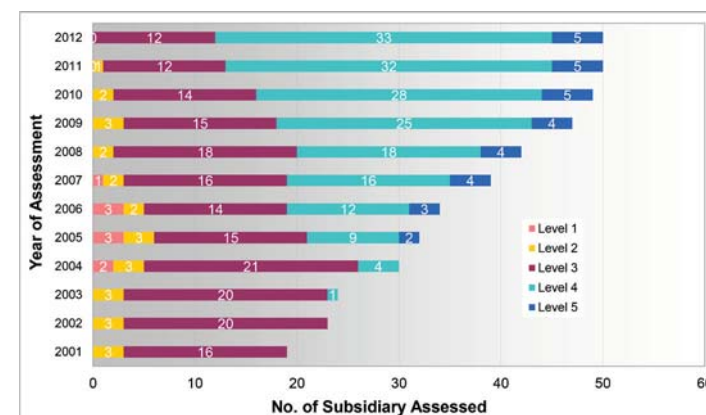
### Assessing Environmental Performance

SCG has implemented the Environmental Performance Assessment Program (EPAP) since 2001 with a continuous increase in the number of subsidiaries participating in this program. Up to 2013, 50 subsidiaries in total participated in the program with 151 assessments conducted. In 2013, the assessment approaches and criteria were upgraded in order to cover all dimensions of sustainable development that are relevant to environmental management. These will provide benefits to the subsidiaries involved in the program by driving environmental performance improvement and being in accordance with sustainability trends related to SCG. The new scope of assessment program includes 5 main elements i.e. Governance, Supply Chain, Operations, Product and Stakeholder Relations and Communications.



EPAP assessment results of individual subsidiaries are demonstrated in terms of maturity levels comprising Level 1: Denial; Level 2: Reactive; Level 3: Assurance; Level 4: Business Integration; and Level 5: Leadership with consideration of compliance, effectiveness and performance. The results of the assessments indicate a continuous improvement in the environmental performance with an increasing numbers of subsidiaries obtaining Level 4 from the previous year. Over 74% of the subsidiaries have achieved Level 4 or above as illustrated in below chart. The assessment results up to 2013 are summarized in the chart below.

Based on the assessment conducted in 2013, the overview of management of each element and key issues being focused by SCG to achieve the aim on operating businesses sustainably are summarized as followings.



Environmental Resources Management Thailand Business Unit, 14 February 2014

ERM is a global provider of environmental, social and corporate responsibility consulting and assurance services. We have worked with over half of the world's 500 largest companies, in addition to numerous governments, international organizations and NGOs.

**Governance** Top management of each subsidiary involves in defining sustainability strategy, target and action plans for Business and Company as well as shaping sustainability organization and functions to be in charge of monitoring and reporting of environmental performance to achieve the defined targets. Currently, each Business Unit is in the process to review and upgrade the effectiveness of governance mechanisms such as integrating the environmental programs into corporate functions at Business level to analyze and manage key environmental issues throughout the entire business operating chain; standardizing good management practices identified from each Company through development of business standards and guidelines; and designing business-wide audit program to evaluate the efficiency of current environmental programs and to assure compliance with relevant regulations.

**Supply Chain** In general, each Business has processes to manage supply chain risks and increase the partnership opportunity with suppliers and contractors e.g. Greening the Supply Chain process, etc. These processes have been implemented differently based on business type. Each Business has realized the opportunities to improve such processes, for example, integrating key risk mitigation measures specific to activities carried out by suppliers and contractors into selection and contract management processes.

**Operations** Most companies have their own processes to control key environmental risks with the focus on compliance with regulations as a minimum and to develop programs to enhance performance beyond regulatory standards through establishment of targets and programs whilst such programs are monitored and improved regularly. Most companies achieved the defined target whilst some companies have realized and planned to address the opportunities to improve their performance in some aspects e.g. cancellation of waste disposal at landfill, development of action plans to reduce GHG emissions, etc. Moreover, each company has realized and prepared for key emergency events through the implementation of emergency preparedness and response plans.

**Product and Service** Clear policy on environmental-friendly products development has been defined and implemented in order to increase number of products certified with SCG eco value and green label criteria. Moreover, each Business is starting to conduct Life Cycle Analysis (LCA) to evaluate all key impacts arising from its products and services. The results from LCA will be analyzed, and action plans will be established to reduce the impacts including enhance business opportunities.

**Stakeholder Relation and Communication** Key stakeholders are identified and engagement plans are properly developed. Employee and contractor satisfaction survey is conducted to obtain opinions for improvement of company's sustainable development programs

For ERM Thailand Business Unit



Plerngtape Chaikorn, Partner  
14 February 2014



## INDEPENDENT LIMITED ASSURANCE REPORT ON SCG SUSTAINABILITY REPORT 2013

To **SCG Sustainable Development Committee  
of The Siam Cement Public Company Limited**

### Scope of our work

The Siam Cement Public Company Limited ("SCG") have engaged us to perform limited assurance procedures on selected subject matter ("the Subject Matter") presented in the sustainability report for the year ended December 31, 2013 ("the Sustainability Report") in accordance with the reporting criteria ("the Criteria").

### Subject Matter

The selected Subject Matter chosen by SCG comprises:

- a) Environmental dimension performance indicators expressed numerically
  - o Energy and alternative energy consumption (petajoules) (page 74)
  - o Greenhouse gases emission (scope 1 & 2) (million tons) (page 75)
  - o Total weight of waste by type and disposal method (thousand tons) (page 45 and 76)
  - o Water withdrawal (million cubic meters) and recycled water (%) (page 37 and 76)
- b) Social dimension performance indicators
  - o Total incident rate, incident rate (lost time cases), and number of fatalities (Page 52 and 78)

### Criteria

The selected Subject Matter above has been assessed according to the reporting principle prepared by SCG in "About this report" (page 80-81) which has been influenced by the Sustainability Reporting Guidelines version 3.1' issued by the Global Reporting Initiative (GRI-G3.1), the WBCSD/WRI Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, and the WBCSD Cement Sustainability Initiative (CSI), where relevant.

### Basis of our work and level of assurance

We carried out limited assurance in accordance with International Standard on Assurance Engagements 3000 ("ISAE 3000") "Assurance Engagements other than Audits or Reviews of Historical Financial Information" and, International Standard on Assurance Engagements 3410 ("ISAE 3410") "Assurance Engagements on Greenhouse Gas Statements".

To achieve limited assurance ISAE 3000 and ISAE 3410 require that we review the process and systems used to compile the areas on which we provide assurance. It does not include detailed testing of source data or the operating effectiveness of processes and internal controls. This provides less assurance and it substantially less in scope than a reasonable assurance engagement.

### Inherent limitation

Inherent limitation exists in all assurance engagements due to the selective testing of the information being examined. Therefore fraud, errors or non-compliance may occur and not be detected.. Additionally, non-financial data may be subject to more inherent limitations than financial data, given both its nature and the methods used for determining, calculating and estimating such data. Greenhouse gases quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

### Key assurance procedures

Considering the risk of material error, we planned and performed the work to obtain all the information and explanations considered necessary to provide sufficient evidence to support our assurance conclusion.

The assurance procedures included the following work:

- interviewing management at SCG's head office, included the Sustainable Development team and those with operational responsibility for performance in the areas we are report on
- visiting selected sites of three business units:
  - o SCG Cement-Building Materials
    - Cement (The Siam Cement (Thung Song) Co., Ltd.)
    - Building Materials (Thai Ceramic Co., Ltd.)
  - o SCG Chemicals (Siam Mitsui PTA Co., Ltd.)
  - o SCG Paper (Siam Kraft Industry Co., Ltd.)
- completing analytical procedures
- reviewing the appropriateness of management review and reporting processes
- performing testing of selected data on sampling basis, and
- reviewing the process for consolidating data at a corporate level.

As a limited assurance engagement generally comprises of making enquiries, primarily of management, and applying analytical procedures and the work is substantially less detailed than that undertaken for a reasonable assurance engagement the level of assurance is lower than would be obtained in a reasonable assurance engagement.

### Respective responsibilities of the Management and Independent assurance provider

The management of SCG is responsible for the preparation of the Sustainability Report and determining the adequacy of the Criteria to meet the reporting needs of SCG. Management's responsibility also includes designing, implementing and maintaining of system of internal control relevant to the preparation and fair presentation of the selected Subject Matter that is free from material misstatement, whether due to fraud or error.

Our responsibility is to independently express conclusions, in accordance with ISAE 3000 and ISAE 3410 on the selected Subject Matter as defined within the scope of work above.

### Limitation of Use

This report has been prepared in accordance with our engagement terms, solely for the SCG Sustainable Development Committee as a body, for the purpose of reporting on the selected Subject Matter within the Sustainability Report. To the fullest extent permitted by the law, we do not accept or assume responsibility to anyone other than the SCG Sustainable Development Committee for our work or for this report, or for any other purpose other than that for which this report was prepared.

### Our assurance opinion

Based on the work described above, nothing has come to our attention that causes us to believe that the selected Subject Matter for the year ended December 31, 2013 included in the Sustainability Report has not been prepared, in all material respects, in accordance with the Criteria.



Suwatchai Meakhaamnouychai  
Partner  
Deloitte Touche Tohmatsu Jaiyos Audit Co., Ltd.

Bangkok, Thailand  
February 21, 2014



## Pride of SCG



LEED BD+C Platinum from the U.S. Green Building Council



Industry Leader in Construction Materials from Dow Jones Sustainability Indices by RobecoSAM



Thailand Corporate Excellence Awards 2012

### SCG

- HRH Princess Maha Chakri Sirindhorn's Trophy for Thailand Corporate Excellence Awards 2012 from Thailand Management Association (TMA) and Sasin Graduate Institute of Business Administration of Chulalongkorn University
  - Human Resource Management Excellence for the 12<sup>th</sup> consecutive year
  - Innovation Excellence for the 8<sup>th</sup> consecutive year
  - Corporate Social Responsibility Excellence
    - Product and Service Excellence
    - Leadership Excellence
    - A Decade of Excellence: Hall of Fame
- Industry Leader in Construction Materials from Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM) for the 3<sup>rd</sup> consecutive year and ranked highest level in Gold Class for the 6<sup>th</sup> consecutive year (2008 – 2013)
- SET Award of Honor in Best Corporate Social Responsibility for the 6<sup>th</sup> consecutive year from The Stock Exchange of Thailand (2008-2013)
- The Best Company from Southeast Asia's Institutional Investor Corporate Poll of Alpha Southeast Asia magazine
  - Most Organized Investor Relations
  - Strongest Adherence to Corporate Governance
  - Most Consistent Dividend Policy
- The Best CEO, Best CFO, Best CSR, Best Investor Relations Company (Thailand) and Best Investor Relations Professional from Asian Excellence Recognition Awards 2013 of Corporate Governance Asia
- LEED Platinum in Building Design and Construction (LEED BD+C) from the U.S. Green Building Council (USGBC)
- Sustainability Report Awards 2013 in Excellence from The Securities and Exchange Commission CSR CLUB Thai Listed Companies Association and Thaipat Institute
- Thailand's Top Corporate Brand Values 2013 Real Estate and Construction Group from Chulalongkorn University



SET Award of Honor from The Stock Exchange of Thailand (2008 – 2013)



Thailand's Top Corporate Brand Values 2013 from Chulalongkorn University



The Best Company from Southeast Asia's Institutional Investor Corporate Poll

### SCG Cement-Building Materials

#### Siam fiberglass Co.,Ltd and The Siam Sanitary Ware Industry Co.,Ltd

- Carbon Reduction Label from Thailand Greenhouse Gas Management Organization (Public Organization)

#### SCG Logistics Management Co.,Ltd.

- The 'Deming Prize' from the Japanese Union of Scientist and Engineers

#### SCG Skills Development Co.,Ltd

- Honor Plate of Labor Relation 2013 (Skill Development) from Ministry of Labour and Social Welfare

### SCG Chemicals

#### Rayong Olefins Co., Ltd

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 11<sup>th</sup> consecutive year
- Certification for ISO 50001 Energy Management System from Management System Certification Institute (Thailand)

#### Map Ta Phut Olefins Co., Ltd

- Certification for ISO 50001 Energy Management System from Management System Certification Institute (Thailand)

#### Siam Mitsui PTA CO., Ltd

- Outstanding Award for Safety Occupational Health & Working Environment 2013 for 11<sup>th</sup> consecutive year

#### SCG Polyolefins Co., Ltd

- Thailand Energy Awards for Outstanding Management of Controlled Plant from Ministry of Energy
- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 9<sup>th</sup> consecutive year

#### Thai MFC Co., Ltd.

- Good Governance on Environmental Practice Award by Industrial Estate Authority of Thailand

#### Thai MMA Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 13<sup>th</sup> consecutive year

#### Thai PET Rasin Co.Ltd.

- Award for 1 Million Hours Working without DAWC (Silver Medal) from Ministry of Labor
- Award for National Occupational Health & Safety from Ministry of Labor Zero Accident Campaign Awards from Ministry of Labor

#### Thai Plastic and Chemicals Public Co., Ltd

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 7<sup>th</sup> consecutive year

#### Nawa Plastic Industries Co., Ltd.

- Total Energy Management Award from Ministry of Industry





The Deming prize 2013 from the Japanese Union of Scientists and Engineers



Thailand Energy Awards 2013 from Ministry of Energy



ASEAN Coal Awards from ASEAN Centre for Energy

## SCG Paper

### Siam Kraft Industry Co.,Ltd.

- The Prime Minister's Industry Award 2013 for Logistic Management from Ministry of Industry
- ASEAN Coal Awards for 'Best Practice-Clean Coal and Technology in Industry' from ASEAN Centre for Energy
- Thailand Coal Awards 2013 for 'The Winner of Clean Coal Use & Technology (Industry)' From Ministry of Energy

### Thai British Security Printing Public Company Limited

- CSRI Recognition Awards 2013 'The Honor' from The Stock Exchange of Thailand

### Thai Containers Group Co.,Ltd.

- The prestige Suriya Sasithorn Award 2013 for the design name 'celebration' from the Public Relations Society of Thailand
- The first Thai company that certified for ISO22301 Business Continuity Management (BCM) from Bureau Veritas Certification (Thailand) Co., Ltd.
- AsiaStar Awards 2012 and ThaiStar Packaging Awards 2013 from Ministry of Industry and Asian Packaging Federation

The electronic file of this report and the previous can be downloaded from SCG website. For more information, please contact: SCG Sustainable Development Committee, 1 Siam Cement Road, Bangsue, Bangkok 10800 Phone: 66-2586-5071-2, Fax: 66-2586-2836 e-mail: info@scg.co.th , Website: www.scg.co.th

# From 100 prototype communities, their sustainability practices are being passed on nationwide.

## Prototype of water management via the construction of check dams

### The North

To conserve water, tackle drought and flooding effects, restore the forests to equilibrium, and provide food sources and income for the communities.

## Prototype of saline soil reclamation

### The Northeast

To restore saline land for increased crop productivity, thereby increasing income and uplifting the quality of life for the communities.

## Prototype of wastewater treatment through the collaboration of the community

### The West

To treat wastewater, restoring degraded environments to places for relaxation and creating income from fisheries.

## Prototype in career development in line with H.M. the King's New Theory Agriculture

### The East

To develop strong communities through living a sufficient life, paying off debts, and creating income by relying on products that are friendly to nature.

## Prototype of marine resource management

### The South

To protect marine life by setting up marine conservation and rehabilitation areas, planting mangrove forests, and raising awareness about sustainable natural resource conservation.

Throughout the 100 years, **SCG** has learned alongside the communities by adopting the sufficiency economy philosophy in problem solving and self-development, leading to strong community self-reliance. Today, there are 100 prototype sustainable communities that are ready to share their learning processes with other communities to provide foundations for the nation's sustainable growth.



www.scg.co.th







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