

SUSTAINABILITY REPORT 2014

SCG





HRH Princess Maha Chakri Sirindhorn's Trophy for Thailand Corporate Excellence Awards 2013 from Thailand Management Association (TMA) and Sasin Graduate Institute of Business Administration of Chulalongkorn University.



Industry Leader in Construction Materials for the 4th consecutive year (2011-2014) of Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM) and ranked highest level (Gold Class) for the 7th consecutive year.



The Deming Distinguished Service Award for Dissemination and Promotion (Overseas) from the Union of Japanese Scientists and Engineers (JUSE) to Mr. Kan Trakulhoon, President and CEO of SCG, making him the first Thai and first non-Japanese businessman to have received such a distinguished recognition. This award reflects the company's through mission towards Total Quality Management (TQM).



SET Award of Honor in Best Corporate Social Responsibility from the Stock Exchange of Thailand for the 7th consecutive year (2008-2014).



Sustainability Report Award 2014 in Excellence from the Securities and Exchange Commission, ThaiPat Institute, CSR Club, Thai Listed Companies Association.

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About SCG



SCG has been conducting business according to good corporate governance and sustainable development for more than 100 years since the establishment in 1913, following a royal decree of His Majesty King Rama VI to create innovative products and services as well as business processes and approaches. This is done to add value and respond to the needs of all relevant parties and to initiate sustainable development to communities nearby SCG operation. In addition, SCG has been continually expanding business toward ASEAN;

consequently, SCG has become one of ASEAN's leading companies that operates business with sustainable growth and adheres to its visions.

At present, SCG has more than 200 subsidiaries, located throughout the ASEAN region, and has more than 51,000 employees comprised of more than 15,000 local employees from ASEAN, diversified into 3 core business units which include Cement-Building Materials, Chemicals and Paper.



SCG Cement-Building Materials

SCG Cement-Building Materials is formed from re-structured internal management of 3 core businesses, comprising SCG Cement, SCG Building Materials and SCG Distribution, as an attempt to increase capacity in product and service development, focusing on how to meet customer needs rapidly and effectively as well as supporting business expanding in ASEAN.

SCG Cement-Building Materials has been continually expanding business in ASEAN by constructing SCG's first cement plant in Laos PDR constructing a Mortar plant in Thailand and investing in 55% shares of Panel World Company Limited, the Company which produces cement-bonded particle board used for interior and exterior design. Furthermore, SCG has been expanding business outside ASEAN by investing 33% in joint business with Florim Ceramiche S.p.A, in Italy, aiming to invest in a high-end ceramic plant.

As for innovations, SCG initiates The NEST – The Next Eco-Sustainable Technology for Home, ASEAN's first home innovation of the future which produces more energy than energy consumption. Also, SCG researches and develops SCG Eldercare Solution collaborating with the Siriraj Hospital and Mahidol University in order to study elderly needs and living behavior. Further more, SCG emphasizes on research and development of hybrid-formula cement which is environmentally-friendly since it reduces carbondioxide emission from the production process while still maintaining the product's good qualities. This hybrid formula cement has great quality, creates beautiful, smooth and easily-dried texture, appropriate for structural work which requires strength.

In order to conduct businesses in compliance with sustainable development framework, SCG Cement-Building Materials is the first company in Thailand that has joined the international cooperation network, namely, the World Business Council for Sustainable Development-Cement

Sustainability Initiatives: WBCSD-CSI. SCG implements business under the concept of green supply chain which has good environmental management system in line with caring of all stakeholders, especially, communities around SCG plants. SCG attempts to promote good quality of life and to develop sustainable living, resulting in the success of the Siam Cement (Lampang) Co., Ltd., the first Company in Thailand to have received the Green Industry Level 5, the most honorable award from the Ministry of Industry Thailand. In addition, the Siam Cement (Kaeng Khoi) Co., Ltd., the Siam Ceramic Group Industries Co., Ltd., Siam Sanitary Ware Industry Co., Ltd. and Sосуco Ceramic Co., Ltd. were also certified by the Carbon Footprint for Organization (CFO).



SCG Chemicals

SCG Chemicals manufactures and supplies a complete range of chemical products in line with continual investment expansion in ASEAN, conducting business in joint-venture with PT Chandra Asri Petrochemical Tbk. (CAP) to increase productivity of Olefin plants and with Compagnie Financière Michelin to implement synthetic rubber plants that produce high value added (HVA) rubbers, supporting the increasing demand of petrochemical products in Indonesia. Furthermore, SCG has invested in the first one stop service petrochemical business in Vietnam in cooperation with Thai Plastic and Chemicals Public Co., Ltd., together with Vietnamese and Qatari partners. The investment is in the stage of negotiation for loan with creditors and contractor auction.

To support research and development in continuity, SCG Chemicals has invested a 51% share in Norner Holding AS Company, in Norway, which is an advanced innovation and technology complex in materials and polymers at the global level. This expansion is to develop high value added products such as specialized polymers for medical equipment, high-pressure pipe, electrical appliances, automotive parts and plastic films for

packaging. SCG has initiated production and distribution of T.U.X™, a special LLDPE plastic film which is transparent and well-sealing, appropriate for food packaging. Moreover, SCG Chemicals features innovation on home modification and decoration, the WINDSOR Fast Renew, is created to replace vinyl door-window within 1 day installation by adopting Fast Frame Technology, developed and patented by SCG, only in Thailand.

SCG has leveraged itself to be the prototype of Eco Factory by applying Eco Innovation in factory management procedure to promote better quality of life and sustainable living between the industry, environment and community. As the result, Rayong Olefins Co.,Ltd. and Thai Polyethylene Co.,Ltd. were the first two companies in Thailand which were certified as Eco Factory from The Federation of Thai Industries. In addition, SCG develops green supply chain by adopting industrial symbiosis for waste management as well as building green networks with the suppliers and contractors. This results in the success of Map Ta Phut Olefins Co.,Ltd. the first petrochemicals plant in Thailand to receive the Green Industry Level 5 from the Ministry of Industry Thailand.



SCG Paper

SCG Paper manufactures and supplies a complete range of paper products and packaging paper as the largest paper manufacturers in ASEAN. It comprises of 2 main businesses including Packaging Chain and Fibrous Chain. SCG Paper is also a member of The Sustainable Forest Products Industry (SFPI) under The World Business Council for Sustainable Development (WBCSD)

SCG Paper has been expanding continual investment in ASEAN. For the Packaging Chain, SCG Paper has invested on the total share of D-In Pack Co., Ltd. which produces products to meet needs of niche market and invested on a 90% share of PT Indoris Printingdo in Indonesia

which produces leading offset paper boxes in the country. In addition, SCG paper has expanded into Flexible Packaging Chain, for food and consumer goods, by investing on a 22% share in Prepack Thailand Co., Ltd. This is considered to be a key strategy, leading to a one stop service producer and service provider. In the part of Fibrous Chain, machinery is improved to produce Glassine paper, the first in ASEAN. With its smoother surface and more transparency, the Glassine paper is used as backing material for sticker label in the packaging industry.

SCG Paper emphasizes on the continual innovation development by improving printing technology for rolling paper with pre-print flexography system that has the same quality with offset printing system. Moreover, SCG Paper develops machine glazed paper production for packaging that requires a high hygiene and safety such as medical equipments, and Idea CarePack. The Idea Carepack is a sanitary packaging made from pure pulp using food grade paper which is safe for consumer use, and applies Curve Lock Technology that prevents water leakage as well as fluorescent test certified by the Thai Industrial Standards Institute (TISI). Further more SCG Paper develops the Idea Green Plus Paper which composes of high-quality EcoFiber obtained from used paper. Finally, SCG Paper develops 10 species of Eucalyptus which are appropriate for planting in various soil types. The new species help reduce plant diseases and pests while increasing the plant's productivity and weight.

SCG Paper conducts business in sustainable development manner by considering benefits and impacts of all stakeholders through the concept of 3Gs: Green Product, Green Process and Green Mind. Green Product adds value to Eucalyptus by making use of all the parts at the high efficiency and expanding to new products, Green Process develops production technology which consumes less energy, using alternative resources and recycling or reusing waste as raw materials or renewable energy. Green Mind builds environmental awareness through CSR projects targeted at employees and consumers using social media, 'We are Greeners', in order to exchange updated news, knowledge, environmental experience and to build green market networks.

Message from President & CEO



KAN TRAKULHOON
President & CEO, SCG



Our world is undergoing many changes and volatile events that are becoming more complicated, and which impact, inevitably, the economy, society and the environment. Organizations must be well prepared in order to cope with those changes and volatility. Therefore monitoring and analysis of situations and risks is extremely important in ensuring that organizations can withstand and mitigate impact, while sustaining itself and continuing to grow. Entering our 101st year, SCG can manage its growth well, even though many challenges abound. In 2014, our overall revenue from sales increased 12% over the previous year. We remain committed to our goals to grow alongside a sustainable society and the environment.

As member states gear up for the scheduled realization of ASEAN Economic Community (AEC) in 2015, the business sector must likewise brace for the changing landscape of resources, labour and radically different patterns of consumption. SCG has made preparation through our vision that is committed to conducting business in parallel with promoting sustainable progress for ASEAN, and particularly in communities where SCG operates. We do this by promoting competitiveness through expansion of our manufacturing bases to ASEAN countries,

taking with us the most up to date standards and technology to apply wherever we go. For instance, in Thailand and overseas we install the Waste Heat Power Generation (WHG) to recover waste heat from our cement kilns in the cement production process, as well as we apply the Fluidized Bed Gasifier technology to turn waste materials and biomass from agriculture into fuel gases. Moreover, SCG is dedicated to creating value for our customers, workforce and stakeholders, in the belief that the ASEAN Economic Community will empower and strengthen the region significantly.

SCG conducts its business with sustainability throughout the entire supply chain. We start by implementing Green Manufacturing as an example of good practices. Then we give importance to capacity development of our suppliers through the enactment of SCG Supplier Code of Conduct in September 2013. To date, all major suppliers, sharing the same value with us have signed the SCG Supplier Code of Conduct. We are currently taking this endeavour a concrete step further through a pilot program involving 21 suppliers with the aim of enabling them to become our sustainable suppliers. On top of these, we have enhanced consumer's participation in sustainable goods

and services through SCG eco value label. Sales of SCG eco value line have increased 31% from the previous year and now account for 31% of revenue from sales.

In the area of empowerment and enhancing quality of life of the community and society, SCG has scaled up the successful implementation of SCG Conserving Water for Tomorrow Project and the Innovative Technology for Remediation of Saline Land Project by setting up two Community Learning Centres to showcase good practice and lessons learnt. Titled 'Satanee Plook Khid Pun Sukh' (Instilling Thinking and Sharing Happiness Station), these community-based Learning Centers located at Ban Toey, Phimai District, Nakhon Ratchasima province and at Hom Phaya Sasobhok in Jae Hom District, Lampang province serve as on-site learning facilities for those interested in community empowerment on sustainable livelihoods. We have also followed up on the foundation with our 'Power of Wisdom' project in which SCG collaborates with other development partners namely Man Pattana Foundation, the Royal Thai Army, National Science and Technology Development Agency, and the Thai Chamber of Commerce to develop and offer a curriculum to train community leaders, opinion leaders, military officers and farmers, with a

view to modernizing their paradigm with emphasis on logical thinking, problem-solving skill and self-sufficiency. We hope that the pioneering batch of trainees will become agents of change in driving a critical mass, making our communities and society strong, self-sufficient and sustainable.

In recognition of its commitment to sustainable business practice, SCG maintains its top ranking position in the Construction Materials Industry of Dow Jones Sustainability Indices for the fourth consecutive year. The ranking represents the pride beyond SCG, for it is being shared with our partners and stakeholders whose contributions form part of our success. SCG strives to improve its transparency in disclosing information further, by committing to using globally accepted sustainability reporting guidelines, the fourth generation of Global Reporting Initiative (GRI-G4).

As SCG takes its operation into the new century, adding value to Thai and ASEAN society through its balanced approach of sound sustainable business conduct, there remain many challenges in the path ahead which require close collaboration between SCG and stakeholders to overcome, and to achieve sustainable development for all.

Sustainability Highlights

HVA Products and Services

P.63



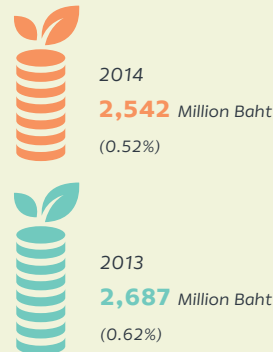
'SCG eco value' Products and Services

P.63



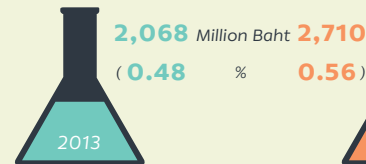
Environmental Investment (percent of revenue from sales)

P.84



Research & Development Investment (percent of revenue from sales)

P.63



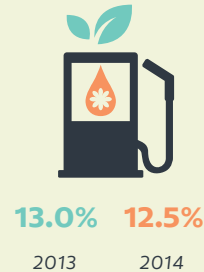
Green Procurement Purchased

P.59



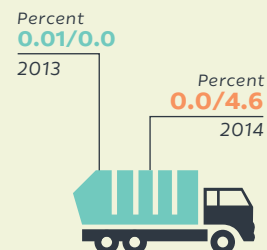
Alternative Energy

P.47



Hazardous/Non-Hazardous Waste to Landfill

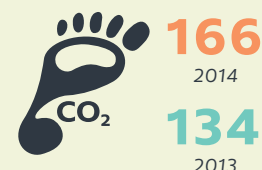
P.57



Carbon Label Certified

P.63

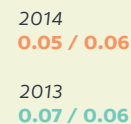
(Carbon Reduction Label and Carbon Footprint Label)
*Items



Lost Time Injury Frequency Rate

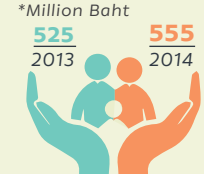
P.85

(Employee/Contractor)
*Case/200,000 Man-hour



Social Contribution

P.84



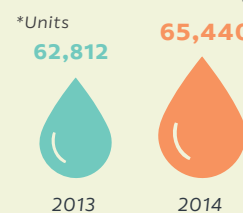
Enhance Professional Skill of Fleet Carrier Employees through Trainings from Skills Development School

P.33



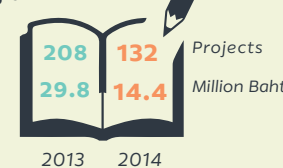
Number of Check Dam

P.70



Sharing Opportunities, Drawing the Future Program

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Global Reporting Initiative

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Dow Jones Sustainability Indices (DJSI)/Robeco Sustainable Asset Management

P.110



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, management and employees at all levels, which allows SCG to be trusted as a leading organization that conducts its business 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 fairness 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

SCG strives to 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, contractors, customers and stakeholders by world-class quality management in line with corporate governance principles and high safety standards. SCG commits to enhancing the quality of life and well-being of people by our high quality productions, technology 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 talent and ethical people.

Sustainable Management Approach



Sustainable Development Committee (as of 1 January 2015)

- | | |
|---|--------------------------------|
| 1. Roongrote Rangsiyopash
President, SCG Paper | Chairman |
| 2. Pichit Maipoom
President, SCG Cement - Building Materials | Member |
| 3. Cholanat Yanaranop
President, SCG Chemicals | Member |
| 4. Somchai Wangwattanapanich
Vice President - Operations, SCG Chemicals | Member |
| 5. Aree Chavalitcheewingul
Vice President, Regional Business
SCG Cement-Building Materials | Member |
| 6. Nithi Patarachoke
Vice President - Domestic Market
SCG Cement-Building Materials | Member |
| 7. Chaovalit Ekabut
Vice President - Finance and Investment & CFO, SCG | Member |
| 8. Tanawong Areeratchakul
Vice President - Corporate Administration, SCG | Member |
| 9. Venus Asavasitthithavorn
Director - Corporate Communication Office | Member |
| 10. Cholathorn Dumrongsak
Director of Center of Excellence and
Sustainability Development | Member and Secretary |
| 11. Numpol Limprasert
Sustainability Development | Member and Assistant Secretary |

SCG conducts business in compliance with 4 core values, not only focusing on economic aspect, fundamental factor of business sector or revenue from business, but also emphasizing on social and environmental stewardship. SCG has been implementing the 4 core values until it embeds and becomes the corporate culture. From the past to present, growing numbers of employees are in alignment with business growth, social and environmental changes. In order to maintain the leadership status or role model, building up corporate's cultural awareness among employees, generation by generation, and conducting updated practice guideline that responds to changes can create better understanding and clarify practice in action which is developed consequently.

In 1991, SCG announced the Environmental Conservation and Safety Policy following by the Environment Conservation Policy in 1995. These 2 documents are considered as key turning points that emphasize on the control of impacts generated by SCG operations. Later, SCG adopted and applied International Standards on Environmental Management System (ISO 14001) and Occupation Health and Safety Management (ISO 18001) in 1997 and 2003, respectively, in order to acknowledge all companies under SCG management to take environmental, occupational health and safety aspects in consideration as parts of corporate management that illustrate independence, responsibility and continual development. Successful outcomes were extended in energy provision aspect. In 2011, SCG adapted and applied Energy Management System Standard (ISO 50001) in use.

SCG had also been implementing Environmental Performance Assessment Programme (EPAP) and Safety Performance Assessment Programme (SPAP) since 2001 and 2003 in continuity in order to build up trust among stakeholders on SCG performance, including environmental, occupational health and safety aspects.

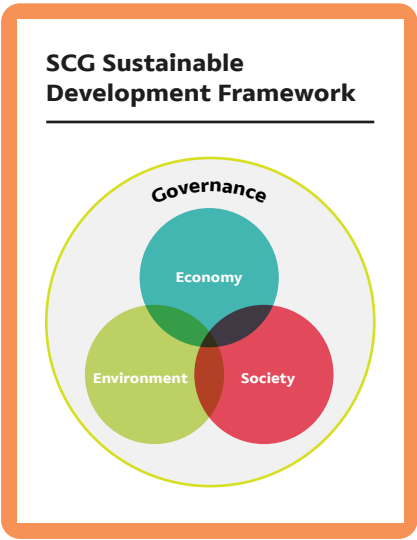
In corporate governance aspect, SCG Code of Conduct was announced in 1987 and it was improved continually to fit with periodically situations. Results from SCG Code of Conduct were extended to contractors in 2013 to ensure trust in transparency, disclosure and accountability of business. Furthermore, SCG announced Stakeholder Engagement Policy, the additional policy on practice toward stakeholders in 2010 because SCG believed that conducting business with CSR and environmental respect would strengthen the corporate to conduct business with sustainability.

Apart from clear policy, result extension that leads to action is also important. Therefore, SCG has developed 'SCG Sustainable Development Guidelines' in 2008 to promote and support operations in various aspects appropriately and clearly. Then, other practice guidelines are announced continually, such as Green Procurement Guideline and SCG Safety Framework.

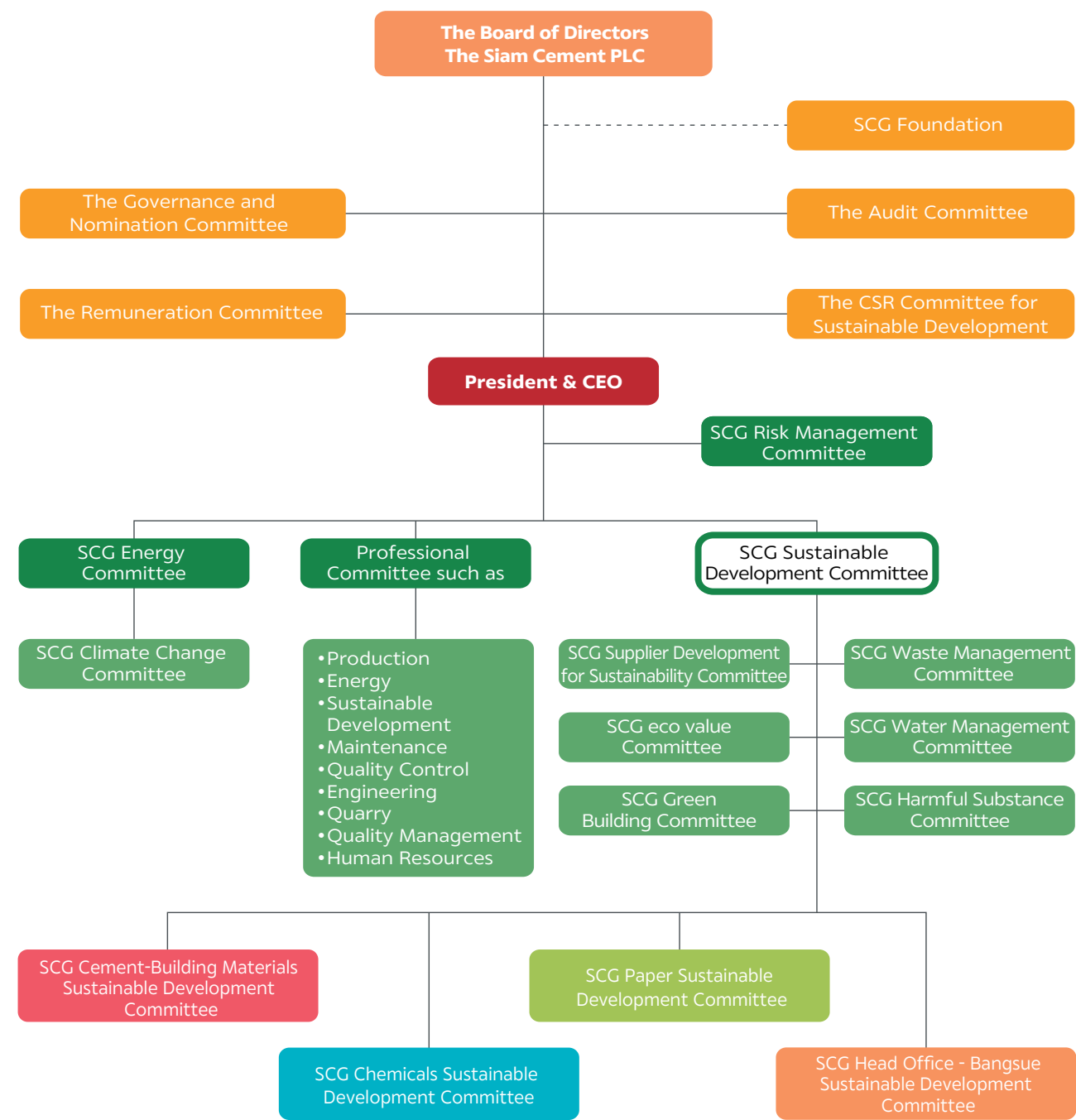
SCG has been monitoring and implementing management systems and standards in continuity, such as Total Quality Management, Total Productive Maintenance and Guideline for Social Responsibility (ISO 26000) in order to develop outcomes, leading to achievement of objectives and targets.

Sustainable Management Structure

The key composition to drive policy on standard system and operational guideline, including the support of operating employees is SCG Sustainable Development Committee that has responsibility to determine and review sustainable policy, guideline and target. The SCG Sustainable Development Committee adapted roles and responsibilities from SCG Environmental Conservation and Safety Committee that was set up in 1995 to cover sustainable development in SCG's overview. At present, SCG Sustainable Development Committee comprises SCG Paper President as a Chairman and top executives from every business unit and corporate functions as committee members. In order to drive sustainable development toward same direction, committee and working team for each sustainability issue are set up to determine strategy, direction and target. Various committees in relevance with each stage of SCG sustainable supply chain are mentioned as below:



Structure of Sustainable Management



- Production process under world-class standard or Green Manufacturing involves SCG Energy Committee, SCG Waste Management Committee, SCG Water Management Committee, SCG Climate Change Committee and SCG Green Building Committee. In 2014, SCG Hazardous Waste Committee was established.
- Leveraging management of upstream supply chain involves SCG Supplier Development for Sustainability Committee which extends scope of green procurement, SCG Contractor Safety Certification System (SCS) and SCG Code of Conduct.
- Creating added value for producers and downstream consumers or downstream supply chain involves SCG eco value Committee, offering options in consumption of environmentally friendly products and services.
- Promoting and disseminating sustainable development guideline involves SCG CSR Committee for Sustainable Development and SCG Foundation that support and strengthen the society. Besides supply chain, SCG looks forward to other organizations, considering as a part of SCG vision in CSR.

To implement activities in compliance with business unit, companies, plants and different areas have also set up Sustainable Development Committee at different business units to ensure that policy and operational plan are implemented effectively.

Next Step of Sustainable Management

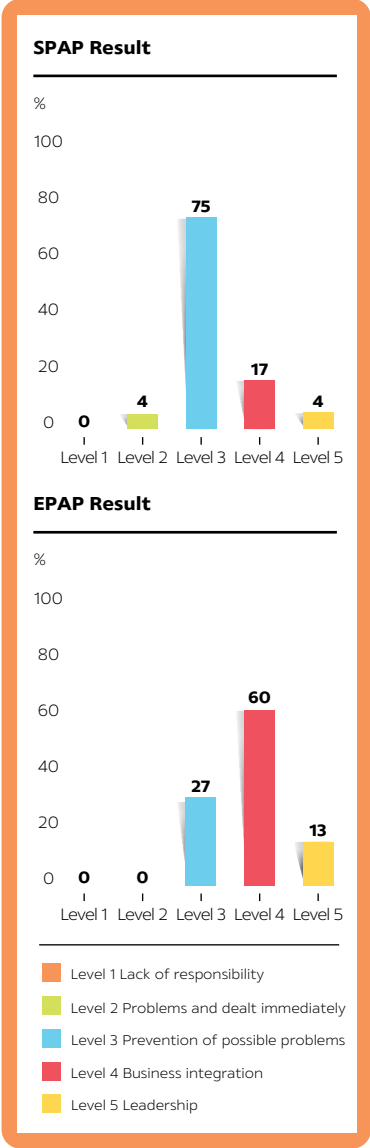
To expand businesses toward international level, SCG has set up a vision to become sustainable business leader in ASEAN. At present, SCG has production bases in other countries at 9%. SCG determines a guideline on sustainable

business development toward ASEAN by extending process or good practice from Thailand to other countries to create fast development and exchange learning process, starting from safety aspect. Safety is considered as materiality for the corporate. It enhances morale and mental support of employees, contractors at work and communities around plants. SCG will start collecting information on significant safety and environment as evidence of performance and analyzing improvement guideline in 2015.

To implement management effectively, it requires adoption of standard systems abroad, including SPAP and EPAP that leverage effectiveness throughout corporate, under international standard. Appropriate targets complying with each area are then set up.

In employee aspect, employees, who have responsibility to drive operations, must be acknowledged with awareness on sustainable development at work and daily awareness on sustainability. Such awareness must be added into work life by various approaches, including training and engagement. The learning process is adapted toward practice-based process that has teams and supervisors to support effective and sustainable learning.

SCG became a member of The World Business Council for Sustainable Development (WBCSD) in 2000. According to Vision 2050 which WBCSD has determined as business conducting guideline for members, it helps building cooperation between members to create the greatest change at global level by 2050. At present, Action 2020 is prepared in progress, leading to Vision 2050 which SCG has followed up to improve strategy, plan and review external target.



Towards ASEAN

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Entering the ASEAN Economic Community is a challenge, not only to Thailand but also to all ASEAN Member States. Economic integration as the single market and production base will reduce the development gap between Member States and upgrade the economic policies of each country in accordance with the regional economy. This cooperation will not only increase the region's capacity but also increase chances of negotiation for trading as a Growth Engine or an important manufacturer in the world economy.

The integration between ASEAN countries does not cause positive changes only, the economic growth and expansion of urban society affect the natural resource consumption also. ASEAN members have to cooperate and find out collaborative approaches in the preservation of natural resources to sustain it under the Green ASEAN Framework for sustainable growth of ASEAN. The development has to be implemented in line with air and water resources management as well as initiating low carbon society in order to uplift the quality of life for everyone in the ASEAN region.

As for Thailand, the economic policy is set

up as an effort to be friendly partner with the neighboring countries in order to be prepared and face changes that will occur in various sectors, including building up a common understanding of public and private sectors to work in collaboration. The public and private sectors must encourage sustainable development in terms of policy and action to respond to changes that occur rapidly in the region and the world and create the utmost benefit to all parties consistently.

SCG, as the leading company in ASEAN, is steadily growing with the society for more than a century. We believe that the AEC will grow strong with sustainability. SCG has expanded business steadily throughout the ASEAN region, comprising Indonesia, Vietnam, Myanmar and Cambodia which have more than 15,000 employees, apart from Thailand, accounting to 31 percent of the total employees. SCG has also developed and improved the management to be complied with changing environment and focused on leveraging the quality of life and well-being of the communities which SCG operates. The strategy of sustainable development in the business plan focuses on



balancing in 3 aspects.

Economic aspect - To create value by determining ultimate goal, not only focusing on profitability, but also creating mutual benefit and happiness of all relevant parties.

Environmental aspect - To conserve the environmental and natural resources and maintain the balance of ecological sustainability, as well as effective energy consumption.

Social aspect - To conduct business while taking care of surrounding communities in sustainable manner.

According to result of business operation based on the sustainable development approach and the cooperation from all sectors, SCG grows steadily in the region, receiving

income from businesses which have the production bases in ASEAN and from exporting of goods and services to ASEAN region, worth 100,912 million baht, accounting to 21% of total revenue from sales and the revenue from businesses which have the production bases in ASEAN, accounting to 44,397 Million Baht or 9% of total revenue from sales. SCG has asset in ASEAN valued 84,875 Million Baht or 18% of total asset (data from 31 December, 2014).

Today, the ASEAN community must look for sustainable development mechanism in common to keep moving forward as the unity, growing with efficiency and environmentally friendliness for AEC sustainability.

“The ASEAN community takes significant role in driving the sustainable development at global level since there is a great number of population and natural resources that produce food to global citizens. Therefore, the development of the industry and business toward sustainability is the key action which will contribute advantages to the global citizens significantly in a large scale.”

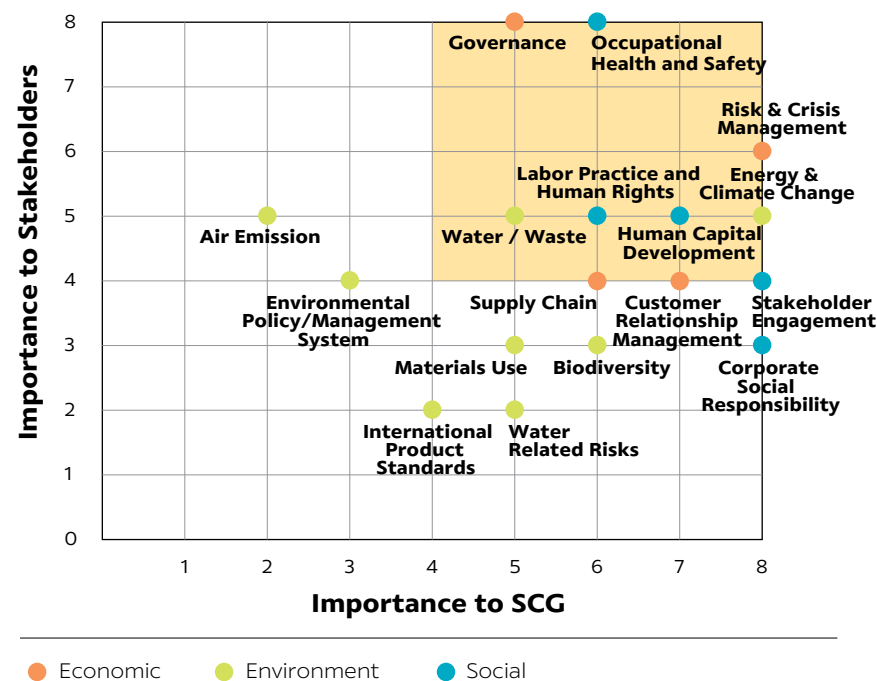
H.E. Le Luong Minh | Secretary-General of ASEAN
(from ASEAN Sustainable Development Symposium ; 14 November, 2014)



Materiality

G4-18, G4-19, G4-20,
G4-21, G4-22, G4-23

SCG MATERIALITY MATRIX



SCG is committed to conduct its businesses in conformance with the Sustainable Development Guidelines in line with visions, and to meet the needs of internal and external stakeholders. Therefore, SCG has collected all relevant sustainability issues, referring to SCG Sustainable Development Framework, Global Reporting Initiatives (GRI) and Dow Jones Sustainability Indices (DJSI), to assess and prioritize materiality through formal and informal processes. SCG adopts GRI-G4 Guideline as a reference to identify and manage the most significant material sustainability issues and stakeholders in order to meet the needs of all parties appropriately.

The assessment processes of SCG sustainability issues can be divided into steps as follows;

- Collect all relevant sustainability issues to SCG, including issues raised by stakeholders from all events and channels including;
 - Opinion Panels of experts from various professions
 - Employee Satisfaction Survey
 - Community Satisfaction Survey
 - Brand Image Survey
 - Complaints from stakeholders both internal and external

- Compare sustainability issues with enterprise risks, analyze and identify additional issues.
- Assess sustainability issues based on external stakeholders' views (Y axis: Importance to stakeholders) by:
 - Organize workshops with representatives from all functions, including corporate functions and business units, in order to evaluate possibility and severity of impact from the views of 11 stakeholder groups.
 - Organize small group meetings with each function to review materiality of each issue, analyzed by the views of external stakeholder groups.
- Assess sustainability issues from SCG's views (X axis: importance to SCG) by organizing workshops with representatives from functions and internal experts related to each sustainability issues to analyze and prioritize materiality from the views of SCG, covering material issues both within and outside SCG boundary.
- Plot 'SCG Materiality Matrix' with Importance to SCG on the X axis and Importance to Stakeholders on the Y axis, 11 sustainability issues fall into Materiality Matters area.
- Organize meeting with each functions for comments and review the materiality assessment results.

- Propose results from materiality assessment process to SCG Sustainable Development Committee for comments and approval.

Results from materiality assessment illustrate that some material issues are highly importance to both SCG and stakeholders, i.e., Occupational Health and Safety and Risk & Crisis Management. While some issues, stakeholders consider as most importance, where SCG views these issues as risks that can be managed, controlled or prevented, e.g., Air Emission. SCG emphasizes on environmental impact prevention, adopting the most advanced and effective technology to manage and prevent air pollution appropriately and in compliance with laws and regulations. Therefore, environmental impact such as Air Emission is not considered material issue to SCG.

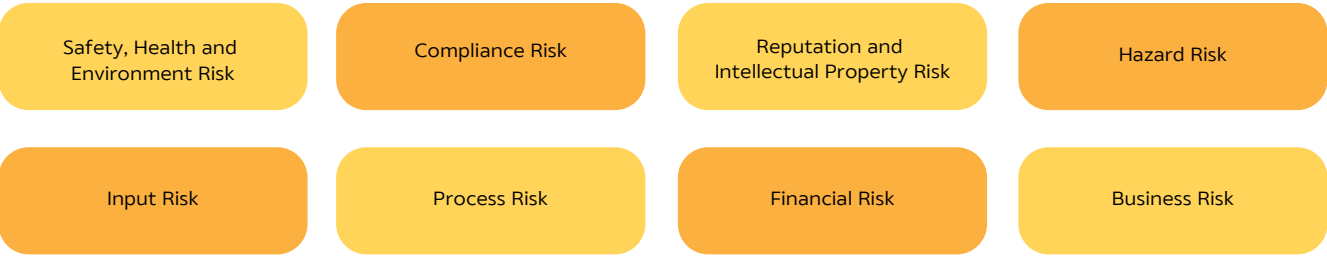
SCG will further improve the materiality assessment approach in collecting, analyzing and prioritizing of those sustainability issues in the next year in order to reflect the most materiality issues, including more participation from stakeholders. This will lead to a better management of materiality issues. Furthermore, SCG will take such issues in consideration to develop its strategies and present these issues in the reports or media that meet the stakeholder interests.

Materiality Aspect	Code	Aspect boundaries within SCG	Aspect boundaries outside SCG	Location in this report	Page
Occupational health and safety	M1	All business units	Supply chain, Communities	Health and Safety	32-37
Risk & crisis management	M2	All business units	Not material	Risk and Opportunity	16-19
Governance	M3	All business units	Not material	Corporate Governance	28-31
Energy & climate change	M4	All business units	Communities	Energy and Climate Change	46-49
Human capital development	M5	All business units	Not material	Employee Caring	38-45
Stakeholder engagement	M6	All business units	All stakeholders	Stakeholder Engagement	20-23
Labor practice and human rights	M7	All business units	Supply chain	Employee Caring	38-45
Customer relationship management	M8	All business units	Customers	Sustainable Value Chain	58-65
Water	M9	Paper and Chemicals	Communities	Sustainable Water Management	50-53
Waste	M10	Chemicals and Paper	Communities	Sustainable Resource Management	54-57
Supply chain management	M11	All business units	Supply chain	Sustainable Value Chain	58-65

 M2

Risk and Opportunity

SCG 8 Risk Categories



SCG places great emphasis on the Enterprise Risk Management, which is a key process contributing to the attainment of the organization’s objectives and goals, and ultimately leading to value added for the organization, shareholders, and other stakeholders, as well as contribute to SCG’s sustainable growth.

To identify and evaluate potential risks in the organization, SCG has categorized the risks into eight categories and established the risk appetite to create common language for everyone in the organization. SCG manages the risk appetite by placing emphasis on safety, health and environment risk; compliance risk; and reputation risk. As these risks can have significant impact on SCG’s business performance as well as reputation, it is important that they be prevented. However, SCG can accept some types of risks based on a risk-return trade off and the risk limit has been

established in terms of monetary value.

SCG risk management process focuses on both downside impact and business opportunity of a risk event and the incorporation of risk management as part of working processes, leading ultimately to a risk culture.

- Risk / Opportunity identification-SCG encourages forward-looking approach in risk and opportunity identification by using tools such as key risk indicators (KRIs).
- Risk assessment-SCG established common risk metrics to standardize assessment methodology across the organization. Risk owners use various tools (e.g. risk map, scenario analysis, correlation analysis, and benchmarking), and also identify critical process for crisis management to assess the likelihood and impact of risk to prioritize which risk needs to manage actively or require to monitor the circumstance closely.
- Risk response-If the risk owners find that a residual risk remains higher than the

Risk Management Process



designated risk limit, countermeasures must be clearly stated or emergency response and business continuity plans must be developed in case of a crisis. For emerging opportunities, business plans must be developed to capture such opportunities on a timely basis.

- Reporting and monitoring-The risk management results are reported to the Business Unit Risk Management Committee, SCG Risk Management Committee and The Audit Committee, respectively

In 2014, there were significant risks, namely, political instability in Thailand, uncertainty in domestic and global economic recovery, and falling of global crude oil prices. SCG adopted its risk management process when dealing with these external risks. For example, SCG managed the situation of Thailand’s political unrest, which could have disrupted SCG’s business operations and supply chains

through the Business Continuity Management (BCM) system. The BCM office was responsible for conducting drills on emergency response and business continuity plans, closely monitoring the situation and promptly alerting relevant parties. On another example, SCG turned Thailand’s economic slowdown caused by political situation into an opportunity for growing its export revenues, leveraging our long-established export distribution channels. As for the event of falling crude oil prices, SCG Chemicals took up an opportunity from falling prices of Naphtha, its main raw materials, to manage its production costs.

In addition to the management of risks caused by external factors, SCG put great efforts on risk management of safety, health and environment; compliance; and reputation according to its risk appetite statement, as per details that follow:



Safety and Health Risk: SCG promoted the safety and health system with SCG Safety Framework and SPAP (Safety Performance Assessment Program) by establishing the systems to reduce risk behaviors, to diminish risks induced by shifts in working environments, and to regulate risk-reduction activities to meet the target. As a result of the implementation of the above safety and health risk systems, the number of total incidents decreased from the previous year. Besides, the safety management system was established in overseas companies operated by SCG and was introduced to its contractors under the SCG Contractor Safety Certification System so that the practice could reach the wider society.

Environment Risk: SCG established the sustainable development framework for the organization to control the environmental impact and global resource used by its activities. Besides, Environmental Performance Assessment Program (EPAP) was used to achieve the international standards. SCG continued to develop the organization to be a model of sustainable development based on its vision. As the energy-intensive industry, SCG realized that the energy consumption went together with greenhouse gas emissions – the major cause of global warming, therefore, SCG continued to improve manufacturing process by increasing energy efficiency. As a result, SCG reduced energy consumption by 560 Million Baht in 2014. Apart from that, SCG increased the use of alternative energy and developed products and services that reduce energy consumption and greenhouse gas emissions, including the installation of waste heat power generator (WHG) in domestic and international cement plants, the production process of hybrid cement that releases less carbondioxide emissions, Idea Green Plus paper in which high-quality eco-fiber derived from used paper is incorporated to substitute wood pulp, as well as the production process of melamine and ethylene that emits less greenhouse gases. Throughout the years, SCG has consistently demonstrated its commitments to corporate social responsibility by choosing the projects that strengthened the people in the community and protected the environment, such as SCG Conserving Water for Tomorrow Project, check dam construction, The Innovative Technology for Remediation of Saline Land Project, Satanee Plook Khid Pun Sukh, as well as Sharing Opportunities, Drawing the Future Program.

“

Risk management acts as a safeguard for SCG in our path towards sustainable development. The responsibility is of everyone in the organization.

”

**Chaovalit
Ekabut**

Vice President
Finance and Investment & CFO
SCG



Laws and Regulations Compliance Risk SCG has established Corporate Compliance Structure to comply with laws and regulations by establishing Corporate Compliance Unit, BU Compliance Unit / Committee and SCG Compliance Committee to develop strategies, to ensure compliance based on a uniform standard, and formulate SCG compliance policy throughout the corporate.

In order to achieve the law and regulation compliance, SCG has developed Compliance Management System as a key mechanism to ensure that all employees are able to implement works in compliance with laws and regulations efficiently and effectively. In preliminary, SCG has initiated Laws & Regulations Compliance Program as a priority.

SCG has clearly determined work process, roles and responsibilities of operating employees, support units and audit office that are considered as three lines of defenses to manage risks and control internal factors. Also, SCG will apply Compliance Management System with works related to the corporate's reputation and public commitment, extending results toward other works and international level, respectively.

Reputation Risk: SCG employs 'Brand Protection' and 'Brand Building' strategies. SCG's Brand Protection strategy includes creating relevant public relations campaigns, installing internal and external communication systems to be used both in normal situations and during crises for consistency, and conducting surveys on attitudes and satisfactions towards the image of the Group, the results from which are used for future risk assessment and planning. Furthermore, Brand Committees have also been established in strategic countries, and they are responsible for outlining a brand management guideline. SCG has also adopted the 'Brand Building' strategy to strengthen the brand to increase its competitiveness. To this effect, SCG places emphasis on consolidating various product brands under a single brand 'SCG', to establish a clear direction of business conduct to accommodate future growth, to create strength, and to increase the memorability of the brand for consumers.

In 2015, SCG will continue to dedicate efforts on improving the quality of its risk management by creating awareness on the importance of risk management on all fronts and equipping employees with knowledge and capability to enable them to better manage their risks. Furthermore, integrating and sharing of risk and risk management data will support a more efficient Enterprise Risk Management.



M6

Stakeholder Engagement

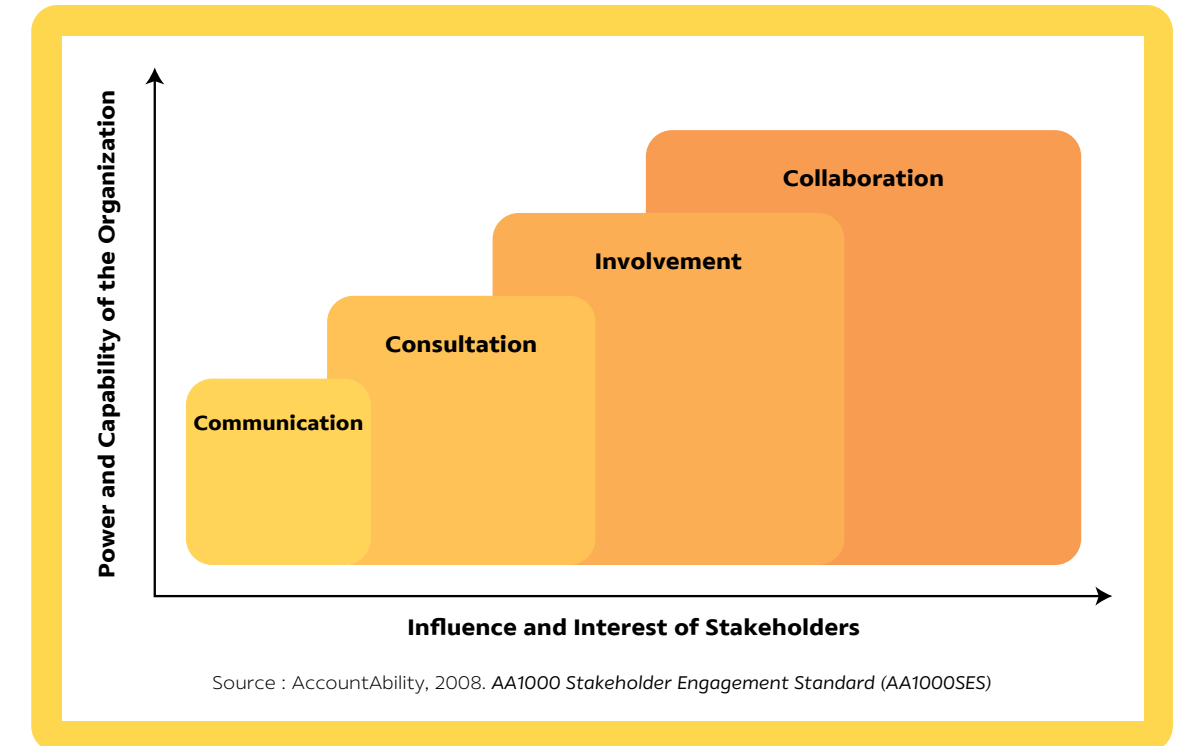
G4-24, G4-25,
G4-26, G4-27

Every group of stakeholders is important to SCG business operation, directly or indirectly. Discovering and understanding interests and expectations of stakeholders helps a corporate reduce potential impacts on operations and create opportunities for improvement by integrating their concerns into the organization's strategy and operational improvement. It is also considered as a challenge to develop a collaborative value creation between SCG and stakeholders.

Building Relationship with Stakeholders

SCG divides stakeholders into 12 groups, including customer, employee, contractor, supplier, community, shareholder, investor, creditor, government agency, media, civil society/ academic and competitor. In 2014, SCG has announced and adopted the stakeholder practice policy, setting up a clear practice guideline for each stakeholder group.

Stakeholder Engagement Approach



Having been influenced by changing circumstances such as global trends and stakeholder expectations, SCG has to conduct stakeholder analysis annually through meeting with relevant functions to review roles and importance of stakeholders that could have impacts on businesses operation. The output of stakeholder analysis is taken into account for identification and prioritization of key stakeholders as well as for further development of stakeholder engagement plan based on each stakeholder group's interests and expectations.

According to stakeholder analysis in 2014, stakeholders who are the most important groups to SCG's operations are customer, employee, supplier, surrounding community, shareholder,

government agency and civil society/ academics. In order to respond to different needs and expectations of stakeholders, SCG applies various tools and channels to seek stakeholders' concerns and expectations, such as stakeholder dialogue, opinion panel, joint meeting, satisfaction survey and complaints receiving. Recommendations and expectations from stakeholders enable SCG to improve current business operation and be a source for continual development plan in several aspects.

To build up and shape up good relationships with stakeholders, SCG considers influence and interest of each stakeholder group in line with the corporate capability to determine appropriate strategies and approaches to stakeholder engagement.

Communication with Stakeholders

STAKEHOLDERS	KEY CONCERNS	COMMUNICATIONS/ CHANNELS	OUTCOMES
 CUSTOMER	<ul style="list-style-type: none">Quality products and servicesEnvironmentally-friendly manufacturing processes for green products and services	<ul style="list-style-type: none">Customer satisfaction survey annuallyChannels for customer complaints or recommendationsSCG corporate reputation survey every 3 years	<ul style="list-style-type: none">SCG receives complaints/ feedback on products & services to develop current or new products & services to meet customers' needs.
 EMPLOYEE	<ul style="list-style-type: none">Welfare and remunerationKnowledge development at work and off workCareer stability and growthBusiness direction and adaptation	<ul style="list-style-type: none">Employee satisfaction survey annuallyAttitude surveyExecutive meets employee forum quarterly	<ul style="list-style-type: none">Employee satisfaction survey leads to improvement of employee caring and welfare, such as welfare on father on maternity leave.
 SUPPLIER	<ul style="list-style-type: none">Ethics and transparency on business transactionsKnowledge and competency development	<ul style="list-style-type: none">Clarification and support supplier to understand business conduct and practicesSupplier visit to listen to problems and suggestions	<ul style="list-style-type: none">SCG understands suppliers' problems and needs, leading to the initiative of 'Supplier Development for Sustainability' with an objective to improve suppliers' performance in several area such as loss reduction etc.
 COMMUNITY	<ul style="list-style-type: none">Development of life quality and generation of community's incomeProtection and care of environment surrounding the community	<ul style="list-style-type: none">Community satisfaction survey annually and every 3 yearsDialogue and survey through community relation activities annuallyOpen house for community visit	<ul style="list-style-type: none">SCG understands problems and needs of communities and then proceeds with development program which SCG conducts by itself or collaborates with relevant stakeholders such as government sector and peers in the same industry.
 SHAREHOLDER	<ul style="list-style-type: none">Performance and business growthManagement with transparencyUnderstanding of SCG operations	<ul style="list-style-type: none">Disclosure of SCG operating results quarterly and place information on SCG websiteShareholder meeting annuallyPlant visit and CSR annually	<ul style="list-style-type: none">SCG understands more about expectations of shareholders and adapts to communication plan to cover shareholders/investors' interested topics.
 GOVERNMENT AGENCY/ CIVIL SOCIETY/ ACADEMICS	<ul style="list-style-type: none">Role models for other organizations in management with transparency and excellenceUtilization of SCG capacity to support government sectorTransparent information disclosureConducting business by minimizing impacts on environment and communitiesNatural resources conservation and usage at the utmost benefit	<ul style="list-style-type: none">Compliance to government regulationsAnnual report and sustainability reportOpinion Panel annuallyCommunication through articles and mediaCSR activities or projects to create collaborative actions	<ul style="list-style-type: none">SCG is acknowledged about directions and future trends for improvement on current operations and strategic plans for the future.



Stakeholder Engagement through Opinion Panel

Opinion Panel is an approach which SCG Sustainable Development Committee has been continually implemented to engage government sector, educational sector, civil sector and other specific stakeholders to share opinions and perspectives toward SCG sustainable

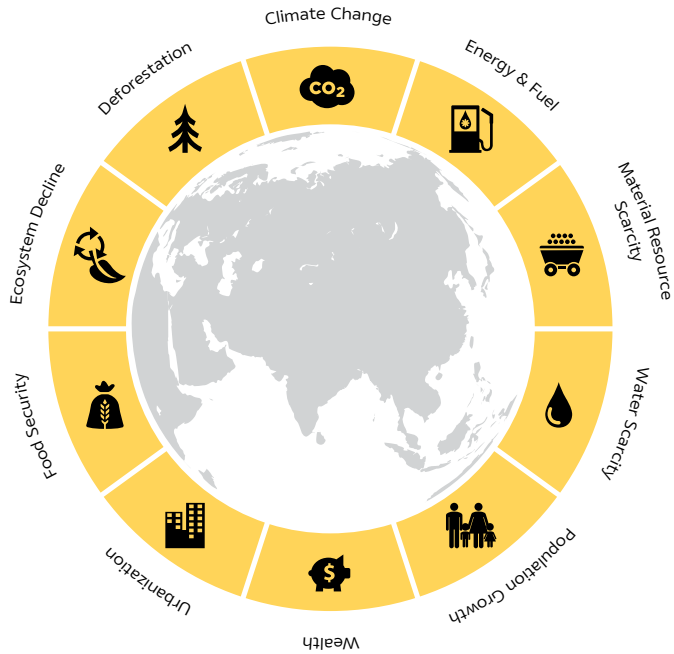
development. SCG adopts inputs and feedback from the panel to incorporate in the sustainable development strategic plan to build up value for all involving stakeholders. In 2014, SCG has held the 5th Opinion Panel on business ethics since this topic becomes vital in building trust among shareholders, investors and relevant parties at corporate and national levels.

Recommendations from Opinion Panel in 2014

Corporate governance and compliance	<ul style="list-style-type: none">SCG employees should be engaged to formulate practice guidelines rather than adopting policies from executives only.SCG should regularly review, update and improve practice guidelines to be complied with current situation, showing indicators and outcomes concretely.
Information disclosure	<ul style="list-style-type: none">SCG should concern about stakeholders' interest and disclosed information should reflect both financial and non-financial performance.SCG should provide effective and accessible channels of information disclosure for stakeholders such as websites.
Being a role model	<ul style="list-style-type: none">Good awareness should be embedded among SCG employees and extended to relevant stakeholders.SCG, as a role model and change agent, should utilize organization's capability to drive other organizations or relevant parties to value good governance and implement in their organizations systematically.Religious principles can be adopted as a mechanism to build up corporate culture morals, ethics, contemplation and wisdom among existing employees, to train new employees and to extend outcomes to external parties.



Sustainable Action and Challenge



Source: KPMG International, Expect the Unexpected, February 2012

SCG has been ranked as a global leader in sustainable development in Construction Materials of Dow Jones Sustainability Indices (DJSI) for the 4th consecutive year. It is a result of effectiveness development and performance improvement in aspects of economic growth, social responsibility and environmental conservation, especially when social and environmental conditions are fluctuating and crashing rapidly and severely, such as extreme climate change, fuel and energy scarcity when price is fluctuating dramatically, insufficient raw

materials and clean water, rampant population growth in emerging countries and high population density in megacities, inadequate food, as well as degraded ecology and forest.

According to materiality assessment of SCG's business operation, the SCG Sustainable Development Committee has assigned every relevant and responsible party of each materiality to conduct an action plan and strategic direction, responding to risk management in accordance with a sustainable development approach.



MATERIALITY



RISK & OPPORTUNITY



STAKEHOLDER



ACTION & CHALLENGE

MATERIALITY RESPONSIBLE UNIT

Corporate Governance	<ul style="list-style-type: none">• Corporate Secretary Office• Audit Office• Governance and Nomination Committee
Health and Safety	<ul style="list-style-type: none">• Center of Excellence and Sustainability Development• Sustainable Development Office of each business
Employee Caring	<ul style="list-style-type: none">• Corporate Human Resource Office• Human Resource Office of each business• Management Development Committee
Energy and Climate Change	<ul style="list-style-type: none">• SCG Energy Committee• SCG Climate Change Committee
Sustainable Water Management	<ul style="list-style-type: none">• SCG Water Management Committee
Sustainable Resource Management	<ul style="list-style-type: none">• Production planning office of each business• SCG Waste Management Committee
Sustainable Value Chain	<ul style="list-style-type: none">• SCG Contractor Sustainable Development Committee• Corporate Procurement Office• Procurement office of each business• SCG eco value committee• Corporate Supply Chain

ACTION

PERFORMANCE

BUSINESS OPPORTUNITY

PAGE

<p>To create a policy to apply a corporate governance principle and guidelines as the standard throughout SCG and to implement the principle in accordance with laws, regulations and requirements of each country where SCG invests.</p>	<ul style="list-style-type: none">• Update SCG Corporate Governance Handbook and board of C8 regulations.• Update SCG Corporate Governance Development Plan to comply with corporate governance regulations of the listed companies in ASEAN.• Set up SCG Whistleblower System.• Implement risk assessment on corruption and raise awareness on anti-corruption to employees.	Supporting and encouraging companies in Thailand to implement corporate governance that meets global standards in order to create business competitiveness and sustainable growth on the basis of business ethics.	28-31
<ul style="list-style-type: none">• To analyze the accidental risk, set standards, improve, and initiate behavior based safety for employees and contractors.• To implement Safety Performance Assessment Programme (SPAP) which is applied as an efficiency and effectiveness monitoring tool.	No work-related fatality of employee and less work-related fatality of contractors 36%	Uplifting the standard of businesses' safety management by transferring best practice that makes each company learn and develop for sustainable safety.	32-37
<ul style="list-style-type: none">• To implement labor practices and human rights, focusing on engagement and commitment with stakeholders and to conduct employee opinion survey regularly.• To develop a new learning model and to design an individual development plan in technical, management and leadership skills including to adapt the learning way as an integrated method that focuses on assignment based on real experience, coached by supervisor.• To embed corporate culture on SCG people for expats and employees that have to work aboard.	Achieve Thailand Corporate Excellence Awards on Human Resource Management Excellence for the 13 th consecutive year.	<ul style="list-style-type: none">• Labor practices and human rights implementation is accepted and used as a model for other business• Collaborating with the Government for the labor development projects.• Initiating courses on coach capacity development for supervisor that leads to the development of leader in compliance with the Coach-approach Leader model. The courses will be conducted throughout SCG, domestically and internationally.	38-45
<ul style="list-style-type: none">• To allocate energy resources appropriately for each country.• To improve energy efficiency in production process.• To increase the amount of renewable fuel.• To explore and search for alternative fuel sources and new type of fuel.• To develop products that help reduce energy consumption and greenhouse gas emissions.	<ul style="list-style-type: none">• Secure energy sources and stabilize costs of energy at every country where SCG operates.• Reduce an energy expense approximately 560 million baht per year.	<ul style="list-style-type: none">• Creating collaboration with other organizations, including public sector, private sector and NGOs in order to obtain new type of energy and become a collaboration model to extend results in all countries where SCG operates.• Developing HVA products and services that can reduce energy consumption and greenhouse gas emissions.	46-49
<ul style="list-style-type: none">• To initiate production process improvement project to enhance business potential in continuity.• To create sustainable development for water resources and water treatment for re-use.	<ul style="list-style-type: none">• Recycle treated wastewater in the production process by 7%.	<ul style="list-style-type: none">• Reducing water withdrawal by reusing discharged water, targeting at zero water discharge.• Improving production process efficiency and reducing water consumption per ton product.	50-53
<ul style="list-style-type: none">• To improve efficiency of production processes in order to maximize the use of raw materials.• To utilize alternative and renewable raw materials.• To manage waste to be recycled and value added.• To encourage consumers to use environmentally friendly products and services.	<ul style="list-style-type: none">• Bringing waste and renewable raw materials to be circulated, replacing the use of natural resources by 6%.• Create innovation from collaboration among businesses in waste management.• Carry forward the environmental protection approach for the better living of all stakeholders.	<ul style="list-style-type: none">• Increasing the competitiveness by developing innovative value-added products and services that are environmentally friendly.• Creating engagement with stakeholders to meet and understand real needs of consumers for development of innovative products and services that are environmentally friendly.	54-57
<ul style="list-style-type: none">• To prioritize contractors based on the impact of sustainable development.• To expand sustainable development approach, based on moral and ethics throughout upstream and downstream.	<ul style="list-style-type: none">• The amount of green procurement is 8.2 billion baht.• All contractors in the manufacturing process have been certified SCG Contractor Safety Certification System.• Sales of products and services of SCG eco value account for 31% of revenue from the total sales.	<ul style="list-style-type: none">• Strategic suppliers will be provided a long-term development as a Co-creation to create mutual business opportunities.• Developing products and services linked to the real needs of customers, resulting in development from upstream to downstream.• Creating business opportunities with customers as Co-creation.	58-65

Value Creation

Corporate Governance	28
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Employee Caring	38
Energy and Climate Change	46
Sustainable Water Management	50
Sustainable Resource Management	54
Sustainable Value Chain	58

Global society is growing and developing constantly, ranging from the improvement to respond community and social needs that leads to goods exchange, trade, business sector and industrial sector. Globalization connects all countries to become unity. Products and services are distributed globally, as if they are in the same market. In additional, information spreads rapidly in the social media, owing to globalization.

Due to the rapid growth, the higher population and the migration from rural to urban society are all the causes of natural resource consumption, both direct and indirect. Changes can be seen clearly from natural resource scarcity, climate change, severity of rain storm and wind current as well as stress from struggling attempt for the financial factor to make life convenient. These impacts derive from the development to meet human's needs, without considering the balance of growing economy, happiness of society and well-being environment. All of us, especially in business sector, are essential in driving the sustainable development in the future.

SCG has been conducting business for

more than 100 years, manufacturing products and providing services with the focus to reduce environmental impacts and to prioritize social responsibility by implementing the 4 core values in compliance with the vision of being role model in corporate governance and sustainable development.

SCG has set up the corporate strategy on sustainable development as SCG SD Pathway. That is to say, SCG does not focus on the relevant supply chain only, but also attempts to expand the idea of sustainability toward other stakeholders, starting from SCG internal supply chain to external supply chain. As for upstream, from SCG Green Procurement to SCG Contractor Safety Certification System to downstream, from High Value Added Products and Services (HVA) to SCG eco value products and services which SCG views that these good things should be expanded externally to other organizations or society, apart from supply chain, to respond customer needs by one stop service, creating higher social value.

Green Procurement does not only create value for SCG and contractors who are the direct producers, but also creates value for

purchasers to have more options, resulting in sales of business contractors and to create indirect value toward environment.

SCG Contractor Safety Certification System (SCS) emphasizes on working system which enhances the safety of contractor's employees, reducing accidental risk. It decreases accident statistics and reduces medical expenses and property damages, building morale and spirit of employees, resulting in well-being, happiness and security of employees' families.

SCG eco value, environmentally friendly products and services, are options that have positive impacts toward environmental impact reducing, especially, "Eco Use" products and services which affect consumers directly. These products and services result in values such as energy saving, water saving, product life extension and so on. These values reflect in better environment, health and happy society.

High value added (HVA) products and services create value directly to consumers. They require research and development (R&D) to improve, develop, meet increasing needs and expand markets. These things initiate innovations that lead to pride and value of

SCG and consumers. SCG eco value and HVA products and services are ones of options for final consumers who can help creating good things, benefit and value for this society and the world.

According to the previous performance, looking back in a short term, it may not be motivated to implement practices because the results in value do not occur in a short period of time, such as investing in energy efficiency project in order to reduce cost. Many projects are initiated continually, resulting in the gradual decline of investment return rate because the projects those have good rate of return have been implemented. When the energy price is increasing, more yields are gained. These may not happen if the corporate visual the return in a short term. But if looking in a long term or taking risk factors in to consideration, it can lead to further sustainability development.

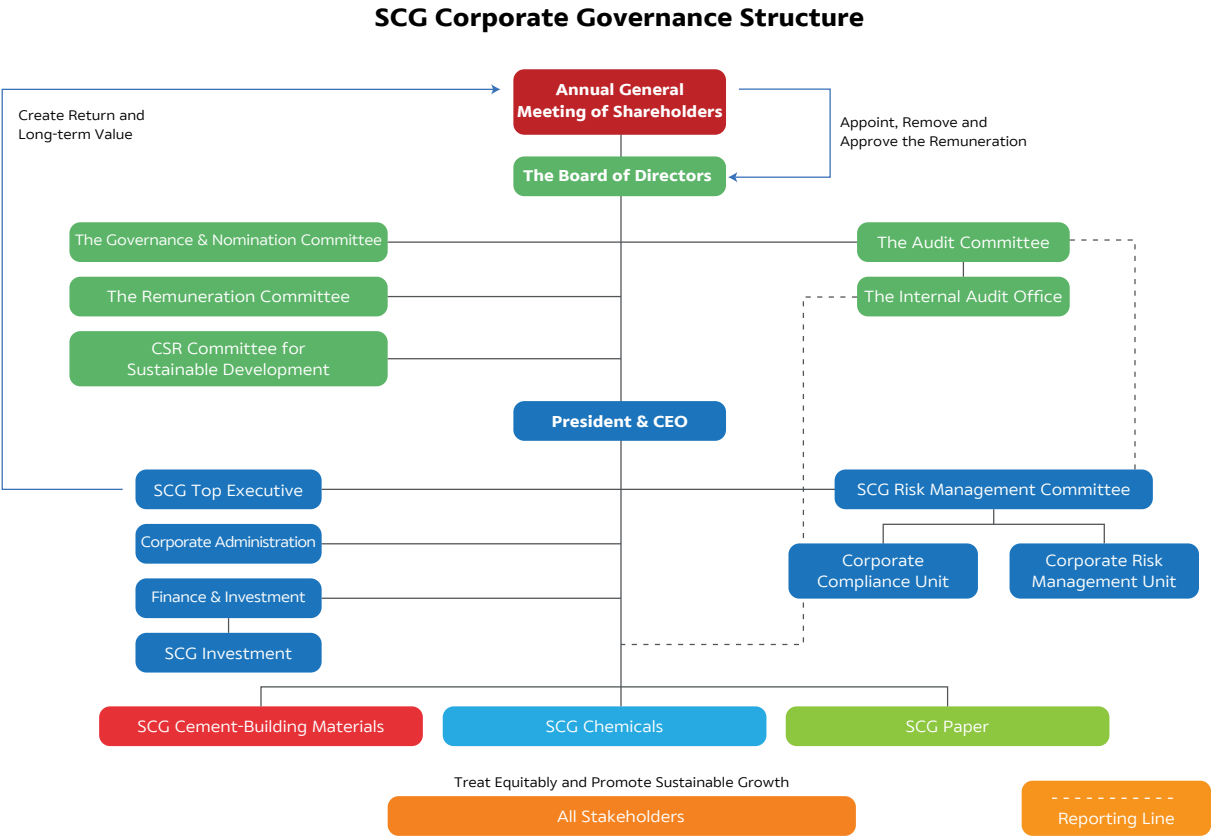
Actions or development are valuable not only in economic aspects but also in social and environmental aspects, both positive and negative. Therefore, value of all three aspects should be considered to balance the integrity, transparency and accountability together.



M3



Corporate Governance



SCG operates its business with responsibility, transparency and fairness, observes the principles that have been practiced through generations and are outlined in SCG Code of Conduct, as well as operates on the basis of balanced and sustainable success, with the Company's Board and top executives serving as role models in adhering to SCG Code of Conduct and Corporate Governance principles. As for the Company's vision for 2015, SCG is strongly determined to develop its organization into a role model for corporate governance. To this effect, the Governance and Nomination Committee, a Sub-committee, has the duty of revising policies and guidelines, suggesting

directives for corporate governance development to the Board of Directors, monitoring, supervising, and evaluating levels of compliance to SCG corporate governance policies. SCG does this with a conviction that SCG Corporate Governance principles will constitute a management system capable of creating trust among all stakeholders and increasing our competitive capabilities for sustainable growth.

Furthermore, the Board of Directors has the duty of setting SCG's visions, missions, strategies, business plans, goals and policies, by cooperating with top executives on both short- and long- term operating plans; formulating the Company's corporate governance policies

and risk management; as well as overseeing the overall image of the organization. In addition, the Board is also tasked with a significant role in overseeing, reviewing, and evaluating SCG's operating performance and the performance of top executives independently to ensure that they are in line with set plans.

As for the consideration of the remuneration for the Board of Directors and the Sub-committees, which consists of a fixed fee, attendance fee, and bonuses at a fixed rate not exceeding 0.5 percent of the dividends paid to shareholders, the Remuneration Committee presents relevant data and suggestions to the Board of Directors for further consideration, taking into account comparisons of remunerations for committees of leading companies listed in the SET and those in the same industry as well as SCG's operating performance. Subsequently, the amounts are presented for approval at the Annual General Meeting of Shareholders.

As for the remuneration of the President & CEO and top executives at SCG, the Remuneration Committee provides relevant data to the Board of Directors, with SCG's operating performance, implementation of policies given by the Board, implementation of SCG Sustainability Development Plan, which encompasses economic, social and environmental issues, and the overall socio-economic circumstances taken into account in the consideration of the

appropriate short- and long-term remuneration. In addition to the data from the current year and comparing them with retrospective data in various aspects, findings from surveys on the views of management employees on the President & CEO and top executives are also incorporated in the consideration of the remuneration. (The remunerations of the Board of Directors and the Sub-committees and payments of top executives are shown in the Annual Report 2014 under Management Structure Section.)

With the vision of becoming a regional business leader, SCG has expanded its business to all ASEAN countries and implemented its policies on adopting corporate governance principles and guidelines as a standard all through SCG, which are localized to correspond to the laws, rules, and regulations of the individual countries in which SCG invests, in order to increase the competitive capability and achieve sustainable growth on the basis of business ethics. Moreover, SCG has also exchanged its knowledge and experience on issues regarding corporate governance such as adherence to good corporate governance guidelines, on both domestic and ASEAN-wide level, promotion and compliance of ethical practices, anti-corruption, and complaints procedures for stakeholders.

Key corporate governance activities in 2014

1. Revision and improvement of the SCG Corporate Governance Handbook so that it corresponds to directives of the corporate governance guidelines of the Stock Exchange of Thailand, the Thai Institute of Directors Association (IOD), and the criteria of the ASEAN Corporate Governance Scorecard. Additional policies and good corporate governance approved by the Board of Directors were also appended.
2. Revision and improvement of the Charter of the Board of Directors and the Charter of the Sub-committees.
3. Disclosure of all types of remuneration of the Board of Directors at the Annual General Meeting of Shareholders and adding the remuneration of the Board of Directors to the agenda to be approved at the Annual General Meeting of Shareholders.
4. Establishment of the SCG's Procurement and Vendor Selection Policies and Guidelines, which clearly define the procurement policies, qualifications and application of SCG suppliers/business partners, and business transaction procedures to ensure a systematic, fair, and transparent selection process
5. Creation of the Board Skill Matrix to be used in the consideration of the candidates nominated to replace directors retiring by rotation.
6. Executive in-house seminar to enhance essential knowledge for board members and top executives on "The Roles of the Board of Directors in Strategy Formulation and Business Planning" by Ms. Kate Costello, an expert from Governance Matters (Australia) as the seminar leader.
7. Improvement of SCG's corporate governance development plan in accordance with the guidelines of ASEAN Corporate Governance Scorecard.

Board Skill Matrix	
Macro-management knowledge, expertise and experience	<ul style="list-style-type: none">• on businesses and industries which are related to SCG• on organization management and HR management in government and private sectors• on economy, investment, policy and strategy formulation• on marketing and public relations• on foreign affairs• on risk management
Specific knowledge, expertise and experience	<ul style="list-style-type: none">• on laws and government regulations related to business operations• on accountancy and finance, with specific knowledge on financial statement; accounting standards, or current/prior position as a member of an audit committee of a listed company• on communication and information technology
Corporate Governance knowledge, experience and expertise	<ul style="list-style-type: none">• on corporate compliance, including the formulation of relevant policies and guidelines• on stakeholder engagement

SCG Code of Conduct

The four core values of SCG’s ethical business conduct, which is continuously practiced by the Board of Directors, management, and employees at all levels, have been an important factor contributing to the Company’s sustainable business growth. In 1987, the Board of Directors compiled business conduct guidelines for the first time in written form in Thai as well as in English as a directive for all employees at all levels, with the Board of Directors and top executives serving as role models. After four revision, with the latest revision in 2007, the Code of Conduct was renamed and published under the name “SCG Code of Conduct Handbook”. In the Code of Conduct, guidelines for each business are compiled, categorized, and furnished with examples, with a list of codes clearly specified for greater clarity.

SCG cultivates its code of conduct in employees from their first day of their employment, and all new employees are given the “SCG Code of Conduct Handbook,” which is considered as part of the regulations which all employees must follow. In addition, SCG arranges training on the principles and guidelines of SCG Code of Conduct as well as raise awareness on their importance via various forms of communication. These include communication via short video clips that are easy to understand and correspond to contemporary lifestyle, distributed via e-newsletters and the SCG intranet. After learning about SCG Code of Conduct,

employees can answer questionnaires to measure their understanding of the Code of Conduct as well as share their views and make suggestions on the Code of Conduct through various channels on the intranet. Responsible working units for the different issues can then provide relevant advice.

In the event that employees or external stakeholders encounter non-compliance with SCG Code of Conduct, they can notify SCG of such corruption and breaches of laws, regulations, or Anti-corruption policy through the “SCG Whistleblower System” available both in Thai and English. Once a claim is submitted, the Internal Audit Office is responsible for investigating and taking further appropriate actions as necessary, all of which are conducted in confidence. To this effect, SCG ensures the security of the system, and a specific server separate from other usage functions is used for the storage of such data. Additional measures are also put in place to ensure the protection and fair treatment of reporters and informants.

In 2014, a total of 26 complaints were filed, eight of which are still being investigated and 18 of which were already investigated. Among the 18 complaints, one fell into the category of corruption, and another fell into the category of non-compliance, in which the financial impact was insignificant and the employee was expelled in accordance with the Human Resources regulations. In addition, the Company has used these complaints to inform



For the first time in Thailand, SCG has been labeled a “Certified Company” for the conglomerate company from the Private Sector Collective Action Coalition Against Corruption Council

the operation and future preventative measures to forestall repeated cases. Currently, the Internal Audit Office is responsible to monitoring, presenting, and reporting the progress to the Audit Committee at every meeting.

Anti-corruption

After becoming a “Certified Company”, SCG has continuously set up campaigns to create awareness and support a good culture of corporate governance through workshops in all working units with high risks. SCG employs a policy of “Three Lines of Defense” for working units with risks: Employees and heads from the first line can assess risks and the effects of risks at a given moment and in the future. Control mechanisms and measures for risk management are then planned. This includes cases with new risks. The first line must be able to learn about risks and set appropriate control mechanisms and measures for risk management. The working units for risk management and working units for the supervision of activities form the second line. They help with the examination of risks, plan processes and gather and give advice to create trust in sustainable business performance. The Internal Audit Department constitutes the third line. It has created the “Anti-Corruption Guideline” for investigations to ensure a good follow-up and supervision of activities in accordance with ethical principles and policies against corruption of the first line and second line at every annual investigation.

Subsidiaries and associates under the management of the SCG are kept informed so that they act in line with anti-corruption policies corresponding to the mother company. SCG supports subsidiaries registered at the Thai stock exchange to establish clearer anti-corruption policies, to assess risks and to conduct the IOD self-evaluation in order to improve their anti-corruption measures and increase their efficiency.

SCG has extended our measures of support and help for anti-corruption activities to our supplier/contractor and established the “SCG Supplier Code of Conduct”, a concept for business operations on the basis of correctness, honesty, ethics and transparency for sustainable business operation. The SCG Supplier Code of Conduct contains guidelines on the ethics of business, workforce and human rights, occupational health and security, issues of the environment, law and regulations. Supplier/Contractor must sign their agreement on the Code of Conduct as mentioned.

SCG has furthermore set up systems to receive claims via our website and other communication channels and taken supportive measures to create awareness among our stakeholders in all sectors with regard to this issue so that they truly place importance on using various suitable means of communication and channels. In 2014, no claims related to corruption were found.

M1 Health and Safety



SCG SAFETY PRINCIPLES



Safety is our core value

ความปลอดภัยเป็นสิ่งที่เป็นคุณค่าที่สำคัญยิ่งของการทำงาน



Uncompromising safety standards

มาตรฐานความปลอดภัยไม่มีการประนีประนอม



All occupational injuries & illnesses can be prevented

การบาดเจ็บและการเจ็บป่วยจากการทำงานทั้งหมดสามารถป้องกันได้



Safety is a line responsibility and management is responsible for preventing occupational injuries and illnesses

ความปลอดภัยเป็นหน้าที่ที่ควรรับผิดชอบโดยตรงตามสายการปฏิบัติงาน และผู้บริหารมีหน้าที่รับผิดชอบ ในการป้องกันการบาดเจ็บและการเจ็บป่วยจากการทำงาน



Employee involvement is essential

การมีส่วนร่วมของพนักงานเป็นสิ่งจำเป็นยิ่ง สำหรับการดำเนินงานเรื่องความปลอดภัย



Lost Time Injury Frequency Rate (Employee/Contractor)

Case per 200,000 Man-hour

0.05/0.06

The Health and safety of our employees and contractors is a priority for SCG and our stakeholders. This matter affects the morale and motivation of more than 100,000 employees and contractors. The accidents that occurred in 2014 injured more than 244 people. Most of them resulted from work related causes (mechanical equipment and falls from height). As for the accidents that have caused death, the majority involved fleet traffic. Therefore, it can be concluded that SCG must intensify efforts to accidents on sight deaths as well as from transport and traffic related.

SCG has established policies for safety and occupational health, as well as clear safety management structures at all levels. In addition, SCG has also created an operating framework and guidelines for the management of occupational health and safety (SCG Safety Framework) so that each company can adapt and use this to sustain our health management system, based on the TIS / OHSAS 18001 safety standard. Furthermore, SCG encourages our employees, contractors and the community to participate in raising the standards of safety in the work place. This is because SCG

has an aim of becoming a sustainable "Injury and illness free workplace".

SCG has set the legal SHE Committee structure for each plant. The committee consists of employees from senior management level and operation level at the same ratio with the purpose of creating a platform for regular discussion and creating involvement in improvement of our safety management system.

Due to the variety and diversity of the industry related to each company, SCG has allowed each business or company to manage its own risks according to the concerns of stakeholders. The details are as follows:

SCG Cement-Building Materials

The most significant risks of SCG Cement-Building Materials are :

1) The hazard from working with machinery and falling from height. The cause of accidents can be divided into two parts: the condition of equipment and unsafe behavior of the workers. The business has set up a standard procedure for safe machinery operation, covering all machine types and risks and to improve safety of working conditions. This is done by encouraging employees and business partners to get involved in exploring various risks and applying foolproof concept

to reduce risk of exposure to moving machine, pivot, hazardous chemicals, and working at height.

In addition, the business also aims to create and cultivate the habit of working safely to consumers, employees and contractors, through the implementation of safety observation and the cultivation of safe behavior (Behavior Based Safety) in the factory. SCG has set the indicators of success, which are Leading Key Performance Indicators (KPIs) or Key Activities Indicators (KAIs), for executives, supervisors, employees and contractors to be a part of the implementation. This action decreased the accidents caused by working with machinery by 50 percent from the year before.

2) Transportation and road accidents, SCG Logistics apart from the establishment of the Skills Development School, for training of 12,919 drivers in 2014 to the total of 30,842 drivers so that they are aware and possess the skills to drive safely, the company also offers rest areas for each route as well as monitoring and control equipment (Logistic Command Center) to monitor and control the vehicles at all times. In 2014, various projects were initiated to reduce accident risks as follows:

“

Saving our employees from danger is equivalent to saving their family. That is why we set the highest standard and goals for safety and the issue of safety is uncompromising.

”

Pichit Maipoom

President
SCG Cement-Building Materials



- In Cab Coaching project: The training of more than 1,987 high-risk drivers to enhance their skills and attitude toward safe driving through group trainers.
- In Cab Camera project: The random installation of video cameras in the front of the vehicles of more than 1,245 high-risk carriers in order to observe their driving behavior and give warnings of unsafe driving.
- Delivery Plan project: The creation of a security database on the transportation routes to identify specific points that might be dangerous and appropriate rest areas so that the drivers can be informed and become careful when entering dangerous zones. This has been completed for 19 main routes.

Although the results of our efforts have reduced fatal accidents in fleet carriers and third-party by 50 percent, the goal of ‘Sustainable Transportation Safety’ is still the driving force for SCG Logistics to continue to find new ways to reduce accidents in the future.

To expand the body of knowledge in the managing road safety to outside organizations, SCG has worked with the Road Safety Group of Thailand, Thailand Road Safety Network, Thai Roads Foundation and Thailand Development Research Institute (TDRI) to initiate a project called ‘Road Safety for Community’ with the objective of establishing standards for road safety in the pilot areas and creating engagement with community, local government, state government and alliances to jointly build a culture of safe driving and safe communities. The committee has divided the project into two parts as follows:

- Community development together with the Thailand Road Safety Network to by educate the pilot communities regarding the management of the risk and communication with the responsible agencies for improvement in 7 communities of the area, which are at

Tharua, Phra Nakhon Sri Ayutthaya Province as well as at Kaeng Khoi and Baan Mho, Saraburi province.

- Risk management and the creation of an accident database together with the Thai Roads Foundation in order to explore and define the risks on the pilot routes that should be resolved, especially the four main routes that are used to transport cargo and coal for the company.

This was to ensure that transport routes used by SCG would focus on safety of the community and those who used the roads before applying the results and solutions to other nearby areas.

SCG Chemicals

Fire accidents, chemical spills and explosions in the manufacturing process are the main risks that cause concern for the communities surrounding the industrial estate and are unacceptable for the company itself. Therefore, since 2014, SCG Chemicals have hired professional companies to do Quantitative Risk Analysis for Worst Case Scenarios in order to improve and develop the production process, the monitoring process and the process of safety management as a whole. In addition, this also included the development of experts within the organization to be able to identify unknown hazards, understand the dangers and control the risks in 2 pilot companies before extending this to other companies. As a result, in 2014, accidents related to the production process were reduced by more than 50%.

For health risks that may result from exposure to hazardous chemicals in the manufacturing process and may affect the health of the workers directly, SCG Chemicals has collaborated with the Faculty of Public Health, Mahidol University in order to develop

a management process of industrial hygiene by using the International Labor Organization Occupational Safety & Health Management System, ILO OSHMS 2001) as a guideline. The results of operations can be grouped into employees who are exposed similarly (Similar Exposure Group: SEG), the level of exposure (Exposure Rating) of employees in each risk factor, and an assessment of the health risk of individuals (Individual Health Risk Assessment: HRA) in order to prioritize the level of risk, which is useful in determining measures to reduce it or control it to an acceptable level.

The risk level of HRA has also been used as a guideline to consider measures to control exposed risks from work through medical surveillance, such as the annual

health check-up and biological monitoring of exposure, which has lead to employees’ disease control within the working area. As for assessing the health risks of the employees, the guidelines from the International Council for Good Practice Guidance on Occupational Health Risk Assessment and the American Conference of Governmental Industrial Hygienists (ACGIH) were implemented in order to assess the health risks of the employees and prioritize the Risk Level to contribute to the formulation of measures to reduce and control risks as well as correctly monitor their health. SCG Chemicals believes that its systems and implementation will sustainably reduce health risks for its employees and contractors.



“
The investment in safety is a ‘Must’ and it should be emphasized evenly to all the factories. Senior staffs are responsible for initiating and developing safety practices and overseas safety of their subordinates.
”

Cholanat Yanaranop | President
SCG Chemicals

SCG Paper

Occupational health and safety risks in SCG Paper can be divided into two main categories, which are accidents from machinery and the risks of fire. Regarding the control of risks from the machinery, the paper business aims to encourage employees and business partners to adopt the Karakuri Kaizen guidelines and apply the No Touch based approach to maintenance, or Total Productive Maintenance (TPM), in order to improve the condition of the machinery and how it works. This not only helped to optimize production but also reduced the risk of exposure to machinery in the various hazardous areas as well as jointly raising standards in safety management of business processes through Safety Best Practice Sharing, which enables each company to learn and develop even further in order to achieve a sustainable safe and secure environment. In addition,

this also requires employees in each level to engage in a continuous safe observation so that management could demonstrate its leadership in the safety issue and set a good example for the employees to follow.

Regarding fire risks in 2014, there was a fire in a pile of recycled materials. Although this did not directly impact the corporate’s business or image, it directly affected the confidence of the community around the factory. Hence, the paper business focused on the process safety management system and adapted it for use in its plant through restructuring the administration; adding security to take responsibility; and adding teams to reassess the security systems fire control, assess equipment and the emergency team in order to regain the confidence of the community.

“

Believing that employees are the most valuable asset to the organization, we commit to continuously promoting safety awareness not only in the workplace. Once employees believe and see the benefits, they will be motivated to urge family members and others behave safely.

”

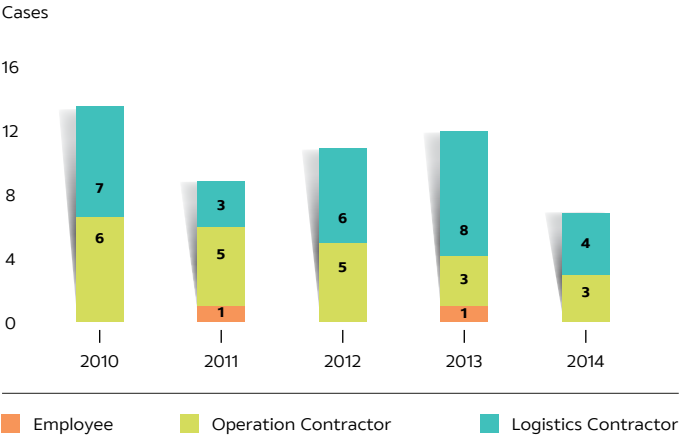
Roongrote Rangsiyopash | President SCG Paper



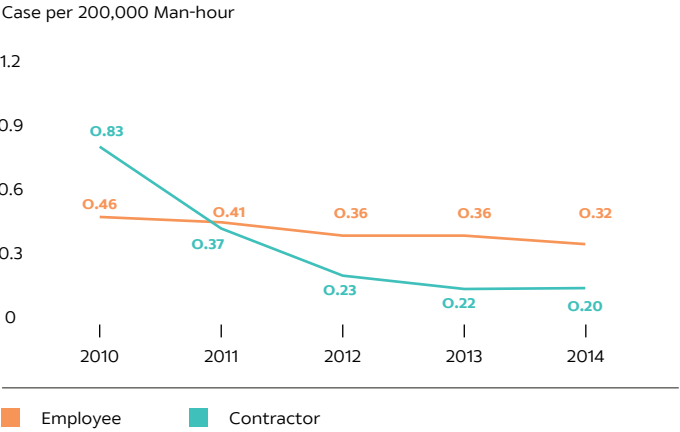
As a result of the above operations, accidents at SCG decreased from the previous year, with no deaths in 2014. The Safety Performance Assessment Programme (SPAP) has been used to assess the efficiency and effectiveness of the reduction and control of risks on occupational health and safety of the individual companies or factories for more than 10 years. SCG has set targets for all its factories to achieve at least ‘Succeeding’ or level 4 on the occupational health and safety level, which is higher than the general factory safety standards. In 2014, There are 17 factories passed the evaluation of SPAP level 4 which is more than 20 percent of the total number of plants that must be assessed.

SCG Accident Record

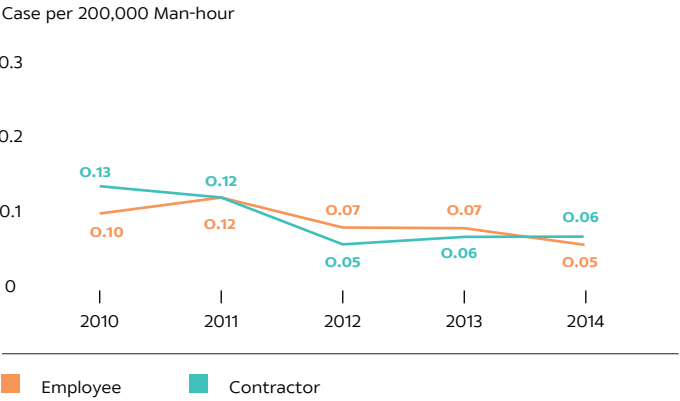
Fatality



Total Accident Rate



Lost Time Injury Frequency Rate



M5 M7 **Employee Caring**



Number of Employee

People

51,100



Challenges of human resource management and organizational development

1. Promote labor standard and human rights to create opportunity. Reduce risks in labor issues and confidently guarantee the congruent with laws and regulations in both local and international.

2. Develop employees to acquire potential and knowledge to work in their current jobs, as well as preparing for business growth and future changes.

SCG Management Development Committee (MDC) leads by President and CEO, initiates direction and human resource strategy for the whole organization. Business Unit human resource committees and company human resource committees are downstream organizations that are translated human resource strategy into actions in recruitment, wage and remuneration management, employee development, performance management, career

management, as well as in labor and human rights management.

Labor Practice and Human Rights

SCG emphasizes on the implementation of labor laws and internal regulations, such as business code of conduct and strict labor contract compliance, as well as publications to support the international declaration of human rights. Being a supporting participant of the United



Nations Global Compact (UNGC) since 2012, SCG respects the diversity of labor in the corporate; SCG does not discriminate against gender, age, or physical conditions; and it respects the rights of labor to gather up in the corporate.

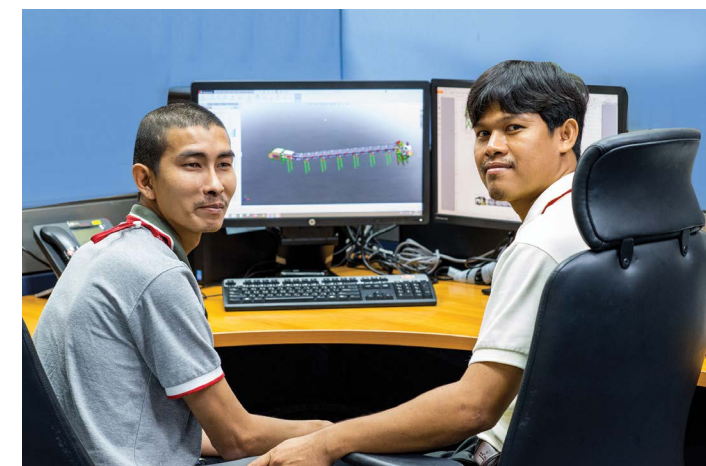
Good human rights and labor practices will promote and create opportunities for building up reputation and developing capabilities for sustainable success in business operations. Conversely, if the human rights and labor practices proceed incorrectly, legal risks will ensure and cause losses to the economy and business sustainability. SCG would then be unable to achieve its vision of being the leader of sustainable business in ASEAN; SCG would be unable to be a model of corporate governance and sustainable development; SCG would be unable to be a corporation of innovation which people seek to work with, and most importantly, all of this would impact the trust of stakeholders including employees, suppliers, contractors, customers, and the relevant government agencies.

SCG places emphasis on involvement and building a commitment with stakeholders. SCG regularly gathers employment feedbacks and opinions through engagement surveys, as well as surveys on other topics both formal and informal activities to exchange ideas and practices with state labor agencies to ensure SCG's human rights and labor practice is approved and can be used as a model for other business in order to cooperate with government sectors in the development of their other labor projects.

From past to present, the achievements of SCG, including human rights and labor practices, have been recognized through awards and approval in various aspects from organizations both in Thailand and at the global level. These include awards for sustainable development, business conducting according to the 'Sufficiency Economy' philosophy, being a model of business governance, being the most admired organization, social and environmental responsibility, and human resources management. The most significant award and approval regarding human rights and labor practice that SCG has received is the Thailand Corporate Excellence Awards, an award which SCG has achieved continuously for the 13th consecutive year. Evaluating such achievements is a tool used in risk management and creating opportunities in human rights and labor practice. Other than the human rights and labor practices of SCG which also promote and corporate with various contractors to ensure that the human rights and labor practices are good for the employees of business contractors.

SCG's Labor Practices and Human Rights Focus in Recent Years

- SCG adopts a policy of hiring those with disabilities, and consistently supports activities to improve the quality of life for the disabled. In 2014, SCG received 4 rehabilitated workers from the Industrial Rehabilitation Centre, Phatumthani Province, Social Security Office, for 1 month. On completion of the internship, SCG hired 1 of the rehabilitated workers. At present, there are more than 30 disabled persons working with SCG.



“

We feel that friends and seniors are very warm, helpful and offer kind advice. They sent us for the adequate external training and treated us like normal employees. We would like to work at SCG until we retire.

”

Natchai Phukbangchak and Phakawan Kullasawasdi

AutoCAD Draftman
SCG Cement-Building Materials

“

Regarding the employee care program prior to retirement, SCG provide excellent care and pave the way for a happy and healthy retirement by providing knowledge about health, saving, social security, gold healthcare cards, and other matters in so many essential areas before retiring, including exploring options for generating revenue after retirement

”



Sutthichai Chaitanakunmongkol
Manager
Office Supplies and Marketing
Central Procurement Office



Relationship building activities for retired employees

• SCG emphasizes on employee caring fairly and equally, without discriminating against gender, age, or ethnicity. To support this philosophy, SCG uses a personnel management system with the same principles and standards in all aspects of employee welfare, recruitment, wage and remuneration management, employee development, performance management, and career management. SCG employs a large and continually growing ratio of female employees, while SCG also has a significantly increased number of employees of different nationalities from overseas. Currently there are 15,437 overseas employees from a total of 51,100 employees. SCG foreign employees regularly participate in experience exchange programs with SCG's Thai employees and undergo training together.

• SCG respects employees' rights to gather up into groups, whether it could be the Welfare Committee or Employees' Committee. There are channels for employees to provide their feedbacks both

formally and informally. SCG also respects the rights to organize and join labor unions and collectively welcome feedbacks for the continuous improvement of appropriate employee care.

• SCG emphasizes on caring for all employees, from when they first join the organization through to retirement. Caring for employees before their retirement is one of the important aspects that SCG provides care for. There is training prior to retirement to give employees the knowledge to prepare themselves to have the right mental and physical approaches needed when they reach their retirement age. They learn techniques for saving and systematic financial planning, as well as gaining an understanding of how to utilize their Health Security and Social Benefit Security correctly. There are relationship building activities for employees who will retire for them to build strong relationships and morale. In 2014, a 4 day / 3 night activity was held in Chiang Mai – Chiang Rai province.

“

Happy & Comfortable - That's 2 words describing my experience working with SCG for these almost 3 years and still counting. The working environment here makes me feel like I've been surrounded by my real family. A non-stop learning experience has also been given while working at SCG. Some different cultures that we have in the company make us learn and exchange more knowledge between local and expatriate employees.

”



Nurluri Agustin | Sales coordinator
SCG Plastics Co.,Ltd, Indonesia

Development Plan in SCG Labor Practices and Human Rights

- Our experience from receiving rehabilitated workers for internships in the previous year showed us that the facilities for disabled workers, in training or work areas, were insufficient. SCG must consider improving our facilities to enable wheelchair users to travel around freely within the organization. This can be achieved by defining a plan to implement the next improvement.
- Reviewing and updating employee welfare and benefits to meet the needs and demands of Diversity are still incomplete. As a large and varied business, the demands for designing appropriate welfare and benefits create a complicated issue. In this respect, the next phase should be to emphasize the design of

welfare and benefits that are even more flexible and can be adapted according to the suitability and readiness of each business unit.

- Planning to improve and widen the scope of our labor practices and human rights. By further expanding the scope to include business partners in the Business Supply Chain, SCG will set standards in labor practices and human rights that are suitable and appropriate for our business partners in each category.
- Emphasizing our plans to create opportunities for increased business, such as activities promoting better quality of life for the handicapped, and requesting certification of standards complying with labor laws to provide an even more extensive and comprehensive business range.

Employee Development

According to SCG's rapid expansion, the number of employees both in country and overseas has also increased rapidly. SCG had a total of 51,100 employees in 2014, an increase of 1,813 people from the previous year. This number is expected to increase rapidly again in the future due to our continued business growth.

With this leap in employee numbers, SCG must increase our capabilities of developing our employees to their full potential and abilities not only for the present, but also to develop them so that they are prepared in the future to deliver business solutions that keep pace with the expansion and context of our rapidly changing business. Our aim is also to support regional employee development in terms of ensuring that course content and instructors are of the same standard as SCG's, and that they have the various systems and guidelines to support them. To this end, SCG with the approval of the board of directors and senior management,

has developed the New Learning Model, which follows the same approach to personnel development as is used by leading companies around the globe. The New Learning Model includes the creation of individual development plans to each employee with a focus on technical, management, and leadership fields. This vision includes the implementation of blended learning. Our focus is to assign tasks to employees so that they learn from real experience with their supervisors serving as coaches to provide more advice. Blended learning will combine active classroom learning with digital learning to be used more substantially to promote a learning culture of Self-Driven Learning. It reflected caring from managers for people development. In addition, the Company is developing a system to accommodate the transfer of knowledge to future generations, to teach them what is already good, and to develop them further.

“We use the SCG training roadmap as a model, adjust it to suit the context of Indonesia, and then implement it to develop our people. This adjusting gives our employees an overview of business and teaches them what is necessary, especially with regard to what they will use in their own work. For their progress, it also teaches them how to lead others and facilitate teamwork. In my opinion, the important thing for enhancing sustainable learning is to make everyone work together on the projects assigned to them at the same time, with a supervisor closely providing instructions.”

Fauzan O. Inak | HR Manager
PT. SCG Indonesia, Indonesia



Other than developing New Learning Model for SCG, we are still developing programs for continuous employee development. The board of directors, senior management, and all employees place importance on personnel development, which has been a highly valuable asset of the organization from the past to present. All employees at all levels from operations to management, both in country and overseas, have opportunities to develop their own abilities to prepare for the company's and their own sustainable growth from their first day as an employee, such as SCG Ready Together for new comers to gain SCG working environment, build networking, emphasize on social responsibility and environment, including activity on it such as check dam projects. In the area of business development through the Abridged Business Concept (ABC) program, as well as on Leadership and Teamwork, such as through the Leadership Development Program (LDP).

This is coupled with the development of general knowledge, such as through the TQM, Safety, Code of Conduct, and Innovation programs. The technical competency of employees in their specific fields is also developed, enabling employees to perform their work with maximum efficiency. Furthermore, SCG's learning emphasizes a combination of learning through real work practices (Experienced Learning), teaching and learning on the job from supervisors and colleagues (Learning from Others), and learning and training in the classroom (Formal Training). In 2014, employees had on average approximately 10 days of training

Organizational culture of seniors teaching juniors that is always observed by all employees, SCG recognizes the importance of developing the potential and abilities of all supervisors to effectively “teach” or “coach” those under their supervision at all times. Each business

SCG Employee Development Courses

Level	Leadership Skill	Business Knowledge	Functional
New Employee	SCG Ready Together Program		• Business/Function Orientation
	• LDP1* : Lead Self	• ABC : Abridged Business Concept	• TQM/TPM/Safety
Supervisor	• LDP2* : Lead Team	• BCD : Business Concept Development • MBA Scholarship	• TRM : Training Road Map/ OJT : On the Job Training • Technical Scholarship
Manager	• LDP3* : Facilitate	• MDP : Management Development Program • Ex MBA Scholarship	• TRM : Training Road Map /Project Short Course
Senior Executive	• EDP : Executive Development Program	• AMP : Advanced Management Program	• Overseas Seminar

* LDP : Leadership Development Program

The development of foreign employees and of Thai employees assigned to work overseas is therefore an important issue. As a result, SCG holds preparatory courses for those employees assigned to work abroad, such as the SCG Go Regional Program consisting of 5 core components which promote each other and are coherent. These comprise Business Understanding, Organizational Impact, Interpersonal Understanding, Global Outlook, and the language of the country in which SCG is conducting business.



group prepares high quality programs to develop the potential of its supervisors to be coaches known as ‘Leader as Coach’, which follows a standard centralized curriculum that is applied across SCG both at home and abroad.

People Development Abroad

In order to facilitate the continued regional expansion of SCG business, it is vital to foster organizational culture of SCG People among both foreign employees and Thai employees who are required to travel overseas to work. In this way, we are able to create a working model in keeping with SCG’s approach which holds to the SCG business philosophy and Open and Challenge in working, which SCG employees have adopted for the sustainable operation of the company. In 2014, SCG communicated the correct knowledge and understanding to our employees, beginning with those operating overseas to serve as Role Models sharing the SCG People philosophy and culture with the Company’s foreign employees. Additionally, our working

model has incorporated international courses standards such as those set in the Abridged Business Concept (ABC) or Business Concept Development (BCD) in order to emphasize, strengthen and clarify our Company culture.

From the solid foundation of SCG’s employee development in Thailand, we have taken this approach to be applied to the foreign countries in which SCG has invested so as to ensure compliance with our corporate vision of becoming the sustainable market leader in the region. The development of foreign employees and of Thai employees assigned to work overseas is therefore an important issue. As a result, SCG holds preparatory courses for those employees assigned to work abroad, such as the SCG Go Regional Program consisting of 5 core components which promote each other and are coherent. These comprise Business Understanding, Organizational Impact, Interpersonal Understanding, Global Outlook, and the language of the country in which SCG is conducting business.



SCG developed the culture of Self-Driven Learning. One of learning objectives as showed in this picture is to emphasize reflection from environment and social responsibility activities.

SCG prepares courses for local employees in the various countries in which we have investments. These courses share the same standards as those in Thailand, such as the Abridged Business Concept (ABC), Business Concept Development (BCD), and Leadership Development Program (LDP) as International Programs, and other Technical Competency and General Knowledge development

programs. The development programs are intended to develop all SCG employees working overseas so that they have access to equal knowledge and abilities as are available in Thailand. We have also established a threshold for foreign employees of high potential (HP). SCG shall put this group of employees through a plan of continuous and varied development programs that are both challenging and suitable.

“

SCG is always focusing on employee caring in order to obtain better outcomes in employee development. As a Project Director, I am very proud to engage and create changes for the corporate sustainable development. Even knowing that I may face challenges, I feel proud to take responsibility of this position and have chances to apply my HR and business knowledge and experiences and add value with work. As a female executive, I can say that gender is not the restriction for work. Just work with efforts and full competencies

”

Supaporn Chanchamroen | Director Learning and Talent Transformation Program



M4 Energy and Climate Change

Stakeholder Engagement



Alternative Energy
12.5%

Since SCG operation significantly relies on energy, It is a big challenge for SCG to manage our energy usage and operate our business while minimizing impacts on the environment, particularly climate change.

SCG has prepared several preventive actions to mitigate both tangible risks like energy costs and business interruption cost and intangible risks, such as the

impact on climate change and the organization's reputation. SCG has established Energy Management policies based on the advantages and disadvantages in terms of natural resources for each country in which we have invested. Production efficiency improvements, increases of alternative energy usage, exploration and research for new alternative energy sources along with environment-friendly products and services development are all management approaches that SCG uses for reduction of energy usage and greenhouse gas emissions.

In addition, SCG established a committee to be directly responsible for and to monitor energy-related issues as well as greenhouse gas matters. The committee is comprised of executive management and experts from all SCG business units. The main responsibilities of the committee are establishing policies, strategies and targets as well as monitoring operations to ensure the accomplishment of the objectives. The committee also needs to ensure the benefits of stakeholders and monitor external factors that might affect SCG's operations.



Somchai Wangwattanapanich

Chairman
SCG Energy Committee

“Energy management is a tool to mitigate risks while create business opportunities. Enhancing the efficiency of energy consumption takes top priority. Simultaneously, we have to search for new alternative energy sources that are environmentally friendly. SCG uses an energy portfolio management to use various types of energy properly, which creates a competitive advantage from having appropriate energy costs, increase energy security as well as flexibility amidst higher demand from business expansion. Effective energy management will also be an important tool to decrease greenhouse gas emissions.”

Highlight Performances in 2014

Creating Energy Security

- Signing long-term fuel purchasing agreements in ASEAN countries where SCG has invested
- Exploration and search for new fuel resources

Enhancing the Efficiency of Energy Consumption

In 2014, SCG made a total of 3.4 Billion baht in investments to increase the efficiency of energy consumption, and was able to reduce energy expenses by 560 Million Baht per Year.

- Installation of the pre-grinding system for the cement mill of the Siam Cement (Kaeng Khoi) Co., Ltd. This system reduces the electricity consumption of the cement mill by 13 Gigawatts-hours per Year, which is equivalent to a reduction in greenhouse gas emissions of 6,500 Ton per Year.
- Efficiency enhancement of boiler (PB18) at the Siam Kraft Industry Co., Ltd. This results in a decrease of more than 50,000 tons in coal usage per year, which is equivalent to a reduction in greenhouse gas emissions of 120,000 Tons per Year.
- Energy conservation in office buildings. In 2014, SCG was certified for having high energy efficient building to save more than 32% of energy consumption. SCG 100th Year Building was awarded with Platinum certification for the Leadership in Energy and Environmental Design (LEED), which is the highest certification from the U.S. Green Building Council (USGBC).

Increasing the Proportion of Alternative Energy Usage and Changing Energy Types

In 2014, SCG made investments to increase proportion of alternative energy to 12.5%, accounting to 21 Petajoules per Year, which is equivalent to a reduction in greenhouse gas emissions of 1.6 Million Ton per Year.

- Modification of cement kiln and Chloride Bypass System in order to use various types of the alternative fuels produced from industrial and municipal wastes without impacting the

environment. The cement plants were able to switch to using alternative fuel by 900,000 Gigajoule which is equivalent to a reduction in greenhouse gas emissions of 75,000 Tons per Year.

- Adopting gasification technology into the building material factory to increase utilization of biomass fuel and alternative fuel for steam generation.

Launching Greenhouse Gas Reduction Products and Services

- Propylene products reduce greenhouse gas emissions from the production processes by at least 100 Kilogram per Ton of propylene.
- Low density polyethylene plastics with recycled waste heat could reduce steam energy consumption by at least 50%.
- ‘Hybrid Cement, Tra Chang’ is a new cement type of Portland Composite Cement where the formula has been developed and improved with preserving the environment in mind. It can reduce energy in the combustion process, use less natural resources, and reduce greenhouse gas emissions by at least 70 Kilogram per Ton of cement.
- The emisspro®, high emissivity coating technology for furnaces in petrochemical plants and ceramic tile factories to increase the efficiency of heat transfer by re-radiation process, this technology reduces the consumption of natural gas by 2-6 %, which is equivalent to 100,000 tons of greenhouse gas emissions per year.

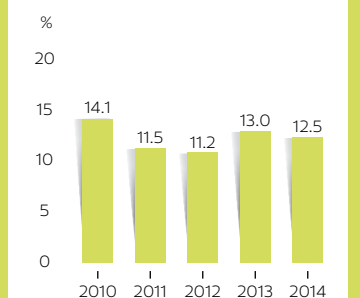
Employees and Contractors' Capacity Building

- SCG Energy Awards is a contest that supports energy conservation and the reduction of greenhouse gas emissions. Its purpose is to encourage awareness and provide knowledge for associates to continue gaining knowledge as SCG grows.
- SCG Energy Forum offers opportunities to exchange ideas and knowledge within the organization to improve energy conservation practices.
- Encouraging energy conservation in the office building.

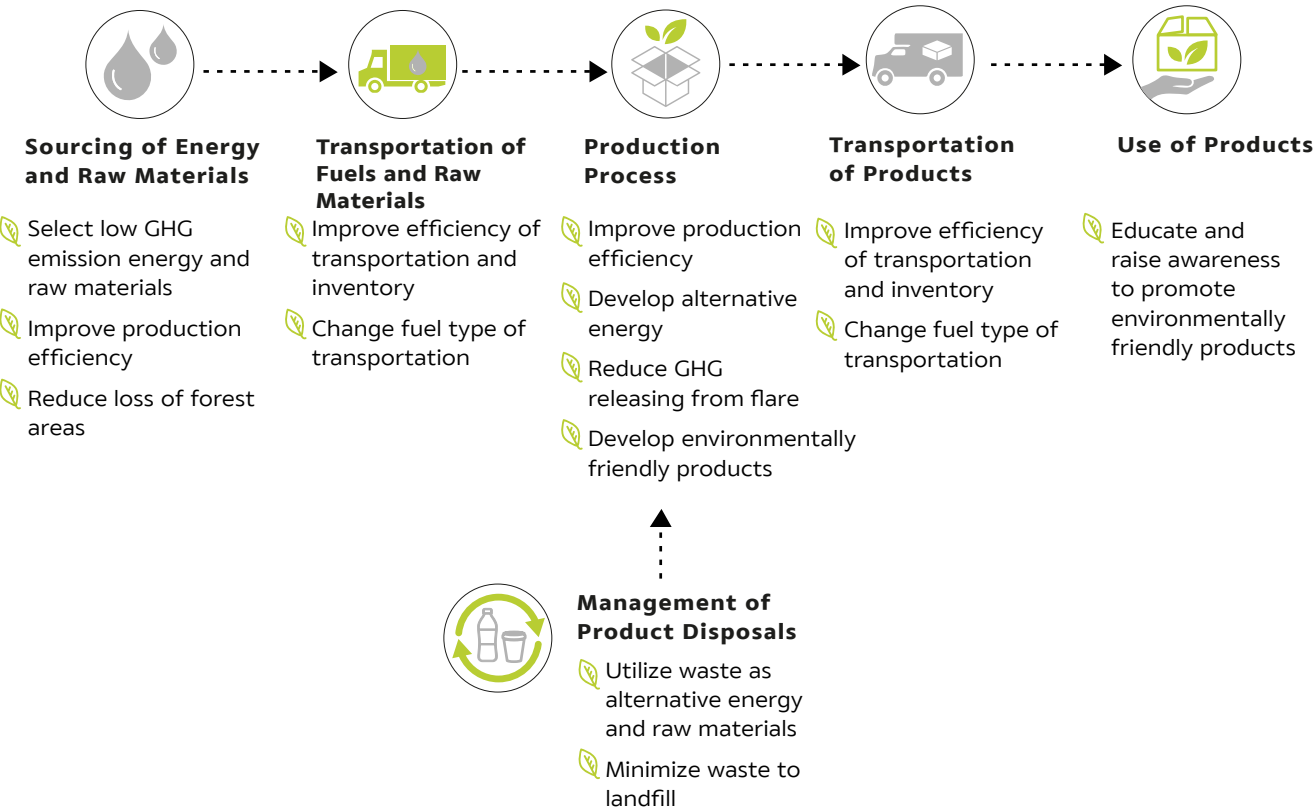
Energy and Climate Change Strategy

- Creating energy security**
To secure energy supply with appropriate cost
- Enhancing efficiency of energy consumption**
Must-have for energy conservation and GHG emissions reduction
- Increasing usage of less greenhouse gas-energy**
To develop innovations and technology to enhance capability of using alternative fuels and reduce production cost
- Developing greenhouse gas reduction products and services**
Customer engagement through HVA and SCG eco value products and services
- Employees and contractors' capacity building**
To raise awareness and level up capacity to serve business expansion.

Proportion of Alternative Energy



Energy Conservation and Greenhouse Gas (GHG) Reduction throughout Value Chain



SCG is the first organization in Thailand to disclose energy consumption and greenhouse gas emissions performance data for both Scope 1 and 2 annually. The company 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.

SCG aims to reduce energy and greenhouse gas emissions throughout the value chain. **Starting from sourcing for energy and raw material resources**, the processes use less energy and release less greenhouse gases. Energy and raw material resources must be environmentally-friendly. For example, a mining system in a semi-open cut method, and quarry rehabilitation according to WBCSD-CSI guidelines and the creation of sustainable forests which has increased forest areas by more than

25,000 Rais. **In the fuels and raw materials transportation processes**, SCG developed an integrated logistics system by using a multimodal system to achieve a more efficient transportation. The backhaul system helps in reducing the number of empty trips, whereas the global positioning system reduces the distance and number of transportation trips. All of these procedures can help to reduce the greenhouse gas emissions by at least 13,000 Ton per Year. **In the production processes**, SCG implemented state-of-the-art technology to increase production efficiency, reduce energy consumption, increase the use of alternative fuels releasing less greenhouse gases, and reduce greenhouse gas releasing from combustion of hydrocarbon vent gas during shutdown and startup process by recycle hydrocarbon gas into the process, which reduced greenhouse gas emission by 3,800 Ton per Year. **In the end-product transportation processes**, SCG can respond

Increase cohesive and adhesive, increase smooth of surface, promote compressive strength, reduce porous

Reduce CO₂ emission

Environmentally friendly

Reduce energy consumption in combustion process

By more than 1.4 million tons of 'Hybrid Cement, Tra Chang' sold in 2014, 100,000 tons of carbondioxide were reduced.

to customers' needs along with providing environmental friendliness with the same quality as used in transporting fuels and raw materials for the production processes. **In the process of product usage**, SCG encourages and educates the end users to obtain knowledge on environmental friendliness. In turn, this provides benefits for consumers by reducing energy consumption, decreasing expenses while contributing to climate change issues for society as a whole. **In the disposal material management processes**, SCG manages to recycle disposal materials in the production processes, such as using paper produced from recycled materials. SCG also minimizes waste to landfill by recycling waste into process as alternative energy and raw materials. This can reduce greenhouse gas emissions, especially methane, which is the gas that has 25 times global warming potential of carbondioxide.

Expansion of Energy Management and Climate Change Knowledge outside of the Organization

SCG realizes that sustainable development is beneficial for society as a whole. For this reason, SCG in conjunction with other organizations from both the public and private sectors commits to expand the benefits to others for success on industrial and national levels. Furthermore, SCG introduces this collaborative model to the ASEAN.

- Industry groups in the same area
- SCG initiates a pilot program for collaboration with other industries located in the same area to exchange knowledge and share ideas of their energy

The leadership will only be meaningful when it can provide knowledge to help others. We are proud to be one of a few organizations that other organizations can trust. They can see our capacity, especially in 'SCG People'. We are one of the wheels that drive the action on energy and climate change issues at national and global levels

Somchai Wangwattanapanich | Chairman
SCG Energy Committee

conservation and greenhouse gas reduction practices. Some of the examples include the Community Partnership Association in Map Ta Phut, Rayong; Cement Partnership Initiative in the Saraburi Province; and Community Partnership Project in Nakhonlounng District, Phra Nakhon Si Ayuthaya.

- Suppliers
- Suppliers are stakeholders to whom SCG realizes their importance and aims to share our expertise to provide the knowledge required to achieve higher standards in production processes, energy management, and pollution control as well as greenhouse gas reduction.

- Customers
- Since most of SCG's customers are business to business (B2B) customers, SCG introduces several tools, such as Quality Function Deployment (QFD), Conjoint Analysis, Failure Mode and Effect Analysis (FMEA) to search in-depth for our customers' requirements. As the result, energy consumption and greenhouse gas emissions can be reduced when the customers use SCG's products in further production processes.

- Communities
- SCG is proud to create advantages for the public, especially for the communities that are still in need of a better standard of living. SCG keeps seeking of opportunities and responding to communities' needs. The examples of these projects include using communities' waste (RDF) as a source of fuel for the kilns in the cement factory and small hydro-power generation in the Conserving Water for Tomorrow project.

Reduction of greenhouse gas emission is an important issue which everyone must be ready to respond and involve. It is right for SCG to make investment on greenhouse gas reduction today since all costs including environmental cost will increase in the future. SCG volunteers to become a piloting corporate for TGO projects such as CDM, carbon footprint for organization and product, showing its status of being the leading corporate which is ready to work in collaboration with TGO and other organizations to drive Thailand toward the target of greenhouse gas reduction.



Prasertsuk Charmormmarn
Executive Director
Thailand Greenhouse
Gas Management Organization
(Public Organization)

M9



Sustainable Water Management

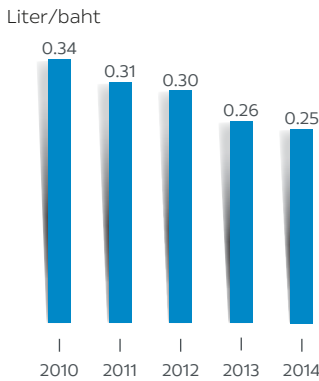


Recycled Water

7%



Water Withdrawal Intensity (Revenue from Sales)



Water is an important resource and factor for the industrial sector as well as for national security. It is the foundation of economic and social survival. Although ASEAN has an adequate supply of water, some countries still encounter seasonal shortages. The main reason for this is the rapid increase in demand from industrial and agricultural sectors as well as population growth. Therefore, integrated water resource management is needed to ensure the equal accessibility to quality water supply for all sectors.

SCG's Water Management program has been set up as a measurement of operational performance because of the

expense and of this essential resource of the production process. In order to ensure that water management is consistent with the Company's vision for sustainable development, SCG has established a Water Management Committee. The committee is composed of representatives from all business units and is responsible for articulating a Water Management Policy. The aim of the policy is to reduce the impact from water usage on stakeholders throughout the supply chain, which covers water usage reduction, innovative waste water treatment technology and water recycling after treatment.

Industrial Sector Risk Awareness

SCG uses more than 100 million m³ of water each year from water sources throughout ASEAN. As a result, water resources related risks can impact SCG in several dimensions.

- Floods and droughts caused by inappropriate water management result in business interruption. Southeast Asian countries still repeatedly and continually encounter floods and droughts. Satellite photographs show that many areas have both floods and droughts in the same year. Furthermore, climate change also affects precipitation in terms of area and time, which makes water management more difficult.
- The quality of water that is brought in for usage and released out to communities must be managed in order to comply with the minimum standards of the applicable laws along with consideration of current and potential fees.
- Surrounding community acceptance is another impact. Water resources are shared among several sectors, such as agriculture, household, business and industry. If more than 5% of all local water supplies are used by industry, it can cause conflicts with local communities.

Managing Risks with Sufficiency

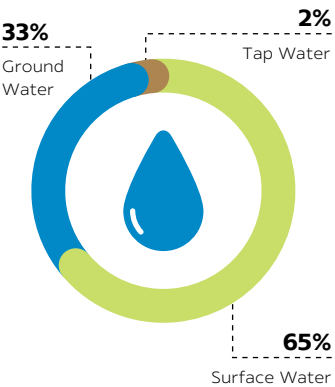
SCG's water risk management strategies emphasize proactive operations by exercising relevant education, and applying appropriate research and modern technology. These strategies also have support plans to monitor and control risks before they

actually occur. In some unpreventable cases, an emergency procedure will be used to prevent the interruption of workflow as well as to prevent other potential conflicts.

Defining Global Standard

SCG has improved production procedures in order to increase effectiveness in all areas by implementing Total Quality Management (TQM) and Total Productive Maintenance (TPM) systems, and determining key performance indices of water withdrawal per production unit, proportion of recycled water, and quality of discharged water. The indices will be compared with benchmarks from other global organizations and reviewed by executive management on a quarterly basis. Important projects include the construction of the Siam Kraft Industry Co., Ltd.'s plant, the latest paper production plant. PM16 is designed to have the highest efficient water consumption, such as Turbo Vacuum Pump to revoke using sealing water, closed loop cooling water, as well as balancing of the pulp containers operation and water tanks to reduce filling water, in which only 6 cubic meters of water per ton of paper will be used. In addition, the anaerobic water treatment system with an Internal Circulation Reactor, the most efficient water treatment system, which is employed in Vina Kraft Paper Co., Ltd. has been adopted to add to its success. It also reduces energy consumption and provides biogas for steam and electricity production.

Proportion of Water Withdrawal Sources



Sustainable Water Resources

SCG adheres to the royal principles proposed by His Majesty King Bhumibol to create community engagement in every operational area. There are several community engagement projects, including the launch of the ‘SCG Conserving Water for Tomorrow’ project, constructing more than 65,440 check dams to prevent and decrease floods and provide water resources to forests and local communities. Furthermore, SCG Chemicals has established a Drought Crisis Management team in conjunction with Eastern Water Resources Development and Management Public Company Limited, Royal Irrigation Department, and other government agencies in order to monitor situations from various water resources. The team is also responsible for urging the water management of the Eastern region to ensure adequate water for all sectors by joining reservoirs with main rivers to maximize benefits before releasing water to the sea.

Recycling water from waste water treatment is another alternative which SCG utilizes to reduce water usage in our production process. All businesses strive to educate and encourage the implementation

of water recycling equipment. For example, SCG Chemicals can recycle up to 970,000 cubic meters of wastewater by using a reverse osmosis process.

Similarly, the cement production process has been trying to reduce public water usage by creating a reservoir in the plant area. Since water in the cement production process is mainly used for the cooling system, the factory can operate in a close loop process and reserve wastewater to be reused. This procedure helps to reduce water withdrawal by up to 60%.

Reinforcement with Suppliers

SCG expands the sustainable development concept to our supplier to increase the competitive advantage and raise the organizational image by providing consultation to our suppliers on Total Quality Management (TQM) and Total Productive Maintenance (TPM) principles. This consultation also includes efficient water utilization. For example, one business partner, an ink manufacturer, proceeded to analyze ink production process and was able to reduce the problems of ink quality, increase accuracy and decrease water usage by at least 15%.

Previously, in the area of Wang Sala sub-district villagers had to use ground water for agricultural activities. After SCG Paper established Wang Sala plant, treated water has been supplied to villagers for farming rice, sugarcane, corn and other vegetables since 1991. Regularly, people from the plant will come to talk to villagers. If we need any assistance, we will tell and discuss with those people as friends. If there is any difficulty, they will come and solve it quickly. Regarding, quality of supplied water from the plant, there is no problem at all. The water is not harmful and does not cause skin rash. Yield of rice and sugarcane also meets with standards. Once, when the water is pumped from the farmland, I often find snakehead fish and climbing perch and then free them back to natural water sources.

”

Wirat Chaiprapankoon | Rice and Sugarcane Farmer
Kanchanaburi Province



Responding to Customers’ Needs

SCG develops our products with innovation that can respond to customers’ needs on conserving water by introducing water-saving products. For example, SCG implemented water-saving sanitary ware that can conserve water by more than 12.5%. In addition, our SCG 100th Year Building has also installed the water-saving sanitary ware together with using recycled water for flushing and watering the plants on our property, resulting in reducing water usage by at least 6 Million liters per year. This implementation has made our head office building become an ASEAN water-efficient building prototype.

Challenging Targets

SCG studies the possibility of water usage reduction by reusing water before it is discharged to the public. In this sector, cement manufacturing company takes the lead by storing all water from the production processes to reuse within the factory. Construction material companies, such as the CPAC Roof Tile Co., Ltd. arranged a storage pond to store and reuse all wastewater. SCG Water Management Committee has

set a goal for each product group, such as chemical pulp production that has set its target to reduce water usage by at least 25% by 2020 compared to the base year of 2012.

Employee Development

SCG is confident that all goals and targets can be accomplished due to the fact that the operators are encouraged to be creative and remain innovative. Water Management is at the heart of ensuring non-interruption of business operations. Relevant employees will receive training in the form of course-training as well as on the job training. The focus of these training sessions is set on thinking, rationale and improving processes. In particular on the anaerobic treatment system, anyone who operates the system must acquire a basic understanding of microbiology of microorganism. Simultaneously, all other employees and individuals need to understand the potential impact of production processes on the treatment system.

“

Vina Kraft Paper Co., Ltd. has an anaerobic wastewater treatment system which is the first plant of SCG Paper that uses methane gas (CH₄) generated from treatment, instead of coal, as alternative fuel for boilers. The Company conducts annual training on an operation of the anaerobic wastewater treatment system for employees in Wastewater Treatment Department and encourages employees to participate in the environmental courses, conducted by governmental and private sectors, offering opportunities for employees to understand and apply new technology for their work improvement.

”

Rosawan Wuttipong | Engineer in Charge of Wastewater Treatment System
Vina Kraft Paper Co., Ltd., Vietnam



M10 Sustainable Resource Management

“

For the utmost utilization of resources, SCG emphasizes that wastes should be well managed at its sources and reused/ recycled as much as possible. Apart from the investment on efficiency improvement, it is required the cooperation from both internal and external relevant parties in order to innovate to add value to the wastes in terms of cost reduction and environmentally friendly aspects as well as to share know-how to our stakeholders.

”



Suttipong Poomsrisa-ard
Chairman
Waste Management Committee

At present, SCG continuous to expand it's investment in domestic and in ASEAN to respond to increasing customers' needs. This expansion creates a trend that more natural resources are used as raw materials. Due to increasing of raw material scarcity and their price fluctuations, a shortage of raw materials may occur if there is no effective management plan. This will cause an impact on production and service costs or even business interruption. Furthermore, if the expansion results in additional waste, it will result in higher costs of waste management. Simultaneously, if there is no appropriate waste management, the environment and society will be affected in various ways.

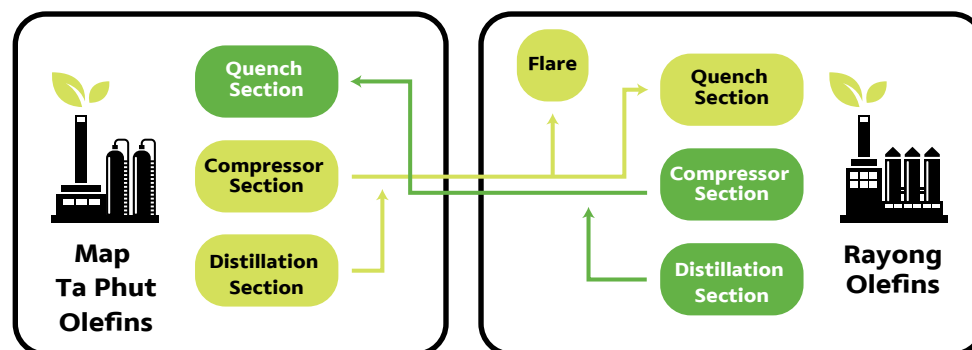
SCG strives to drive sustainable business growth by managing natural resource management services to ensure that all natural resources will be utilized to their maximum capacity and waste will also be minimized to the minimum. In order to achieve this, SCG follows the 3R principles (reduce, reuse/recycle and

replenish) as below.

1. Increasing production efficiency to maximize the potential of raw materials,
2. Using alternative raw materials and renewable raw materials,
3. Managing waste by reusing or recycling to create its maximum value,
4. Encouraging customers to consume environmentally-friendly products and services.

Increasing Production Efficiency to Maximize the Potential of Raw Materials

The Olefin plants of SCG Chemicals have launched a hydrocarbon exchange project by installing a system to take hydrocarbon waste back from burning away at flares during suspending or starting operations, passing through its production process (Flare Gas Recovery) as an alternative fuel. This approach is able to reduce hydrocarbon waste by 450 tons each cycle, which is equivalent to a reduction of carbondioxide emissions of 2,800 tons each cycle.



Recycled Waste

94%

Using Alternative Raw Materials and Renewable Raw Materials

Due to the increasing in sand prices, some areas encounter a severe sand shortage. This shortage results in higher expenses for both purchasing and transportation sand from other areas. Corporate technology development-materials in conjunction with the Raw Material function, The Concrete Products and Aggregate Co., Ltd. (CPAC) carried out a research study to use limestone dust, a by-product from the stone production industry instead of natural sand. This approach could reduce the amount of natural sand used in ready-mixed concrete production processes at CPAC by approximately 50% to 70%.

The innovation of Bio-PET is another good alternative for the environment. It changes an admixture for Polyethylene Terephthalate (PET) production to the use of renewable materials from agricultural wastes, such as molasses, rice straws and bagasse. These alternative agricultural materials replace between 5% and 30% of the petroleum-based raw materials. The products made from the alternative agricultural materials attain the same property as those of normal PET in terms of being lightweight, strong, versatile and safe for consumers.

In order to support the sustainable usage of the renewable raw materials, SCG places importance on the wellbeing of farmers by creating stable incomes for them. SCG Paper initiated a cultivation support project with the slogan of 'low investment, easy grow and selling all year round' in order to encourage the growing of eucalyptus plantation. In addition to developing more than 10 new varieties of eucalyptus to be suitable to each location, the plant also produces higher yield, and requires no pesticide (pest-free). The

farmers can grow eucalyptus along the edge of their rice fields or canal-sides. The plants themselves can be used in the production of paper, wooden pallets, and construction materials as well as other lumber products. In this way, the farmers can create higher incomes, offer alternative resources and protect the national forest areas.

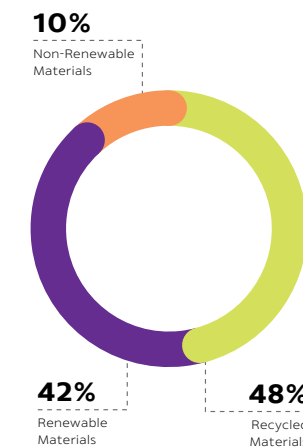
Managing Waste by Reusing or Recycling to Create its Maximum Value

SCG's waste management becomes another important index that reflects the effectiveness of the environment-related performance of SCG. Waste management helps reduce risks from incorrectly managed waste, which can have impacts on the environment, stakeholders and affect the image of SCG in the long term.

In order to create a effective management plan, SCG appointed a Waste Management Committee to operate and manage industrial waste. The committee is composed of representatives from all business units of SCG along with researchers, who are responsible for establishing goals as well as supporting and encouraging waste management operations. The committee will ensure the efficient management of wastes within SCG, and provide value-added benefits by research and development both internally as well as externally of SCG.

The SCG Waste Management Committee holds a workshop to train and provide knowledge for employees in waste management procedures annually. The workshop also provides opportunities for companies to collaborate in exchanging information, reviewing goals and establishing policies about waste management for SCG.

Proportion of Renewable Materials Use





Learning Centers, Organic Waste Management by Earthworms

Given the target of avoiding landfill or achieving Zero Waste to Landfill, in 2013 SCG was able to accomplish its goals for non-hazardous wastes. In 2014, the company again reached its target for hazardous wastes by using the findings from research to develop techniques for reusing/recycling wastes within SCG. The examples of the techniques include:

Insulation Waste Management Project: This project is characterized by the procedure which uses extremely high temperatures in cement production to disintegrate and neutralize the deteriorated insulators. After the process, the insulators will become the initial raw materials, such as SiO₂, Al₂O₃, CaO and MgO that can be

used in cement production. As the ultimate result, SCG was able to reach its target of Zero Waste to Landfill and also add value to the industrial wastes.

In addition to reusing the waste to achieve the highest benefits, SCG conducted research that created further development. The research resulted in the creation of programs of waste exchange among companies in order to maximize their value, including:

Innovation from the collaboration between SCG Chemicals and SCG Paper that facilitated the transfer of untreated wastewater in order to extract mixed salt. This mixed salt can replace up to 4 tons of sodium sulfate salt in

SCG Paper during the paper bleaching process. By means of this alternative salt, the company could also utilize the salt to effectively digest wood pieces in the Kraft pulp production.

Learning Centers, Organic Waste Management by Earthworms: The establishment of the learning center at RIL Industrial Estate, Rayong Province by SCG Chemicals plays a major role in the research and study of earthworm farming in order to use dung for fertilizer. All surrounding communities can apply this knowledge for their own benefit and create additional income for their families. SCG provides full support in terms of knowledge as well as providing consulting teams to assist communities in this matter. This is an innovation that can help in terms of taking care of the environment, adding value to the waste, and creating additional income for the communities.

In 2014, SCG achieved the use of recycled materials by 94% with no hazardous waste sent to landfill. Due to lime mud increased from expanding the production and an efficiency problem of lime kilns occurred in paper business, approximately 4.6% of the non-hazardous wastes were still sent to landfill. With commitment to our goals, SCG has invested to increase capacity to turn lime mud into reusable materials along with researching and developing for further utilization.

Encouraging Customers to Consume Environmentally friendly Products and Services

SCG encourages our customers and other stakeholders to realize the importance of the environment. The Company recognizes that a healthy environment can improve people's quality of life and increase the Company's competitive advantages. For this reason, SCG has been encouraging this approach through developing environmentally-friendly products and services. The 'SCG eco value' is used as a measurement standard to certify that products and services are produced by means of environmentally-friendly processes (Eco Process), or are environmentally-friendly products (Eco Use). These environmentally-friendly products and services are of better property than other products, no matter whether in terms of design, production, packaging, transportation or performance. Examples of such products include:

COTTO Floor Tiles: Eco Touch and Eco Rockrete contain tile particles that are waste from other production process, which blend up to 60% of the total raw materials.

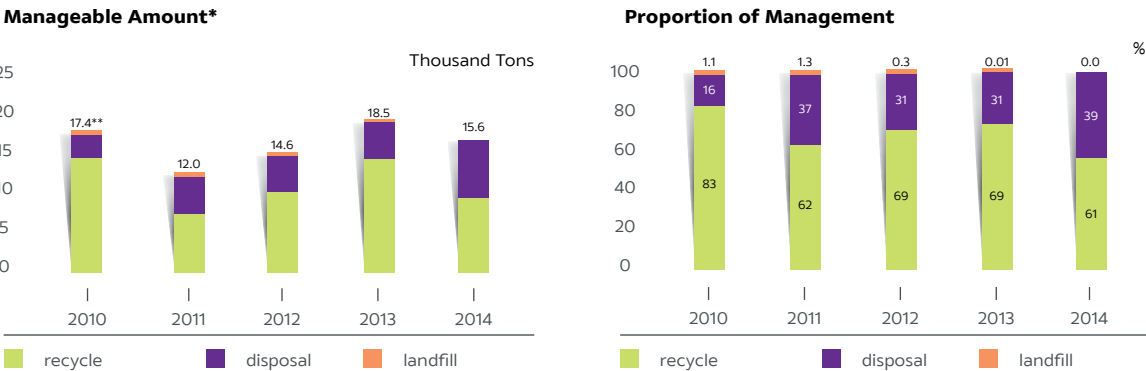
Landscape Decoration Paving Blocks: Cool Plus contains light weight concrete block particles with Cool Plus technology that are waste from construction, which blend up to 10% of the total raw materials.

At the Product and Technology Development Center, SCG Paper, we have researched and developed on the environmental management including water, air and process wastes. The 3R principle facilitates our utilization of resources and contributes production efficiency, for example, the use of chemical substance at least amount for environmentally friendly purpose, the reuse of sludge, lime mud and dreg for the production of organic fertilizer, the modification of lime mud to be used as additives in production of paper in cement and building materials industries, and the reuse of wastewater from pulp processing. All of these are examples of technology implementations for sustainable environmental management and treatment.



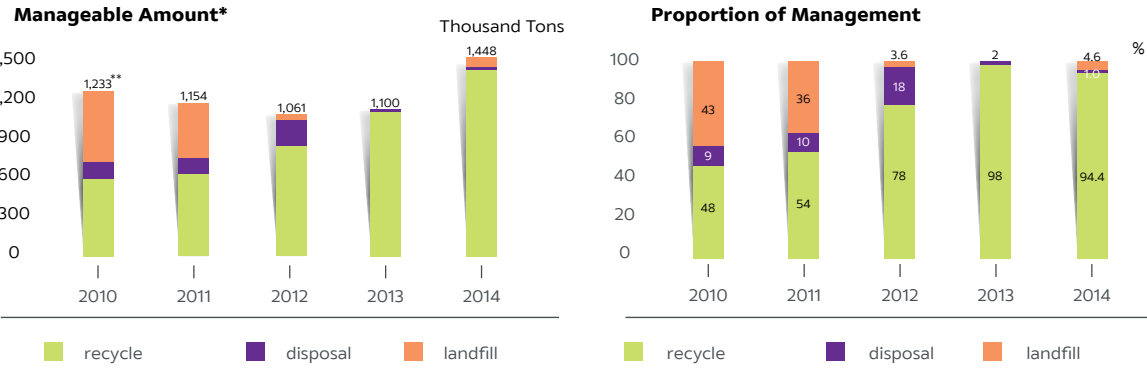
Dr. Pongsuda Pongtanya
Director
Product and Technology Development Center, SCG Paper

Hazardous Waste



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

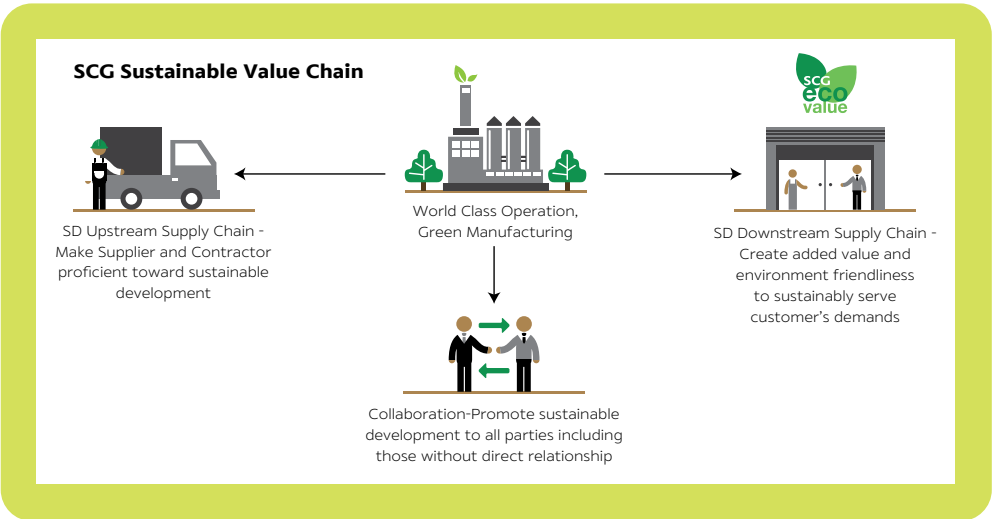
Non-Hazardous Waste



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



Sustainable Value Chain



Regarding an overview of business direction, SCG focuses on strengthening and maintaining leadership in the country through business competitions to provide value to stakeholders in compliance with Value-base competition. SCG employs business advantages from operating our business covering the value chain and completing with resources throughout the process to create growth for SCG. Meanwhile, SCG enters the ASEAN Market proactively with investment plans and strives to conduct new businesses on a global scale.

Sustainable Value toward Suppliers

SCG has expanded our businesses continuously in accordance with the sustainable development approach applying to a whole value chain. The SCG Supplier Development for Sustainability Committee and relevant divisions within SCG level and business level are responsible for mitigating potential risks from the procurement of raw materials and the main materials with

oligopoly suppliers and supplier conflicts on environment and safety laws. These risks can affect the business sustainability and inhibit SCG's progress. In addition, it is to prepare to respond competitively and to expand businesses under limitations. According to potential risks, competitiveness advantage with our sustainable value chain is considered as a key strategy to be implemented strictly to create value in economic, environmental and social aspects for stakeholders in every process, from upstream such as contractors and suppliers, to downstream such as customers and business partners.

In value chain management, SCG has expanded the sustainable development approach, Total Quality Management, and Total Productive Maintenance, based on moral and ethics to apply throughout upstream and downstream from selection, operation determination, assessment to development and leverage of suppliers in order to enhance their competencies to professional level, and to grow together with SCG both in Thailand and in other countries in ASEAN, for example,

improving environmental management for suppliers under the Greening the Supply Chain Project, improving safety standards for contractors under SCG Contractor Safety Certification System Project, enhancing professional skills of fleet carriers, and encouraging suppliers to comply with the SCG Supplier Code of Conduct.

Green Procurement

SCG has initiated policies on green procurement and environmental management leveraging our suppliers concretely since 2004, beginning from office supply and general items and extending to procurement of raw materials, spare parts and supply materials. SCG considers registering products that comply with green label or SCG green procurement criteria,

comprising regulatory compliance, efficient use of energy and nature resources, green manufactory process, waste management and material recycling and reuse. SCG provides advices and assesses conformity under the Greening the Supply Chain. In 2014, green procurement value was accounted to 8.17 billion baht.

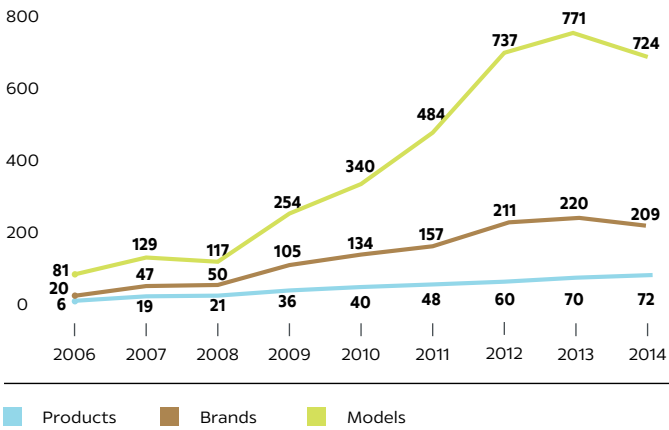
SCG Contractor Safety Certification System

SCG Contractor Safety Certification System (SCS) was developed in 2006 to enhance effectiveness in safety to prevent and to reduce accidents of contractors. SCG conducts supporting activities for contractors by educating, advising, assessing and certifying all of our contractors in the production process.

Contractor's Incident Rate and Number of Contractor Certified under SCS

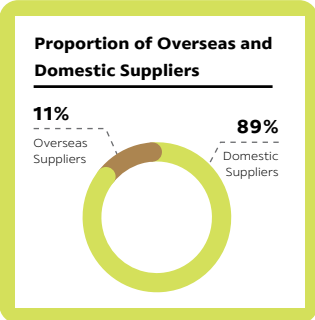


Number of Green Procurement List



Green Procurement Product Status

Category	Products	Brands	Models
Office and General Items	29	79	499
Raw Materials	21	71	124
Supply Materials	18	48	88
Spare parts	4	11	13
Total	72	209	724



In 2014, All major suppliers agree to signed a commitment on SCG Supplier Code of Conduct



Spend Analysis

SCG adopts the spend analysis process to assess products and services procurement which affects the production process directly and indirectly, to identify diverse suppliers management strategies appropriately and to find development an approach together in order to enhance efficiency and reduce potential risks from the supply chain.

SCG Pride, a Role Model of Green Industry Level 5: Green Network

Efforts in expanding the sustainable development approach to suppliers in continuity result in the successes of The Siam Cement (Lampang) Co., Ltd. and Map Ta Phut Olefins Co., Ltd., receiving Green Industry Level 5 : Green Network Awards from Ministry of Industry. The Awards are to encourage our company to support suppliers in conducting green businesses with corporate social responsibility resulting in 92 suppliers participate in the Green Network Project.

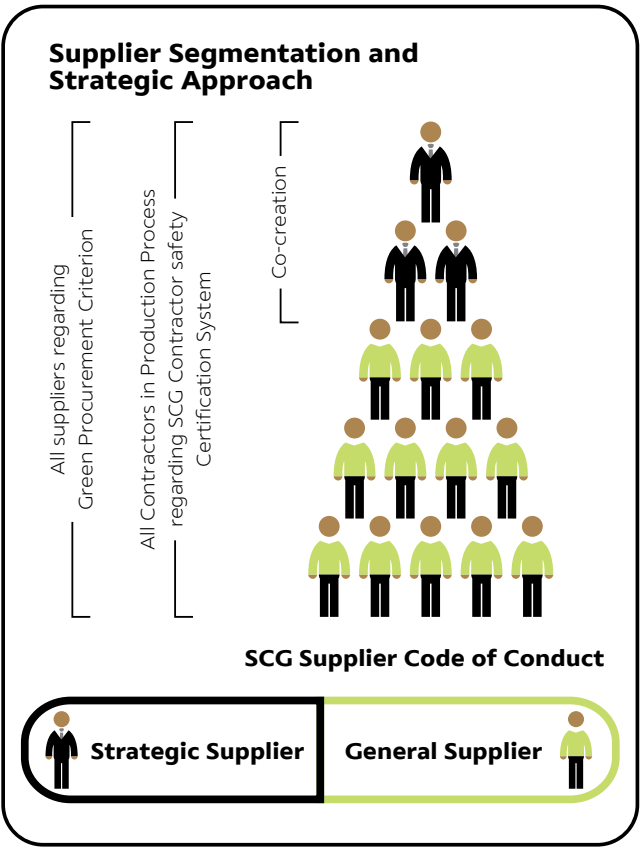
Expansion of the sustainable

development approach to all suppliers is a key challenge of SCG since it has more than 8,000 suppliers at present and most of them are small and medium enterprises which have limitations in finance, human resources and knowledge that inhibit the corporate changes in compliance with laws and regulations throughout the competitive competency leverage in balancing the triple bottom line.

SCG has determined strategies in supplier management by prioritizing significant impacts on business, such as purchasing volume, bargaining power, and potential risks in finance, environment, labor, safety and society, to identify appropriately supplier development approach.

Supplier Segmentation and Strategic Approach

Strategic Supplier is a group of significant suppliers that are ready to grow their business together. SCG has long term development plans in form of co-creation to establish mutual business opportunities.



General Supplier is a group of all suppliers who are manufacturers, traders or contractors.

- All suppliers shall commit to compliance with SCG Supplier Code of Conduct identifying ethics in business, labor and human rights, occupational health and safety, environment, and applicable laws and regulations.
- All contractors in the production process shall be assessed and certified under SCG Contractor Safety Certification System.
- All suppliers that provide products and services regarding the green procurement criteria shall be assessed and registered on the green procurement list.

In order to create prototypes and case studies for suppliers to adopt sustainable development approach concretely, SCG has chosen 21 suppliers to participate in the supplier development for sustainability project. SCG provides consultation in development and creates a learning process by applying problem solving concept (QC Story) as a tool to develop suppliers and selects significant projects which impact the business directly, such as waste reduction, energy consumption reduction and management, water consumption reduction, quality problem solving, productivity improvement, and inventory and logistics system development projects.

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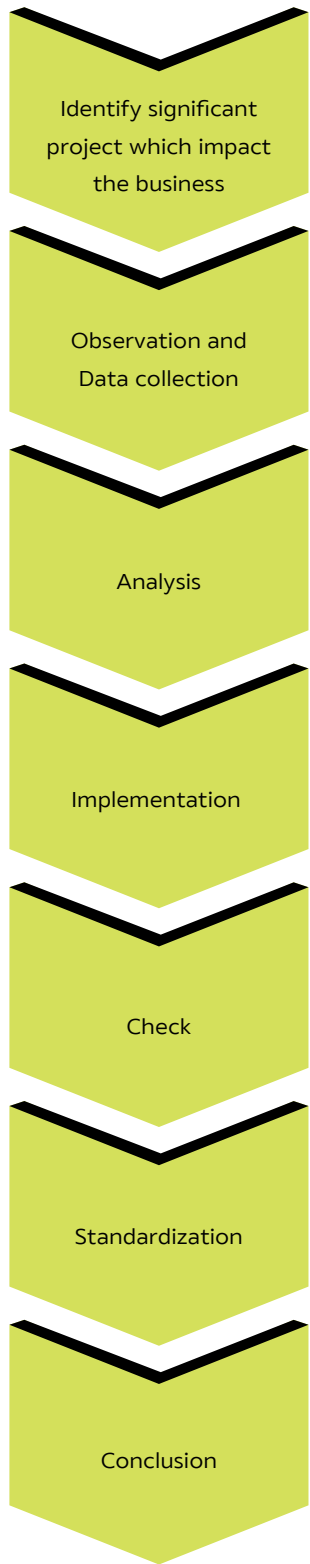
Supplier leverage does not only mean to develop competencies or management system but also means to create better relationships. It requires trust and readiness to grow together in line with changing view points and procurement approach, covering the opportunity to bring strength of SCG and suppliers to reinforce.

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Aukaradej Vassara
Chairman
The SCG Supplier Development for Sustainability Committee

Supplier Development
Process for Sustainability



Prototype Projects
Productivity Improvement by LEAN Approach Project
Pallet Maker Group Co., Ltd.

The supplier needs to increase productivity; therefore, it adopts a lean approach to improve its productivity by balancing production line, reducing work in process to increase production speed, and improving process flow. This approach has increased its productivity by approximately 40%.

Waste Reduction from Septic Tank Production
Entech Co., Ltd.

This supplier needs to reduce waste generated from its septic tank production. Therefore, SCG advises the supplier to collect and analyze their data system to find out causes of waste by creating plans, standards and an appropriate production controlling point. The approach reduced waste from septic tank production to zero waste.

Process Optimization Project and Quality Control
Chalermchaichan Co., Ltd.

The supplier needs to solve color distortion in ink that cause color remixing.

Data collecting and analysis are used for design new process and new quality control. This approach has reduced 25 % of color remixing, and save color content 110 Kilogram per year.

Process Productivity Improvement in Safety Shoe Manufacturing
Pangolin Safety Products Co., Ltd.

The supplier needs to increase productivity due to high sale. The supplier could not produce enough to keep pace with demand. Work-in-process material is also excess its stock area. LEAN was introduced in productivity improvement, for example Value streaming mapping analysis to balance the process, reduce work-in-process material and re-lay out the process. By this project, productivity increases 30%.

This engagement approach in the support of supplier development is only a part of the value chain; however, strengthening business requires customers’ needs to connect and develop from upstream to downstream. It is another challenge for SCG to commit in the research and development process to produce products and services that meet actual customers’ needs and maintain its leadership in the market.

Sustainable Value toward Customers

High competitive market situations are rooted in development of competitors with potential to produce varied products, and price competition. Therefore, differentiation in the market depends on the accessibility of real customers’ needs that are interested in products and services which improve a quality of life and care for the environment. Besides, distribution channels are considered essential in delivering value of products and services to customers. Therefore, SCG emphasizes distribution channels as business advantages and risks by setting up its strategic foundation to drive business under competitive situation and sustainable growth. This strategic foundation comprises products and services development in response to customers’ needs and distribution channels to serve our customers.

Product and Service Development to Meet Customer Needs
High Value Added Products and Services (HVA)

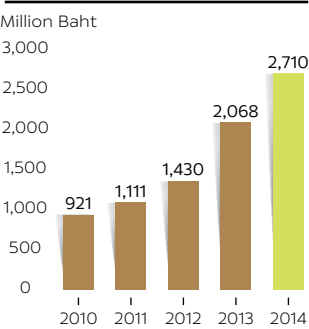
SCG is committed to the research

and development of high value added products and services differentiated from basic products and services such as better quality including service development to fulfill customers’ needs or solution providers by intending to increase its budget and the number of researchers continually. In 2014, SCG had 1,474 researchers comprised of 92 researchers holding Ph.D. with a budget of 2.71 billion Baht. That results in the increase of high value added products and services sales to 35 percent of revenue from sales while SCG aims to gain 50 percent of revenue from sales in 2015.

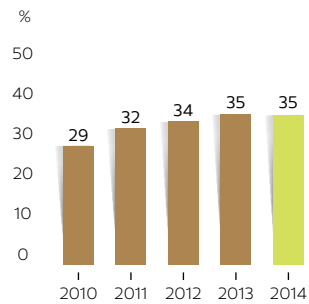
Green Products and services

SCG is the first Thai company that sets a self-declared environmental label for environmentally friendly products and services under ‘SCG eco value’ label, started in 2009, by adopting ISO 14021: Environmental Labels and Declarations-Self Declared Environmental Claims standard together with stakeholders’ needs and product life cycle assessment. In 2014, SCG had 86 ‘SCG eco value’ products and services certified, contributing to 31 percent of revenue from sales, while the target of ‘SCG eco value’ sales is one third of revenue from sales in 2015.

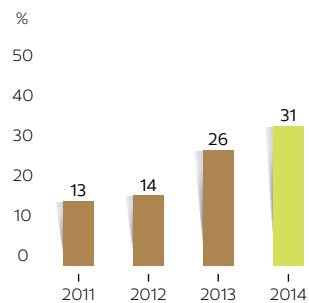
R&D Investment



Revenue from Sales of HVA Products and Services



Revenue from Sales of SCG eco value



Carbon Footprint Reduction Label
8 products

Carbon Reduction Label
38 products

Carbon Footprint Label
128 products

SCG eco value Label
86 products

Value based Products and Services

According to the strategy of value-based competition and market expansion toward downstream which are high value added products and services, SCG emphasizes product and service development to meet the needs of each customer group, from real estate developer, retailer, and consumer. SCG is ready to invest in response to those customer demands.

- Precast concrete : Using precast concrete for building and residence construction provides solutions to reduce construction time, to leverage quality standard of construction parts and to handle skill labor shortage.
- The NEST (The Next Eco-Sustainable Technology for Home) : The prototype of Smart Eco-Care house for sustainability is appropriate for living in a tropical zone, combined technology of house with Smart, Eco and Care. The NEST fits with the world's living trend, considering the convenient, safe and environmentally friendly habitation of people of all ages. Various Technologies is integrated to achieve higher energy efficiency houses, 'The 1st Energy Plus House in ASEAN'.
- SCG HEIM : The Ultimate of Living, an innovation in building modular house using the most advanced in-plant manufacturing and assembly robotic technology in Asia Pacific. SCG HEIM brings happiness to residence through an ultimate quality of living



using the Air Tightness System, in working together with the Air Factory System that brings high quality, allergic-free fresh air from outside with noise reduction. Therefore, SCG HEIM is really a house for the farsighted who looks for a comfort and high quality of living.

- Pyrolytic Stone, under 'GEOLUXE', brand is the forming material which looks like natural stone with higher durability properties and it is able to meet the needs of customers that require something different in line with natural resource conservation.

Comprehensive Distribution Channels with Accessing to Customers

In 2014, SCG has set up a clear management strategy in distribution channels by considering different behaviors and needs together with designing supply chain models for each distribution channel, including solution sales and retail sales.

- SCG HOME SOLUTION is a distribution channel to meet the needs of home owners and installers in the form of complete consultation and sales cycle in line with one stop solutions offered by experts in all major house components. In 2014, SCG provided home services through 33 branches of SCG HOME SOLUTION. Customer satisfaction is 95% according to our assessment.
- SCG Experience is a communication channel, specifically targeted at home owners, interior designers and architects and offers ideas and knowledge through advanced technologies along with consulting services from the architect team (Dream Driver) with free of charge.
- Global House Integration is an SCG building material retail center is considered the first step in retail center expansion in form of warehouse store in Thailand and toward ASEAN by taking advantage of SCG's market leadership and ASEAN networks.

Strengthening Distribution Channels

Channel capability enhancement is one of strategies continually executed through various projects such as:

- Dealer Integration : The exchange of information with dealers will help SCG understand real customer demands, and increase accuracy in production planning and inventory management for both SCG and dealers. In 2014, 278 dealers participated in the project, accounting for 83% of revenue from sales through dealer channel.
- SCG Retail & Service Academy is set up as a learning center to develop various skills of dealers' staff, including sales and services, detailed design, installation and consultation skill. It also provides trainings to dealers' staff with free of charge. In 2014, 3,308 distribution outlet employees participated in the training.
- Development of Real Estate Developers is to build up collaborative engagement in joint development by providing advices, exchanging practices for real estate developer to improve their organizations, and initiating collaborative projects, with SCG offering value added services, such as special transportation, and precise production planning and delivery.

Product and Service Liability

SCG focuses on quality assurance to build up trust among customers that use our products and services under SCG brands, and sets up quality assurance systems to ensure product safety in alignment with Product Liability Standards. SCG has been implementing and developing the quality assurance system since 2009 to comply with both current products and newly developed products by SCG.

In 2014, SCG has been monitoring and assessing companies in all business units through assessment programs in compliance

with a product liability standard conducted by SCG corporate offices. The assessment has been performed continuously since 2013. This year, 2014, SCG has monitored and assessed 19 companies and 1 function. Besides, SCG assessment program was extended into company level to conduct self-audit by providing courses for internal auditors from companies in order to prepare them to become consultants and internal auditors in accordance with Product Liability Management Standards. In 2014, SCG conducted training programs to develop 1,152 internal auditors from 56 companies and 1 function.

According to the 2015 Plan, SCG has been developing internal auditors at company level and planning to leverage internal control systems implemented by the area owner more systematically. In addition, SCG increases awareness on product liability management standards among employees through case studies to control implementation of product safety measures efficiently and effectively, enabling delivery of safe products for use and to build trust among SCG customers and product users.

Even though the leverage of SCG value chain, targeted to meet the stakeholders' needs, is considered as a continuing business direction, the next step to be developed in order to strengthen SCG value chain is that working collaboratively within our supply chain to create agility in business adaptation under harsh competition, to benefit from data accessing technology which leads to product and service development, meeting customers' actual needs, to extend the scope of cooperation within value chain for solutions and to create innovations to build up value for stakeholders.

ASEAN Sustainable Development Symposium

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‘ASEAN Sustainable Development Symposium 2014 : Collaboration for ASEAN Sustainable Growth’

Under the current conditions, the natural resource is rapidly declining due to consumption and the estimation of the world’s population predicts that there will be 9 billion people on earth in the next 35 years. Over 200 leading corporate’s executives around the world comment on the business world according to the vision of 2050 that today’s businesses must concern on how to balance human’s economic behavior, and balance of natural resources as well as creating and sustaining a society to be within the sustainable development framework. Sustainable development is not an option for organizations but it is the essential practice or a must have agenda, which requires planning and concrete implementation, by coordination between the economy, social, and environment sector and to drive all factors forward at the same time.

“SCG held the ASEAN Sustainable Development Symposium 2014 to build up cooperation for change and extend the results of sustainable development to all sectors. This can be done by connecting knowledge throughout the supply chain, involving private and public sectors, financial institutions, the Stock of Exchange

Thailand, The Thai Chamber of Commerce, The Federation of Thai Industries, Commercial Bank and the Business Council networks, which will support the expansion of businesses in ASEAN, in the future.”

“The business sector has a critical role to initiate change because of its agility which can drive the economy well and quickly and can expand throughout the supply chain. However, it is undeniable that changes of the global community in all dimensions occur rapidly causing severe impacts. Although each business tries to focus on the best outcome, it may not be enough. Thus, the cooperation is undertaken bring about development which varies from good to great practices as well as creating significant and sustainable performance, leading to a business that is acceptable and comply with the expectations of society,”said Mr. Kan Trakulhoon, President and CEO of SCG in the ASEAN Sustainable Development Symposium 2014.

As an example for successful business sector cooperation, SCG is one of the 10 members of World Business Council for Sustainable Develop - Cement Sustainability Initiative (WBCSD-CSI). All members have coordinated to find ways for business sustainable development via technology and innovation in production to minimize impact toward business and conducting guidelines to reduce carbon dioxide emissions. In Thailand, SCG

and a group of entrepreneurs in the Map Ta Phut Industrial Estate have established the Community Partnership Association to leverage the industry standards for environmental friendliness and promote the quality of life for communities to live together with sustainability. SCG also extends outcomes to the Cement Plant Partnership by coordinating with cement manufacturers in Saraburi Province, as well as Community Conservation Group by cooperation among cement manufacturers and coal importers in Ayutthaya Province. Despite being business competitors, everyone collaborates for a sustainable society and such success is unlikely to happen if organization individually operate.

ASEAN Sustainable Development Symposium 2014 was honored by His Excellency, Mr. Sommai Pasi, the Minister of Finance, to preside and discuss about challenges that will arise with the upcoming AEC. H.E. Le Luong Minh, ASEAN

Secretary-General,said that challenges of ASEAN is caring and searching a mechanism for sustainable development under the Green ASEAN concept. Views and opinions on sustainable development are obtained from the world’s leading business executives such as Mr.Yuo de Boer, Director General of the Global Green Growth Institute, Mr. David Pearson, Chief Sustainability Officer, Deloitte Global, Ms.Keryn James, Regional CEO, ERM Asia Pacific and Mr.Philippe Fonta, Managing Director of WBCSD-CSI.

The Cooperation is not only initiated to share knowledge, conduct social activities, transfer responsibility and take action with full capability, but should be a fulfilling tasks. Strategic cooperation in horizontal and vertical dimensions can create great power to extend results of actual sustainable development throughout AEC at the end of 2015.

“In the past, Sustainable Development (SD) was an alternative to build the corporate acceptance and reputation. However, the current sustainable development guideline is not an option for organizations, it is a must have guideline to be implemented. Organization must plan and implement sustainable development guideline concretely in alignment with businesses”

”

Kan Trakulhoon

SCG President and CEO





Corporate Social Responsibility



‘Corporate social responsibility’ is an essential duty of any business organization, and being a philosophy that SCG adheres to business operation wherever it operates. SCG is determined to create social values by focusing on solving problems that directly impact people’s livelihood and quality of life. In doing our work, we assign priorities to the development that serves the genuine needs of stakeholders. We seek to expand, replicate and build upon what we have previously achieved in order to enhance people’s quality of life throughout ASEAN.

CSR activities at SCG are divided into two components. The CSR Committee for Sustainable Development supervises the first component addressing a broad social impact. The Committee provides policy and direction so that SCG can optimize the use of available resources and capability through collaboration with various fields of expertise to identify and select critical issues having impact upon

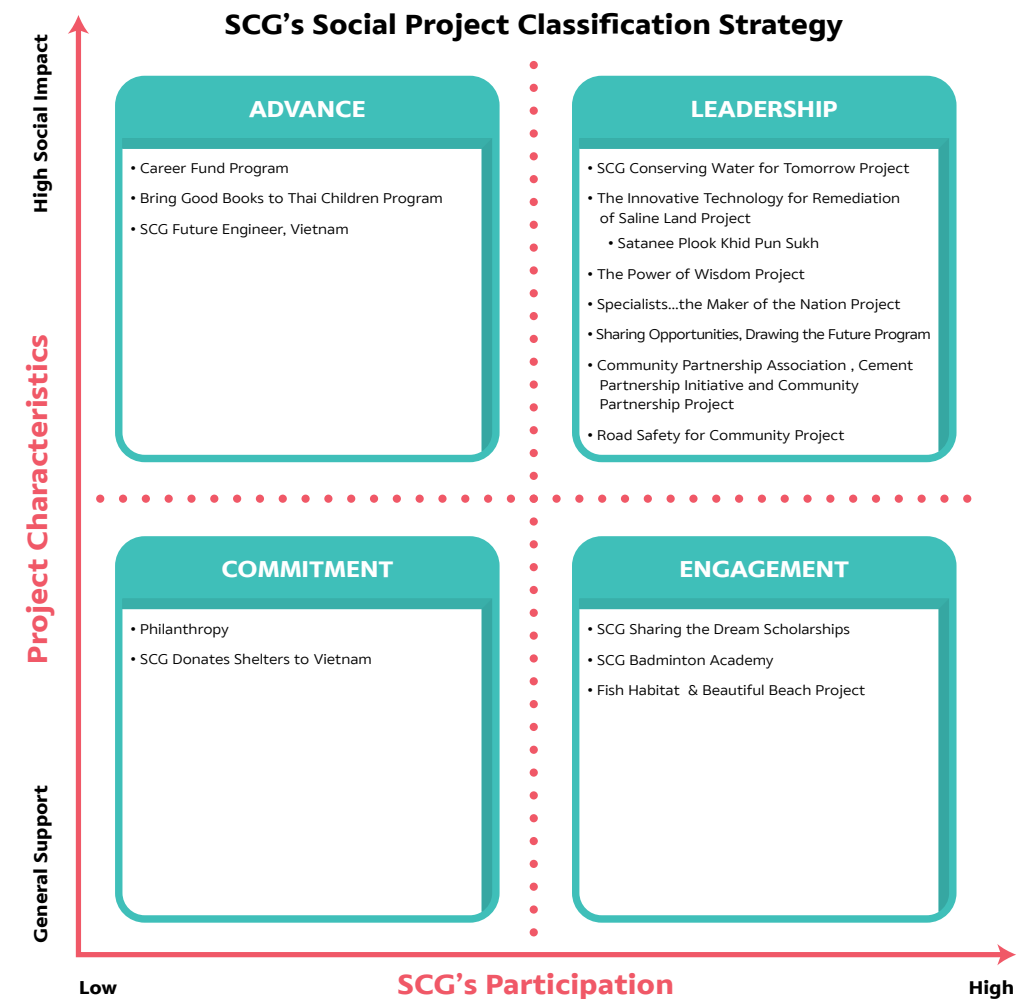


people’s life for designing social development project in different angles. The second component involving communities around manufacturing areas is governed by SCG Sustainable Development Committee. Work under this component draws collaboration between the organization and community by combining organization’s expertise with community’s capacity to focus implementation on the area of green business, green community and life quality improvement of the community.

In addition, SCG Foundation plays an instrumental role in implementing social activities with its key mission on human resources development in order that they will be equipped with competency and ethics in readiness for the development of the country.

The CSR Committee for Sustainable Development classifies programs and practices to shape up and leverage support and involvement by considering the capacity and competency of the organization in relations to knowledge, financial support, and staff participation. The four categories of undertaking are as follows:

- ‘Leadership’ means master projects which SCG initiates, drives implementation and engages stakeholders in the process. The success of the projects can be replicated and scaled up to other organizations.

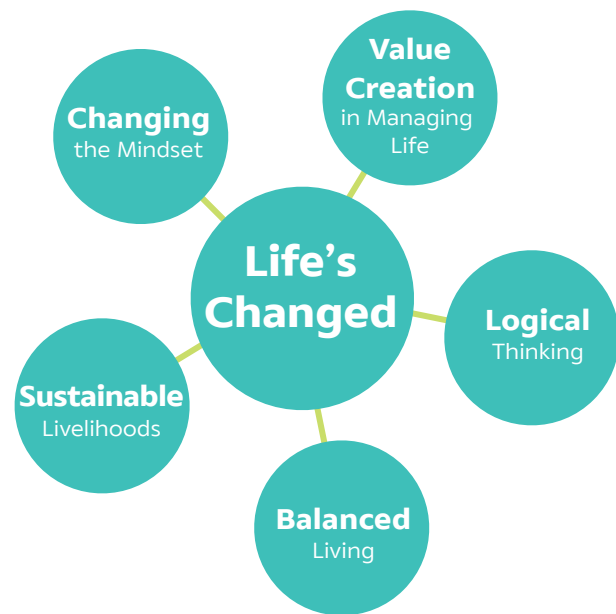


• ‘Advance’ category includes projects with high social impact on capacity building of the society which require know-how, expertise, and experience of specialists from specific fields to implement. SCG would act as lead supporter to responsible agencies and the project success could be expanded or further developed.

• ‘Engagement’ covers projects that uplift life quality of people or capacity development in various fields such as

education, sports and the environment. SCG plays a role as an initiator drawing engagement from within and then broaden the projects to involve other sectors for collaborative action.

• ‘Commitment’ is aimed at reducing and alleviating social problems, enhancing quality of life in general, and narrowing equality gaps. The approach is that SCG lends support to credible competent organizations with track record in the field.



SCG Conserving Water for Tomorrow Project

- 12 years (2003-2014)
- 65,440 check dams
- 77 communities in 11 provinces
- 75,440 participants

The Innovative Technology for Remediation of Saline Land Project

- 7 years (2008-2014)
- desalinate over 6 million rais of land in the Northeast
- established 76 Farmers Skill Centers in 16 provinces
- over 15,000 leadership farmers

Examples of Good Practice for Sustainability

SCG Conserving Water for Tomorrow Project, established in early 2003, has now become ‘Satanee Plook Khid Pun Sukh Hom Paya Sa Sob Hok’, the Community Learning Center at Sa Sob Hok in Jae Hom District of Lampang. The learning center captures the lived knowledge and success stories resulting from the partnership between SCG and the communities in building check dams to resolve a variety of problems gripping the community. The partnership focuses on reviving the community forest that serves multiple practical needs including livelihoods and natural defense against forest fire. The community forest brings back a healthy ecosystem and becomes a source of food and income for villagers who earn 700-800 baht per day collecting wild mushroom. Some have reported a spike in income to 60,000 baht during 6 months of peak harvest season. Moreover, community members can harvest 5,000 baht-worth of wild honey without having to make extra investment. The series of checked dams also guarantee water supply for agriculture all year round and there is no more flooding during rainy season. The most importance is that the process of check dam construction provides opportunities for community members to unite for a clear purpose. The Community Learning Center showcases how this is achieved to visitors and will also exemplifies a good practice of intimate collaboration between SCG and the community which is crucial to endure sustainable development.

The Innovative Technology for Remediation of Saline Land Project has graduated to become ‘Satanee Plook Khid Pun Sukh’ (Instilling Thinking and Sharing Happiness Station), the Community Learning Center at Baan Toey, Phimai District, Nakhon Ratchasima province. This learning center presents good practice on how the community in partnership with SCG and multi-partners has successfully applied a range of innovative solutions to desalinate soil – through a unique combination of traditional knowledge and science. Among key results, currently rice output in Ban Toey community increases from previously 300-350 kilogram per rai to 600-1,000 kilogram per rai. The local villagers have also earned more income since the desalinated soil enables them to do integrated farming and production of organic fertilizers sold at the rate of 2 tons per day with daily proceeds of 3,200 baht. The community now generates a revolving fund of 300,000 baht per year. Members have learned to work together and are now equipped with management skills.

Following inauguration of these two sites of Community Learning Center, we have welcomed a total of 816 visitors, consisting of 220 persons from neighbouring communities, 308 academics and NGOs, 158 SCG staff members and over 100 members of the media.

The Power of Wisdom Project, has been extended from the successful training of community leaders for the project on soil desalination. The project seeks to build the capacity of community leaders, local scholars, military officers and farmer



The Power of Wisdom Project is resulted from the success of leadership development under the Innovation Technology for Remediation of Saline Land Project.

leaders from the North and Northeast. The objective is to equip them with new paradigm of development, logical thinking and problem solving skills so that they can be self-reliant and enjoy good quality of life. The project will train the trainers, who will in turn train their community members and counterparts from other communities. It is hoped that beneficiaries will form a network of communities of wisdom and self-sufficiency.

The Power of Wisdom project is a collaboration between SCG and other partners namely Thailand Sustainable Development Foundation, National Science and Technology Development Agency, the Royal Thai Army and the Thai Chamber of Commerce. To date, 800

participants were trained, and the project aims to expand into 1,200 villages nationwide by the end of 2015.

Sharing Opportunities, Drawing the Future Program To instill corporate social responsibility values among its workforce, SCG supports staff's engagement in voluntary work for communities. Through this program, SCG employees are encouraged to carry out projects that truly respond to community's needs in a number of ways.

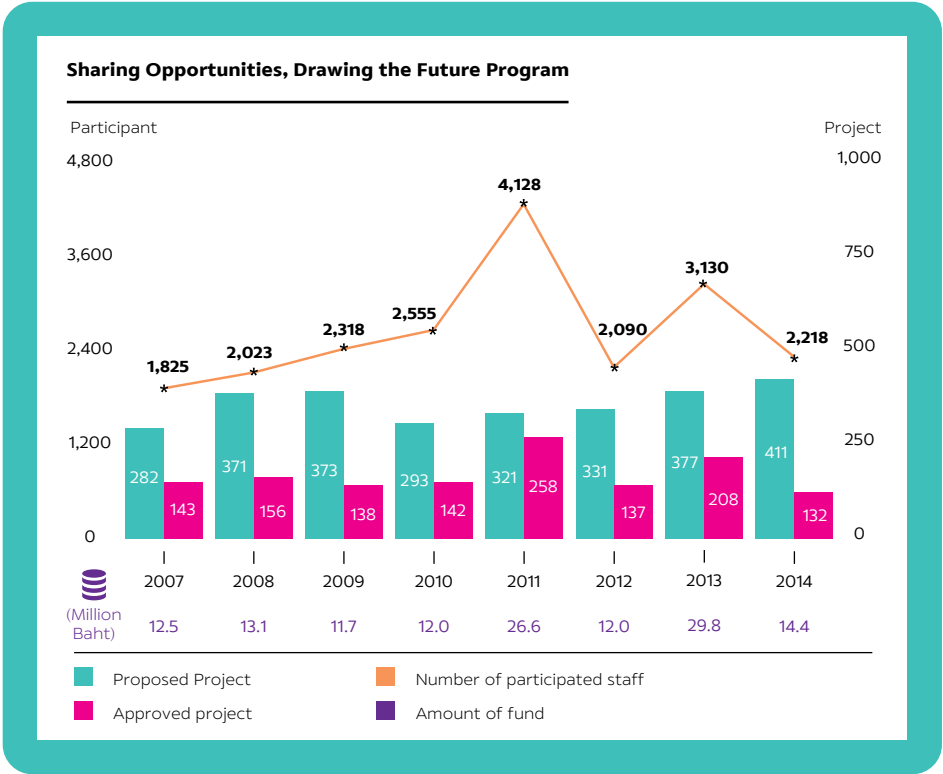
Throughout 8 years of implementation, 20,287 SCG staff members have participated in working for 1,314 community-based projects in 77 provinces across Thailand, involving budget of 132.16 million baht. In addition, SCG

“In implementing Conserving Water for Tomorrow Project, Siam Cement Lampang adopts a participatory approach every step throughout. The emphasis is on systematic learning and adopting lessons learnt to be applied in other matters relating to the community. SCG assigns its role as ‘facilitator,’ playing the role of supporting and motivating members of the community to act throughout the entire process – with the intent to instill the sense of Project ownership among community members. The goal is sustainable development, for the community to be strong, self-reliant, can manage its own affairs and gradually become more empowered. Subsequently such strong communities will multiply in numbers to make for a strong, prosperous and happy society.”



Nopporn Nilnarong

Independent Academic
Shared about SCG Conserving Water for Tomorrow Project



staff members themselves have donated 5.92 million baht in support of various projects. This sort of engagement contributes to strengthening the bond among workforce while fostering good ties with communities. The project approach serves as a model of engagement with other sectors and stakeholders within ASEAN.

Specialists...the Maker of the Nation Project While the job market requires at least 190,000 skilled workers from vocational branches per year, Thailand's education system is unable to meet such demand due to unpopularity of vocational education as a choice among Thais. Left unattended, such human resource shortfall could undermine the competitiveness of Thai industries in view of ASEAN Economic Community.

To address the crisis, SCG Foundation has come up with 'Specialists...the Maker of the Nation Project' to encourage Thai youths to pursue education and career path along the vocational track, by offering no-strings-attached scholarships to secondary-school-graduated students to study for vocational degree in areas of critical shortfall including mechanical engineering, electrics and electronics, welding, mechatronics and molding. Apart from scholarships, the project offers additional trainings on skill development and work ethics. This project engages other key stakeholders from both the public and private sectors namely the Thai Chamber of Commerce and the Board of Trade of Thailand, Federation of Thai Industries, and the Office of Vocational Education Commission to ensure that curricula do produce the type of graduates the job market wants, and to offer apprenticeship in industrial sector to plan their career path.

To date, there are 750 scholarship recipients under the project and SCG Foundation is

confident that these future graduates will contribute to the pool of skilled workers to drive economic development.

Community Partnership Association in Map Ta Phut, Rayong province was founded in 2010. The Association brings together operators with facilities located in the area led by conglomerates like SCG, PTT Public Company Limited, BSCP Power Co., Ltd., Dow Chemical Thailand Co., Ltd., and Glow Energy Public Company Limited with the joint mission to enforce rigorous health, safety and environment (HSE) standards to demonstrate peaceful co-existence between industry and community. The operators seek to assure the communities of their quality of life and business sustainability through schemes such as Eco Factory, Green Supply Chain, with a view to making Map Ta Phut an Eco Industrial Town along with supporting Eco Community and Eco School. To date, there are 16 members joining the Association.

In 2014, the Association joined force to bring about world-class HSE compliance, through peer-to-peer support. With this goal in mind, members have developed a contingency plan together with 38 communities in the vicinity, secured additional medical staff, and organized 22 mobile medical service operations to serve the communities. In addition, the Association granted 300 nursing college scholarships. The first batch of scholarship recipients – 200 nursing students- are due to graduate and ready to serve in Rayong province by May 2015.

Achievements of the Association in the eastern region have been replicated to the cement production sector in Saraburi province, where a group called 'Cement Partnership Initiative Project' was formed with a mission to make cement production environment-friendly, while caring for



Specialists...the Maker of the Nation Project is launched to serve the need of skilled workers of Thailand

quality of life of Saraburi residents. We have led efforts to rally other cement manufacturers to come on board. In 2014, the Group implemented a peer-to-peer support project on Biodiversity and Ecosystem Water Management, Reduce Energy Consumption and CO₂, along with Dedusting and EP Conversion. Also implemented were the 'Green Truck' and 'Green Logistics' activities.

Outside these two provinces, the coal importer's business located in Nakhonluang District, Ayutthaya province adopted the concept of peer-to-peer business support for sustainability, through the launch of 'Community Partnership Project'. The group intends to apply the concept and guidelines on HSE compliance, environment management, monitoring and evaluation of compliance by operators, with a view to ensuring good quality of life of stakeholders.

Career Fund Program SCG Foundation believes that the unity of a community members is key to ensuring sustainable development, because community members are directly aware of and impacted by problems and able to develop solutions most appropriate for their lifestyle. Therefore, the Foundation employs SCG's management model to social work in order to optimize result. Through the Career Fund Program, SCG Foundation provides seed capital for the community to lend to members to generate livelihoods suitable to the contexts. Thereafter, they have to pay back according to conditions that community members themselves decide so that the Fund continues to lend to others in need. There are two types of Fund namely:

1) Investment Fund operates a revolving fund, with interest incomes for members to

borrow.
2) Welfare Fund focuses on maintaining a pool of savings among members, who can borrow from it for livelihood purposes.

The Career Fund Program operating since 2008 strengthens the capacity of six communities in different parts of Thailand. Managed by steering committees, these funds improve people's quality of life, and have emerged good practice and models for other communities beyond Thailand into ASEAN.

Bring Good Books to Thai Children Program Strong intellectual and emotional intelligence, integrity, creativity and concentration take root during formative years of 0-6, and SCG's Story Telling Through Book is a medium for child development during that age range. Given shortage of such reading materials in Thailand, and the fact that such books are generally too expensive to be widely accessible, SCG Foundation launched this project in 2008 to produce affordable, high quality reading materials in this category to make them accessible to the general public.

SCG Foundation has also supported production of books in braille alphabets for visually impaired children, the first of its kind in Thailand. SCG staff members and the public were encouraged to participate in reading and producing audio books for the blind.

In 2014, SCG Foundation produced a pictorial book titled 'Two Baby Turtles Not Afraid of Dinosaur', for the blind and visually impaired children and granted such book to 12 schools for the blind and over 70 Special Learning Centers nationwide, with 500 copies distributed through the Center of Education Technology for the Blind. A total of 250 SCG workers and volunteers took part in the production.



Bringing Good Book to Thai Children Program released braille pictorial book title 'Two Baby Turtles Not afraid of Dinosaur' for the blind and visually impaired children

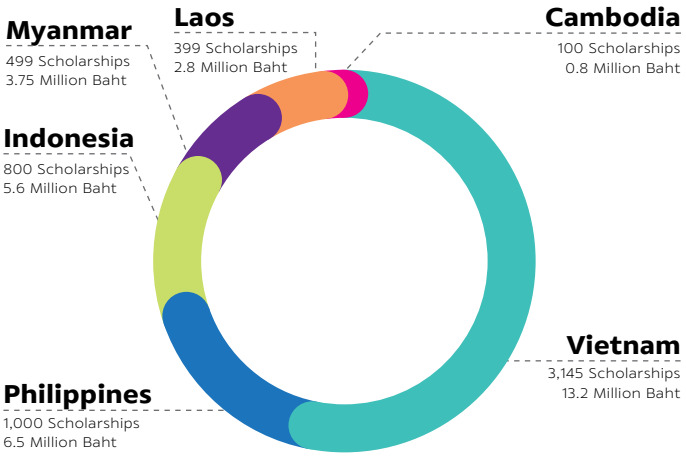
Investment Fund

- The Organic Fertilizer Fund by Ban Pla-bu Savings Group in Mahasarakham province
- The Posterity Fund operated by Inpaeng Farmers' Group in Sakhon Nakhon province
- Pig Farmers' Revolving Fund in Nan province.

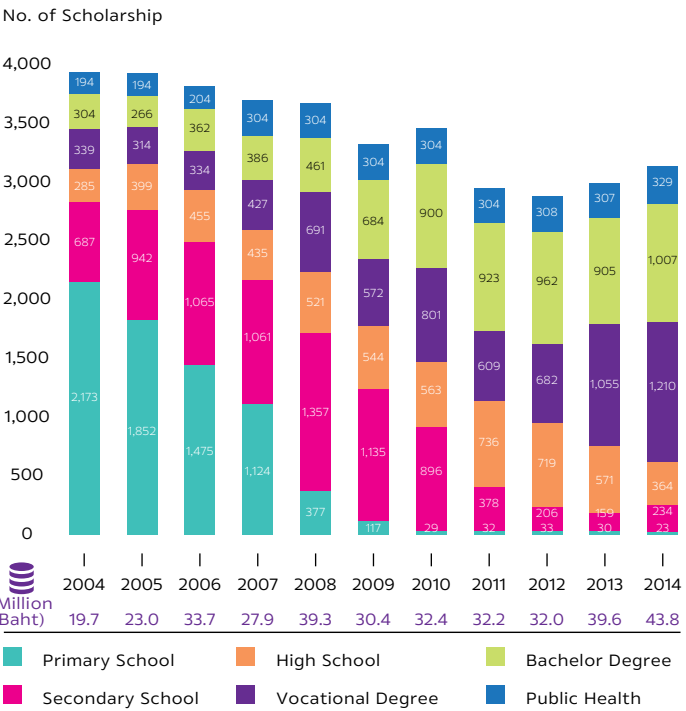
Welfare Fund

- The Family Support Fund for people on duty in the southern border region (Narathiwat, Yala, Pattani and four district of Songkhla province)
- The Revolving Fund for Fishing Boat Maintenance (Satingphra District, Songkhla province, and Pakpayun District, Pattalung province)

SCG Sharing the Dream Scholarships in ASEAN (2007-2014)



SCG Sharing the Dream Scholarships in Thailand



SCG Future Engineer Program Since 2013, SCG introduced the successful model of partnership in Thailand by cooperated with Ho Chi Minh University of Technology to implement SCG Future Engineer Program in Vietnam. Under this program, we organize tutorials and provide higher education advice for secondary school students who are interested in pursuing university degrees in the field of engineering. This program has attracted 250 participants to date, and we aim to replicate this approach elsewhere in ASEAN.

SCG Sharing the Dream Scholarships SCG Foundation deems education as basis for sustainable development. From the start of this project in 1981, over 63,000 scholarships worth 550 million baht have been made available. In 2014 alone, 3,200 scholarships (4.4 million baht) were awarded. From our field visits to interview scholarship recipients, we discovered that over 60 percent of scholarship recipients graduated. Many of them have jobs and successful careers and about 28 percent of them pursued advanced degree education.

In 2007, SCG started awarding SCG Sharing the Dream Scholarships in Vietnam, and subsequently in Philippines, Indonesia, Myanmar, Laos, and Cambodia. To date, over 5,900 scholarships worth 32.6 million baht have been awarded. In addition, we have organized activities on leadership and teambuilding among scholarship recipients in these countries.

SCG Badminton Academy SCG has been a major supporter of badminton sports since 1981, working with Badminton Association of Thailand under Royal Patronage to organize tournaments including SCG Junior Badminton Championships, SCG All Thailand Badminton Championships and SCG Thailand Open Badminton Championships. From there, we have expanded our role to nurture young talents by setting up SCG Badminton Academy in 2007 to groom a new generation of excellent players for the Thai national team in the future.

Currently, there are 40 youngsters aged from 12-19 years being trained under the Academy. In 2014, some of their outstanding performances include male duo champions at BWF Junior Championships 2014 in Malaysia, best single woman player under 19 at Singapore Youth International, runner up of male duos under 17 category at SCG Badminton Asia Junior U17

and U15 Championships. The Academy has also sent 11 players to join the training of Badminton Association of Thailand as they are designated to play in the Thai national team.

Fish Habitat & Beautiful Beach Project The Project is inspired and driven by the recycling aspect of SCG's sustainable resource management policy. Engaging all stakeholders on board including SCG Chemicals staff, coastal resource conservationists and local fishing folks in Rayong province, the Project uses PE100 pipes that are disposed after plastic pallet testing process but contains no toxic chemical substance to assemble fish home. Blending well as part of marine environment, these man-made fish homes reduce problems associated with operation of large fishing trawlers. It is calculated that the project could reduce the energy required in recycling used pipes by up to 20,000 kilogram per year. The new fish habitat helps local fisher folks to generate more

income while raising awareness on the importance of marine resource conservation.

Philanthropy In 2014, SCG donated a total of 150.8 million baht in support of philanthropic activities through a variety of charitable organizations and entities with mission and track record of social contribution.

SCG Donates Shelters to Vietnam Continuing from the Sustainable Shelter in an Age of Climate Change and Disasters, a joint undertaking between SCG and Habitat for Humanity Vietnam (HFHV), the Project combines SCG's expertise in construction materials and the award winning prototype home 'By the Floating Market' created by Tran Truong Thuy Nhi and Nguyen Hong Quan from Van Lung University. As a result of the synergy, a series of climate-resilient shelters were built and donated to Vietnamese families whose home were destroyed by flooding in Tien Giang province in the Mekong Delta.

“My family is in a community in Ban Pong, Ratchaburi province. I received the scholarship continuously from secondary school (Grade 8) until I graduated with a BA. SCG Foundation evaluated that I was committed to studying. But as our parents separated, my mother had the burden of raising three children with a job that earned a few hundred baht a day. Tuition fees were beyond our reach as we struggled to make ends meet in terms of basic necessities. I received the scholarship until I finished my BA in mechanical and aeronautical engineering from King Mongkut University of Technology without having to worry about money. I gave my best to the study so the donor feel that I am worthy of the help. Now I have a secure job with a reputable company. I can support my family for better quality of life. I would not be where I am today without SCG scholarship

Arthit Suanla | SCG Scholarship Alumni





Biodiversity and Ecosystem



Survival Rate of Seeding

more than **80 %**



Quarry site at Thung Song cement plant in 2010



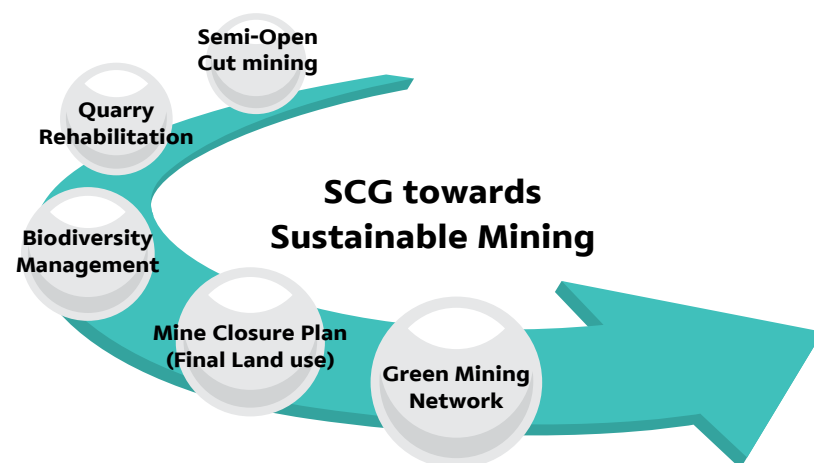
Quarry site at Thung Song cement plant in 2012



A drawing of bird found in Lamphang cement plant by Dr. Rungsrit Kanjanavanit

SCG has been implementing quarry rehabilitation and biodiversity conservation continually by taking in consideration as an important part in the compliance of a sustainable development approach under our vision of being a role model of environmentally friendly mining in cement business and a role model of forest management in paper business. SCG is committed in conservation of biodiversity in the limestone-mountainous areas that have specific ecosystems, differentiated from other areas. Many groups of stakeholders are interested in

these limestone-mountainous areas, especially when mining activities are implemented in ASEAN countries. In 2014, SCG Cement-Building Materials has announced new policy on quarry rehabilitation and biodiversity that covers mining implementation abroad in order to ensure that every quarry area implemented by SCG does not cause negative impacts on the existing environment. In addition, SCG focuses on knowledge dissemination to external parties and interested persons in order to apply knowledge in other areas.



Key Stakeholders

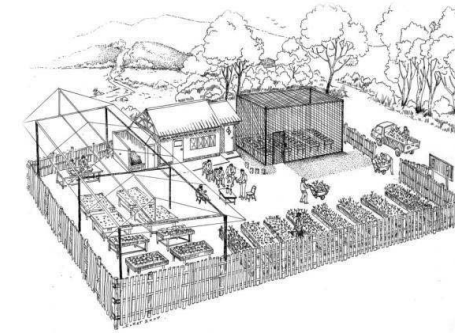
- Government agencies, such as Royal Forest Department, Department of Primary Industries and Mines, Office of Natural Resources and Environmental Policy and Planning (ONEP), Department of Environmental Quality Promotion (DEQP) and the International Union for Conservation of Nature (IUCN), take important parts in setting up framework of quarry rehabilitation, promoting of conservation and sustainable use of biodiversity.
- Scholars or NGOs that emphasize on impacts from mining, mitigation measures and quarry rehabilitation.
- Communities around the areas which are the most important groups that are interested in impacts from mining (noise, dust and vibration), conservation of biodiversity in the area, engagement in quarry rehabilitation, and forestry plantation management which creates a stable income.

Projects and Activities for Creating Stakeholder Engagement

- Establishing 'Biodiversity and Rehabilitation Centers' in 4 quarry areas as knowledge sources in quarry rehabilitation and key specific biodiversity databases of areas in 3 provinces, Saraburi, Nakhon Si Thammarat and Lampang.
- Holding an open house activity in each quarry area and inviting government agencies and surrounding communities to visit quarry rehabilitation and seedling.
- Initiating the 'Villagers and Planting' project which SCG has worked in collaboration with communities to provide and plant native seedling in quarry rehabilitation activity which creates income for communities.

Results from Quarry Rehabilitation and Biodiversity Conservation

- All limestone quarries in Thailand must prepare biodiversity databases and master plans of quarry rehabilitation.



A drawing of Biodiversity and Rehabilitation Center by Forest Restoration Research Unit (FORRU), Chiang Mai University

- Survival rate of seedling must exceed at least 80% to show the success of quarry rehabilitation, regarding development of effective rehabilitation, seedling, planting and maintaining technics.

The key challenges are to meet expectations of stakeholders in effective biological resource management, design and conduct acceptable plan on quarry closure. The Quarry Rehabilitation Committee has initiated implementation plan in cooperation with a consultant for the next phase.

SCG Paper is conducting a business which causes impacts on biodiversity and ecosystem. According to risks that an agriculturist may cut down trees in a forest and sell them as raw materials because the infertile land is not appropriate for cultivation. SCG Paper has put efforts on research and development of diverse eucalyptus species which are appropriate for each area, fast growing, and less water consumption to help creating stable career and income for agriculturists. At present, there are 24,450 rais of certified forest in compliance with Forest Stewardship Council Standard (FSC). In addition, agriculturists are encouraged to engage in the community forest project which uses empty areas in the community, ridges, canal sides and surrounding agricultural areas for eucalyptus plantations, leading to the increase of their incomes and reducing of forest destruction. At present, community forest areas in this project are accounted for 1,968 rais in Kanchanaburi and Ratchaburi Provinces.

“

Rehabilitation of the quarry areas, especially lime quarry, is a challenging task. With lucid policy and approach together with knowledgeable and experienced team work is a key success for quarry rehabilitation of all SCG quarries.

”



Dr. Sakhan Teejuntuk

Department of Silviculture
Faculty of Forestry
Kasetsart University



Air Quality Management

Under the ASEAN Economic Community liberalization act, ASEAN has developed environmental cooperation but such efforts have yet to tackle the adverse impacts effectively. Air, which is essential for human life, has been affected due to air pollution, mainly from domestic activities, such as energy usage, transportation, manufacturing and construction, and this has extended across the ASEAN region.

SCG has used the best available technology in the management of air pollution, such as installing the most efficient air treatment system along with continuous monitoring of air quality through Continuous Emission Monitoring Systems (CEMS). In addition, we have arranged a mobile laboratory, which can monitor the environment according to international standards (ISO 17025) and alert us if there is any risk at any time. Employees and individuals associated with the air treatment system must be trained according to the air pollution control requirements of the Department of Industrial Work. In addition, SCG has applied the Total Quality Management (TQM) and the Total Productive Maintenance (TPM) principles in the management of air quality control systems in order to improve the performance of the mechanical equipment and reduce its damage and downtime.



Oxides of Nitrogen

Oxides of Nitrogen in SCG are mainly caused during combustion in a kiln at the temperature above 1,000 degrees Celsius of the cement production process, and partly from molecular nitrogen in the fuel which reacts with oxygen in the combustion chamber. SCG is a member

of the World Business Council for Sustainable Development-Cement Sustainability Initiative (WBCSD-CSI) and has shown its commitment to controlling the rate of emissions of oxides of nitrogen gas, by not allowing it to exceed 1,700 grams per ton of clinker. This required the usage of high-performance technology, which led to the installation of a Low NOx Burner in all of SCG's cement plants to reduce the formation of oxides of nitrogen, and the control of the combustion process, which allowed for the appropriate proportion of fuel, and reduced excess air in order to reduce the reaction between nitrogen and oxygen.

Map Ta Phut in Rayong province is another area that gives importance to the oxides of nitrogen (Carrying Capacity) due to power plants and chemical industries within the region which require high-temperature combustion. SCG Chemicals recognizes the importance of the reduction of oxides of nitrogen, in particular, in the cracker furnace and, therefore, started using an Ultra-Low NOx burner. This has reduced the emission of nitrogen oxides equivalent to up to 80 percent and has also reduced power consumption. Hence, SCG has designated the Ultra Low NOx burner as minimum standard equipment for each chemical factory set up, right from the planning process itself.



Oxides of Sulfur

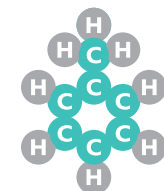
The main cause of acid rain is sulfur dioxide, 90 percent of which occurs in the manufacturing and the burning process of fossil fuels, especially coal, which contains sulfur. SCG Paper, which uses coal as the main fuel for heating its boilers, has therefore taken measures to reduce the formation of oxides of sulfur. This has been done through control

of the entire process, from the selection of high-quality coal with low sulfur and an increase in the usage of biomass and waste rejected from waste paper raw materials so that it can be used as an alternative to coal. In addition, air is treated before it is released by adding limestone to it in order to create gypsum for use in the cement manufacturing process. In 2014, SCG successfully reduced emissions of sulfur dioxide by up to 39 percent.

Particulate Matter



Particulate matter is the main issue causing air pollution in the cement production process. This happens in the crushing stage of the raw materials, the combustion process and its reaction, the crushing of the clinker, the product packaging process as well as during the transportation or arrangement of raw materials and cement. Being a member of the WBCSD-CSI, SCG has shown its commitment to controlling the amount of particulate matter emitted from the stacks in the cement production process, which must not exceed 150 grams per ton of clinker. SCG has used various measures to achieve the set goals, such as the installation of a dust collecting system with highly efficient electrostatic precipitators and filter bag systems, making it possible to increase the efficiency of dust collection to as high as 99.9 percent. In addition to the above, the building design and the construction conveyor systems have been set up in a closed area in order to prevent the spread of particulate matter outside the operational area.



Volatile Organic Compounds (VOCs)

VOCs in the petrochemical industry is caused by the raw materials, products and by-products. Some of the volatile organic compounds affect the health of those exposed, such as benzene, toluene, and butadiene, while some volatile organic compounds create ozone, an air pollutant,

at the Earth's surface causing irritation to the respiratory tract. Therefore, SCG Chemicals has provided surveying and mapping of the sources of volatile organic compounds in various units such as tanks of raw materials, products, loading and unloading of materials or products, wastewater treatment and residual substances left over in the burning flares. Consequently, SCG has taken measures to improve related processes in order to lessen the spread and leakage of VOCs, such as changing material handling systems so that they are transported from below; covering the sewage system; inspecting and repairing joints, valves and pipe fittings; improving each sampling point by turning it into a closed system; changing the plant design into a closed system; choosing the valve stems (Bellow seal valve) and leak-proof pumps (Sealless pumps); and choosing naphtha tanks with covered ceilings. All of the above made it possible to control the ventilation and leakage of VOCs to achieve a result 30 percent better than the international standard.



Ozone Depleting Substance

ASEAN member countries have signed the Montreal Protocol. Following this, in Thailand, SCG has banned the use of ozone depleting substances, especially in the manufacturing of new products since 1998 as well as SCG subsidiaries in ASEAN have begun to reduce the use of chlorofluorocarbon continuously since 2006. At the same time, SCG also explored the use of equipment with ozone depleting substances in order to gradually switch to a device that does not contain Halon. This mission is expected to be completed in 2020 and includes the use of a specially designed office building. In 2012, SCG renovated the Company's headquarters building. Hence, the prescribed cooling was R-123, which has reduced the impact to the ozone layer compared to the earlier substances by up to 98 percent and has been defined as a standard for new buildings, such as the SCG 100th year building.

Dream of ASEAN

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Although the economic conglomeration of countries in ASEAN region under the “ASEAN Economic Community” is considered to drive economic system in this region toward rapid growth, it is undeniable that the growth in economic system will result in the migration to urban areas. In addition, increasing population will drive a large province to become urban society which requires standard of better living, leading to more consumption and natural resource degradation. Such aforementioned changes are causes that lead to unbalancing social and environmental aspects, affecting life quality of ASEAN population in a long term.

All countries in ASEAN need to search for economic system development mechanisms in alignment with social and environmental balance for sustainable growth. Green ASEAN approach is initiated as a main target for every country in ASEAN region to keep moving forward by focusing on clean industry, air and water and response to rapid social changes.

The approaches for ASEAN’s success in

environmental and social development are:

- Learning from others: Try not to lose competitive advantages by adopting sustainable development process to stand out from others. In order to compete, fast learning, fast adaptation and fast applying are required;
- Searching for opportunities: Apply ASEAN’s advantages, such as cultural identities, capacity in adaptation, creativity to design sustainable development process according to identity-styles;
- Considering acceptance level of stakeholders: At present, social media is considered a main channel for stakeholders to express dissatisfaction that affects the corporate’s business and reputation;
- Finding strengths: Try to find strengths that reflect business identity and meet economic, social and environmental requirements, in relevance with the corporate; and
- Starting to implement sustainable development process at your own supply chain: It can begin from donation to build up

awareness developing into CSR activities, creating corporate’s reputation and shifting to share value to create benefits to all sectors, throughout supply chain.

The time has come for ASEAN countries to initiate processes of learning, management and collaborative problem solving to find out

approach on natural resource and environmental conservation, including how to respond with upcoming social changes in compliance with economic growth to create better environment and society of the “ASEAN Economic Community” concretely for better lives of ASEAN and bright future for the next ASEAN generations.

“

I dreamed of clean and convenient meals - Myanmar

I dreamed of having house that can generate energy - Vietnam

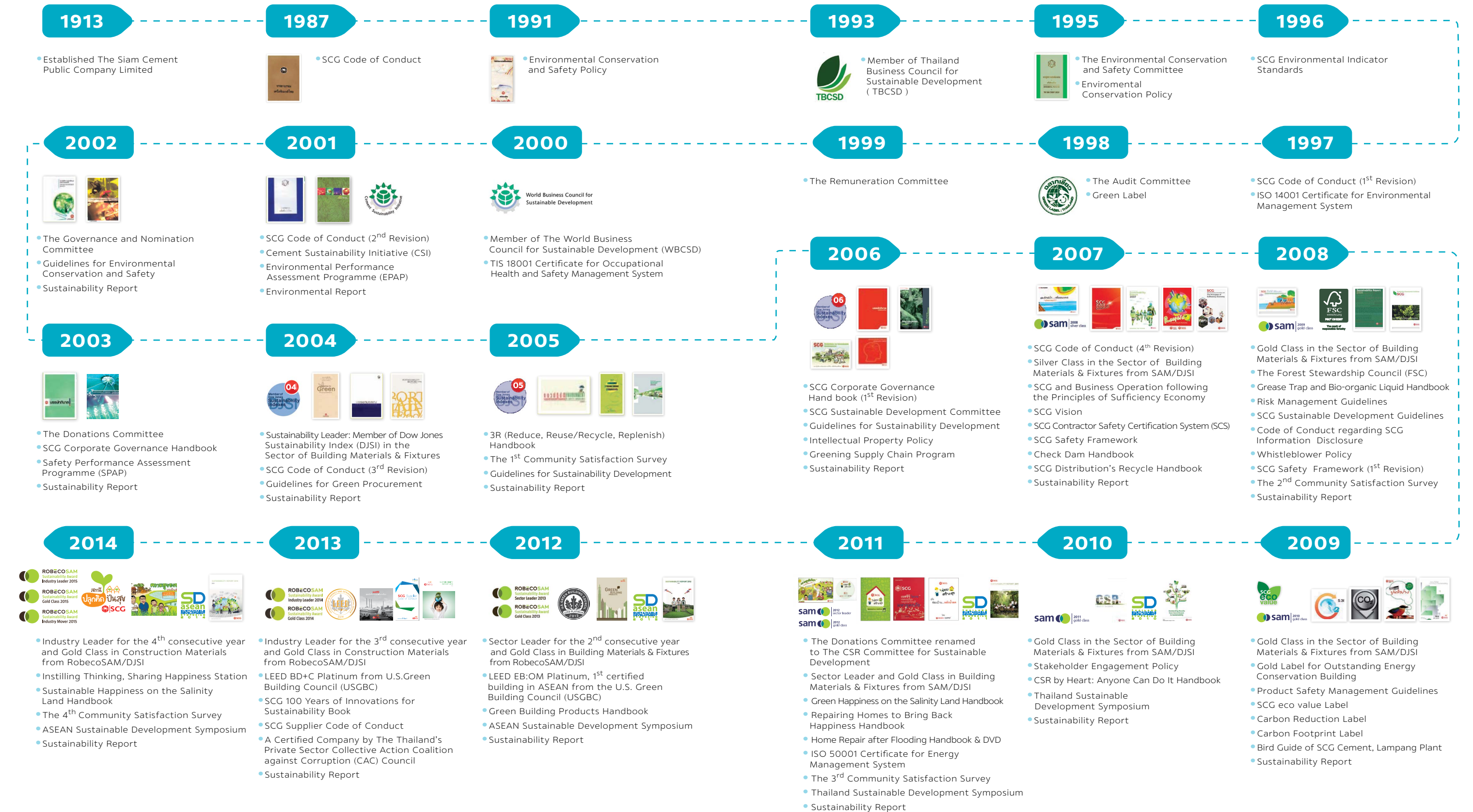
I dreamed of seeing advanced medical technology – Thailand

I dreamed of living without fears of disasters – Indonesia

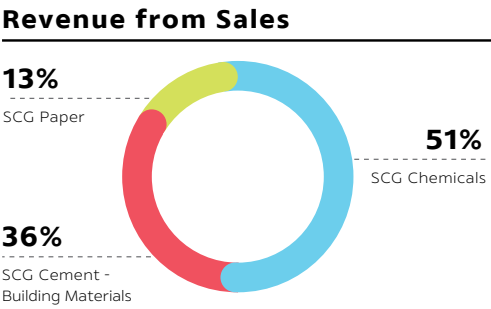
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Road to Sustainability



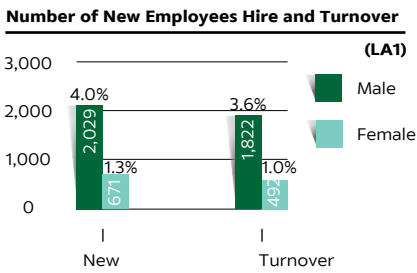
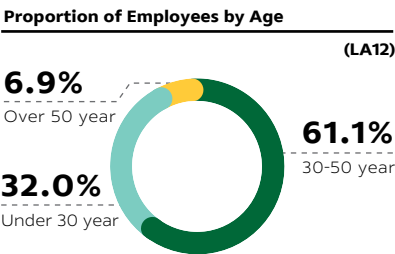
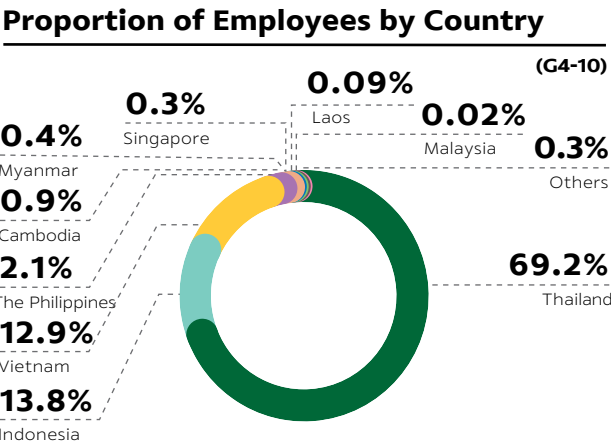
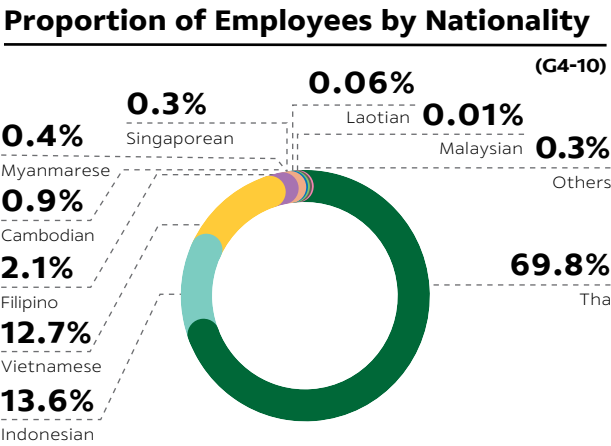
Sustainability Performance Data 2010-2014



Performance Data		2010	2011	2012	2013	2014	G4
Economic Performance							
Revenue from sales	(Billion Baht)	301.3	368.6	407.6	434.3	487.5	EC1
Profit for the year	(Billion Baht)	37.4	27.3	23.6	36.5	33.6	EC1
EBITDA	(Billion Baht)	45.9	46.3	45.7	61.3	66.5	EC1
Benefits to employees comprising salary, wage, welfare and regular contributions	(Million Baht)	21,270	23,997	27,361	32,417	35,356	EC1
Divident to shareholders	(Million Baht)	15,000	15,000	13,200	18,600	15,000	EC1
Interest and financial expenses to lender	(Million Baht)	4,670	6,048	6,321	8,193	7,266	EC1
Taxes to governeant and local government authorities such as income tax, local maintenance tax, property tax and other specific taxes	(Million Baht)	13,045	8,190	5,567	5,792	5,362	EC1
Privilege tax and others from investment promotion, and research and development	(Million Baht)	1,187	1,734	1,277	1,156	1,294	EC4
Investments and expenditures regarding community development, social infrastructure and environment	(Million Baht)	480	712	563	525	555	EC1
Environmental expenditures	(Million Baht)	1,146	1,741	1,964	2,687	2,542	EN31

Performance Data		2010	2011	2012	2013	2014	G4
Employee Information							
Number of Employees		30,820	34,725	38,883	49,287	51,100	G4-10
Proportion of Employees by Level							G4-10
• Management		4.0	3.7	4.8	3.4	3.4	
• Supervisor and Technical Staff		31.8	31.0	32.2	27.4	28.3	
• Operator		64.1	65.3	63.0	69.2	68.3	
Proportion of Employees by Gender							LA12
• Male		79.0	78.0	78.5	77.8	77.5	
• Female		21.0	22.0	21.5	22.2	22.5	
Proportion of Basic Salary of Female to Male							LA13
• Management		0.96	0.86	0.83	0.83	0.83	
• Supervisor and Technical Staff		0.91	0.92	0.93	0.94	0.94	
• Operator		0.92	0.93	0.95	0.95	0.94	
Proportion of Local Senior Management *		25.7	22.8	20.5	18.3	20.8	EC6
Proportion of Absence by Type							LA6
• Sickness		14.3	14.9	15.0	14.0	15.0	
• Work-Related Injuries		0.4	0.3	0.2	0.2	0.3	
• Others		85.3	84.8	84.8	85.8	84.7	
Return to Work after Parental Leave of Female Employees **							LA3
Number of Employees that Took Parental Leave		NA	NA	217	202	235	
Number of Employees who Returned to Work after Parental Leave Ended		NA	NA	210	202	231	

* Calculate from percentage of overseas senior management and supervisor over total overseas staff Number of New Employees Hires and Turnover
**Only female employees are entitled to parental leave by Thai law



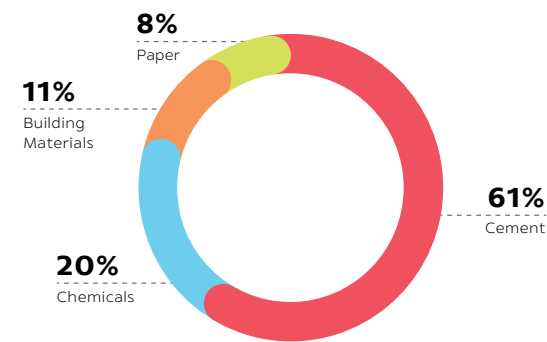
Performance Data		2010	2011	2012	2013	2014	G4
Health and Safety Information							
Total Incident Rate	(Case / 200,000 Man-hour)						LA6
• Employee		0.46	0.41	0.36	0.36	0.32	
• Contractor		0.83	0.37	0.23	0.22	0.20	
Incident Rate (Lost Time Case)	(Case / 200,000 Man-hour)						LA6
• Employee		0.10	0.12	0.07	0.07	0.05	
• Contractor		0.13	0.12	0.05	0.06	0.06	
Severity Rate	(Day / 200,000 Man-hour)						LA6
• Employee		2.77	2.34	0.84	1.69	1.63	
• Contractor		1.88	1.91	1.15	1.58	1.96	
Total Number of Fatality	(Case)						LA6
• Employee	(Male : Female)	0:0	0:1	0:0	1:0	0:0	
• Contractor	(Male : Female)	12:1	5:3	11:0	11:0	7:0	
Number of Fatality from Motor Vehicle Accidents	(Case)						LA6
• Employee	(Male : Female)	0:0	0:1	0:0	1:0	0:0	
• Contractor	(Male : Female)	7:0	1:2	6:0	8:0	4:0	
Number of Chemical Spillage*	(Case)						EN24
Level 1 : High Severity		1	0	1	0	1	
Level 2 : Moderate Severity		3	1	2	2	1	
Level 3 : Low Severity		8	2	1	6	2	

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.

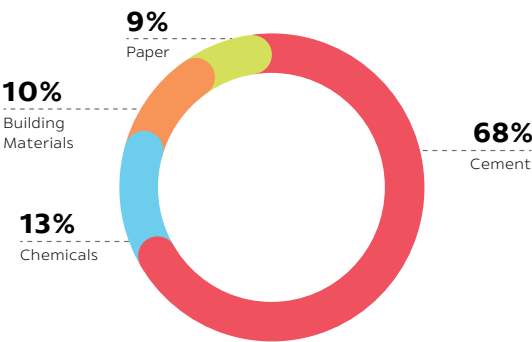
* Excludes flammable gas and utility chemicals, e.g. raw water, filtrated water, distilled water, Nitrogen gas, instrument air, service air, or Carbon dioxide.

Performance Data		2010	2011	2012	2013	2014	G4
Environmental Performance							
Production	(Thousand Tons)	32,168	34,784	37,702	37,132	37,838	
Raw Materials	(Thousand Tons)	38,413	41,078	45,822	44,007	46,268	EN1
Recycled Materials	(Thousand Tons)	1,623	1,612	1,567	1,814	2,932	EN2

Production

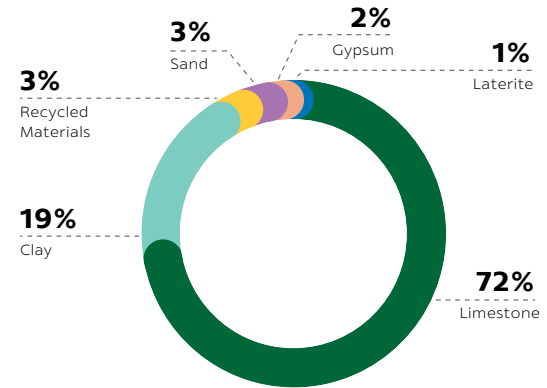


Raw Materials

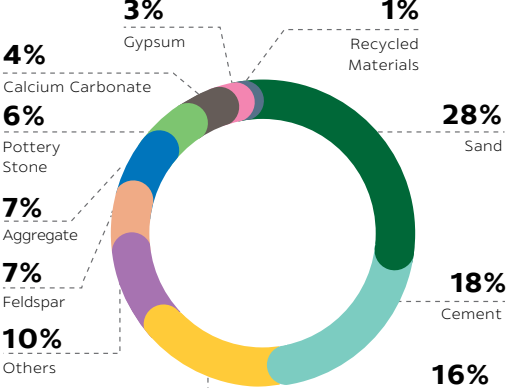


Proportion of Raw Materials

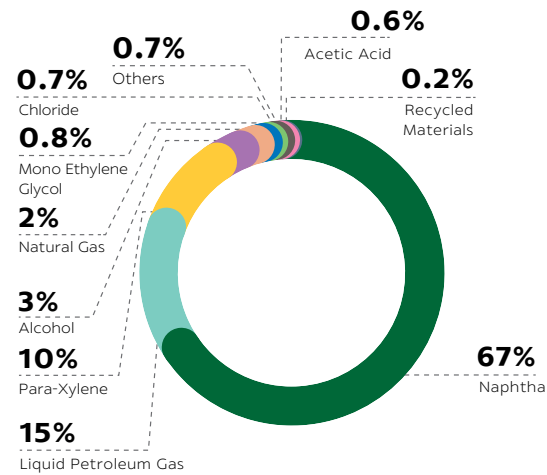
Cement



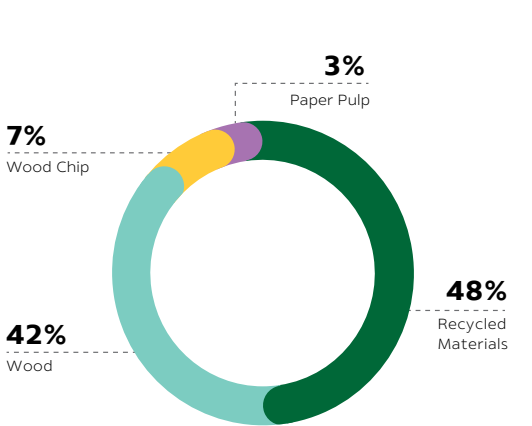
Building Materials



Chemicals

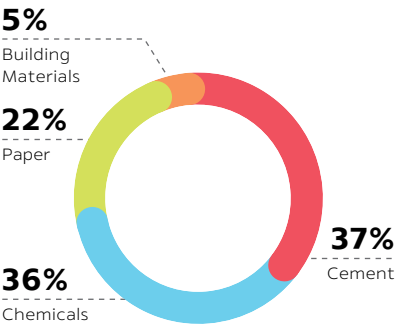


Paper

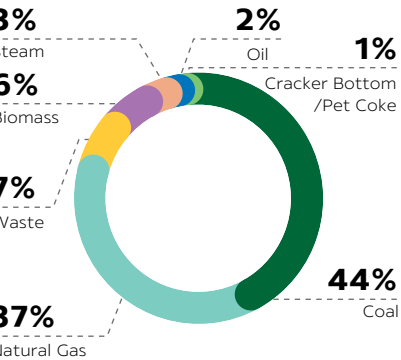


Performance Data		2010	2011	2012	2013	2014	G4
Total Energy Consumption	(Petajoules)	140.68	167.68	174.58	175.93	182.27	EN3
Thermal Consumption	(Petajoules)	128.30	153.65	159.70	161.50	167.22	EN3
Alternative Energy Consumption	(Petajoules)						EN3
Biomass		7.31	9.10	9.86	10.26	9.50	
Industrial Waste		10.71	8.78	8.35	10.70	11.44	
Electrical Consumption	(Million kilowatt hours)	3,441	3,895	4,133	4,008	4,180	EN3

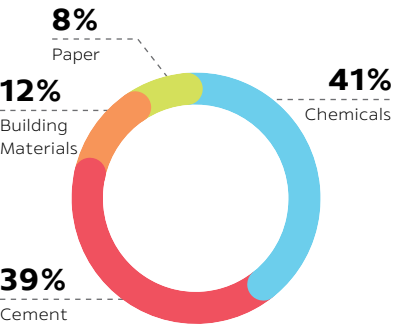
Thermal



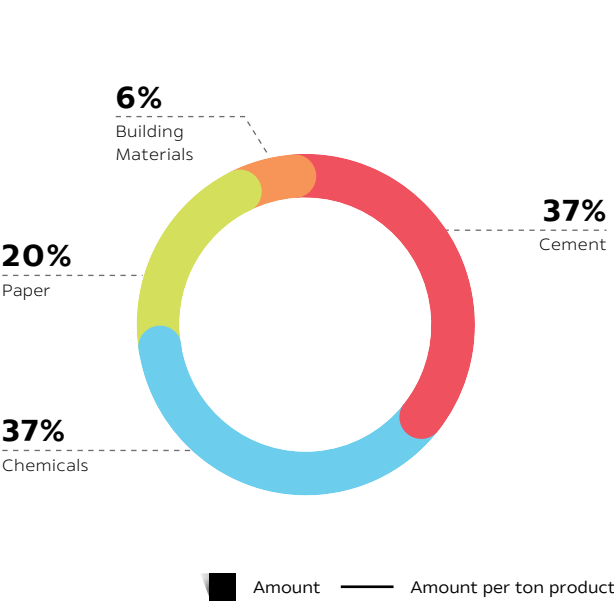
Thermal Source



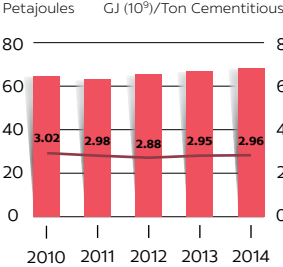
Electricity



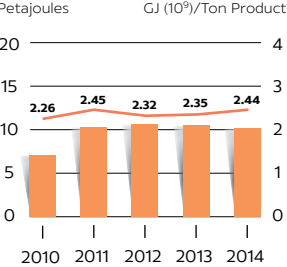
Energy Consumption



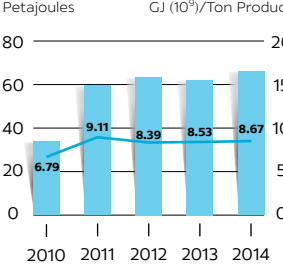
Cement



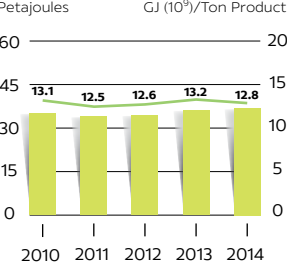
Building Materials



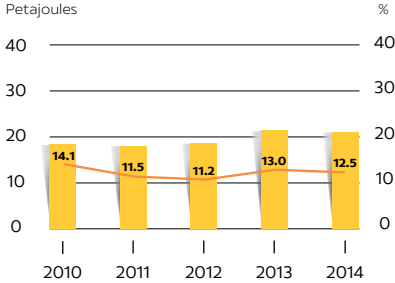
Chemicals



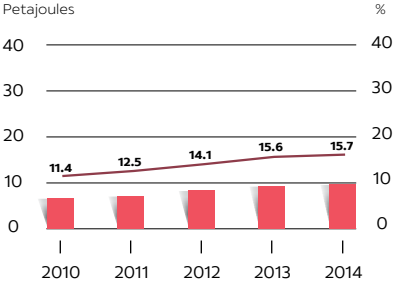
Paper



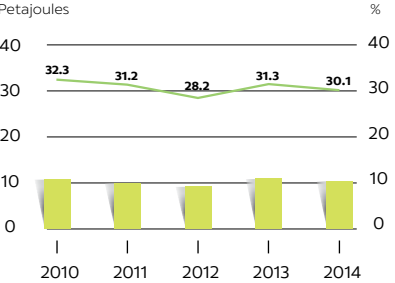
SCG Alternative Energy*



Cement



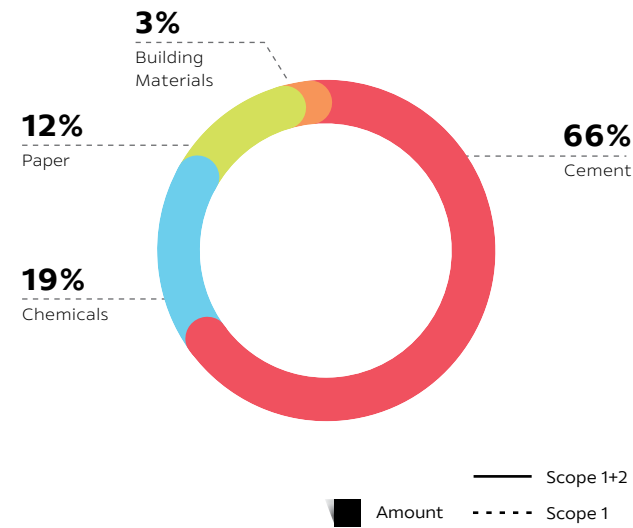
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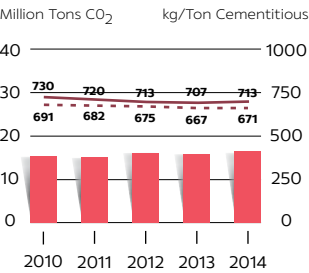
*Cement and Paper are main utilizers of alternative energy

Performance Data		2010	2011	2012	2013	2014	G4
GHG Scope 1	(Million Tons)	19.66	20.73	21.96	21.51	22.15	EN15
GHG Scope 2	(Million Tons)	2.09	2.27	2.23	2.28	2.61	EN16

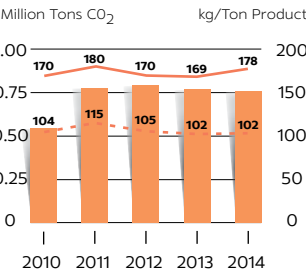
GHGs Scope 1+2



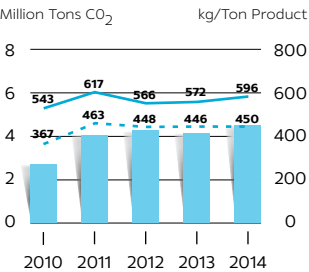
Cement



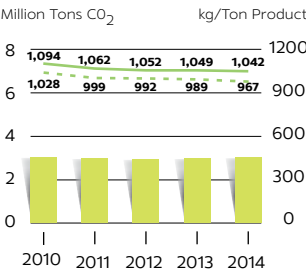
Building Materials



Chemicals

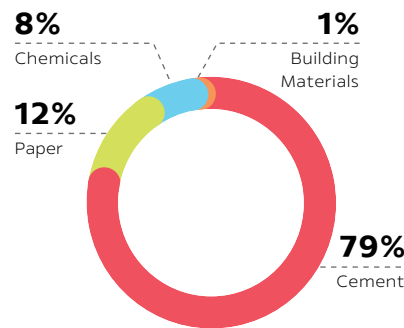


Paper

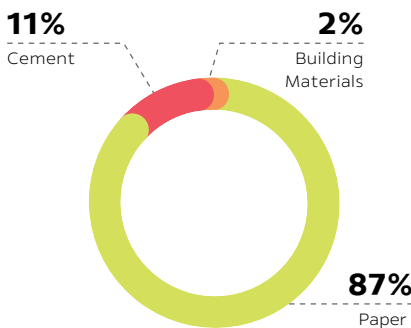


Performance Data		2010	2011	2012	2013	2014	GRI
Oxides of Nitrogen	(Thousand Tons)	18.92	20.02	19.45	23.95	23.94	EN21
Oxides of Sulfur	(Thousand Tons)	6.06	7.52	7.68	5.26	3.25	EN21
Particulate Matter	(Thousand Tons)	2.57	2.36	2.13	2.03	1.84	EN21

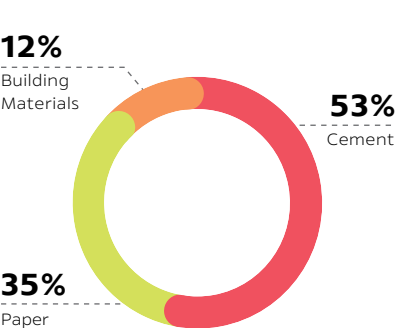
NO_x



SO_x

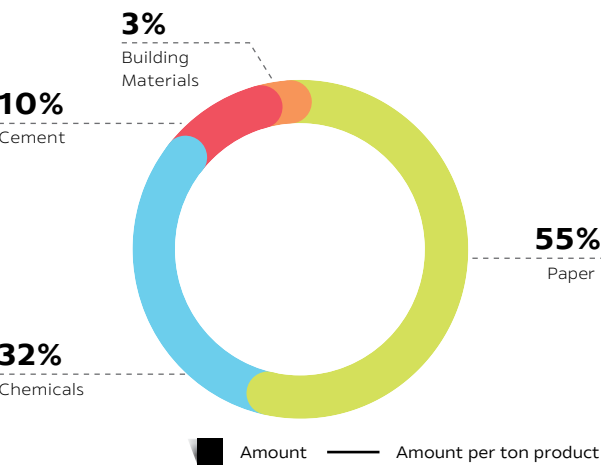


Particulate Matter

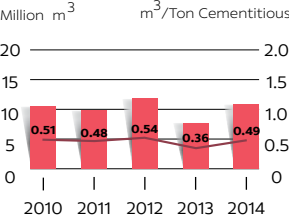


Performance Data		2010	2011	2012	2013	2014	G4
Water Withdrawal	(Million Cubic Meters)	95.50	104.55	110.80	104.52	111.71	EN8
Proportion of Recycled Water	(%)	9.99	9.90	9.52	6.98	7.20	EN10
BOD	(Thousand Tons)	0.51	0.46	0.59	0.49	0.49	EN22
COD	(Thousand Tons)	7.50	7.34	8.20	6.75	6.73	EN22
TSS	(Thousand Tons)	0.90	0.87	1.35	0.96	1.02	EN22

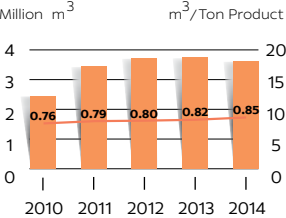
Water Withdrawal



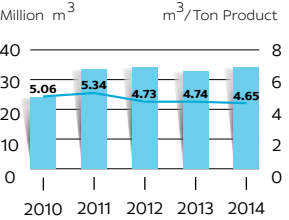
Cement*



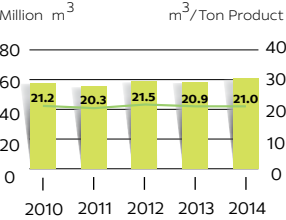
Building Materials*



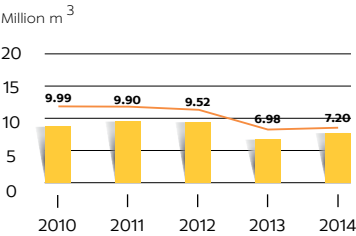
Chemicals



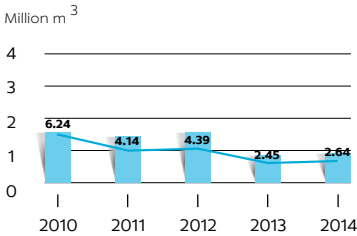
Paper



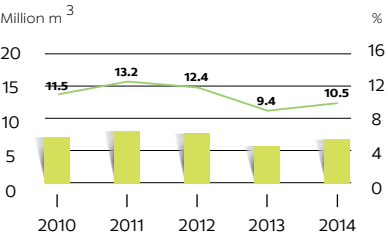
SCG Recycled Water**



Chemicals



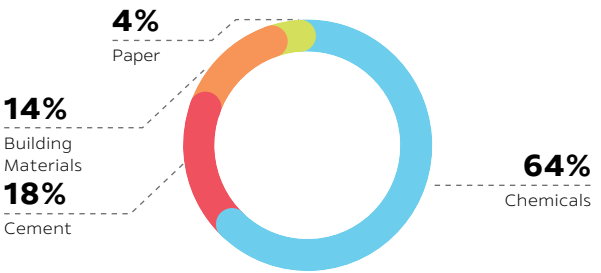
Paper



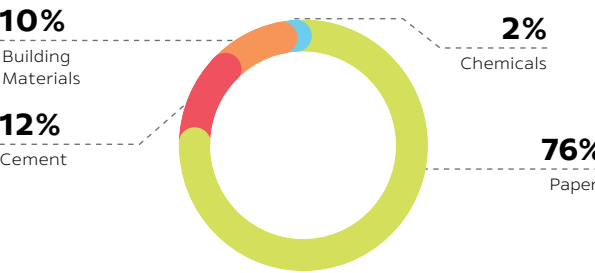
*Cement and Building Materials has revised scope of water withdrawal
**SCG Chemicals and SCG Paper are main utilizers of recycled water

Performance Data		2010	2011	2012	2013	2014	G4
Hazardous Waste	(Thousand Tons)	17.02	12.21	14.65	19.60	15.29	EN23
Non-Hazardous Waste	(Thousand Tons)	1,176.12	1,305.30	1,215.07	1,130.67	1,209.46	EN23

Hazardous Waste***



Non-Hazardous Waste***



***Amount and proportion of waste management are shown on page 56-57

Cement Sustainability Initiative (CSI)

1. Climate Protection and Fuels and Raw Materials Consumption

Cement Business sets a target to emit specific net carbon dioxide, not exceeding than 620 kg carbon dioxide/ton cement within 2020 or reducing carbon dioxide at least 10% within 2020, compared to 2007. Production process is developed and improved alongside with innovation to reduce carbon dioxide emission, including enhancement of efficiency energy used, increase proportion in renewable energy used such as refuse derived fuel (RDF), biomass and industrial waste and production of products and services which support greenhouse gas reduction.

For energy management in cement plant, Cement Business adopts advanced production technology in use and improves machinery to reduce heat consumption per production unit continually by initiating a project on Waste Heat Power Generation (WHG); waste is generated by clinker production process, and installing WHG at all cement plants.

For energy consumption and renewable raw materials, SCG improves machinery to support efficiency renewable fuel used, comprising biomass, and industrial waste and refuses derived fuel (RDF). For RDF, SCG has collaborated with communities nearby the plant to segregate wastes from communities such as cloth, plastic and paper scraps and sent them into transformation process prior use as fuels in cement production process. This is an appropriate waste disposal approach which does not cause environmental impacts and does not cause a burden to take care of landfill that may cause problems to nearby communities.

2. Emission Monitoring

Major air emissions of cement industry are control or minimize, e.g. dust, oxides of nitrogen and sulfur dioxide. Cement Business target and control air emissions in accordance with WBCSD-CSI. Dust oxides of nitrogen and sulfur dioxide emission from kiln shall not exceed 150 g/clinker, 1,700 g/clinker and 120 g/clinker, respectively.

In addition, Cement Business has measured dust, oxides of nitrogen and sulfur dioxide besides other air pollutants consist of Dioxin, Mercury, Cadmium, Lead, Antimony, Arsenic, Beryllium, Chromium, Cobalt, Copper, Manganese, Nickel, Vanadium and total organic carbon from spot check in accordance with government requirement (quarterly basis).

Moreover, SCG Cement has installed sulfur dioxide treatment system (Gas Suspension Absorber: GSA) which is efficiency to reduce 80%-90% of sulfur dioxide.

3. Local Impact

Prior to any project implementation of quarry or cement plant, environmental impact assessment and study are required to conduct appropriate environmental and social mitigation measures at acceptable level. Guidelines the SCG Cement

adopts are based on relevant government agencies and WBCSD-CSI.

Cement Business implements quarry rehabilitation in accordance with forestry principle and works in collaboration with external experts to conduct framework for quarry rehabilitation plan, set up effective quarry rehabilitation forms and technics. Also, SCG implements activities in compliance with WBCSD-CSI Guidance on Quarry Rehabilitation.

Cement Business focuses on community relations and stakeholder engagement in compliance with SCG's clear vision on corporate social responsibility.

4. Health and Safety

Cement Business has continuously committed to the safety which is aimed to be an organization of zero accident and work-related diseases. As such, a zero fatality and lost-time injury related to the accident have been set. According to the performance of 2014, this target has not been accomplished yet since there was a lost time injury of one employee. As for the contractor, the accidents have increased and caused three fatality cases and two cases of lost time injury. In addition, there were four cases of fatality of third parties. However, this was because of re-organization of the businesses which have included a logistic business into the same management. Consequently, the accidents related to cement logistic have been added to Cement Business too. This is therefore a challenging task for Cement Business to accomplish.

Guidelines complied by Cement Business in order to develop a safety of contractor are the improvement of safety management of contractor so that they can manage the safety by themselves which we call 'SCG Contractor Safety Certification System or SCS'. This project has been aligned with the Good Practice of Contractor Safety developed by WBCSD-CSI and the Cement Business adopted this Guidelines to be complied with SCG's guidelines. At present, this Guideline has been employed so as to monitor and assess the effectiveness of safety management of contractors continuously.

In case of accidents related to the logistic, Cement Business have complied with WBCSD-CSI's Good Practice of Driving safety for logistic of concrete activities. After the good practices have been adopted, the fatality from accident of logistic of concrete activities have been dropped gradually. However, Cement Business shall apply such good practice to the cement logistic system which have been included in the same management.

5. Reporting

To assure the integrity and the transparency of Cement Business performance data, Cement Business has requested external party to assure emission data (see detail on page 108-109).

WBCSD-CSI Operating Results of Cement Business

		2010	2011	2012	2013	2014
Climate Protection*, **						
Number of facilities adopting WBCSD CO ₂ Protocol	number of facility %	6 100	6 100	6 100	6 100	6 100
Absolute Gross CO ₂	million tons of CO ₂	14.86	14.50	15.46	15.21	15.62
Absolute Net CO ₂	million tons of CO ₂	14.73	14.45	15.36	15.08	15.45
Specific Gross CO ₂	kg CO ₂ ton cementitious	697	685	680	675	679
Specific Net CO ₂	kg CO ₂ ton cementitious	691	682	675	669	671
Use of Fuels and Raw Materials**						
Heat Consumption	MJ/ton clinker	3,314	3,283	3,219	3,326	3,292
Alternative fossil fuel	% by heat	2.7	1.2	2.3	2.8	3.6
Biomass	% by heat	8.8	11.3	11.8	12.8	12.2
Alternative Raw Materials	% by weight	0.62	0.50	0.70	1.15	2.93
Clinker/Cementitious Ratio	%	79.9	79.5	79.4	79.8	80.8
Emission reduction**						
% of clinker produced by kilns covered by a monitoring system (Dust, NO _x , SO ₂ , VOC/THC, Heavy metal) (KPI 1)	%	-	-	-	-	99.23
Dust Emissions (KPI 3)	tons	1,160	1,022	947	982	971
Dust Emissions Rate (KPI 3)	g / ton clinker	65	58	51	54	52
NO _x (KPI 3)	tons	14,602	14,887	15,274	18,845	18,872
NO _x Emissions Rate (KPI 3)	g / ton clinker	817	844	820	1,033	1,005
SO ₂ (KPI 3)	tons	1,232	1,367	1,122	534	355
SO ₂ Emissions Rate (KPI 3)	g / ton clinker	69	77	60	29	19
% of clinker produced by kilns covered by a monitoring system (Dust, NO _x , SO ₂) (KPI 4)	%	100	100	100	100	100
Local Impacts**						
Quarry sites with rehabilitation plans	number of site %	4 100	4 100	4 100	4 100	4 100
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
Health and Safety***						
No. of fatalities						
• Directly employed	case	0	0	0	0	0
• Indirectly employed	case	2	0	0	2	1****
• Third party	case	0	0	0	0	4****
Fatality rate (Directly employed)	case per 10,000 directly employed	0	0	0	0	0
No. of lost time injuries						
• Directly employed	case	4	0	0	2	1
• Indirectly employed	case	7	5	5	4	2
Lost time injuries frequency rate (Directly employed)	case per million man-hour	0.76	0	0	0.38	0.18

Remark * The collection and reporting of GHGs data is accordance with WBCSD,The Cement CO₂ Protocol based on company's own control
** Only domestic cement plants
*** Both domestic and overseas cement plants
**** Included accident data from cement transportation and excluded overseas cement plants.

About this Report

SCG has been publishing the sustainability report every year since 2001 by presenting the performance in 3 core business units namely, SCG Cement-Building Materials, SCG Chemicals and SCG Paper. Information disclosed in this report includes the performance of subsidiaries, jointly-controlled entities and other companies for the economic aspect in order to comply with the SCG Annual Report 2014.

For environmental and safety data, reporting sites are selected using the combination of equity share and control approach. Domestic sites of the greater than or equal to 50% shareholding subsidiaries or controlled associates and voluntary companies are included. Except Cement business safety data according to WBCSD-CSI which includes overseas subsidiaries. For the detail of the reported sites, please see page 94-97.

Reporting Scope

The reporting period for the information in this report is from 1 January 2014 to 31 December 2014. This 2014 sustainability report and its data were prepared in accordance with GRI-G4-Comprehensive. The information in this report offers an update on United Nations Global Compact (UNCG) at the Advance Level (see details on page 104-105) and the disclosure of cement business performance according to WBCSD-CSI (see details on page 90-91).

Reporting Assurance

Financial data has been obtained from financial management system similar to those presented in SCG Annual Report 2014 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 selected data against GRI-G4 criteria (see details on page 104-105).

Reporting Principles on 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 less than 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 94-97.

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 accounting evidence, meter reading, data from production system and estimation with ground rules.

Energy

Total energy consumption includes thermal energy and electricity used in the companies/plants areas.

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 or steam volume (estimated from volume purchased or stockpile) x heating value of each fuel type (provided by laboratory test or suppliers)

Greenhouse Gas Emissions (GHGs)

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

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, alternative fuels, water treatment process and landfill 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 Direct GHG emission calculation (Scope1)

- From combustion
 - It will be calculated based on quantities of fuel consumption (weight or volume) such as fuel oil and natural gas x emission factors which was referred to 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.
 - It will be calculated based on fuel consumption (based on heating factor) such as coal x heating value x emission factor which was referred to Thailand Greenhouse Gas Management Organization (Public Organization). If there is no Thai emission factor, Intergovernmental Panel on Climate Change 2006 (IPCC) emission factors will be used.

It will be calculated from carbon mass balance from fuel consumption.

- From raw materials reaction in stoichiometry e.g. limestone, is estimated and calculated using mass balance.
- For cement business, refers to WBCSD-CSI.

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

3. Reporting of GHG emissions: The type of GHG emissions to be reported includes CO₂, CH₄, N₂O, HFCs, PFCs and SF₆ converted to the universal unit of measurement by Global Warming Potential (GWP) as CO₂ equivalent. Referred GWP factors are defined by IPCC. For NF₃, it will be reported in the future.

Air Emission

Air emissions are the quantity of air pollution (for example NO_x, SO_x, Particulate Matter) 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 laws. The measurement of air emissions is at the stacks during the operation according to US EPA Method or equivalent standard.

Reporting of air emission will be calculated based on concentration and hot gas ratio from spot check, multiplied by working hours. Spot check is made by laboratories which is certified and registered to Department of Industrial Works. For cement business, refers to WBCSD-CSI (see details on page 90).

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 includes water used in production process, offices, maintenance and utilities and is obtained from accounting evidences 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.

All waste data is measured as generated and managed volumes, by reading weighting scale. Estimation according to academic measurement is also used if weighting scale is not available.

Efficiency Indices/Specific Data

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

Tons production data used in the efficiency indices 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.

Safety

Data on number of employees and contractors

Safety 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.

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 front line manager who is responsible for daily management or having a control over subordinates.

- 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.

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

All employees and contracted employees are covered in this report

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 contactor in logistics under Cement-Building Material Business Unit records unit as kilometer.

Third party who does not categorize as directly employed or contractors and third party is not covered in this report.

Calculation of Working Hour

1. Data from clock-in system, HR database, accounting unit or relevant administrative unit.

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.

Number of man hours (man - hours) = Number of employees / contractors x Number of working days x Number of normal working hours (per day) + Number of Over Time (only operational employees and contractors)

Recording of Safety Data

SCG records data on safety at work, divided into 3 categories

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.

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
Tel : 0-2586-5071-2 Fax : 0-2586-2836
E-mail: info@scg.co.th and website : www.scg.co.th

Subsidiaries included in Sustainability Report 2014 * G4-17

Business / Company		Production	Environment												Safety	
			Energy		Air				Water					Waste		
									Thermal	Electricity	Dust	SO _x	NO _x			GHG
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.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
4	The Siam Cement (Kaeng Khoi) Co.,Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
5	The Siam Cement (Ta Luang) Co., Ltd. (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.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
9	The Siam White Cement Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
10	The Siam Refractory Industry Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
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.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓
13	Siam Research and Innovation Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓
14	SCI Eco Services Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
15	Q Mix Supply Co., Ltd.															
16	Silathai Sanguan (2540) Co., Ltd.															
17	SCG Building Materials Co., Ltd.															
18	The Siam Fibre-Cement Co., Ltd. (Saraburi / Ta Luang / Thung Song / Nongkae)	✓	✓	✓	✓	NR	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
19	The Fibre-Cement Products (Lampang) Co., Ltd.	✓	✓	✓	✓	NR	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
20	Tip Fibre-Cement Co., Ltd.															
21	SCG Landscape Co., Ltd. (Khonkaen / Thung Song / Ladkrabang / Lamphun / Sriracha / Nongkae)	✓	✓	✓	NR	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓
22	Siam Fiberglass Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
23	Cementhai Gypsum Co., Ltd.															
24	Cementhai Ceramics Co., Ltd.															
25	Thai Ceramic Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
26	Gemago Co., Ltd.															
27	SCG Distribution Co., Ltd.															
28	The Siam Ceramic Group Industries Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
29	Cementhai Home Services Co., Ltd.															✓
30	SCG Trading Co.,Ltd.															✓
31	SCG Logistics Management Co., Ltd.															✓
32	SCG Trading Services Co., Ltd.															
33	SCG Sourcing Co., Ltd.															

Subsidiaries included in Sustainability Report 2014 * G4-17

Business / Company		Production	Environment												Safety
			Energy		Air				Water					Waste	
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS		
34	SCG Experience Co., Ltd.														✓
35	SCG Skills Development Co., Ltd.														
36	The CPAC Roof Tile Co., Ltd. (Saraburi 1 / Saraburi 2 / Nakorn Prathom / Chonburi / Nakorn Rajchasrima / Lamphun / Khonkaen / Nakorn Sri Thammaraj)	✓	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓
37	Thai Ceramic Roof Tile Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
38	Thai Ceramic Holding Co., Ltd.														
39	MRC Roofing Co., Ltd.														
40	The Siam Sanitary Fittings Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
41	Sosuco and Group (2008) Co., Ltd.														
42	Saraburirat Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓
43	Thai-German Ceramic Industry Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
44	Siam Sanitary Ware Co., Ltd.														✓
45	Siam Sanitary Ware Industry Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
46	Siam Sanitary Ware Industry (Nongkae) Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
47	Quality Construction Products Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
48	Q-Con Eastern Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
49	SCGT Automobile Co., Ltd.														
50	PANEL WORLD CO., Ltd.														
51	Sosuco Ceramic Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
52	SCG-Sekisui Sales 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	✓	✓
SCG Chemicals															
1	SCG Chemicals Co., Ltd.														✓
2	Thai Polyethylene Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	✓	✓	✓	NR	✓	✓
3	SCG Plastics Co., Ltd.														
4	SCG Performance Chemicals Co., Ltd.														✓
5	Rayong Engineering & Plant Service Co., Ltd.														✓
6	Protech Outsourcing Co., Ltd.														✓
7	RIL 1996 Co., Ltd.														✓
8	Texplore Co., Ltd.														
9	Vina SCG Chemicals Co., Ltd.														
10	Rayong Pipeline Co., Ltd.														✓
11	Thai Plastic and Chemicals Public Company Limited	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	NR	✓	✓
12	TPC Paste Resin Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	NR	✓	✓	NR	✓	✓
13	The Nawaplastic Industries (Saraburi) Co., Ltd.	✓	NR	✓	NR	NR	NR	✓	✓	NR	✓	✓	NR	✓	✓
14	Nawa Plastic Industries Co., Ltd.	✓	NR	✓	NR	NR	NR	✓	✓	NR	✓	✓	NR	✓	✓

Subsidiaries included in Sustainability Report 2014 * G4-17

Business / Company		Production	Environment												Safety
			Energy		Air				Water					Waste	
									Thermal	Electricity	Dust	SO _x	NO _x		
15	Nawa Intertech Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓
16	Total Plant Service Co., Ltd.														
17	SCG ICO POLYMERS COMPANY LIMITED														
18	Map Ta Phut Tank Terminal Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
19	Map Ta Phut Olefins Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	NR	✓	✓
20	Rayong Olefins Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	NR	✓	✓
21	Siam Stabilizers and Chemicals Co., Ltd.														✓
22	Flowlab & Service Co., Ltd.														
Associates, Jointly-Controlled entity and Other Companies															
1	Siam Mitsui PTA Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	NR	✓	✓
2	SMH Co., Ltd.														
3	Rayong Terminal Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
4	Thai MMA Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	NR	✓	✓	NR	✓	✓
5	Grand Siam Composites Co., Ltd.	✓	NR	✓	NR	NR	NR	✓	✓	NR	✓	✓	NR	✓	✓
6	Thai MFC Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	NR	✓	✓
7	Siam Tohcello Co., Ltd.														
8	Thai PET Resin Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	NR	✓	✓	NR	✓	✓
SCG Paper															
1	SCG Paper Public Company Limited														
2	Thai Paper Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
3	Thai Union Paper Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Siam Kraft Industry Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Siam Cellulose Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
6	The Siam Forestry Co., Ltd.	✓	NR	NR	NR	NR	NR	✓	NR	NR	NR	NR	NR	NR	✓
7	Panas Nimit Co., Ltd.														NR
8	Thai Panason Co., Ltd.														NR
9	Thai Panadorn Co., Ltd.														NR
10	Thai Panaram Co., Ltd.														NR
11	Suanpa Rungsaris Co., Ltd.														NR
12	Siam Panawes Co., Ltd.														NR
13	Thai Panaboon Co., Ltd.														NR
14	Thai Wanabhum Co., Ltd.														NR
15	Phoenix Pulp & Paper Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
16	Phoenix Utilities Co., Ltd.														
17	SCGP Excellence Traning Center Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
18	SCG Paper Energy Co.,Ltd.														
19	Thai Cane Paper Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20	Thai Containers Group Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Subsidiaries included in Sustainability Report 2014 * G4-17

Business / Company		Production	Environment												Waste	Safety
			Energy		Air				Water							
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS			
21	Thai Containers Khonkaen Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓	
22	Thai Containers Rayong Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓	
23	Thai British Security Printing Public Company Limited	✓	✓	✓	✓	NR	NR	✓	NR	NR	NR	NR	NR	✓	✓	
24	InfoZafe Co., Ltd.															
25	Thai British DPost Co., Ltd.															
26	TC Flexible Packaging Co.,Ltd.															
27	Dyna Packs Co.,Ltd.															
28	Orient Containers Co., Ltd.															
29	Tawana Container Co., Ltd.															
30	D-In-Pack Company Limited															
Associates, Jointly-Controlled entity and Other Companies																
31	Siam Nippon Industry Paper Co., Ltd.															
Other Subsidiaries																
1	Cementthai Holding Co., Ltd.															
2	Cementthai Property (2001) Public Company Limited															
3	Property Value Plus Co., Ltd.															
4	SCG Accounting Services Co., Ltd.															
5	SCG Accounting Services Co., Ltd.															
6	CTO Management Co., Ltd.															
7	Siam Eco Energy Business Co., Ltd.															
8	SCG Learning Excellence Co.,Ltd															
9	Siam GNE Solar Energy Co.,Ltd															

* Economic performance covers all significant consolidated subsidiaries, associates, jointly-controlled and other companies according to Annual Report 2014

NR = Non Relevance

Office / Investment / Sales / Service where the collection of environmental and safety data is not necessary

Greenfield (less than 3 years) or newly acquired companies (less than 4 years) is not required to incorporate data into SCG

GRI Content Index

G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
GENERAL STANDARD DISCLOSURES					
STRATEGY AND ANALYSIS					
G4-1	Statement from the most senior decision-maker of the organization	2-3	4-5		
G4-2	Description of key impacts, risks, and opportunities	110-116	16-19		
ORGANIZATIONAL PROFILE					
G4-3	Name of the organization	back cover	1, 94		
G4-4	Primary brands, products, and services	6-19	2-3		
G4-5	Location of the organization's headquarters	back cover	93		
G4-6	Number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report	7	12-13		
G4-7	Nature of ownership and legal form	back cover	-		
G4-8	Markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries) Scale of the organization	6-19	1-3		
G4-9	Scale of the organization	20-37	94-97		
G4-10	Total number of employees by type	68	84-85		
G4-11	Percentage of total employees covered by collective bargaining agreements	-	40		
G4-12	Describe the organization's supply chain	-	58		
G4-13	Significant changes during the reporting period regarding the organization's size, structure, ownership, or its supply chain	1	92-93	note: no significant changes during the reporting period.	
G4-14	Explanation of whether and how the precautionary approach or principle is addressed by the organization	110-116	16-19		
G4-15	List externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or which it endorses	-	90-91,104-105		
G4-16	Membership in associations	101	2-3, 77, 82-83, 90-91, 104-105		
IDENTIFIED MATERIAL ASPECTS AND BOUNDARIES					
G4-17	List all entities included in the organization's consolidated financial statements or equivalent documents	20-37	94-97		no
G4-18	Process for defining report boundaries and content	20-37	14		no
G4-19	Material aspects included in the report	-	14		no
G4-20	Descriptions of material aspect boundaries within the organization	-	14		no
G4-21	Descriptions of material aspect boundaries outside the organization	-	14		no
G4-22	Explanation of the effect of any restatements	-	14	note: no restatement in 2014	no
G4-23	Significant changes from previous reporting periods in the Scope and Aspect Boundaries	-	14	note: no significant changes from previous report	no
STAKEHOLDER ENGAGEMENT					
G4-24	List of stakeholder groups engaged by the organization	77-82	20		no
G4-25	Basis for identification and selection of stakeholders with whom to engage	77-82	20		no
G4-26	Approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group	77-82	20		no
G4-27	Key stakeholder topics and concerns and organization response	77-82	20		no
REPORT PROFILE					
G4-28	Reporting period for information provided	-	92		✓
G4-29	Date of most recent report	-	92		✓
G4-30	Reporting cycle	-	92		✓
G4-31	Contact point for questions regarding the report or its contents	back cover	93		
G4-32	"In accordance" option, GRI Index and report assurance	-	92, 108-109		✓*
G4-33	Policy regarding report assurance	122, 123-125	92		
GOVERNANCE					
G4-34	Governance structure of the organization	41-42, 91-95	34		
G4-35	Process for delegating authority for sustainability topics from the board to senior executives and other employees	54	8-11		
G4-36	High-level accountability for sustainability topics	93-95	9-11		
G4-37	Processes for consultation between stakeholders and the board on sustainability topics	82	23		

AR = Annual Report
SR = Sustainability Report
* Only Selected Subject Matter: Report Assurance

G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
G4-38	Composition of the board and its committees	41-42, 85, 87, 95-96	10,28		
G4-39	Indicate if Chair of highest governance body is also an executive officer	87	28-29		
G4-40	Nomination and selection processes for the board and its committees	95-97	-		
G4-41	Processes for the highest governance body to ensure conflicts of interest are avoided and managed	76-77, 117	-		
G4-42	Board and executives' roles in the organization's mission statements, strategies, policies, and goals related to sustainability impacts	85-87	-		
G4-43	Board knowledge of sustainability topics	89-91	30		
G4-44	Board performance with respect to governance of sustainability topics	88-89	30		
G4-45	Board role in the identification and management of sustainability impacts, risks, and opportunities	110-116	30		
G4-46	Board role in reviewing risk management processes for sustainability topics	110-116	28		
G4-47	Frequency of the board's review of sustainability impacts, risks, and opportunities	110-116	17		
G4-48	Highest committee or position that formally reviews and approves the organization's sustainability report	110-116	92		
G4-49	Process for communicating critical concerns to the board	110-116	28		
G4-50	Nature and total number of critical concerns that were communicated to the board	110-116	28		
G4-51	Remuneration policies for the board and senior executives	63-65	-		
G4-52	Process for determining remuneration	63-65	-		
G4-53	Stakeholders' views on remuneration	63-65	-		
G4-54	Ratio of the annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees	63-65	-		
G4-55	Ratio of percentage increase in annual total compensation for the organization's highest-paid individual to the median percentage increase in annual total compensation for all employees	63-65	-		
ETHICS AND INTEGRITY					
G4-56	Code of conduct	100	60		
G4-57	Helplines or advice lines for employees	100-102	15, 30		
G4-58	Mechanisms for reporting concerns about unethical or unlawful behavior	102	30		
SPECIFIC STANDARD DISCLOSURES					
CATEGORY: ECONOMIC					
ASPECT: ECONOMIC PERFORMANCE					
G4-DMA	Generic Disclosures on Management Approach	84-85	-		
G4-EC1	Direct economic value generated and distributed	4-7			
G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change	113	46		
G4-EC3	Coverage of the organization's defined benefit plan obligations	40, 65, 78	-		
G4-EC4	Financial assistance received from government	-	84		
ASPECT: MARKET PRESENCE					
G4-DMA	Generic Disclosures on Management Approach	84-85	38		
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	-	40		
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	116	84		
ASPECT: INDIRECT ECONOMIC IMPACTS					
G4-DMA	Generic Disclosures on Management Approach	84-85	38-45		
G4-EC7	Development and impact of infrastructure investments and services supported	124-125	6, 33, 57, 70-75, 77		
G4-EC8	Significant indirect economic impacts, including the extent of impacts	-	70-75		
ASPECT: PROCUREMENT PRACTICES					
G4-DMA	Generic Disclosures on Management Approach	84-85	24-25, 58		
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	-	60		

AR = Annual Report
SR = Sustainability Report

G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
CATEGORY: ENVIRONMENTAL					
ASPECT: MATERIALS					
G4-DMA	Generic Disclosures on Management Approach		14-19, 24-25, 90		
G4-EN1	Materials used by weight or volume		2-3		
G4-EN2	Percentage of materials used that are recycled input materials		55		
ASPECT: ENERGY					
G4-DMA	Generic Disclosures on Management Approach		24-25, 46-47, 90		
G4-EN3	Energy consumption within the organization		46, 87		✓
G4-EN4	Energy consumption outside of the organization		-	Data are collected for logistics but they are not publicly reported.	
G4-EN5	Energy intensity		46, 87		
G4-EN6	Reduction of energy consumption		47		
G4-EN7	Reductions in energy requirements of products and services		47, 63		
ASPECT: WATER					
G4-DMA	Generic Disclosures on Management Approach		24-25, 50-51		
G4-EN8	Total water withdrawal by source		51, 89		✓
G4-EN9	Water sources significantly affected by withdrawal of water		51	There is no water sources significantly affected by withdrawal of water.	
G4-EN10	Percentage and total volume of water recycled and reused		52, 89		✓
ASPECT: BIODIVERSITY					
G4-DMA	Generic Disclosures on Management Approach		76		
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		77, 91		
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas		77		
G4-EN13	Habitats protected or restored		76-77, 91		
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk		-	There is no IUCN Red List species and national conservation list species with habitats in areas affected by operations.	
ASPECT: EMISSIONS					
G4-DMA	Generic Disclosures on Management Approach		24-25, 78, 90		
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)		47-49, 88		✓
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)		48-49, 88		✓
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)		48-49		
G4-EN18	Greenhouse gas (GHG) emissions intensity		88		✓
G4-EN19	Reduction of greenhouse gas (GHG) emissions		47-49		
G4-EN20	Emissions of ozone-depleting substances (ODS)		79		
G4-EN21	NOX, SOX, and other significant air emissions		78-79, 88, 91	assurance on the emission from Cement Business only (p.91)	✓
ASPECT: EFFLUENTS AND WASTE					
G4-DMA	Generic Disclosures on Management Approach		24-25, 54-55		
G4-EN22	Total water discharge by quality and destination		89		
G4-EN23	Total weight of waste by type and disposal method		56-57, 89		✓
G4-EN24	Total number and volume of significant spills		85		
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally		-	note: none waste under the terms of the Basel Convention Annex I, II, III, and VIII.	
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff		-	note: no plant located near by identity, size, protected status, and biodiversity value of water bodies.	
ASPECT: PRODUCTS AND SERVICES					
G4-DMA	Generic Disclosures on Management Approach		24-25, 63-65		
G4-EN27	Extent of impact mitigation of environmental impacts of products and services		47, 53, 56-57, 63-65		
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category		57		
ASPECT: COMPLIANCE					
G4-DMA	Generic Disclosures on Management Approach		18-19, 24-25		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations		-	note: no fines for non-compliance with environmental laws and regulations.	

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G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
ASPECT: TRANSPORT					
G4-DMA	Generic Disclosures on Management Approach		33-34, 48		
G4-EN30	Significant environmental impacts of transporting products and other goods and materials for the organization's operations, and transporting members of the workforce		48		
ASPECT: OVERALL					
G4-DMA	Generic Disclosures on Management Approach		24-25		
G4-EN31	Total environmental protection expenditures and investments by type		84		
ASPECT: SUPPLIER ENVIRONMENTAL ASSESSMENT					
G4-DMA	Generic Disclosures on Management Approach		24-25, 58, 61		
G4-EN32	Percentage of new suppliers that were screened using environmental criteria		59		
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken		-	note: no significant environmental impacts in the supply chain and actions.	
ASPECT: ENVIRONMENTAL GRIEVANCE MECHANISMS					
G4-DMA	Generic Disclosures on Management Approach		30		
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms		-	note: no grievances about environmental impacts filed, and addressed.	
CATEGORY: SOCIAL					
SUB-CATEGORY: LABOR PRACTICES AND DECENT WORK					
ASPECT: EMPLOYMENT					
G4-DMA	Generic Disclosures on Management Approach		24-25, 38-39		
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region		84		
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation		40		
G4-LA3	Return to work and retention rates after parental leave, by gender		84		
ASPECT: LABOR/MANAGEMENT RELATIONS					
G4-DMA	Generic Disclosures on Management Approach		38		
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements		40		
ASPECT: OCCUPATIONAL HEALTH AND SAFETY					
G4-DMA	Generic Disclosures on Management Approach		18, 24-25, 32-33, 90		
G4-LA5	Percentage of total workforce represented in formal joint management worker health and safety committees that help monitor and advise on occupational health and safety programs		32-33		
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender		32-35, 85, 91		✓
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation		35		
G4-LA8	Health and safety topics covered in formal agreements with trade unions		32		
ASPECT: TRAINING AND EDUCATION					
G4-DMA	Generic Disclosures on Management Approach		38		
G4-LA9	Average hours of training per year per employee by gender, and by employee category		43		
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings		42-45		
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category		42, 84		
ASPECT: DIVERSITY AND EQUAL OPPORTUNITY					
G4-DMA	Generic Disclosures on Management Approach		42		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity		84		
ASPECT: EQUAL REMUNERATION FOR WOMEN AND MEN					
G4-DMA	Generic Disclosures on Management Approach		38, 42		
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation		84		

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G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
ASPECT: SUPPLIER ASSESSMENT FOR LABOR PRACTICES					
G4-DMA	Generic Disclosures on Management Approach		24-25, 31, 58, 61		
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria		59-60		
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken		-	note: no significant actual and potential impacts for labor practices in the supply chain.	
ASPECT: LABOR PRACTICES GRIEVANCE MECHANISMS					
G4-DMA	Generic Disclosures on Management Approach		30		
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms		-	note: no grievances about labor practices filed or addressed.	
SUB-CATEGORY: HUMAN RIGHTS					
ASPECT: INVESTMENT					
G4-DMA	Generic Disclosures on Management Approach		38		
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening		-	note: all agreements are in compliance with SCG Code of Conduct.	
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained		43		
ASPECT: NON-DISCRIMINATION					
G4-DMA	Generic Disclosures on Management Approach		39-40		
G4-HR3	Total number of incidents of discrimination and corrective actions taken		-	note: there is no incidents of discrimination.	
ASPECT: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING					
G4-DMA	Generic Disclosures on Management Approach		40		
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights		40		
ASPECT: CHILD LABOR					
G4-DMA	Generic Disclosures on Management Approach		38-39		
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor		31,38-39		
ASPECT: FORCED OR COMPULSORY LABOR					
G4-DMA	Generic Disclosures on Management Approach		38-41		
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor		31,38-39	note: it has been stated in SCG Supplier Code of Conduct to eliminate all forced or compulsory labor.	
ASPECT: SECURITY PRACTICES					
G4-DMA	Generic Disclosures on Management Approach		-		
G4-HR7	Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations		-	note: 100% were trained according to contract agreement.	
ASPECT: INDIGENOUS RIGHTS					
G4-DMA	Generic Disclosures on Management Approach		38-40		
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken		-	note: there was no violation involving rights of indigenous peoples in 2014.	
ASPECT: ASSESSMENT					
G4-DMA	Generic Disclosures on Management Approach		38-40		
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments		-	note: 100% reviewed by Code of Conduct.	
ASPECT: SUPPLIER HUMAN RIGHTS ASSESSMENT					
G4-DMA	Generic Disclosures on Management Approach		24-25, 31, 58, 61		
G4-HR10	Percentage of new suppliers that were screened using human rights criteria		59-60		
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken		-	note: there was no negative human rights impacts in supply chain.	
ASPECT: HUMAN RIGHTS GRIEVANCE MECHANISMS					
G4-DMA	Generic Disclosures on Management Approach		30		
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms		30-31		
SUB-CATEGORY: SOCIETY					
ASPECT: LOCAL COMMUNITIES					
G4-DMA	Generic Disclosures on Management Approach		68-69		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs		68-75		
G4-SO2	Operations with significant actual and potential negative impacts on local communities		68	note: there was no potential negative impact on local communities.	

AR = Annual Report
SR = Sustainability Report

G4 Indicator	Description	Page		Omission/ Note	External Assurance
		AR	SR		
ASPECT: ANTI-CORRUPTION					
G4-DMA	Generic Disclosures on Management Approach		31		
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified		31		
G4-SO4	Communication and training on anti-corruption policies and procedures		31		
G4-SO5	Confirmed incidents of corruption and actions taken		-	note: there was no incidents of corruption.	
ASPECT: PUBLIC POLICY					
G4-DMA	Generic Disclosures on Management Approach		-	Non Relevance	
G4-SO6	Total value of political contributions by country and recipient/beneficiary		-	Non Relevance	
ASPECT: ANTI-COMPETITIVE BEHAVIOR					
G4-DMA	Generic Disclosures on Management Approach		-	Non Relevance	
G4-SO7	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes		-	Non Relevance	
ASPECT: COMPLIANCE					
G4-DMA	Generic Disclosures on Management Approach		19		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations		-	note: there was no significant fines.	
ASPECT: SUPPLIER ASSESSMENT FOR IMPACTS ON SOCIETY					
G4-DMA	Generic Disclosures on Management Approach		24-25, 31, 58, 61		
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society		59-60		
G4-S10	Significant actual and potential negative impacts on society in the supply chain and actions taken		-	note: there was no significant negative impacts on society in the supply chain.	
ASPECT: GRIEVANCE MECHANISMS FOR IMPACTS ON SOCIETY					
G4-DMA	Generic Disclosures on Management Approach		30		
G4-S11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms		30-31		
SUB-CATEGORY: PRODUCT RESPONSIBILITY					
ASPECT: CUSTOMER HEALTH AND SAFETY					
G4-DMA	Generic Disclosures on Management Approach		64-65		
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement		-	note: 100% of significant products.	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes		-	None	
ASPECT: PRODUCT AND SERVICE LABELING					
G4-DMA	Generic Disclosures on Management Approach		63, 65	note: existing management approach is applied.	
G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements		-	note: all significant product and service categories are assessed regarding health and safety impact.	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes		65	note: there was no incidents of non-compliance.	
G4-PR5	Results of surveys measuring customer satisfaction		64		
ASPECT: MARKETING COMMUNICATIONS					
G4-DMA	Generic Disclosures on Management Approach		24-25, 63-65		
G4-PR6	Sale of banned or disputed products		-	note: there was no banned or disputed products in SCG.	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes		65	note: there was no incidents of non-compliance.	
ASPECT: MARKETING COMMUNICATIONS					
G4-DMA	Generic Disclosures on Management Approach		65		
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data		65		
ASPECT: COMPLIANCE					
G4-DMA	Generic Disclosures on Management Approach		65		
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services		-	note: there was no fines for non-compliance.	

AR = Annual Report
SR =Sustainability Report



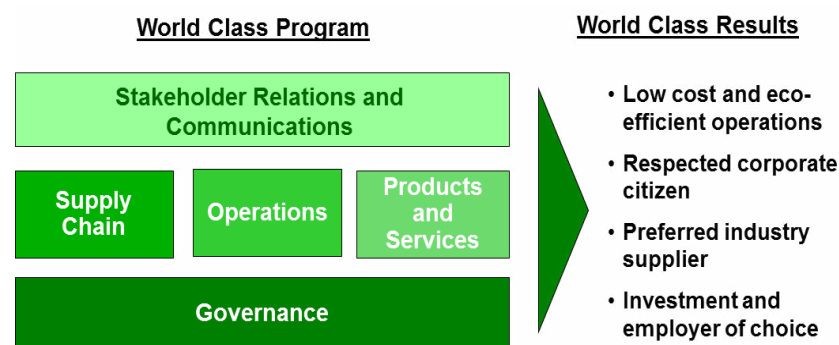
United Nation Global Compact (UNGC)

Criteria for the GC Advanced Level		Action	Page
Strategy, Governance, and Engagement			
1	High-level sustainability in line with UNGC	<ul style="list-style-type: none">Message from President & CEOBusiness Philosophy and VisionManagement approach to sustainability	4-5 7 8-11
2	Effective decision-making processes and systems of governance for corporate sustainability	<ul style="list-style-type: none">Management approach to sustainabilitySCG Code of Conduct	8-11 28-31, 60-61
3	Engagement with all key stakeholders	<ul style="list-style-type: none">Defined stakeholder engagement policy and practices	20-23
UN Goals and Issues			
4	Actions taken in support of broader UN goals and issues	<ul style="list-style-type: none">Sustainable Management ApproachActions and ChallengesCorporate Social Responsibility	8-11 24-25 68-75
Human Rights Implementation			
5	Robust commitments, strategies or policies in the area of human rights	<ul style="list-style-type: none">Whistleblower systemContinuous treatment and development of employeeRespect to Diversity, Disability Recruitment, Employee Treatment with Equality and Fairness	30-31 38-45 38-41
6	Effective management systems to integrate the human rights principles	<ul style="list-style-type: none">Health and Safety for Employee and ContractorContinuous Employee Caring	32-37 38-41
7	Monitoring and evaluation mechanisms of human rights performance	<ul style="list-style-type: none">Project of Safety Performance Assessment ProgramEmployee opinion survey and engagementSCG Contractor Safety Certification System	9-11 22 59
8	Outcomes of human rights principles integration	<ul style="list-style-type: none">Result of Safety Performance Assessment ProgramActions and ChallengesApprove of SCG Contractor Safety Certification SystemSocietal Performance	11 24 59 84-85 111-112
Labor Principles Implementation			
9	Appropriate commitments, strategies or policies in the area of labor	<ul style="list-style-type: none">Risks, operation, and control under labor and safety lawsCorporate safety guideline and target zero accident and fatality	38-45 32-37
10	Effective management systems to integrate the labor principles	<ul style="list-style-type: none">Complied with Occupational Health and Safety Management System Standard TIS/OHSAS and Occupational Health and Safety Management frameworkImprove contractor safety standard by auditing against SCG Contractor Safety Certification System	32-37 59
11	Monitoring and evaluation mechanisms of labor performance	<ul style="list-style-type: none">Result of Safety Performance Assessment ProgramEmployee Caring	32-37 38-45
12	Outcomes of labor principles integration	<ul style="list-style-type: none">Summarised accident statistics and social indicators (community satisfaction) and WBCSD-CSI indicators	37, 85, 90-91

Criteria for the GC Advanced Level		Action	Page
Environmental Implementation			
13	Commitments, strategies or policies in the area of environmental responsibility	<ul style="list-style-type: none">Promote management approach as per sustainable development guidelines to companiesTargeted to reduce greenhouse gas emission for at least 10 percent by 2020 from base year (2007)Defined Zero Waste to Landfill target (non-hazardous waste: 2013, hazardous waste: 2014)	8-9 46-49 54-57
14	Effective management systems to integrate the environmental principles	<ul style="list-style-type: none">Sustainable development guidelines, complied with ISO 14001 and ISO 50001Projects to level-up Environmental Management for contractors and environmentally friendly procurementCreate sustainable value from environmentally friendly products, process, and services (SCG eco value Label, Carbon Reduction Label, Carbon Foot print Label)Role model in Green Industry Award for Green Culture (level 5) from The Ministry of Industry	8-11 58-59 62-63 60
15	Monitoring and evaluation mechanisms of environmental performance	<ul style="list-style-type: none">Environmental Performance Assessment ProgramProgress of environment development planCreate sustainable value to suppliers and contractors	11 46-57, 78-79 58-65
16	Outcomes of environmental principles integration	<ul style="list-style-type: none">Actions and ChallengesEnvironmental performance	24-25, 46-57, 78-79, 86-91
Anti-Corruption Implementation			
17	Appropriate commitments, strategies or policies in the area of anti-corruption	<ul style="list-style-type: none">SCG business philosophy and visionAnnounced anti-corruption policy and guidelines through corporate governance handbook and SCG's Code of ConductAnnounced SCG Supplier Code of ConductEnhanced awareness and understanding on SCG's Code of Conduct to employees	7 28-31 4-5 30-31
18	Effective management systems to integrate the anti-corruption principle	<ul style="list-style-type: none">Clearly defined authority of each levels of executivesStrict internal audit system and communicated opinions or complaints via Whistleblower system	28-29 30-31
19	Monitoring and evaluation mechanisms of anti-corruption performance	<ul style="list-style-type: none">Audit reporting system to Board of Directors via audit committeeDefined guidelines for Three Lines of Defense and regular workshops for each business	30-31 30-31
20	Outcomes of anti-corruption principle integration	<ul style="list-style-type: none">Complaints found through Whistleblower system and investigations of corruption cases reported by audit committee	30-31
Value Chain Implementation			
21	Implementation of the Global Compact principles in the value chain	<ul style="list-style-type: none">Identified Value Chain Management guidelinesGreen ProcurementSCG Safety Contractor Certification SystemSCG Supplier Code of ConductDealer CollaborationInstaller Network Development	58-64
Transparency and Certification			
22	Information on the company's profile and business context	<ul style="list-style-type: none">About SCG	1-3
23	Highest standards of transparency and disclosure	<ul style="list-style-type: none">Sustainability Performance DataGRI Content Index (GRI-G4, Compliance)Excellence: Sustainability Report Award 2014 by Stock Exchange of Thailand	84-89 98-103 110
24	Independently certified by a credible third-party	<ul style="list-style-type: none">Environmental Performance Assessment ProgramIndependent assurance statement on Sustainability Report 2014	106-107

SCG**Environmental Performance Assessment Program**

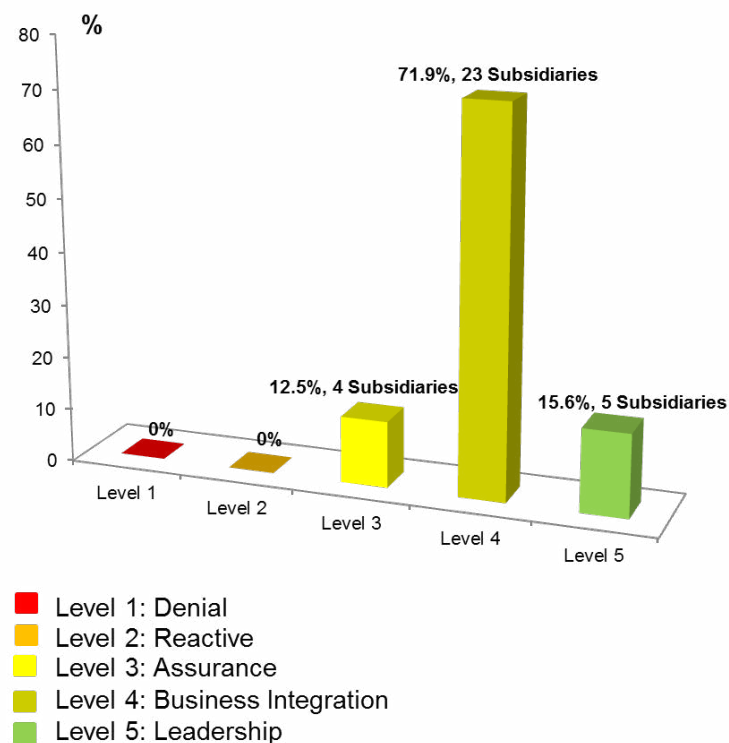
SCG has implemented the Environmental Performance Assessment Program (EPAP) since 2001 with a continuous increase in the number of subsidiaries participating in this program. Up to 2014, 52 subsidiaries in total participated in the program with 169 assessments conducted. The participating subsidiaries are those required by SCG criteria considering business type and its activities that have potential environmental impacts. In 2014, the assessment approaches and criteria cover all dimensions of sustainable development that are relevant to environmental management. These will provide benefits to the subsidiaries involving the program by driving environmental performance improvement and being in accordance with sustainable development policy of SCG. Each participating subsidiary will be assessed routine every 3 years with the scope of assessment including 5 main elements i.e. Governance; Supply Chain; Operations; Product and Service; and Stakeholder Relation and Communication.



EPAP assessment result of each individual subsidiary, considering management system, compliance, effectiveness and performance, is demonstrated in terms of maturity levels comprising

- Level 1: Denial;
- Level 2: Reactive;
- Level 3: Assurance;
- Level 4: Business Integration; and
- Level 5: Leadership.

The results of the assessments indicate a continuous improvement in the environmental performance. The cumulative results of the assessment program until the end of 2014 are 71.9% and 15.6%, of the total subsidiaries that were assessed for at least 3 times, have achieved Level 4 and Level 5, respectively.



Based on the assessments conducted in 2014, 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.

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 has commenced the risk management process at both Business and Company levels in order to ensure that risks in different aspects are completely identified and risk mitigation measures are routinely tracked for risk reduction purpose. Environmental impact consideration and mitigation measure development are factored in project modification and management processes to ensure that key issues are efficiently managed. In addition, good management practices identified from each subsidiary (e.g. air emission management, wastewater management, energy management, waste management, etc.) are consolidated and standardized to be standards and guidelines for each Business.

Supply Chain

In general, each Business started launching 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. Moreover, each Business has started development and defining specific criteria, that reflecting environmental performance, for evaluation of supplier and contractor performance as well as for further considering the evaluation results during the selection process.

Operations

Most subsidiaries 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 taking into account of Best Available Technology with regular monitoring and improvement. Most companies achieved the defined key targets (e.g. zero waste to landfill) whilst some companies have realized and planned to address the opportunities to improve their performance in some aspects e.g. development of energy and GHG emission reduction plans, reviewing the approach to prevent liability from potential environmental contamination, 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. In addition, each Business has started conducting Life Cycle Analysis (LCA) to evaluate all key impacts arising from its key products and services. The results from LCA will be utilized in production process improvement to reduce the impacts including enhance business opportunities.

Stakeholder Relation and Communication

Key stakeholders are identified and prioritized and engagement plans are properly developed. Partnership with external experts are initiated and implemented in order to address concerns from stakeholders e.g. employee health risk assessment. Satisfaction survey with key stakeholder is conducted to obtain opinions for improvement of sustainable development programs. Moreover, the existing communication processes have been reviewed to enhance channels for communicating environmental performance in order to abate environmental concerns.

Plerngtape Chamikorn (Partner)



Environmental Resources Management Thailand Business Unit, 19 February 2015

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.

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INDEPENDENT LIMITED ASSURANCE REPORT ON SCG SUSTAINABILITY REPORT 2014

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 Deloitte Touche Tohmatsu Jaiyos Audit Co., Ltd. ("we" or "us") to perform limited assurance procedures on selected subject matter ("the Subject Matter") for the year ended December 31, 2014 presented in the SCG sustainability report 2014 ("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 87)
 - o Greenhouse gases emission (scope 1 & 2) (million tons) (page 88)
 - o Total weight of waste by type and disposal method (thousand tons) (page 56-57 and 89)
 - o Water withdrawal (million cubic meters) and recycled water (%) (page 89)
- b) Social dimension performance indicators
 - o Total incident rate, incident rate (lost time cases), and number of fatalities (page 37 and 85)
- c) WBCSD Cement Sustainability Initiative (CSI) Emission Monitoring and Reporting key performance indicators
 - o KPI1: Overall coverage (%) (page 91)
 - o KPI3: Dust, Nitrogen Oxide (NO_x) and Sulfur Dioxide (SO₂) emissions data (tons) (page 91)
 - o KPI4: Dust, Nitrogen Oxide (NO_x) and Sulfur Dioxide (SO₂) coverage rate pollutant (%) (page 91)

Criteria

The selected Subject Matter above included in the Sustainability Report has been assessed according to the reporting principle prepared by SCG in "About this report" (page 92-93) which is in accordance with the Sustainability Reporting Guidelines version 4 - Comprehensive issued by the Global Reporting Initiative (GRI-G4), the WBCSD/WRI Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, and the WBCSD Cement Sustainability Initiative (CSI) guidelines including the WBCSD-CSI Guidelines for Emissions Monitoring and Reporting in the Cement Industry (updated March 2012, version 2.0), 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.

Deloitte Touche Tohmatsu Jaiyos Audit

ดีลอยท์ ทูเช โทมatsu ไชยยศ สอบบัญชี

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 business (The Siam Cement (Kaeng Khoi) Co., Ltd.)
For assurance of emission data, this selected site represents in average percentage to the cement group in Thailand of the following pollutants covered:
- Dust: 34%
- Nitrogen Oxides (NO_x): 33%
- Sulfur Dioxides (SO₂): 45%
 - Building Materials business (The Siam Fibre-Cement Co., Ltd.-Tha Luang Plant)
 - o SCG Chemicals (Map Ta Phut Olefins Co., Ltd.)
 - o SCG Paper (Siam Kraft Industry Co., Ltd.-Wangsala Plant)
- completing analytical procedures
- reviewing the appropriateness of management review and reporting processes
- reviewing the process which the management used in materiality assessment
- performing testing of selected data on sampling basis, and
- reviewing the process for consolidating data at a business level and 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 which is accordance with the Sustainability Reporting Guidelines version 4 - Comprehensive issued by the Global Reporting Initiative (GRI-G4), the WBCSD/WRI Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, and the WBCSD Cement Sustainability Initiative (CSI) guidelines including the WBCSD-CSI Guidelines for Emissions Monitoring and Reporting in the Cement Industry (updated March 2012, version 2.0), where relevant and determining the adequacy of the Criteria to meet the reporting needs of SCG. Management's responsibility also includes designing, implementing and maintaining of internal control system 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.

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, 2014 included in the SCG Sustainability Report 2014 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 20, 2015



Pride of SCG



SET Awards of Honor in Best Corporate Social Responsibility for the 7th consecutive year



Sustainability Report Awards 2014 in Excellence

SCG

- HRH Princess Maha Chakri Sirindhorn's Trophy for Thailand Corporate Excellence Awards 2013 from Thailand Management Association (TMA) and Sasin Graduate Institute of Business Administration of Chulalongkorn University
 - Human Resource Management Excellence for the 13th consecutive year
 - Innovation Excellence for the 9th consecutive year
 - Corporate Social Responsibility Excellence for the 5th consecutive year
 - Leadership Excellence
 - Product and Service Excellence
 - Consistency of Excellence Awards for the excellence in various topics for 3rd consecutive year
- Industry Leader in Construction Materials from Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM) for the 4th consecutive year and ranked highest level (Gold Class) for the 7th consecutive year (2008 – 2014)
- The Deming Distinguished Service Award for Dissemination and Promotion (Overseas) from the Union of Japanese Scientists and Engineers (JUSE) to Mr. Kan Trakulhoon, President and CEO of SCG, making him the first Thai and first non-Japanese businessman to have received such a distinguished recognition. This award reflects the company's through mission towards Total Quality Management

(TQM).

- The Best CEO in Asset and construction Materials from Investment Analysis Association
- Asia IP Elite 2014 from Intellectual Asset Management (IAM) ensuring that the corporate has the necessary expertise to create, manage, commercialise and drive strategic value from intellectual property will be vital to continued success.
- SET Awards of Honor in Best Corporate Social Responsibility for the 7th consecutive year from The Stock Exchange of Thailand (2008 – 2014)
- Sustainability Report Awards 2014 in Excellence from the Securities and Exchange Commission, Thaipat Institute, CSR Club, Thai Listed Companies Association
- 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
- Thailand's Top Corporate Brand Values 2014 for the 3rd consecutive year from Real Estate and Construction Group from Chulalongkorn University Manager Magazine and SETTRADE.COM Company
- IP Innovator & Creator Awards 2014 from Department of Intellectual Property, Ministry of Commerce

SCG Cement-Building Materials Co., Ltd.

- Consumer Protection Thailand Call Center Award 2014 from Office of The Consumer Protection Board

Thai Ceramic Co.,Ltd

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The CPAC Roof Tile Co., Ltd. Nakhonprathom Plant

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Fibre-Cement Co., Ltd. Saraburi Plant

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor



HRH Princess Maha Chakri Sirindhorn's Trophy for Thailand Corporate Excellence Awards 2013

SCG Chemicals

Grand Siam Composites Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 3rd consecutive year

Thai PET Resin Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

Thai MFC Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 4th consecutive year

Thai MMA Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 14th consecutive year

Thai Polyethylene Co., Ltd.

- Eco Factory from The Federation of Thai Industries
- Green Industry Level 4 (Green Culture) from Ministry of Industry Thailand
- Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 10th consecutive year



Thailand's Top Corporate Brand Values 2014 Real Estate and Construction Group

SCG Cement - Building Materials Thai-German Ceramic Industry Public Company Limited

- ASEAN Energy Awards 2014 in Energy Management-Industry Special from Ministry of Energy

SCG Skills Development Co., Ltd.

- Internal Quality Assurance in Education Certificate : Excellence Level from Office of The Private Education Commission

Siam White Cement Co., Ltd.

- TPM Excellent Awards from Japanese Institute of Plant Maintenance
- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Cement (Kaeng Khoi) Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Cement (Ta Luang) Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Cement (Lampang) Co., Ltd.

- Green Industry Level 5 (Green Network) from Ministry of Industry
- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Cement (Thung Song) Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

Siam Sanitary Ware Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor

The Siam Refractory Industry Co., Ltd.

- Award for Safety, Occupational Health and Working Environment from Ministry of Labor



The Deming Distinguished Service Award for Dissemination and Promotion (Overseas)



The Best CEO in Asset and construction Materials



Asia IP Elite 2014

- EIA Monitoring Awards 2014 from Office of Natural Resources and Environmental Policy and Planning
- Thai Plastic and Chemicals Public Company Limited (Rayong)**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 8th consecutive year
- The Nawaplastic Industries (Saraburi) Co., Ltd.**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 2nd consecutive year
 - Best Industry Certificate in Safety Management from Ministry of Industry
- Nawa Plastic Industries Co., Ltd.**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 2nd consecutive year
- Map Ta Phut Olefins Co.,Ltd**
 - Green Industry Level 5 (Green Network) from Ministry of Industry Thailand
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 2nd consecutive year
- Rayong Olefins Co., Ltd**
 - Eco Factory from The Federation of Thai Industries
 - Green Industry Level 4 (Green Culture) from Ministry of Industry Thailand
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 12th consecutive year
- Siam Mitsui PTA Co., Ltd**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 12th consecutive year

- SCG Paper**
 - Siam Kraft Industry Co., Ltd.**
 - Thailand Energy Award for Creative Energy Project Department of Alternative Energy Development & Efficiency, Ministry of Energy
 - AsiaStar 2014 Awards for Consumer Packaging from Ministry of Industry and Asian Packaging Federation
 - Thai Containers Group Co., Ltd**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labour
 - Green Industry Level 3 (Green System) from Ministry of Industry
 - Award for Excellence in Consistent TPM Commitment from Japan Institute of Plant Maintenance (JIPM), Japan
 - Thai Containers Khonkaen Co., Ltd.**
 - Good Manufacturing Practice (GMP) from Management System Certification Institute (MASCI)
 - Thai Union Paper Public Company Limited**
 - Award for Excellence in Consistent TPM Commitment from Japan Institute of Plant Maintenance (JIPM), Japan
 - Thai British Security Printing Public Company Limited**
 - Award for TPM Excellence for A Category from Japan Institute of Plant Maintenance (JIPM), Japan

What’s more important for **SCG** than having been ranked as

No. 1 in the world
for four
consecutive years
is to offer
a sustainable future
for everyone in **ASEAN.**





The Deming Distinguished Service Award for Dissemination and Promotion (Overseas)



The Best CEO in Asset and construction Materials



Asia IP Elite 2014

- EIA Monitoring Awards 2014 from Office of Natural Resources and Environmental Policy and Planning
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 - Green Industry Level 4 (Green Culture) from Ministry of Industry Thailand
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 12th consecutive year
- Siam Mitsui PTA Co., Ltd**
 - Award for Safety, Occupational Health and Working Environment from Ministry of Labor for the 12th consecutive year

- SCG Paper**
 - Siam Kraft Industry Co., Ltd.**
 - Thailand Energy Award for Creative Energy Project Department of Alternative Energy Development & Efficiency, Ministry of Energy
 - AsiaStar 2014 Awards for Consumer Packaging from Ministry of Industry and Asian Packaging Federation
 - Thai Containers Group Co., Ltd**
 - Outstanding Workplace Award for Workplace Health and Safety 2014 & A Certificate on Outstanding Organization Award - Labour Relations and Welfare 2014 for Ministry of Labour
 - Green Industry Level 3 (Green System) from Ministry of Industry
 - Award for Excellence in Consistent TPM Commitment from Japan Institute of Plant Maintenance (JIPM), Japan
 - Thai Containers Khonkaen Co., Ltd.**
 - Good Manufacturing Practice (GMP) from Management System Certification Institute (MASCI)
 - Thai Union Paper Public Company Limited**
 - Award for Excellence in Consistent TPM Commitment from Japan Institute of Plant Maintenance (JIPM), Japan
 - Thai British Security Printing Public Company Limited**
 - Award for TPM Excellence for A Category from Japan Institute of Plant Maintenance (JIPM), Japan

What’s more important for **SCG** than having been ranked as

No. 1 in the world
for four
consecutive years
is to offer
a sustainable future
for everyone in **ASEAN.**





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