

The Siam Cement Public Company Limited

Sustainability Report 2020

BUILDING RESILIENCE

for Sustainability Leadership



BUILDING RESILIENCE

for Sustainability Leadership

SCG Sustainability Goals

- Being a role model organization in corporate governance, sustainable development and circular economy.
- Aim to achieve net zero carbon emissions by 2050.
- Minimize natural resource use and environmental impacts.
- Enhance health and well-being toward injury and illness free organization.

Member of
Dow Jones
Sustainability Indices
Powered by the S&P Global CSA





Contents

Message from President & CEO, and Sustainable Development Committee, SCG	4
Sustainable Development Structure	7
The Roles of the Sustainability-Related Committees in 2020	8
Voices of Female Executives from SCG Sustainable Development Committee	10
Meetings of the Sustainability-Related Committees in 2020	11

About SCG

Cement-Building Materials Business	14
Chemicals Business	16
Packaging Business	18
SCG, Bringing in Sustainability to ASEAN	20
Partnership and Collaboration Towards Sustainability	24
Sustainable Value Chain	26
Stakeholders Engagement	28
2020 Opinion Panel	32
2020 Highlights	34

Feature Story

Adapting and Moving on Amid COVID-19 Crisis	38
SCG Green Choice You can Choose, for the World	42
Join, Collect and Separate: Activating a Circular Economy	46
Zero Burn Creating Renewable Energy while Reducing Pollution from Straw Burning	50
Water Management at Ban Sa Phae Nuea: Turning the Drought Crisis Around	54
Commitment to Enhancing for Excellence in Safety	58

Materiality

Materiality	64
Climate Resilience	66
Circular Economy	70
Health and Safety	74

Sustainability Issues - Economic, Environmental and Social

Sustainability Issues	80
Innovation and Technology	82
Sustainable Value towards Supplier	84
Customers Experience Creation	86
Product Stewardship	88
Waste Management	90
Water Management	92
Biodiversity and Ecosystem	94
Human Rights	96
Employee Caring and Development	98
Community and Social Involvement	100

Sustainability Performance Data

About This Report	104
Sustainability Performance Data 2016 - 2020	108
Operating Results of Cement Business in Accordance with Global Cement and Concrete Association (GCCA)	124
Supplier Governance and Enhance towards Sustainability	126
SCG's Key Activities on Human Rights Risks in 2020	128
Subsidiaries included in Sustainability Report 2020	130
Assurance Statements	134

International Standard Indices

GRI Content Index	138
United Nations Global Compact (UNGC)	144
Task Force on Climate-related Financial Disclosure (TCFD)	145
Sustainability Accounting Standard Board (SASB)	146

Message from President & CEO, and Sustainable Development Committee, SCG

In 2020, the world faced a major global challenge due to the COVID-19 outbreak. The pandemic has led to a tragic loss of life in nearly all countries. Professionals and staffs in the healthcare sector have been bravely battling the pandemic and trying to keep everyone safe. The government has been working to respond to the crisis through various containment measures to limit the spread of COVID-19. Business and industry sectors have also been affected by the crisis and have needed to adapt to ensure that their businesses continue and prosper.

SCG has adapted to the pandemic in three main ways: resilience, agility, and speed. Furthermore, the company has been strictly operating its business with the Business Continuity Management (BCM) system, and stakeholder collaboration. SCG's digital transformation and proactive actions have allowed SCG to turn the crisis into opportunity. The company has satisfactorily survived challenges of 2020. Parts of this success were from our efforts in fostering innovative product and service strategies to achieve the High Value Added (HVA), improving the production process and applying digital technologies in the company's supply chain management. Our ongoing development helps the company earn trust from individuals in society and allows us to promptly deliver better quality of life to people while promoting a sustainable environment.

Health and Safety during the Pandemic

SCG closely monitored and assessed the situation and established a health and safety guideline for employees. Physical distancing and other hygiene measures were adopted, such as mask-wearing, handwashing with soap or alcohol, and physical distancing. Employees could work from home or alternative shifts. Work tools to support online working was provided. Moreover, a daily health check system was applied so that SCG's employees could receive assistance or help promptly.

SCG has leveraged its expertise and innovation in a collaborative effort with the healthcare sector in developing a series of COVID-19 innovation medical equipment to be a solution to the pandemic. Almost 31 innovations have been

Roongrote Rangsiyopash





Tanawong Areeratchakul

created including Modular Screening, Swab Unit, Negative/Positive Pressure Isolation Chamber, Patient Isolation Capsule, Tele-Monitoring, Online Clinic application, and Nong Song Jai (AGV), etc. These tools were delivered through SCG 230 networks to facilitate more than 979 healthcare units and institutions, including hospitals, healthcare units and communities across the country. SCG and SCG Foundation have donated over 164 million baht to support development of these innovations.

Employees of SCG and its contractors have joined together to elevate Health and Safety measures to achieve the Injury and Illness Free goal by conducting standardized guideline on Goods Transportation Safety for the entire organization. The application of SCG Safety Framework in combination with Safety Performance Assessment Program (SPAP) has continuously being developed to be more up to date and to increase its efficiency. To create higher safety standard, SCG has also continued to develop technology and innovation to reduce occupational risks at workplace.

Climate Resilience

Even though COVID-19 has become a global challenge, the world is still facing other critical issues: rapid climate change and biodiversity loss. SCG has pledged to reduce greenhouse gas emissions and become a “Net Zero” by 2050 to support the Paris Agreement in limiting temperature increases to less than 1.5 degrees Celsius. Now, current greenhouse gas emission reduction targets are being reviewed as well as promoting Natural Climate Solution (NCS) and other indirect greenhouse gases (Scope 3) reduction.

SCG strongly commits to increasing the use of alternative energy, promoting better energy efficiency, and improving products, services and solutions that contribute to emission reduction. The company also adopts Internal Carbon Pricing (ICP) as economic measure in making investment decisions in projects deemed to contribute to greenhouse gas emission cuts. In addition, water resources management has been integrated with international standard tools to be used for climate resilience.

Collaboration in Driving Circular Economy

In 2020, SCG got another opportunity to host SD Symposium 2020 under the concept of “Circular Economy: Actions for Sustainable Future”. The event was held online due to the COVID-19 situation.

In this event, 180 participants across sectors including the public sector, the private sector, academic scholars, communities, and the young generation were invited to brainstorm and propose solutions for the issues that were associated with living conditions and economic situations in the country and the world through Circular Economy principle in 4 dimensions including water reuse management to battle severe drought crisis in the upcoming year, promote “Zero Burn” in 2022 in agricultural to lower PM 2.5 and mitigate global warming, enhance plastic waste management to push forward to become a national agenda with law introduction or amendment to ensure strictly plastic waste management, and Circular Economy principle to be used in the construction industry in order to establish “Green and Clean Construction.”

SCG also organized the SD Symposium 2020 Indonesia under the theme “Circular Economy: Collaboration for Action” with an aim to build awareness and foster understanding of Circular Economy principle, its directions and examples of successful solutions as well as to share and exchange knowledge that would lead to successful Circular Economy implementation.

SCG will continuously create projects to drive Circular Economy collaboration both in Thailand and ASEAN with a plan to expand networking in all sectors to collaborate system that creates resource efficiency, starting from a production to consumption stage.

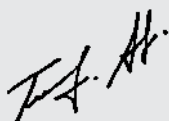
Becoming a Sustainable Business Leader

The Challenges that SCG had confronted in 2020 confirmed the Company’s commitment in operating the business while taking into account the 5 major goals of UN’s Sustainable Development Goals (SDGs): SDG 3 Good Health and Well-Being, SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure, SDG 12 Responsible Consumption and Production, and SDG 13 Climate Action. This conviction has become a firm root that helps SCG build up readiness and capability to not only overcome any crisis but also grow sustainably and firmly. As thus, SCG has been ranked by Dow Jones Sustainability Indices (DJSI) as an Industry Leader in Construction Materials. Also, the Company has successfully become the first organization in ASEAN to become a member of DJSI since 2004 and continued for the 17th consecutive year.

This Sustainability Report 2020 showcase parts of our vision in operating the business for sustainable development. For more than 107 years, SCG has been running its business with strong determination to overcome any crisis and challenges, and we still hold on to our goal in driving our organization to the road of success with consistent growth, environmental sustainability, and better life quality to all in the society.

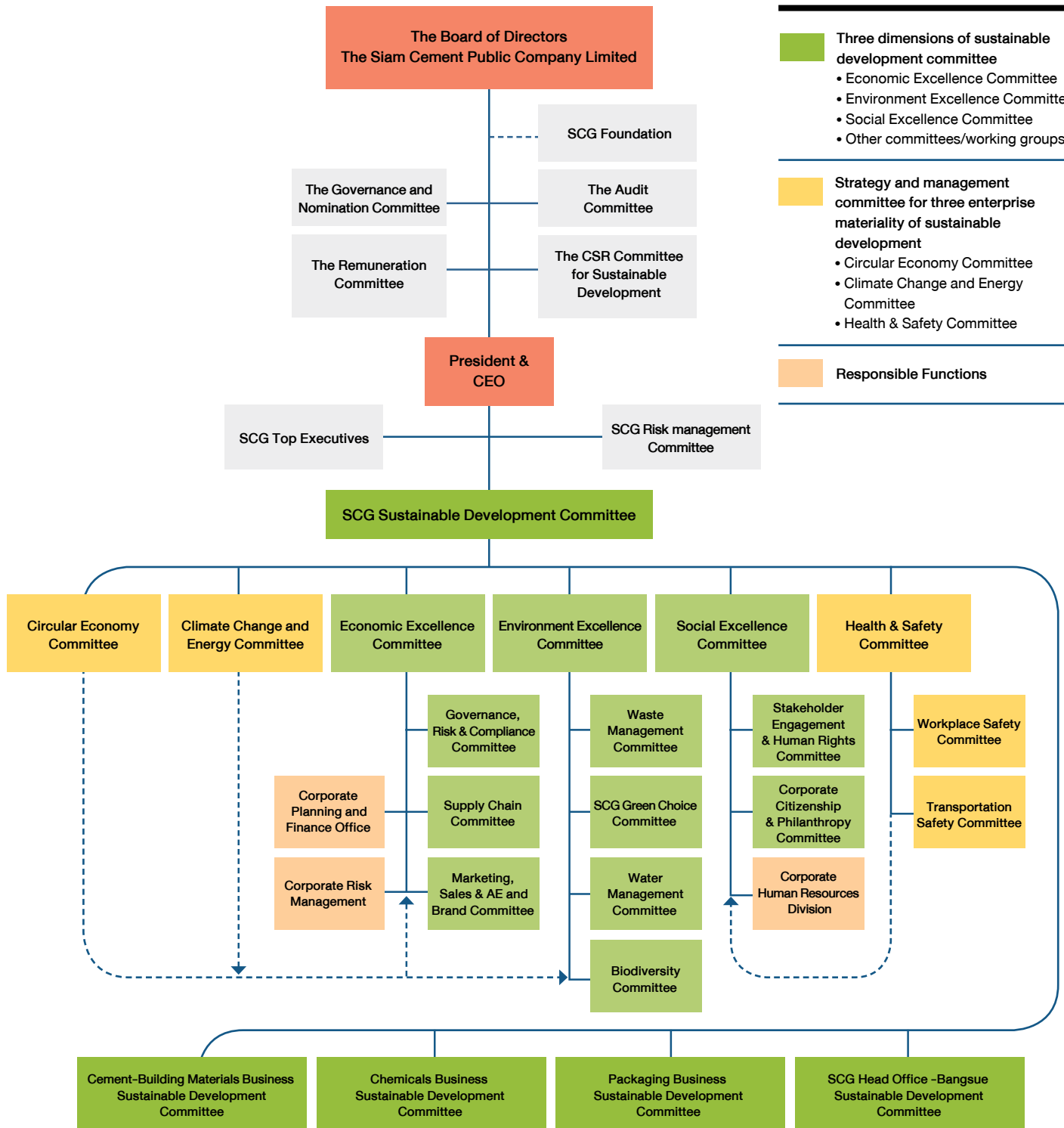


Roongrote Rangsiyopash
President and CEO, SCG
Chair of Sustainable Development Committee, SCG



Tanawong Areeratchakul
President, Chemicals Business
Co-Chair, Sustainable Development Committee, SCG

Sustainable Development Structure



The Roles of the Sustainability-Related Committees in 2020

Economic Excellence Committee



“In the past year, we tried to promote an understanding about economic excellence and good governance as a business model because we believe that sustainable development must have positive economic results. Also, we must develop our suppliers to achieve sustainability alongside us. This requires that they share our good corporate governance practices and understanding of sustainable development. However, in 2020, the COVID-19 pandemic broke out and affected everyone. We had to adjust our strategies to prioritize products that were in high demand as well as adjust the supply chain, business partners, and even customers. We provided assistance to our suppliers to help sustain their businesses and make sure that we overcame the crisis together. We also shared with our suppliers what we learned from experts, which was that the pandemic would persist for years and that everyone would need to adjust management plans in the long term, not the short term.

“We place emphasis on implementing stringent preventive measures throughout the supply chain despite additional expenses because they reassure customers that our supply chain is free of COVID-19. This helps customers save because if they are unsure about the safety of a product, they would spend money on sanitizing it. This tactic has raised sales for us. Prioritizing good corporate governance helps create sustainability for our business.”

Thammasak Sethaudom

Vice President – Finance
and Investment, SCG
Economy Dimension Leader

Environment Excellence Committee



“In 2020, to achieve a net-zero carbon goal by 2050, the committee established policies and operational plans to reduce natural resource consumption in the production process and support the use of renewable energy in place of traditional one. With these policies and plans, we expect to be able to cut energy and water consumption and carbon emissions with the defined timeframe. Additionally, the committee developed an environmental management framework to keep our environmental management in line with our business goals and ensure sustainable environmental conservation across the value chain.

“We also strive to create a better understanding of environmental management among all related parties. One such initiative is the SD Symposium, organized for 10 consecutive years to raise awareness of the significance of sustainable development among the business and government sectors as well as the general public. Furthermore, we have fostered collaboration with all sectors to drive policies and active implementation. Every business must regularly analyze both internal and external issues and obstacles so as to arrive at a suitable approach towards business sustainability.”

Wichan Jitpukdee

Chief Executive Officer
SCG Packaging Public Company Limited
Environment Dimension Leader

Social Excellence Committee



“Every year, the main role of the committee is helping SCG develop and make strides towards sustainability. Before the Company can achieve that, we must understand and try to engage the stakeholders as much as possible as well as evaluate our current operations against best practices and in comparison to other leading organizations. We must also continue to improve what we are already doing well and put more efforts where there is still room for improvement, such as by introducing a clear diversity and inclusion policy, which SCG announced in 2020.

“We need to truly understand our stakeholders’ concerns in the current climate in order to develop objectives, strategies, and proactive action plans with a clear direction and engage them in the execution and continuous improvement of our initiatives.”

Paramate Nisagornsen

Vice President – Regional Business
Cement-Building Materials Business
Social Dimension Leader

Climate Change and Energy Committee



"The committee sets annual targets for reducing greenhouse gas emissions in accordance with the Paris Agreement and Thailand's national goals as well as establishes strategies for each business unit to reduce emissions of greenhouse gases and energy consumption and promote the use of renewable energy. We also promote the use of economic measures and instruments, such as internal carbon pricing, and the disclosure of climate change-related data according to international guidelines, such as TCFD and CDP. We also cooperate with the government and other agencies by implementing plans according to Thailand's Nationally Determined Contribution (NDC) and collaborate with members of our international network with regard to climate ambition, such as WBCSD, GCCA.

"SCG strives to achieve the goal of net-zero carbon emissions by 2050. This presents an opportunity for SCG to develop products and services that meet customer needs without negatively affecting the environment while also mitigating climate change. This goal also creates new business opportunities in renewable energy. SCG is one of the first organizations in the industrial sector to push for the net zero ambition by 2050, providing reassurance that Thailand's NDC will strive towards the net zero target in the future."

Mongkol Hengrojanasophon
Vice President – Olefins Business and Operations, Chemicals Business
Chair of the Climate Change and Energy Committee

Circular Economy Committee



"The committee's mission is to direct and advance circular economy strategies for SCG's sustainable management and growth. The key event in 2020 was the organization of the SD Symposium 2020 on the topic "Circular Economy: Actions for Sustainable Future," which featured selected sustainability issues in Thailand, including water management with a water circulation system, technology-based agriculture, construction waste management, and waste management. SCG also organized a brainstorming session to derive lessons from success stories so that they could be shared with the general public. Additionally, SCG has applied the circular economy concept to its resource management to achieve resource efficiency and initiated collaborations with more than 180 partners, such as the setting up of PaperX drop points for paper scraps. In addition, SCG has also been adopted technology to create a waste management platform, such as KoomKha, as well as a Building Information Modeling (BIM) technology to reduce waste generation in the step of building design.

"Management in accordance with the circular economy principles cannot produce tangible results without cooperation from all sectors in society. As collaboration with partners in all sectors is the key to success, SCG has therefore invited all stakeholders to adopt the principles of circular economy. As a result, the general public have grown more conscious of sustainable management."

Yuttana Jiamtragan
Vice President – Corporate Administration, SCG
Chair of the Circular Economy Committee

Transportation Safety Committee



"The committee seeks to promote transportation efficiency in adherence with transportation standards. To this end, the committee has established the Goods Transportation Safety Standard for every business unit in SCG and the logistics supplier. The standard is applicable to four groups of people: vehicle owner, chief driver, driver, and SCG employees, and each group must understand their role and duties and comply with operational standards. We provide tools to help maintain these standards, such as a two-way cameras in the driver's cabin to adjust driving behavior and to record evidence in the event of an accident, GPS signals sending to the Logistics Command Center for the purpose of warning drivers with risky behavior, ex. road side parking, mobile phone using while driving.

"Nowadays, we are also deploying the next-level facial recognition technology known as G7, which automatically notifies users to risky behavior of driver such as sleepy, yawning, eye closing. This system was already installed in 500 transportation vehicles in 2020. Currently, we are trying to expand our transportation standards as well as safety tools and technology to our suppliers so that they can enhance their own safety management."

Preeda Vatchratsiensakul
Managing Director
Thai Polyethylene Co., Ltd.,
Chemicals Business
Chair of the Transportation Safety Committee

Voices of Female Executives

from SCG Sustainable Development Committee

SCG promotes equality and the elimination of unfair gender discrimination. To this end, the Company encourages the appointment of individuals of either gender, male or female, as well as those who express themselves differently from their gender at birth as directors at all levels.



“Embracing employee diversity and differences, whether in terms of gender, age, or socioeconomic status, is very crucial, especially at the executive level, as these differences bring about different perspectives and opinions, which form the starting point for creativity and innovation, which is essential to business. When combined with a careful decision-making process, it will make our products and services more well-thought-out and better able to meet customer needs, which will in turn contribute to SCG’s sustainable growth.

“There have been many more women in SCG’s Management Team. Also, it is possible that in the near future, we will see female employees who are creative and dedicated to their work step up the career ladder to the very top of the organization because the world is changing faster than we thought.”

Apiradee Durongbhan

Sustainable Development
and Risk Management Director
Cement-Building Materials Business
SCG Sustainable Development Committee



“The fact that SCG embraces individual differences and diversity at all levels demonstrates its belief in the value of the individual according to SCG’s core values. These individual differences will complement the potential of the organization, create a balance between the hard and soft sides, and is a key force that has enabled the organization to navigate through crises up until now.

“Throughout my time working with SCG, I have never felt that female workers are not treated as equals to their male counterparts. On the contrary, I feel they are given job opportunities that challenge their knowledge and skills and are given development opportunities commensurate with their responsibilities. I am proud to be working in an organization that truly values the potential of each individual.”

Venus Asavasitthithavorn

Enterprise Brand Management
Office Director, SCG
SCG Sustainable Development Committee

Meetings of the Sustainability-Related Committees in 2020

Committee	Number of Meetings (times/year)	Key Matter
CSR Committee for Sustainable Development	4 (every quarter)	<ul style="list-style-type: none"> • Progress of CSR projects in Thailand and ASEAN • Performance of the SCG Sustainable Development Committee and SCG Foundation • Plans and performance of 2020 and action plans for 2021 • Review annual budgets for CSR activities and approval of CSR activities
SCG Risk Management Committee	4 (every quarter)	<ul style="list-style-type: none"> • Creating a risk culture, risk strategies, and a risk management process along the value chain • Key risks: climate change, drought/shortage of water, COVID-19 pandemic, and geopolitical risks • Emerging risks: plastic waste crisis, low-carbon economy, deep tech
SCG Sustainable Development Committee	4 (every quarter)	<ul style="list-style-type: none"> • Management of ESG issues along the value chain • Announcement of policy to pursue a net-zero carbon emission goal • Formulation of short- and long-term goals for the management of defined material issues • Engagement of national and international stakeholders, such as WBCSD, UNGC, Ellen MacArthur Foundation, TBCSD, the Federation of Thai Industries, the Board of Trade of Thailand, and government agencies
Economic Excellence Committee	4 (every quarter)	<ul style="list-style-type: none"> • Corporate governance, corporate risk management, business ethics, data privacy and cybersecurity • Innovation and technology, sustainable value creation for suppliers, customer experience and supply chain management
Environment Excellence Committee	4 (every quarter)	<ul style="list-style-type: none"> • Climate change and energy, eco-efficiency, biodiversity, and ecosystems • Circular economy, product and service stewardship, waste management, water management
Social Excellence Committee	4 (every quarter)	<ul style="list-style-type: none"> • Employee care and promotion of gender equality, health, and safety • Human rights, employee care and development, and community and social involvement • Diversity and inclusion
Circular Economy Committee	4 (every quarter)	<ul style="list-style-type: none"> • Fostering national and international collaborations • Corporate communication, business opportunities • Formulation of strategies and plans and development of products, services, and solutions in accordance with the principles of circular economy
Climate Change and Energy Committee	4 (every quarter)	<ul style="list-style-type: none"> • Climate change situations on the national and international levels • Greenhouse gas (GHG) management and emission reduction to meet targets • GHG reduction and removal technology and innovation
Workplace Safety Committee	4 (every quarter)	<ul style="list-style-type: none"> • Monitoring strategy implementation, reviewing safety frameworks, and monitoring compliance • Establishing standards/guidelines, exchanging best practices, communication, and cultivation of safety awareness • Compiling reports to analyze causes, trends, solutions, and preventive measures for scaling up
Transportation Safety Committee	6 (every two months)	<ul style="list-style-type: none"> • Determining quick actions for key leading indicators • Reviewing domestic performance and expanding practices overseas • Compiling reports to analyze causes, trends, solutions, and preventive measures for scaling up





About SCG

Cement-Building Materials Business

Raise the standards of one-stop service for building and housing solutions.

Greenhouse Gas Emissions Reduction

10.3% Cement Business

2.8% Building Materials Business compared with BAU at the base year of 2007

Recycled Materials

2.8% Cement Business

15.4% Building Materials Business

Lost Time Injury

Frequency Rate of Employees

0.219 Cement Business

0.139 Building Materials Business cases/1,000,000 hours worked

Challenges and Goals

In 2020, businesses in all sectors around the world faced challenges from the COVID-19 pandemic along with critical changes in the local and global business environment. This included political conflicts, rapid changes in technology, intensifying global environmental problems, as well as significant changes in the construction industry, people's lifestyle, and consumer needs and behaviors. All these factors have made 2020 a year of adjustment on the road to achieving our goals. SCG strives to raise the standards of one-stop service for building and housing solutions, which offers a wide range of products, services, solutions, and distribution channels. SCG also committed to the vision in strengthening our position in the ASEAN market along with promoting sustainable growth in every society and community where we operate.

Changes for Sustainability

- Create a backup plan for the production and supply chain to alleviate Covid-19 related lockdown effects. Adjust production efficiency to assure smooth operation while practicing pandemic prevention. Control workplace measures and improve operational effectiveness through different strategies such as expense, cost, and investment control. Increase management efficacy by restructuring the shareholder structure and managing mergers and acquisitions of retail businesses.
- Develop product variety, value-added products and solutions to meet customer needs. Offer more energy-saving and hygiene products as well as develop online channels through Active Omni-Channel and customer support platforms such as nocnoc.com, scghome.com and Q-Chang. Bring in new digital technology to support B2B logistics for cost and expense reduction and a more comprehensive distribution platform.
- Develop employees through continuous self-learning online platform that focuses on developing new job skills, changing Mindsets, and bringing out Agility and Resilience to handle any uncertainty that may arise.

Successes and Improvement on Sustainable Development

- Designed environmentally friendly products and services which have passed the SCG Green Choice standard. There has been an increase from 45 registered items to 49 registered items this year or a 20% increase in 2020 which generates approximately 44,471 million baht in revenue from sales or 58% increased.
- Developed a new cement type, hydraulic cement, under SCG Hybrid brand to replace Portland cement type 1. Its properties include ease of molding, quick-drying, and lessening working time and reducing greenhouse gas emissions in the production process. In 2020, 2 million tons of this new cement type have been used by our customers, reducing greenhouse gas emissions by 100,000 tons of carbon dioxide.
- Continuously turned waste from production to alternative raw materials (Waste to Value) such as processing agricultural waste into pellet biomass fuel (energy pellet) and use them as alternative energy in cement kiln to reduce farmland burning and at the same time generating income for farmers.
- Siam City Cement Public Company Limited and The Siam Cement (Kaeng Khoi) Company Limited drew up a memorandum of understanding (MOU) on cooperation in limestone quarry development towards sustainability, witnessed by the Ministry of Natural Resources and Environment and the Ministry of Industry in accordance with the Mining Act B.E. 2560. The aim was to become an environmentally friendly limestone quarry and a limestone quarry conforming to circular economic principles.
- Partnered up with Circular Economy in Construction Industry (CECI) to put circular economy principles into action in order to build up sustainable development in the construction industry as well as deliver a better life quality and social rewards to the society.
- Reforested lands by planting 101,270 trees on lands both within and outside SCG factory areas, 44,800 mangroves and 30,000 seagrasses, resulting in 14,132 tons of carbon dioxide adsorbed in total over the past 10 years.



Chemicals Business

Creating high value-added products and solutions for sustainability

Greenhouse Gas Emissions Reduction

13.0%

compared with BAU at the base year of 2007

Lost Time Injury Frequency Rate of Employees

0.000

case/1,000,000 hours worked

Challenges and Goals

In 2020, the COVID-19 outbreak has plunged the global economy into a severe recession, especially in the automobile industry. The demand of durable goods also significantly decreased. In a time of crisis, there were several factors affecting product prices and costs of raw materials. Undoubtedly, SCG needs to adapt its operation to ensure the business continuity and sustainable growth in order to mitigate short-term impacts of COVID-19 and to attain a long-term goal in creating high value-added products and innovations as well as solutions that meet the New Normal lifestyle. SCG also established a principle for developing innovative products and solutions in response to 5 aspects of sustainability: Health and Safety, Circular Economy, Climate Emergency, Clean Energy, and Water Management. Digital Technology has been developed and used in the management across the supply chain to maintain its recognition as one of ASEAN's leading companies.

Changes for Sustainability

- The working system was promptly adjusted to minimize the risk of COVID-19 spread in the workplace and operational sites. SCG supports employees with technology and tools to help create smooth work. The work mode and processes were also adjusted to ensure smooth and effective operation.
- Consumer products have been increased as they are still high-demand. Products in this line include food and beverage packaging and e-commerce-distribution packaging, etc. Sales opportunities were identified in a new international market that had been less affected by the crisis. An operational management was improved with the use of digital technologies. For example, the implementation of Digital Commerce Platform (DCP) has helped reduce 70% of its customer service response times, resulting in a high increased sales volume.
- SCG strengthens its capability on the competitiveness by collaborating with its leading business partners to develop artificial intelligence and machine learning into a practical solution for predictive maintenance for machines in all major factories. The system also allows SCG to expand its business opportunities in offering the system and services to external customers. A collaboration with world-class academic institutions were arranged in an aim to create the Internet of Things (IoT) device for measuring machine performance and digital platforms for solutions.



Successes and Improvement on Sustainable Development

- An ongoing development of the Innovation Management Process (IMP) has been proceeded. In 2020, Chemicals Business initiated almost 400 innovation ideas, resulting in more than 100 items developed and 15 items launched in the year. The EBITDA is expected to go beyond 400 million baht per year.
- Chemicals Business developed a floating solar solution to have more convenient installment and be compatible with different solar panel designs. In 2020, the floating solar solution business had 260% growth, with a capacity of 25.8 megawatts in the past year.
- Chemicals Business promoted development of information management to increase waste banks efficiency and foster communities to become more engaged in waste separation by doing an activity through an application "KoomKah." The application has its customer base of 8,000 members with almost 1,493 tons of recycled wastes.
- Chemicals Business cooperated with different companies in building a model recycled plastic road through an incorporation of asphalt and plastic waste. The model road covers 7.7 kilometers with 23 tons of recycled plastic wastes. SCG has signed an MOU with the Department of Highways, the Department of Rural Roads, DOW Thailand, and Chiangmai University in conducting research and development in incorporating plastic wastes with asphalt to be used in road construction. The project is aligned with the Government's BCG Economy policies which focuses on Bio Economy, Circular Economy and Green Economy.
- In collaboration with AIT, Chemicals Business created an innovation called Zyclonic™ which helps improve sanitation with water solutions that turn human waste and wastewater into clean, and germ free effluents that can be recycled or released without environmental impacts. From the development of this invention, SCG has gained a recognition and received an award as an honor for the effort in enhancing public toilets in Thailand at World Toilet Day 2020.
- RIL Industrial Estate of Chemicals Business has certified Eco-World Class at the highest tier with the highest score by the Industrial Estate Authority of Thailand (IEAT), becoming the first industrial estate to get certified for 2 consecutive years.
- 750 Trees were planted on lands in and outside SCG's operational sites. 30,800 mangroves were also planted, with the amount of 5,576 tons of carbon dioxide absorption within the past 10 years.



Packaging Business

Creating new packaging solutions according to circular economy principles.

Greenhouse Gas Emissions Reduction

12.8%

compared with BAU at the base year of 2007

Recycled Materials

63%

Lost Time Injury Frequency Rate of Employees

0.087

cases/1,000,000 hours worked

Challenges and Goals

In 2020, COVID-19 epidemic crisis resulted in a significant decrease in the demand for products in the range of electrical appliances, automotive and printing and writing but demand for products in the consumer goods industry, food and beverage, health care products including the e-commerce business continues to grow. Therefore, we work closely with our customers creating new packaging solutions to meet the changing needs of the consumers as well as managing the supply chain to ensure business continuity and taking care of the health of customers, business partners and employees thoroughly. We aim to grow our business with stability and expand a production capacity and consolidation through cooperation with business partners (merger and partnership) and continue to be the leader in an integrated packaging solutions in the region.

Changes for Sustainability

- Merged business through cooperation with Bien Hoa Packaging Joint Stock Company (SOVI), Vietnam's leading pulp and paper packaging company, took part in a business alliance with Rengo Co., Ltd. (Rengo) in United Pulp and Paper Co., Inc. (UPPC), Philippines and expanded a packaging capacity from high performance materials and polymers of Tin Thanh Packing Joint Stock Company (BATICO) in Vietnam.
- Developed a competitive edge by developing innovative new packaging solutions, launched Inspired Solutions Studio to give customers and interested people the opportunity to experience the solution, including packaging design and various packaging innovations that can create to meet the needs of customers in various dimensions in terms of usage, environmental concerns and marketing that can add value to the products.
- Encourage employees to continuously self-improve and create leadership in all levels by focusing on creating a leader behavior and the way of thinking as a leader who will play an important role in shaping the organizational culture as well as equip the team with knowledge and ability to support the direction of the organization and be ready to handle the rapidly changing environment.



Successes and Improvement on Sustainable Development

- Strive to maintain its leadership in sustainable development under the circular economy principles with the aim at reducing the consumption of natural resources and bring as much waste back into the recycling process. There are currently 68 recycling centers in Thailand, Vietnam, and the Philippines.
- Develop the country's first fully recyclable rice bag which is a multi-layer film bag made from a single layer of polyethylene (R-1). The recyclable rice bag can reduce its thickness by 18%. Therefore, the use of plastic pellets and energy in production are reduced but the standard quality of the rice bag is maintained. It is expected to reduce the use of plastic by more than 300 tons per year and to reduce greenhouse gas emissions by more than 600 tons of carbon dioxide per year.
- From the Internal Startup project, DezpaX has become a complete solution packaging for food and beverage delivery operators. A wide variety of packaging and packaging services are available at fair prices. At the present, DezpaX, together with Siam Makro Public Company Limited, has expanded its services to cover all 77 provinces nationwide.
- Work together with the Thai Chamber of Commerce to buy sugarcane leaves from sugarcane farmers to be used as a renewable energy. It helps reduce pollution problems from farm burning and reduce greenhouse gas emissions from the use of coal. Furthermore, income is generated for Thai farmers. This action is expected to reduce greenhouse gas emissions by around 3,000 tons of carbon dioxide per year.
- Eucalyptus wood shipped to the factory is required to be totally FSC™ (License Code FSC™-C135609) managed wood which is the source control of the wood according to 5 regulations: no illegally harvested forests, no forests that were harvested in violation of traditional and civil rights, no forests where high conservation values are threatened by management activities, no natural forests that were converted to non-forest uses and no forests with genetically modified trees.
- Reforestation both in the factory areas and outside by planting 48,170 trees. Over the 10-year period, the total amount of carbon dioxide adsorption was 4,209 tons.



SCG, Bringing in Sustainability to ASEAN

SCG began its business expansion in ASEAN with Vietnam in 1992 and in Indonesia in 1995. Currently, all core business units of SCG, namely Cement-Building Materials Business, Chemicals Business and Packaging Business, have started their operations in many ASEAN countries, including Vietnam, Indonesia, Cambodia, Philippines, Laos, Myanmar, Singapore and Malaysia.

As SCG emphasizes on health and safety in the workplace, travelling and transporting, the Company continues to build Safety Culture within the organization through the SCG Safety Framework in a combination with Safety Performance Assessment Program (SPAP) and Life Saving Rules under the same measures applied in Thailand.

Monitoring and supervision on the standard of factory environmental management have been strictly proceeded. Tools and manufacturing processes have continually been monitored and improved for increased efficiency. A close supervision on emissions, dust and wastewater have been carried on to assure that the levels are not over the limit assigned in the law to prevent environmental impacts that may have on communities near the sites of the factories. SCG enhanced buffer zone development to create good environment for SCG factories and areas outside to ensure that there will not be any complaints to the factories regarding this issue.

Since the start of our expansion to other countries, SCG has brought along its philosophy – adherence to fairness, dedication to excellence, belief in the value of the individual, and concern for social responsibility. The Company has always fostered its employees to adhere to the philosophy. SCG also aims to unlock and develop potential of local employees in those countries with the similar standards as provided to employees in Thailand. The Company focuses especially in the three dimensions of sustainable development: Climate Resilience, Circular Economy and Health and Safety to bring in sustainability to all the countries that SCG operates in.



COVID-19 Relief and Support

In the time of COVID-19 in 2020, SCG President and CEO held meetings with employees in ASEAN countries as in Thailand to build understanding and awareness among employees so that they get prepared for the situation and changes. They were encouraged to follow the COVID-19 measures and control. The President and CEO expressed sincere care and interest in all local employees' health and safety.

In Vietnam, SCG delivered prevention equipment such as face masks and cleansing gels and donated medical innovations such as Negative/Positive Pressure Isolation Chamber units to offices of the government sector and communities near its factory sites to help lower risks of infection, worth 3,500 million Vietnamese dong of donation and support. For the COVID-19 situation in Indonesia, the crisis was quite critical, with the highest rates of infections among countries in ASEAN. SCG, hence, cooperated with the Government of Indonesia in establishing the CareTogether Project with a donation of 50 units of the Negative/Positive Pressure Isolation Chamber to ensure a safer operation for medical staff. Other equipment donated to medical workers included masks and PPE suits, worth nearly 1 billion IDR.



Care and Support to Employees, Environment and Society in Vietnam

SCG has been recognized in Vietnam as an international organization that conducts business with adherence to fairness and social responsibility. SCG believes in the value of the individual and provides good employee welfare and various training courses, focusing on employees' skill development, e.g., leadership and management skills, analytical thinking skills, creative thinking skills, and communicative skills. These courses are organized in an aim to enhance skills of employees to take on changes in the business world and to increase organizational commitment and pride among local employees.

SCG encourages and supports its factories to organize a project that follows the Climate Resilience Strategy and Circular Economy Principles, for example, SCG Solar Rooftop Project, Equipment Upgrade Project for increased power consumption efficiency, Waste Heat Generator (WHG) Project, Pulverized Fuel Ash (PFA) as Clinker Replacement Project, Synthetic Gypsum as Natural Gypsum Replacement Project, and Used Paper for New Paper Project.

2020 Highlights of Community and Social Involvement Projects are as follows:

• SCG Sharing the Dream Scholarship

The project has been initiated since 2007. Up to present, 4,300 grants, with a total worth of 1,239,000 US dollars, have been given to youths in a secondary and higher education.

• **SCG Outdoor Gym Project 2020** SCG and the Dong Hoi City authorities inaugurated to build an outdoor community gym with exercise equipment in Dong Hoi city in Quang Binh province. The area was renovated, to be used as a beautiful common area for everyone, aiming toward a total wellness for all. SCG sponsored over 17 tons of cement in setting up the area. This project is one of prototype projects in which SCG plans to expand to other areas.



• Waste Sorting at Source Prototype Project

SCG initiated a collaboration with UNILIVER, DOW Chemical, and The Ministry of Natural Resources and Environment in Vietnam to organize a project model for waste sorting at source with around 1,300 students at Long Son elementary school. Through this project, students learned about waste handling. There is a plan to expand the target to teachers, families, and communities so that people in communities know how to sort and separate waste to decrease an amount of total waste needed to be disposed. The project also aimed to increase waste recycling as well as to add value to waste, in line with the Circular Economy Principles.

• **Disaster Relief** in 2020, SCG provided around 3,000 relief supply bags and relief grants worth 4,200 Vietnamese dong to those affected by severe flood in the central part of Vietnam. SCG employees got together to assist people in a community in home repairing and rebuilding. SCG sponsored more than 400 tons of cement in construction.



A Path towards Circular Economy Principles in Indonesia

SCG focuses on cultivating trust and confidence with people in Indonesia through strong sustainable development, especially along with Circular Economy principle. The focus responded to policies of the Government of Indonesia in reducing waste in ocean by 70 % by 2025. With our effort, SCG received Indonesia Best Corporate Sustainability Initiatives 2020 – the Best Circular Economy Award. SCG gained recognition as an outstanding firm for driving forward to sustainable development with circular economy by MIX Marketing Communications Magazine, the biggest marketing magazine in Indonesia.

SCG continues to run projects to drive Circular Economy Principles into factories, for example, Condensate Recovery Project, Rejected products into Alternative Raw Materials Project, Used Paper Recycling Project, and Solar Rooftop Project based on the Climate Resilience Strategy.

In 2020, SCG pushed forward to the Circular Economy path through many outstanding activities as follows:

- **SCG SD Symposium Indonesia 2020 – “Circular Economy: Collaboration for Action”** SCG held a symposium to make a collaboration with other sectors in Indonesia to foster the implementation of Circular Economy in waste management solutions and restoration of natural resources and environment. In this event, SCG had an opportunity to present and share its remarkable projects including Plastic Asphalt Road Project, SCG Fish Homes from plastic resins, Zyclonic Innovation Project, and Waste and Wastewater Treatment. These projects have drawn great attention from the government and the private sector in Indonesia as possible solutions for the future.

- **Joining The National Plastic Action Partnership (NPAP)** SCG has joined in a collaborative network of international and national organizations in Indonesia, aiming to become a plastic pollution-free country. The collaboration is supported by World Economic Forum (WEF) and Global Plastic Action Partnership (GPAP).





• **Joining IP2WM – Indonesia Partnership on Plastics Waste Management** SCG joined a partnership platform between the government, the private sector, NGO, and the Academic sector in handling plastic waste management in Indonesia. In 2020, several areas were evaluated and selected to start a pilot of a prototype project of waste management. The project is planned to start in 2021.

The Circular Economy principles has also been integrated in several activities for SCG's community and social development as follows.

• **SCG Sharing the Dream Scholarship** SCG started the project in 2014. Up to present, the project has offered around 2,700 scholarships for youths both in secondary and higher education. In 2020, the Sharing the Dream Scholarship in Indonesia received an award in Top CSR Awards organized by Top Business Magazine. In this project, students who receive a scholarship will write an article about how to apply Circular Economy principles on a daily life basis.



• **Driving Circular Economy into a Community** SCG, working with students under the SCG Sharing the Dream Scholarship Project and Soreang Bandung community, initiated a project of fabric and textile waste recycling. The fabric wastes were usually been disposed by incinerating. Wastes of textile materials can be turned to value-added materials, e.g., fabric bags, jewelries, and many other items. At the same time, this solution also helps create jobs and extra income to people in a community as well as increase an understanding of Circular Economy principles that can be put into practice.

• **Support to Young Professional Golf Players** SCG organized the Inspirational Training for 40 junior golf players with the world's leading golf players from Thailand, Ariya and Moriya Jutanugarn. In the training, they also learned more about waste handling in their daily life routine based on Circular Economy principle.



Partnership and Collaboration

Towards Sustainability

SCG is committed to conduct business for sustainability by striving continually balance of economic, social and environmental aspects in our operation. The commitment makes us fully aware that challenges impacting us all manifested in global warming, climate change, waste and garbage, loss of biodiversity, resource scarcity, health and quality of life, cannot be tackled by any single organization alone. The key is fostering partnership and collaboration across sectors—government agency, business and civil society.

In 2020

SCG have a number of outstanding collaborative projects on track to cope with the changes that are threatening our world.



SD Symposium 2020



For 10 consecutive years, SCG has played leading role in motivating and inspiring stakeholders on the path of sustainability by hosting an annual symposium.

SD Symposium 2020 “Circular Economy: Actions for Sustainable Future” invites all sectors to find solutions for a sustainable future with the circular economy. At the Symposium experts and prime movers in circular economy from all sector brainstormed and shared on 4 sustainability themes that Thailand now facing:

1) community-based water management in dealing water shortage, 2) uplifting waste management capability nationwide to drive multi-sectoral collaboration and to advocate for a national policy, 3) promote farmer for zero burn goal in agriculture as agricultural waste is processed into biomass, animal feed, packaging and support technology to increase crop yield and 4) the collaboration among Circular Economy in Construction Industry (CECI) from design, green procurement and use of environmentally friendly materials in construction, transportation and construction waste management. SCG itself is adopting the circular economy in maximize use of materials, including building network of collaborative partnership with 180 external partners.

Against the backdrop of COVID-19 pandemic, SD Symposium 2020 was held online, with 4,372 participants from government agencies, business and civil society sectors.



Circular Economy in Construction Industry (CECI)



Circular Economy in Construction Industry (CECI) brings together construction industry operators in Thailand sharing a common mission to achieve maximum efficiency of resource use by apply circular economy principles. Because the industry relies heavily on virgin materials and generates large amount of construction wastes, with impacts upon resource scarcity and environment.

In the future, CECI works to generate knowledge and understanding, and scale up the application of circular economy practice focusing on manage the construction work to create less waste, reduction of virgin materials use while increasing use of recycle materials and find the solutions to recycle or reuse of excess materials from construction or turn them to value.

In 2020, CECI membership expanded from 14 to 21 organizations, and it continues to seek partnership, in parallel with effort to drive circular economy in action by holding regular meeting and consultation.



PPP Plastics



Public Private Partnership for Sustainable Plastic and Waste Management (PPP Plastics) was established in 2018 by the Plastic Industry Club of Federation of Thai Industries, jointly with Thailand Business Council for Sustainable Development (TBCSD), government agencies, civil societies and many leading private organizations with shared concern for the problem and commitment to resolve it. The goal is to reduce at least 50% of Thailand plastic marine debris by 2027 through sustainable waste management and systematically compliant with circular economy and 3Rs principles. SCG is among the founding members and implementation partners in all of PPP Plastics projects.

The working group proposed 4 measures relating to plastic waste management in Thailand for the period of 2018-2030, forming the roadmap and action plan to be implemented. These are Integrated waste collection & segregation infrastructure and system development; Recycle & upcycle business development to create market demand and value add to plastic waste; Responsible consumers for waste management; and Responsible plastic industry, brand owner and retailer to manage plastic waste at source.

Currently there are projects that have been implemented: Two pilot projects in waste management i.e. urban circular economy model creation at Klongtoey district, Bangkok and a model for provincial and community CE in Rayong and Magic Hand x Won project. The pilot's project set up over 350 collection points for collect of used plastic bag and plastic film packaging in Bangkok and its vicinities, Rayong and Supanburi. Also in progress are the study project on utilization of plastic waste used to mix with asphalts in road works and the study project on material flow analysis of plastic materials.



INNOVAREEF



Cement-Building Materials Business in collaboration with Faculty of Veterinary Science, Chulalongkorn University and Department of Marine and Coastal Resources, Ministry of Natural Resources and Environment, built upon SCG 3D Cement Printing technology in developing base material for imitation reef under "INNOVAREEF" project to rehabilitate the coral reef ecosystem. INNOVAREEF is designed to blend well with natural coral reef amenable to marine life. Materials used are environmentally friendly, strong, and resilient in amid subsea conditions. Its light-weight makes transport and installation more convenient and cost-efficient. The innovation leads to sustainable replenishment of marine life and species variety.

Following trial installation of INNOVAREEF in Koh Sichang, and Koh Tao, the shelter attracted inhabitants such as parrotfish, clownfish, and sea anemone. It is hoped that INNOVAREEF restores the undersea ecosystem faster. Other benefits would be tourism revenue and income generation prospects for the local community.

INNOVAREEF won the top prize as 2020 National Innovation in product and service design, product design category.

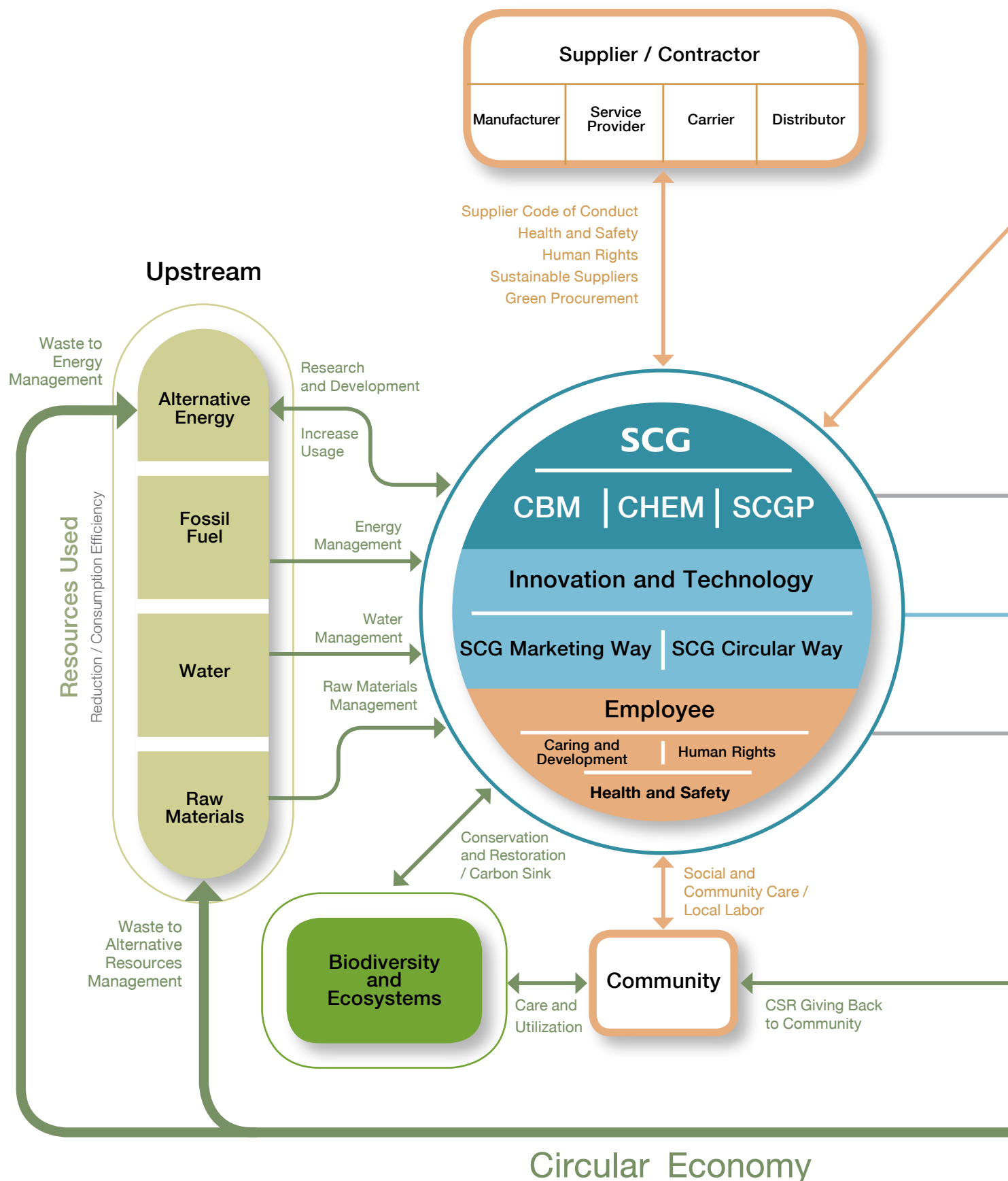
Muangmai Eco Community, Lampang Province

Cement-Building Materials Business by The Siam Cement (Lampang) Co., Ltd. in partnership with Natural Resources and Environment Policy and Planning Office of Muangmai Subdistrict Administrative Organization, Muangmai Community, Chae Hom District, Lampang Province and network of 19 local administration agencies such as Chae Hom District Office, Forestry Resource Management Office 3, Thampathai National Park, draw up a Muangmai Eco City Development Plan. Community participation characterized every step in the whole process from the start.

In 2020, performance of 19 eco and environment indicators of Muangmai community reached 70%, an improvement from 53% in 2019, ranking Muangmai as an Eco City. Key activities and actions are related to managing natural resources such as promotion of bamboo grove cultivation, building check dams to increase moisture level for forest, water retention and pollution control including managing household waste, purchase of farm waste for biofuel instead of burning. Post-harvest farm waste such as corncob paddy husk purchased from the community to be used as renewable material saved 4,316 tons of farm waste from typical practice of disposal by burning. In another key aspect of the partnership, the project partners are working with the authorities and the Forestry Management Office 3 to resolve protracted land rights problem by working on a joint resolution with Muangmai community to allocate rights to farm.



Sustainable Value Chain

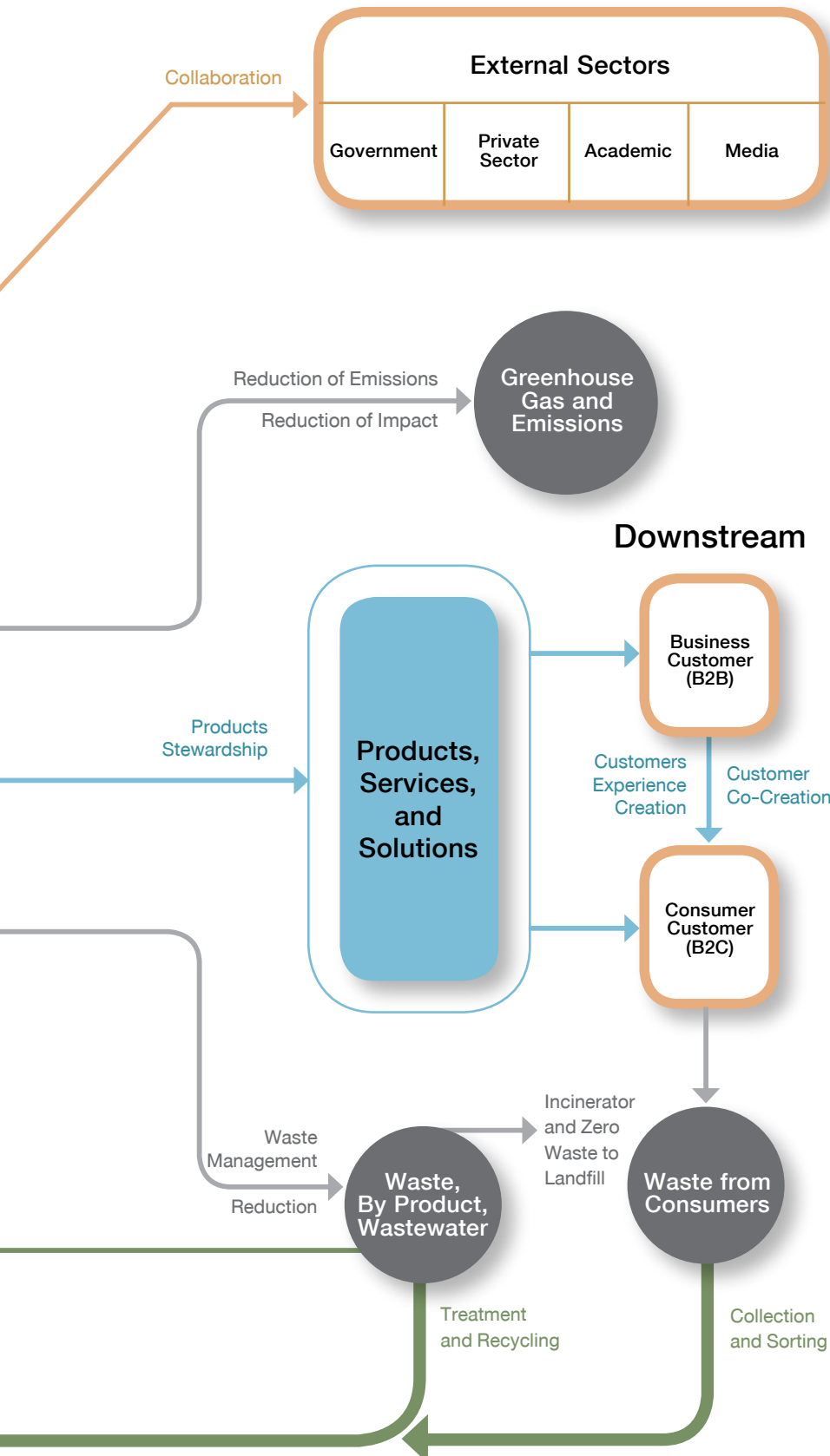


Sustainable Development Approach

Economy Create values not exclusively for profitability, but for mutual benefits for all stakeholders.

Environment Commit to conservation of the environment and natural resources, recognition of consumption value of resources, and sustainable preservation of ecological balance.

Society Adhere to ethical business conduct, social responsibility and life quality improvement in communities where SCG operates.



Sustainable Value Chain and Stakeholders





SCG incorporates Circular Economy principles in its entire value chain, from the stage of designing, procurement, manufacturing, sales and transport, usage up to recycling, by maximizing the utilization of limited energy and resources throughout the value chain including reducing, reusing, recycling, using alternative energy and reduce unutilized waste to minimum.

SCG is committed to producing the products, providing services and solutions that support the reduction of greenhouse gas emissions, energy consumption, waste reduction and enhancement of product's service life, as well as caring for health and safety of our employees and contractors. The collaboration with all entities comprising public and private sectors, and community is the key orienting the Circular Economy into real practice.

CBM = Cement-Building Materials Business
CHEM = Chemicals Business
SCGP = Packaging Business


Stakeholders Engagement


Stakeholder Group	Objective of Engagement	Engagement Approach	Need & Expectation	Detail	Page
Shareholder/ Investor	<ul style="list-style-type: none"> • Disclose material and necessary information about SCG's performance • Listen to opinions/suggestions and use them for further developments and executions 	<ul style="list-style-type: none"> • Annual General Meeting of Shareholders • Quarterly analyst conferences and press conferences to report performance • Quarterly business analyst meetings • One annual company visit and CSR activity per business unit • A total 30 virtual roadshows for domestic and international investors per year • Two annual activities for SCG's executives to communicate its business strategies and directions to domestic analysts and institutional investors • Communicate the Company's performance through the Annual Report, the Management Discussion and Analysis, the Sustainability Report, and SCG's website • Regularly communicate the Company's activities and answer inquiries of investors <p>Contact Channels</p> <div>   </div> <p>SCG News Channel https://scgnewschannel.com/en/</p> <p>Company Secretary Tel: +66-2586-6098 E-mail: corporatesecretary@scg.com</p> <p>Investor Relations Tel: +66-2586-4299 E-mail: invest@scg.com</p>	<ul style="list-style-type: none"> • Disclosure of quarterly performance so as to give investors an overview of development directions continuously • SCG's plans and strategies towards short-term and long-term goals • Information on SCG's COVID-19 innovations, which help protect medical professionals and all Thais and were given to hospitals 	<ul style="list-style-type: none"> • Annual Report 2020 • Sustainability Report 2020 	
Employee	<ul style="list-style-type: none"> • Understand employee needs • Recognize employee needs and provide facilities to ensure employees can work happily and effectively • Disclose and communicate business activities with employees • Promote a culture of collaboration to work with other stakeholders 	<ul style="list-style-type: none"> • Annual meeting with CEO • Quarterly meetings with Executives • Quarterly Leadership Forum • Employee engagement survey <ul style="list-style-type: none"> • A survey conducted by an external consultant every two years • A survey conducted by Corporate Human Resources Division every two years • Conduct a focus group consisting of staff and executives to identify employee needs to ensure happiness at work every two years • Develop an annual engagement plan in each unit to foster employee engagement • Activities that foster employee engagement and good experience with the workplace environment (mostly conducted virtually during the COVID-19 outbreak in 2020) • Communicate updates to employees through internal communication channels, such as e-mail, LINE Groups, and Employee Connect application • Communicate updates to raise awareness of healthcare amid the COVID-19 pandemic through internal communication channels, such as e-mail, LINE Groups, and Employee Connect application <p>Contact Channels E-mail: corpcomm-admin@scg.com</p> <p>Whistleblowing System https://whistleblowing.scg.com/</p>	<ul style="list-style-type: none"> • Reskilling and upskilling to accommodate business changes • Corporate directions and adjustments • Employee caring 	<ul style="list-style-type: none"> • SCG, Bringing in Sustainability to ASEAN • Commitment to Enhancing for Excellence in Safety • Health & Safety • Innovation and Technology • Human Rights • Employee Caring and Development 	20 58 74 82 96 98
		<p>Contact Channels E-mail: corpcomm-admin@scg.com</p> <p>Whistleblowing System https://whistleblowing.scg.com/</p>	<p>SCG News Channel https://scgnewschannel.com/en/</p> <p>SCG Fanpage https://www.facebook.com/SCGofficialpage/</p>		

Stakeholder Group	Objective of Engagement	Engagement Approach	Need & Expectation	Detail	Page
Supplier and Contractor	<ul style="list-style-type: none"> Promote and support workplace safety in suppliers' businesses with regard to production and transportation Create value to the operation of suppliers and contractors Advance the operation of suppliers and enrich knowledge to maximize operational efficiency Develop collaborative projects for business growth and expansion Promote and support suppliers and contractors to comply with regulations and laws relevant to environment and safety 	<ul style="list-style-type: none"> Regularly visit suppliers and contractors to exchange ideas and listen to suggestions for improvement Foster safety awareness and promote behavioral change to create a culture of workplace safety Share knowledge and new trends that may affect the operation of suppliers and contractors Elevate transportation contractors by carrying out annual assessment and development initiatives under the Sustainability Program every year Develop operational standards for suppliers and contractors and implement digital technology to improve safety amid the COVID-19 pandemic 	<ul style="list-style-type: none"> Provide knowledge and serve as a mentor for contractors to enhance their transportation safety for mutual growth alongside SCG Provide knowledge on the environmental, social, and governance (ESG) management to enhance the operation of suppliers and contractors and reduce operational and reputational risks 	<ul style="list-style-type: none"> Commitment to Enhancing for Excellence in Safety Health & Safety Sustainable Value towards Supplier Human Rights 	58 74 84 96
Customer	<ul style="list-style-type: none"> Understand customer needs to deliver products and services that meet their needs Co-develop products with business customers and foster collaboration among them to develop products and services that contribute to sustainability Create channels for customers to offer suggestions on products, seek advice and troubleshooting, and submit complaints 	<ul style="list-style-type: none"> Receive complaints, suggestions, and other feedback through various channels around the clock Co-develop products with business customers Provide consultation for home construction, repair, renovation, and extension to customers Develop collaborations with customers in projects that promotes social sustainability Develop products, services and solutions under consideration of environmental, health and safety impacts 	<ul style="list-style-type: none"> Integrate services and solutions to meet a comprehensive range of customer need Provide online channels for customers during the COVID-19 pandemic 	<ul style="list-style-type: none"> Adapting and Moving on Amid COVID-19 Crisis SCG Green Choice You can Choose, for the World Join, Collect and Separate: Activating a Circular Economy Circular Economy Customers Experience Creation Product Stewardship Human Rights 	38 42 46 70 86 88 96



Contact Channels
SCG Home Contact Center
Tel: +66-2586-2222
Fax: +66-2586-2121
E-mail: contact@scg.com
Line ID: @scgbrand

Stakeholder Group	Objective of Engagement	Engagement Approach	Need & Expectation	Detail	Page
Community	<ul style="list-style-type: none"> • Be a part of community, respect community rights, and conserve the environment in the vicinity • Enhance quality of life and promote integrity of society in Thailand and other ASEAN countries where SCG operates • Listen to the opinion of communities • Develop collaborative projects to enhance community competence for the benefit of society 	<ul style="list-style-type: none"> • Monthly dialogue with local community to listen to suggestions, feedback, and their needs • Annual community satisfaction survey • Serve as partner and consultant and leverage the Company's capability to help develop various aspects of communities • Integrate the collaboration between communities, experts, the government, and related sectors to create social impacts <p>—————</p> <p>Contact Channels Tel: +66-2586-4444 Website : www.scg.com</p>  <p>SCG Fanpage https://www.facebook.com/SCGofficialpage/</p>	<ul style="list-style-type: none"> • Prevent impact of SCG's business operations on communities and the environment • Leverage SCG's competency to elevate the quality of life in communities • Learning and development for job and income security • Support community to create sale channels, marketing plan and packaging design to generate more income • Take care of communities during the COVID-19 pandemic 	<ul style="list-style-type: none"> • SCG, Bringing in Sustainability to ASEAN 	20
				<ul style="list-style-type: none"> • Join, Collect and Separate: Activating a Circular Economy • Zero Burn Creating Renewable Energy while Reducing Pollution from Straw Burning • Water Management at Ban Sa Phae • Nuea: Turning the Drought Crisis Around • Climate Resilience • Water Management • Biodiversity and Ecosystem • Community and Social Involvement 	46 50 54 66 92 94 100
Government Agency	<ul style="list-style-type: none"> • Conduct business activities in strict compliance with applicable laws and regulations • Collaborate with government agencies in academic efforts and provide support to activities 	<ul style="list-style-type: none"> • Listen to opinions and suggestions from the government sector • Offer opinions and suggestions towards the rules, regulations, and guidelines issued by the government • Foster engagement and share good practices with the government sector to expand their adoption e.g. transportation safety, health management • Serve on a panel or a working group of the government sector to propose rules and regulations <p>—————</p> <p>Contact Channels Tel: +66-2586-4444 Website: www.scg.com</p>	<ul style="list-style-type: none"> • Serve as a role model in management transparency and excellence for other organizations • Cooperate with government agencies and propose good practices for sustainable development • Participate in collaborative projects that seek to achieve sustainable development goals (SDGs) 	<ul style="list-style-type: none"> • SCG, Bringing in Sustainability to ASEAN 	20
				<ul style="list-style-type: none"> • Partnership and Collaboration Towards Sustainability • Adapting and Moving on Amid COVID-19 Crisis • Join, Collect and Separate: Activating a Circular Economy • Commitment to Enhancing for Excellence in Safety • Climate Resilience • Health & Safety • Water Management • Community and Social Involvement 	24 38 46 58 66 74 92 100

Stakeholder Group	Objective of Engagement	Engagement Approach	Need & Expectation	Detail	Page
Media	<ul style="list-style-type: none"> Communicate corporate news by conducting in-depth interviews and online surveys (media empathy) so as to prepare information that meets diverse needs of the media Establish online channels for communicating news and updates, such as SCG News, to ensure information is disclosed fully, accurately, timely, and in a manner that is convenient for the media Foster engagement and good relations with the media 	<ul style="list-style-type: none"> Regularly disclose business information in various aspects, such as quarterly operating result announcements and press conferences Occasional site visits and CSR activities Support press activities beneficial to society and consistent with SCG's guidelines as deemed appropriate Engage the media to listen to their opinions and suggestions once or twice every month so as to develop future communication to suit their needs and benefit the general public <p>Contact Channels Tel: +66-2586-4444 +66-2586-2974 E-mail: info@scg.com</p>  <p>SCG News Channel Website: https://scgnewschannel.com/en/ Facebook: @scgnewschannel Line ID: @scgnewschannel Twitter: @scgnewschannel</p>	<ul style="list-style-type: none"> Serve as a role model of conglomerates that places emphasis on and actively implements sustainable development (economic, social, and environmental) in its business operations and successfully achieves tangible results 	<ul style="list-style-type: none"> 2020 Opinion Panel 	32
Civil Society Sector, Academia, and Opinion Leaders, NGO	<ul style="list-style-type: none"> Disclose information completely and transparently Listen to opinions and suggestions from the civil society sector Seek opportunities to create partnership and drive issues related to sustainability Foster public awareness and understanding on key sustainable development issues Leverage the expertise of specialists to support collaborative projects 	<ul style="list-style-type: none"> Listen to opinions and suggestions from civil societies, scholars, and opinion leaders to improve the Company's operations Participate in projects that promote social sustainability Foster engagement and share good practices with the government sector to expand their adoption e.g. transportation safety, health management <p>Contact Channels Tel: +66-2586-4444 Website: www.scg.com</p>	<ul style="list-style-type: none"> Serve as a role model and a mentor on sustainable development for medium and small organizations Join forces with large organizations to create significant changes in terms of sustainability Cooperate with government agencies and propose good practices for sustainable development 	<ul style="list-style-type: none"> SCG, Bringing in Sustainability to ASEAN Partnership and Collaboration Towards Sustainability 2020 Opinion Panel Commitment to Enhancing for Excellence in Safety Health & Safety Water Management Biodiversity and Ecosystem Community and Social Involvement 	20 24 32 58 74 92 94 100

2020 Opinion Panel

SCG Sustainable Development Committee annually holds an Opinion Panel to seek and listen to opinions, suggestions and feedback from stakeholders in all sectors. The Panel is organized in an aim to elevate SCG's sustainable operations.

In 2020, SCG organized the 11th Opinion Panel with a focus on environmental, social and governance issues for Sustainable Investment. Panel participants featured experts from the government sector, the private sector, non-profit organization and media.

Opinion Panel Name list



Ruenvadee Suwanmongkol
Secretary-General, The Securities
and Exchange Commission (SEC)



Voravan Tarapoom
Chairman of the Executive Board,
BBL Asset Management



Prukka Iamthongthong
Senior Investment Director,
Aberdeen Standard Investment
Asia Limited



Kulvech Janvatanavit
CEO, The Thai Institute
of Directors Association



Suwat Thongthanakul (PhD)
Media Director, Green Innovation & SD,
Manager Group

Summary of Recommendations



Importance of ESG through the Lens of Investors

- Investment funds and investors worldwide have increasingly taken an interest in a company with ESG as they believe that such a company would outperform in a long-term investment.
- Funds management started to have selective investment only in a company that shows an outstanding ESG performance. ESG have been put as criteria for the investment decision in the listed companies.
- Proper ESG information disclosure of a company will be more crucial for investors and fund managers in analyzing, decision making, and understanding risks and opportunities of the company business.

ESG Governance

- The Board of Directors plays a key role in governing business towards sustainable development. The Directors, hence, needs to increase their focus on ESG, taking the lead in organizational culture, visionary, and prudence in social concerns on sustainability.
- To sustainably embed ESG, the Company needs to start from embracing ESG principles into business. This, hereby, is different from managing CSR activities.

SCG, to Become a Leader in Sustainable Development

- Build an understanding and confidence among shareholders and stakeholders regarding the management of environment, society and governance. Transparent disclosure of the company's purpose, targets and performance together with concrete execution plan provides shareholders and investors an insight into risks and opportunities of the investment.
- Use technology to develop innovations for new products and services to balance between the benefits of shareholders and the public.
- Increase a ratio of females in all levels, ranged from management level to operational levels, to confirm the Company's commitment towards diversity.

2020 Highlights

Actions towards Achieving UN Sustainable Development Goals (SDGs)

In 2020, SCG has set up the United Nations Sustainable Development Goals (SDGs) which must be responded seriously through the 3 enterprise materialities and other sustainability issues which have the significant 5 goals as follow:



Good Health and Well-being

SCG has implemented the Health and Safety, and Human Rights policy for all employees, contractors, and communities, develop the innovative products and services to provide good quality of life for the customers, together with formulating sustainable development strategies for safety.

0

target of Fatality case in transportation

0

target of occupational illness rate



Decent Work and Economic Growth

SCG has implemented the Human Rights Policy, the Customers Experience Creation, as well as the Innovation and Technology.

0

target of Fatality case in workplace

0

target of Human Rights Violation Case



Industry, Innovation and Infrastructure

SCG has implemented the Customers Experience Creation, the Innovation and Technology, as well as the Product Stewardship.

2%

target of R&D spending compared with the revenue from sales

50%

target of total revenue from High Value Added products and services compared with the revenue from sales

66.7%

target of total revenue from SCG Green Choice products and services in 2030 compared with the revenue from sales



Responsible Consumption and Production

SCG has implemented the Innovation and Technology and the Product Stewardship.

13%

target of energy consumption reduction in 2025 compared with BAU at the base year of 2007

23%

target of water withdrawal reduction in 2025 compared with BAU at the base year 2014

200,000 tons per year

target of sales volume of recycled/renewable base polymer products of Chemicals Business in 2025

100%

target of products of the Packaging Business to be recyclable or reusable in 2025



Climate Action

SCG has implemented the Innovation and Technology, the energy and greenhouse gas emissions management, the Product Stewardship, and the sustainable development strategies for climate resilience.






28%

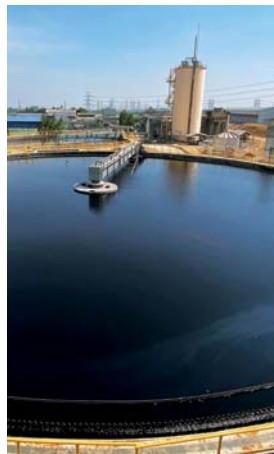
target of greenhouse gas emissions reduction in 2030 compared with BAU at the base year of 2007

0

Net Zero in 2050

Sustainability Performance in 2020

 Climate Change and Energy	 Sustainable Value Chain	 Circular Economy	 Health and Safety	 Society Development
GHG Emissions Reduction <small>(compared with BAU at the base year of 2007)</small> 2.86 <small>million tons carbon dioxide</small> 10.9 percent	Environmental Expense and Investment 3,896 million baht 1.0 percent <small>of revenue from sales</small>	“SCG Green Choice” Products and Services 32.6 percent <small>of revenue from sales</small>	Lost Time Injury Frequency Rate <small>Employee/Contractor</small> 0.113/0.216 <small>case per 1,000,000 hours worked</small>	Sharing Opportunities, Drawing the Future Program 64 projects 3.02 million baht
Energy Consumption Reduction <small>(compared with BAU at the base year of 2007)</small> 15.00 petajoules 7.6 percent	Green Procurement Purchased 5,073 million baht	Water Withdrawal Reduction <small>(compared with BAU at the base year of 2014)</small> 16.61 <small>million cubic meters</small> 15.0 percent	Occupational Illness Frequency Rate <small>Employee/Contractor</small> 0/0 <small>case per 1,000,000 hours worked</small>	Number of Check Dam 100,466 units
Alternative Fuel 14.3 percent	High Value Added Products and Services 31.5 percent <small>of revenue from sales</small>	Recycled Water 11.6 percent	Logistics Drivers Trained from “SCG Skills Development School” 8,989 persons	Social Contribution 669 million baht
Carbon Label Certified 524 items	Research and Innovation Spending 6,005 million baht 1.5 percent <small>of revenue from sales</small>	Hazardous/ Non-Hazardous Waste to Landfill 0.0043/0.8915 percent		
	Suppliers Being Conducted Environment Social and Governance (ESG) Risk Assessments 100 percent <small>of suppliers with procurement spending over million baht</small>			







Feature Story

Adapting and Moving on

Amid COVID-19 Crisis

Throughout 2020, COVID-19 pandemic is the crisis triggering chain reactions, whose impacts remain acutely felt across all sectors.

People have to adjust to New Normal way of living where wearing face mask forms parts of routine. Physical distancing spurred behavioral change towards ordering food and shopping online, along with increasing demand for medical equipment. An inevitable consequence to the environment manifests in the spike of single-use packaging waste.

Against this backdrop, uncertainties of global economy force businesses small and large sizes to confront a whole host of tough challenges, ones that they must work hard to overcome in order to survive and press on.



From Crisis to Opportunity

When the pandemic struck, SCG deployed Business Continuity Management Plan, focusing on “balancing people’s living and businesses.” We closely monitor the situation and constantly evaluate the highly volatile situation for effective adaptation and prompt responses, alongside adjusting our strategy, to become more proactive, and more effective in terms of management and identification of opportunities arisen from new demands emerging on the back of changing consumer behavior.

“SCG has made preparations for worst-case scenario such as planning sales and transportation in case of lockdown, and for any moment, adjusting production capacity in line with increasing customer demand. These



go on in parallel with use of digital technology that SCG has been adapting and applying continually which enable us to develop and present products, services and solutions that match customer’s requirement. The crisis validates SCG’s efforts at digitalization have been in the right direction, along which we would only carry on and intensify.”

Roongrote Rangsiyopash, SCG President and CEO, shared the management approach of adaptation to change that enables SCG to overcome multiple challenges, as demonstrated in solid growth of SCG businesses in 2020.

Innovation to Fight the Pandemic

Innovation is a critical tool SCG uses in the drive for the organization to adjust nimbly and promptly in the face of changing world. At SCG we have continually invested in research and development to generate innovation.

With the COVID-19 pandemic, SCG recognizes the urgency of multi-sectoral collaboration to overcome the crisis together. We utilize the potential of the organization to develop and design innovation for prevention and medical care for frontline workers and doctors. Our innovations include Modular Screening of those at risk, Swab Unit, Negative/Positive Pressure Isolation Chamber, Patient Isolation Capsule, Small Patient Isolation Capsule for CT scan.

Further, our innovations include accessories for medical operations such as protective head gear for dental care patients to reduce diffusion of droplets and diffusion-protection boxes. Work-in-progress innovation at prototype stage is the PPE suit for medical workers made from paper material with special properties.

Digital-tech innovations to reduce risk of exposure during operation from SCG are in the area of patient screen by thermal scan, tele-monitoring device, online clinic application, food and medication dispenser robot known as Nong Song Jai (AGV).

All SCG business units collaborate to come up with innovations at an unprecedented speed, numbering over 31, delivered through 230 networks to distribute aid to 979 recipients nationwide including hospitals, agencies, and communities, with SCG and SCG Foundation supporting the budget totaling 164 million baht.

Physical Distancing and Hygiene as a Trend

Beyond hospitals, social or physical distancing measures compel commercial establishments to use and source health and sanitation gear.

Cement-Building Materials Business developed Touchless Series of sanitaryware equipped with contactless Waving Sensor System, that allows for self-clean upon waving of hand passing the sensor. Another innovation is COTTO's proprietary Ultra Clean coating that operates starting from the innermost layer of clay formation in the interior of the toilet bowl, reducing bacteria accumulation by up to 99% within 24 hours. It passed the standard test of BOKEN Institute in Japan and SGS (Thailand). In addition, several other ranges of COTTO sanitaryware and faucet are now fitted with additional hygienic functions such as automated toilet seat, stainless anti-bacterial bidet handler and UV sterilization feature, faucet with sensor system that is accurate and easy to install.

Chemicals Business developed "Acrylic Aerosol Partition" made from SHINKOLITE acrylic sheet, for all types of commercial establishments and buildings. The range also includes partitioning for cars, taxi and public service vehicles that looks as good as glass and easy to sterilize.

Packaging Business developed hair dressing cape made from paper for salons and beauty parlors located around its factories. The aim is to reduce repeated use of hair-cutting cape and reducing risk of COVID-19 spread while increasing the safety of client.



Most importantly, there is zero documented infection among SCG employees, due to strict implementation of physical distancing measures, Work from Home arrangement and rigorous enforcement of occupational health and safety measures at workplace. SCG President and CEO held regular dialogue with staff online, as morale booster, reinforcing the need for employees to live and work with strict health precaution, and for solidarity across workforce in the corporate adaptive endeavor.



Work from Home

Work from Home arrangements, avoidance of large public gathering and physical distancing measures have brought about behavior change, as people spend more time at home, order food and goods online for home deliveries. Increasingly people aspire to improve and decorate their homes, and looking for cost-saving from energy bills.

Cement-Building Materials Business expanded from home owner segment to building and property managers by developing end-to-end services that meet customer's needs. These include Internet-of-Things enabled SMART Building Solutions for building management; Air Scrubber System technology which can trap over 30 types of toxin and polluting gas making air circulated inside cleaner than the air outside, while reducing energy by 20-30% compared to other air-conditioning systems. The innovation is deemed HVAC Industrial Game Changer and received the ASHRAE

Innovation Award, Product of the Year 2019. Ionized Air Disinfection System technology helps to trap PM 2.5 particles, and sterilizing corona virus species and bacteria while mitigating odor, contaminants in air and on material surface by up to 99%.

SCG Building & Living Care Consulting pioneers the adoption of fitwel commercial building rating system of the US Centers for Disease Control and Prevention in Thailand. The fitwel standard prescribes measures for buildings to prevent the spread of virus infection. The business operates consultancy and design service for construction that brings about wellness for people across age groups. It won the 8th Asia Pacific Eldercare Innovation Awards 2020 in Singapore for its building design for elderly assisted living.

Cement-Building Materials Business adds to its innovation portfolio CPAC Smooth Cool concrete roofing, and SCG Cool Plus ceiling board that can reduce building temperature therefore saving energy required for air-conditioning system. There are other services for homeowners such as SCG Roof Renovation and Smart Space Covering for void filling.

Chemicals Business meanwhile innovated the CPP Retort Pouch, flexible packaging which can be tight-sealed, heat and pressure tolerant for food that requires thermal processing at sterilization level. It allows for keeping the packaged food at room temperature, and ready for consumption without reheating. Freeze to Heat packaging which can tolerate temperature ranging from -40 to 130 degrees Celsius, preserve the taste, texture and flavor of food, microwave-oven safe, and free from toxin, to reassure consumer's safety.

Packaging Business, with behavior change propelling online food order and delivery, Packaging Business developed Fest Chill range that is strong, easily stackable and tolerant of heat up to 130 degrees Celsius that can be stored in fridge and reheated in microwave oven, making life easier for consumer. After use, consumer can remove the cling film for recycling while the packaging itself is self-degradable within 60 days. The production process complies with standards including BRC, HACCP and GMP to ensure that food packaged under Fest brand is hygienic and safe.

Expanding E-Commerce and Online Marketplace

Greater prevalence of online buying behavior prompted **Cement-Building Materials Business** to adapt how it presents products and services along with SCG Home solutions range virtually through online channels, website and social media platforms that are also connected with the network of SCG Home shopfronts nationwide in an Active Omni-Channel approach. The aim is to respond rapidly as well as enabling customers to search for information, inquire, seek advice and choose products and services with convenience and speed in all channels. The approach is also linked with Design Connex platform that allows the search for designers and Q Chang platform for service providers, and as such delivering end-to-end solutions to customer's need.

Chemicals Business developed i2P Virtual Tour for customer to take a virtual tour of Chemicals' factory and virtually experiencing its innovative products. It also deploys a Digital Commerce Platform (DCP) to link data of customer's order with supply chain management database, resulting in reduction of response time to customer inquiry by 70% while the customer can track order status anytime anywhere. Chemicals Business conducts analysis of data generated from the process to improve its supply chain management for enhanced accuracy and speed.

Packaging Business launched www.festforfood.com, a virtual Fest Shop store for customer to choose and shop Fest food packaging, pay conveniently and safely facilitated by online payment gateway, and get the products delivered under the concept "convenient buy, order, pay and delivery." The website also features directory of shops with Fest products in stock at location nearby the customer, along



with a recommended list of eateries using Fest packaging to support partners' business.

.....
Innovation-driven adaptability, use of technology and attention to high level of safety and hygiene standards have earned the customer's trust in SCG, which has managed to broaden its customer base in time of crisis.

"It is important to analyze where we stand in terms of our business and how we weathered the impact differently from others, how our competitors are faring, and what impact are we having on the industry. We need to find our own solutions, plan the timing, and act promptly as circumstances require." SCG President and CEO explained the key to how a 100-year-old organization weathers the storm no matter how severe.

SCG Green Choice

You can Choose, for the World

Dizzying array of goods on display at shelf. Each box or packaging with brand labelling, product description and other attributes.

Your choice is perhaps the brand you are familiar with and because you use it. Or you might be attracted to beauty or exotic novelty.

Or you may decide on the basis of price, comparing value versus quantity and quality.

But have you ever made a choice, because the product helps caring for the world?

If the label carries certification that the product helps reduce greenhouse gas emissions, waste, water consumption, etc.

Would you be more convinced of it as your choice?

If you can choose, for the world, would you make that choice?

Understanding Eco-Label

The beginning of eco-label dated back over 40 years ago due to environmental concern among European countries. Blue Angel, the world first eco-label, was conceived in Germany in 1978 to introduce products with least environmental impact to consumer, to incentivize producer to develop environmentally friendly products, and as a market driver for green products. Subsequently several other eco-labels have emerged, for example EU-Flower, Nordic White Swan.

Eco-labelling is no longer confined to European Union and its members, but taken up worldwide among economic powerhouses such as the US, Japan, South Korea, China, India, Canada and in ASEAN such as Singapore, Indonesia, the Philippines and Thailand.

Eco-labelling is “voluntary” and represents an expression of “care” on parts of operators because there is no governing legislation. Rather, the products must be certified criteria of whether and how they are friendly to the environment.

At present, there are three types of eco-labelling. Type I is certified by independent entity with an environmental impact assessment system throughout a product lifecycle according to ISO14024 standard. An example in Thailand is the Green Label of Thailand Environment Institute. Type II is self-declared certification according to ISO14021 standard, such as SCG eco value. Type III label shows data or numbers relating to environmental impact through product life cycle assessment in line with ISO14025. In Thailand, Type III examples include Carbon Footprint label, Carbon Reduction label and Carbon Footprint Reduction label.

The true value of eco-label lies in long-term environment conservation, by giving information and communicating with consumer, to promote green products which substitute high environmental impact products.



From SCG eco value to SCG Green Choice

SCG eco value is Type II label of SCG was developed and implement since 2009, as Thailand's first self-declared eco label.

For more than a decade, SCG developed and registered more than 90 products, services and solutions into SCG eco value portfolio and making efforts to increase higher revenue of this product category. SCG set the goal of SCG eco value's share at 2 in 3 or 66.7% of total revenue from sales in 2030. In the last 4-5 years, the average proportion has been in the range of 30-40%. In 2020, SCG announced the label rename from SCG eco value to SCG Green Choice, while referring with ISO 14021 standard. The aim is to



facilitate consumer's choice of products, services and solutions that care for the environment (environmentally friendly). At the same time consumer can be confident that SCG Green Choice products, services and solutions of are environmentally sound and benefiting their quality of life.

The word "Green" means being friendly to the environment and consumer, taking into account needs of other stakeholders.

The word "Choice" means options. We can make a choice for the world, and for the benefit of ourselves and family.

To be certified with SCG Green Choice, products, services, and solutions must possess attributes that are more environmentally friendly than their normal counterparts, and meeting at least one from a list of 15 criteria which include: Reduced Resource Use, Renewable

Energy, Reduced Water Consumption, Health or Hygiene, Extended Life Product, Greenhouse Gas Reduction, Reusable or Refillable, Compostable, etc.

SCG Green Choice has a certification and communication process according to international standards. There are control measures and monitoring mechanism for the qualification certified, to build credibility and consumer confidence.

"We intend to share knowledge about product information, attributes and clear benefit to the environment of SCG Green Choice range. We launched the information campaign through media, shop front, points of sale, and all SCG online platforms." said **Nithi Patarachoke**, President, Cement-Building Materials Business, on the current drive to make SCG Green Choice as a top priority on consumer decision.

Innovation, Labelling and Sustainability Strategy

Behind the SCG Green Choice certification of products, services and solutions lie stories of innovation and technology to address challenges in production processes and attributes. These range from issues of using less resource and energy in production processes, reduce waste generated in the processes. Despite these, the outcome product must have the same attributes or enhanced performance, last longer, can be reused or recycled. These align with SCG's three enterprise sustainability materiality.

First, mitigation of climate change, which relates to energy efficiency and global warming.

Second, circular economy which relates to maximizing the efficiency of natural resource use, waste reduction, reuse and extended product lifespan.

Third, health and safety which relates to attributes of ergonomics and hygiene.

Examples of SCG Green Choice products, services and solutions contributing to the emission reduction include "SCG Hybrid Cement" which communicates clearly with the message "reducing greenhouse gas emissions in the production process by at least 50 kilograms per ton of cement."

Energy-saving products, services and solutions such as emisspro® R Series, high emissivity ceramic coating for refractories states clearly about "helping to reduce fuel use by at least 2%."



Products, services and solutions using less resource, water, or containing recyclable material such as SCG Insulation, which state clearly "produced from at least 80% recyclable materials (100% substitute for natural sand)." Innovative "Idea Green" paper is "produced from 50% eco-fiber pulp, reducing virgin pulp."

Products, services and solutions for renewable energy such as SCG Solar Roof Solutions "saves monthly electricity bill by at least 140 electricity units per month (Basic model) and saving at least 1,370 electricity units per month (Platinum model)."





Products, services and solutions with extended life product such as Top Up Roof solution “extends life of old roof by at least 10 years compared with conventional repair.”

Products, services and solutions for health or hygiene such as FEST Choice is “produced from food-contacted paper, can be used for containing hot foods with the components of water and oil directly with safety without leakage.” COTTO Hygienic Tile states in the label about “inhibit the growth of surface bacteria by up to 90%.” All models of SCG Fiber Cement Roof Tiles and Ridges are “safe and environmentally friendly from natural fiber material,” non-asbestos. SCG PVC pipe and fitting of are “lead-free, friendly to health and environment.”

These examples are innovations researched and developed by SCG to enhance people’s quality of life, alongside with caring for the sustainability of natural resources and environment.

“SCG recently won the most popular green brand award (Top Green Brand Love) from the College of Management Mahidol University and this reaffirms SCG’s consistent stance in sustainable development by intensifying the use of technology to develop innovative products, services and solutions. We are confident that SCG Green Choice will increase consumer’s confidence in the certified products, services and solutions, that they are environmentally friendly and sustainable to quality of life,” said **Nithi Patarachoke** on SCG’s commitment to sustainable business conduct.

SCG Green Choice is about communication and raising awareness among consumers to make a choice of environmentally friendly products, services and solutions.

On your next shopping round, please look for eco-label before making a decision.

Because “it’s your choice” for our world.



Join, Collect and Separate:

Activating a Circular Economy

The world's natural resources and environment have been utilized for people in society at any given moment. With change in environment and the world is in crisis due to limitation of resources, a circular route of maximizing benefit of resource use and minimizing resource use to sustain the balance is of critical importance. Natural resources process into goods and gears, would only end up as waste.

Without proper aggregation of waste from household, residential and commercial sector, waste is still waste and impact on environment.

Waste aggregation and sorting therefore constitute the starting point which may seem small steps that if it multiply will make proper recycling and resource circulation happening for real.

With this conceptual framework, SCG initiated a number projects, and collaborates internally among the workforce and with external partners in public and private sector as well as communities to aggregate waste to achieve maximum recycling.

Bangsue Model SCG Employee Participation

We started practicing in earnest within our organization with “Bangsue Model” project in 2018 focusing on behavior change among employees at the SCG Head Office in Bangsue so they #Effective Use #Correct Sorting #Proper Dispose”, starting with reduction of disposable plastic cup by bring own tumbler, reduction of PET water bottle by use dispenser and glasses and design 6 color bins for easy sorting.

With strong participation of employees, the Bangsue project can continuously reduce the amount of waste every month and bring more sorted waste to be recycled. We aim to achieve Zero Waste to Landfill target at the head office in 2021.





From the success of Bangsue Model in reduction of waste to landfill and increase recycling of waste with proven track record at its Head Office, SCG extract lessons learnt and scale up the waste management approach to community, starting with areas around factories in Rayong, Ratchaburi. In due time, the model was expanded to factories, suppliers, customers and societies to spur positive change towards proper waste management national wide.

Community Like (No) Garbage Community Collaboration in Rayong

SCG scaled up circular waste management approach at community level by undertaking pilot project with communities in Map Ta Phut Municipality in Rayong called “Community Like (No) Garbage” which means Zero Waste Community. The pilot follows the Bangsue Model prescribing “#Effective Use #Correct Sorting #Proper Dispose” while seeking to partner at community level with the three establishment pillars of Household, Temple and School to enforce proper separation at source and to link up with community garbage bank whose management is supported by SCG through “KoomKah” application. The objective of the pilot project is to generate a prototype or model of integrated waste management in community.

The starting point is “Household” where residents join hand to properly separate wet and dry waste according to material type such as plastic, glass bottles, cans, clean plastic bags. A community leader coordinates with Khao Phai Garbage Bank to sell sorted waste, as a way to supplement community income.

With “Temple” we built knowledge about maximization of resource use to monks, novices, and villagers who make merit by donating food and requisites to temple. The community leader of Khod Hin 2 volunteers to aggregate waste collected and separated at Temple to the Garbage Bank, and proceeds are pooled as scholarship to support needy pupils.

At “School”, we cultivate pupils and teachers about circular economy principles, by integrating contents in classes with actual practices off classrooms such as at Wat Khod Hin Mitrapab 42 School. Pupils are taught to rinse plastic milk bags, to correctly separate waste and deposit them in the correct bins in preparation for recycling.

Community-based “Garbage Bank” serves as learning center on various types of waste, aggregator of household, temple and school waste using KoomKah application to manage waste collection from end to end, creating value to waste and increase channels to feed stock to recycling factories.

In 2020, the number of collaboration increased to 36 groups, 10 garbage banks, with the total of 2,697 members and the total amount of collected wastes of 97.8 tons.

From Ban Rangplub to Ban Pong Model

A success story as case study in driving Zero Waste Community “Community Like (No) Garbage” project is the so-called Ban Pong Model, a circular community model in

Ratchaburi province originating from Ban Rangplub community where SCG has been collaborating in the theme of waste management from 2015. It won a national award in 2019 from Zero Waste Model Community contest by Department of Environmental Quality Promotion.

“We aspire to become a model community same as Ban Rangplub. We want a large amount of waste to be decreased especially organic waste. We worked to raise awareness among local residents on proper waste management,” said **Chayanin Jampathong**, a community representative, about how Ban Pong Model came into being.

“Local government administrative agency can scale back on budget required for waste collection. At the same time residents can create value out of waste and generate income for the community.”

If we visit communities in Ban Pong District such as Ban Aor Eeekaw, Ban Nong Mai Fao, we can see evidence of recycling and reuse in the forms of organic vegetable plots, handicrafts. Circular waste management has also improved quality of life among residents compared to the past when piles of rubbish hosted germs and pests. Ban Nong Mai Fao won a citation award in the Zero Waste Community contest of the Department of Environmental Quality Promotion in 2020.

We hope that Ban Pong Model can be sustained as an effective waste management mechanism at district level, engendering collaboration to address the national challenge of waste management and driving a sustainable waste management model community. In 2020, a total of 41 zero waste model communities are up and running and the target is for complete coverage of 183 communities in Ban Pong District by 2022.

Waste Paper and Packaging Collection Collaborating with Urban Communities

Waste paper is a type of recycle material we prioritize and have developed Digital Platform to manage collection of



waste paper and packaging as feedstock for recycling through application. We collaborate with housing projects and urban communities in with large population live and generating huge volume of waste.

In 2020 we began collaborating with Chewathai, Sansiri and Property Perfect estate developers to implement a waste separation scheme at housing estates to separate and aggregate used paper packaging for recycling process.

We joined with Thailand Post in “Post reBOX” project to collect used paper packaging materials at post offices nationwide, to be sent back to SCG to manufacture desks and chairs, which we present as 2021 New Year gifts to 220 Border Patrol Police Schools across Thailand.

In 2020, SCG has total of 60 partners, helping us aggregate 150 tons of used papers back for recycling at SCG plant.

“No piece of paper is ever trash. It is useful, recyclable, can be turned into products to be used within community and give to other community,” said **Phubate Samroengjit**, customer relationship manager of Chewathai on collaboration project with SCG.

Plastic Waste Collection PPP Plastics, A National Collaborative Platform

Marine plastic pollution is a major crisis that is challenging Global and Thailand for its impact on ecology and microplastic contamination in the food chain. Aggregating plastic waste to return into recycling thus is the first critical step in tackling plastic waste crisis.

“To recycle used plastic bags and food bags that are cleaned, and produce new packaging from it, which technology now can help circulate multiple rounds will scale back resource use while reducing ocean plastic waste and harm to the environment”, said **Paradorn Julachart**, Honorary Chairman of the Plastic Industry Club, Federation of Thai Industries and the first chair of PPP Plastics Project about the key concept behind the initiative.

“The Public Private Partnership for Sustainable Plastic and Waste Management or PPP Plastics, was established on 5 June 2018 by the Federation of Thai Industries’ Plastic Industry Club, jointly with Thailand Business Council for Sustainable Development (TBCSD) along with many other public, private and civic society sectors. All these organizations recognize the urgency of the problem and share the commitment to resolve plastic waste problem. SCG is one of the active founding members and advocating through a number of projects of PPP Plastics.”

PPP Plastics sets the target of reducing marine plastic waste in Thailand by at least 50% of the existing volume by 2027.

An important project for 2020 is “Magic Hands x Won” that installs more than 350 locations “Drop Point” in Bangkok and vicinity, Rayong and Supanburi. The presence of these drop points aims at raising public awareness and actions in waste separation for plastic bags and soft film packaging which can be recycled back several rounds. The project also donates to philanthropic organizations the rate of 5 baht per kilogram of plastic waste collected.



From Pile Head Waste to Building Materials Expanding Collaboration in Construction Industry

“Construction industry consumes a lot of material in the construction process. The industry would typically generate around 20% waste. Reducing it to the range of 5-10% will be very beneficial to the world, environment and economy.”

Nithi Patarachoke, President of Cement-Building Materials Business, said about problems besetting the industry that most people tend to overlook. Waste from concrete work, concrete piling, and steel scrap around construction sites is estimated at the volume of 110,000 tons per year, from activities such as demolition, construction, and from excess stock materials.

SCG developed innovation to enhance efficiency by CPAC Construction Solutions to work on waste reduction

in construction work. These include using Building Information Modeling (BIM) in aid of design and supervision, or apply modern technology to crush the waste of concrete pile head at building sites for recycling as material in a process known as Recycled Coarse Aggregate (RCA), or send for crushing at Waste Hub in case mobile machinery cannot be deployed onsite.

To date over seven projects took part in waste concrete piling management resulting in 5,400 tons of recycled output.

SCG is committed to making circular economy happen in all business groups and for efficient waste management by promoting waste separation at source and deploying innovation to support waste management business and product development from recycled material.

At SCG we are fully aware that collaboration of all sector is the success factor, in turning waste to value, for economic, society and environment sustainably.

Zero Burn

Creating Renewable Energy while Reducing Pollution from Straw Burning

Every year between March and April, there is the post-harvest period in paddy fields everywhere throughout Rangjarakhay Subdistrict of Sena District, Ayutthaya Province. Local rice farmers said they had no other choice but burning the straws after harvesting their first crop of rice. The one-month window between post-harvest in April and second cropping in May is too tight for the traditional practice of leaving straws to decompose on the field itself which requires more than two weeks. Locals here prepare the field for annual second crop by burning out the straws.

Similarly, farmers across Thailand clear their fields of waste such as sugarcane leaf, corn cob and straws by burning. As a result, Thailand has been living with air pollution from various sources like smoke, smog, PM 2.5 particles, global warming and other health consequences.

Now the idea of helping farmers to maximize the resource use, utilize straw and other agricultural waste instead of just burning is being implemented according to the circular economy principle.

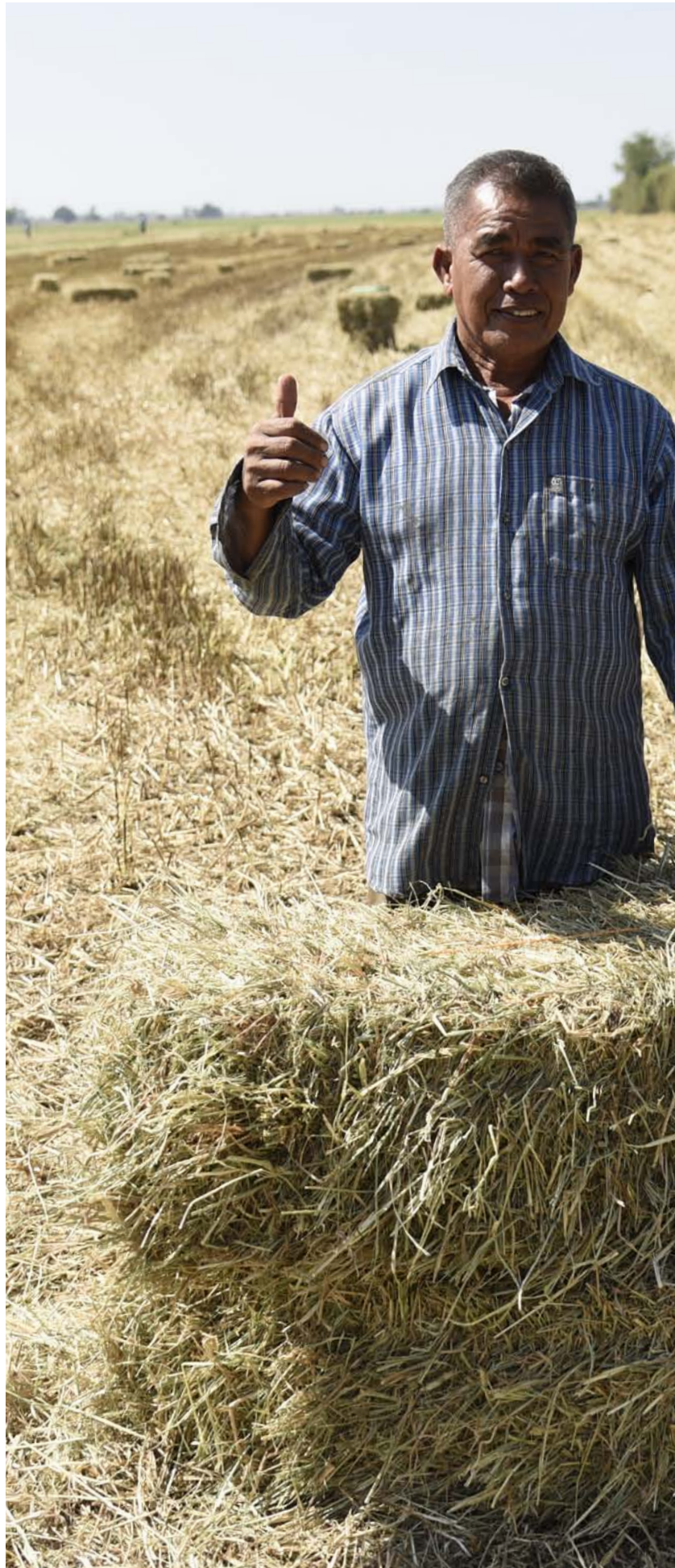
Rangjarakhay Move Forward to Zero Burn

Cement-Building Materials Business launched the Zero Burn initiative through purchasing of agricultural waste from end of 2019 in areas around SCG's five cement plants located in Saraburi, Lampang and Nakhon Si Thammarat Provinces. Purchase points are being added among CPAC ready-mixed concrete plants which located in every part of Thailand.

The purchase scheme focuses mainly on paddy straw, sugarcane leaf and corn cob, to be used as feedstock to make energy pellet for cement kiln, substituting coal as fuel.

In the case of rice straw, if a purchase point is located very far away from a cement plant to the extent that transport cost does not make economic sense, machineries are deployed for straw shredding and compressing into energy pellet, which are smaller and more compact, for haulage of 20 tons per trailer.

At Rangjarakhay Subdistrict in Sena District, burning left overs is a dilemma with which farmers have been struggling for years. Driven by a sense of urgency among the local people, the Subdistrict Administrative Organization collaborated with SCG in implementing the initiative, and entered into partnership with Siam Kubota Corporation Co., Ltd. which donated two straw compressing vehicles to be used in the project.





For the purpose, SCG set up an energy pellet factory, its first, in Lad-nga Subdistrict adjacent to Rangjarakhay. The factory provided crucial support to Zero Burn Scheme in Sena District. Farmers can transport straw bales to the factory, to be transformed into energy pellet, which will then be hauled to feed as fuel to The Siam Cement (Kaeng Khoi) Co., Ltd. and The Siam Cement (Ta Luang) Co., Ltd. (Khao Wong Plant), Saraburi province, located about 100 kms from the site.

“Thanks to the irrigation, at Rangjarakhay, we can grow crops of rice twice a year. In the past, burning was only way because it’s quick. When we finished the first crop and preparing for the second, there is not enough time to decompose the straws. The second cropping must complete before floods arrive towards end of the year,” said veteran farmer of Rangjarakhay, **Waraporn Chalermstilp**.

“The good thing about this project is that villagers no longer have to burn straws and this is how we help reducing the pollution. The Chief Executive of the SAO (Sub-district Administrative Organizations) helped us earn additional income from selling straws. But it is worrying that here there are thousands of rai of rice fields. Each plot would finish harvesting around the same time. Our concern is that the straw compressing tractors might fail to keep up with the ever increasing volume.”

Waraporn and her friends shared the view that if the two existing compressing tractors can roam around and process 60-70% of post-harvest straws, they are optimistic that seasonal burning activities would be scaled back each year.

Pongsakorn Mongkolmoo, Chief Executive of the SAO, is aware that PM 2.5 pollution is a national problem. “Here we campaign for farmers to cooperate, urging them not to



burn straws. But if we don't offer them option or equipment, most of them would still continue to burn. That's why we sought SCG's support, in installing the straw-compressing machinery onsite. We also received support from Siam Kubota with the tractors. With these, we believe we can achieve 100% reduction of straw burning."

Straw Haulage

The sky was bright blue, the air cool and windy during year-end cool season. From the road shoulder, the whole landscape is dominated by flat rice fields. By the roadside two red Kubota tractors were hauling straw compressing machine along the stretch of the road. Stubbles, straws and farm waste were everywhere. When the vehicle moved, straws would be sucked in, compressed and out came square bales along the carousel at the rear of the tractor. Workers use steel hooks to move them to assemble at one corner. Each straw bale weighs between 18-20 kilograms.

Wicha Kerdpun, age 70, owner of this rice field, said since last year he felt a very strong urge to resist burning, to the extent he was willing to pay haulage of straw from his farm for disposal somewhere else.

"I have a total of 100 rai, and this plot alone is 14 rai. I am the first in Sena District to have paid for straw haulage. I paid 5,000 baht for the service, plus offering lunch for the driver and the crew. If burning is illegal, then it gives me peace of mind to pay for this," Uncle Wicha laughed at his own thought. "Like some projects told us to leave rice straws to decompose naturally. That's time consuming and people who say so and those who actually work the rice fields are different people. They have no idea what it's like. The Zero Burn project hits the nail in the head, addressing the problem spot-on."

"You just let us know, we will be here, compressing straws for you and buying it at 50 baht per rai," added SAO Chief Pongsakorn. "If this project turns profit, we will share it back to farmers in various forms."

Pongsakorn explained that the Subdistrict Administrative Organization would make straw bale, and after SCG purchasing the outputs, farm owners will be paid 50 baht per rai, with parts of proceed allocated for expense and public interest fund such as scholarship for poor and needy students, or farmers' welfare. The fund is set up and managed by the villagers themselves as a community-based enterprise with SAO as mentor. In the step to follow, bales are transported for energy pellet processing at SCG factory located in Lad-nga Subdistrict some 20 kilometers away from this field.

Straw Compressing

The energy pallet processing plant is located on a site owned by CPAC in Lad-nga Subdistrict, known among local people as the "sand pit". Outside the factory is a vast open ground with piles of straw bales.

SCG employee **Warawut Samermuan** told us that "this factory started operation in May 2020. All that you saw was the result of first haulage in February 2020. We gradually processed them and deliver to Kaengkhloi cement plant in Saraburi." Warawut explained that when bales were delivered here by farmers, the factory staff must measure the moisture level, which must not exceed 25% to be purchased. "Workers have to use hooks to winnow and puff up straws before they can be fed into the machinery." Once processed, each piece of straw would measure around 24 millimeters, to be sucked and fed into the pellet maker. Outputs are both smaller and higher bulk

density energy pellets with a diameter of 24 millimeters. There are currently four machines and staff are still undergoing trials and learning to improve process efficiency. At present the production capacity is more than 10 tons per day. Once every three days, an output of 20 tons per trip is trucked to Kaengkhoi cement plant.

Schwinn Chattaris is another SCG worker closely involved in the project, as systems design engineer for the factory supervising production process. “The challenge is that raw materials such as straw or sugarcane leaf are light-weighted, making haulage uneconomical. We have to find ways to process, slicing and compacting into smaller masses to make for transport volume. We studied technology, machinery design and installation. We are experimenting a variety of approaches. Three teams are working together: the procurement team to source raw materials from farm waste, the second team is the customer co-development, working to produce biomass from agriculture waste and maximization of use and value from the cement plants and external clients; and the team I am in charge of that is the technical team. My team is in the middle, receiving problems from two other teams and find the right technology to process raw materials into biomass that customer wants.”

Schwinn said in the near future the factory aims at producing 0.5 ton of biomass per month, and increasing in the next step to 1.5 tons per month.



Schwinn Chattaris

Scaling Up for All

SCG has plans to increase purchasing points of agricultural waste through its network of CPAC plants nationwide and it sets the target of producing biomass to substitute coal import to the tune of 1 million ton per year.

There are many ways to reach the target, such as setting energy pellet factories in a number of other locations, exploring collaborative partnership along the line of OEM approach with machinery-owning partners to produce energy pellets.

In addition, SCG has the idea to promote and support community-based factories that are using small machineries across Thailand to venture into this undertaking in the form of community-based enterprise. “We believe that Zero Burn project is beneficial,” Schwinn said with confidence. “From business case perspective, we use low-cost materials to make biomass. In another perspective, we add value to waste. It’s exhausting yet challenging: the change of perspective, in relations to machinery, people, and cement business. Everybody must change, adapt and in the end the whole chain improves. Farmers get more income, truck drivers have jobs, cement plants use less coal and more biomass. I am proud to be part of this advocacy to turn agricultural waste to renewable energy.” Schwinn’s sense of pride is shared by other SCG employees taking part in the Zero Burn project that helps reduce environmental problem and serve the interests of multiple sectors within the Thai society.



Water Management at Ban Sa Phae Nuea:

Turning the Drought Crisis Around

For those who live in the city, a day without tap water would make life difficult: no showers, no laundry, no dish washing, no flushing. But for local farming communities in rural areas, whenever they are faced with drought, which means insufficient water for farming, the villagers' lives are in a serious crisis. When the plantations they have put their hard work and energy into will not yield produce or even die, it means that they will not have any income to support their families until the next harvest. It will take another year before they can earn money again. The problem of debt among farmers thus continues to snowball.

This is what the villagers in Ban Sa Phae Nuea, Lampang Province experienced as they faced a severe drought crisis in the past few years.



Lessons in Times of Crisis:

"In 2015, it was extremely drought. There was no water at all." Former Subdistrict headman of Sa Phae Nuea, **Pian Taemdee**, age 60, recalled, "In this village, we mostly rely on rain for farming. But that year, the fields we planted did not yield any harvest. We just had to let it all die."

Ban Sa Phae Nuea, Village No. 7, located in Ban Sa Subdistrict, Chae Hom District, Lampang Province, consists of more than 140 households, most of which engage in farming. In addition to rice, they also grow other vegetables, such as sweet corn, mustard greens, legumes, pepper and eggplants.

While Inspector Headman **Thiraphong Klinfong**, age 62, another senior of the community who joined the conversation said, "When I was 6-7 years old, I remembered that the surrounding village was still a pristine forest. There were teak, Siamese sal, Burmese sal, and Burma padauk, which were desirable to capitalists. They received a forest concession



around 1962-1963 and the trees were cut down. They used both elephants and lorries to carry the timber away from the mountain. The forest had deteriorated and all the big trees were cut down. The villagers saw that it was an open area, so they took up the land and planted peanuts. Deforestation continued until this area just became an open space. Then, we began to experience years of flooding and years of drought.”

The two elders of the community said that in 2015 it did not rain for a very long time and the water left in the Huay Kaew reservoir was not sufficient for their paddies. Creeks also dried up, no water for farming. The drought was so severe that they had to just let the rice they had planted die. The whole village was severely affected because they had no rice to eat and could not earn a living.

“That year, the villagers could not harvest any rice or any other crops. In my case, I farmed almost 10 rai of land and got merely two sacks of rice in return. I had no money to send my kids to school...” said Inspector Headman Thiraphong.

However, after that crisis, the turning point for the villagers of Ban Sa Phae Nuea was when SCG came in to persuade them to join the SCG Conserving Water Project in 2016.

“The villagers already knew about SCG because their cement plant is located in our district. However, when their staff came to persuade us to build check dams, we didn’t have faith at first. We thought that it would not work because we didn’t have much forest left. However, we saw an example from Ban Moo 2, which joined the SCG project before us. They successfully established a mountain water supply system for use in the village. So, we thought it might work for us too and decided to join the project, starting with the research.”

To implement the SCG Conserving Water Project, which all 10 villages of Ban Sa Subdistrict joined, SCG did not take the role of a project head, ordering land owners or villagers around, but rather assumed the role of a mentor, creating a process for villagers to have a platform to exchange ideas and learn together through cooperation. Research was carried out on forest soils, water supply, and the forest itself in each community in order to pinpoint the root of the problem and figure out a systematic solution.

Inspector Headman Thiraphong said he joined the research work by collecting economic data about how much the villagers in the community earned per year. Subdistrict Headman Pian collected data on the forest, while others collected data about the soil and the fields.

The research team of Ban Sa Phae Nuea found that although their community had Huay Kaew as the main creek that nourished the land and was used in agriculture, the water shortage resulted from the community not having enough reservoirs for water storage.

After a one year period of exchanging knowledge with other communities and researching local data, in 2017, the villagers of Ban Sa Phae Nuea collaborated with SCG to solve the problem of farming in the community.

First, check dams were built in the watershed forest of the community in order to make the forest wet and fertile again.

Next, underground dams were built in the bed of the Huay Kaew creek for better water retention.

Pipelines were also installed to relay water from Huay Kaew basin, which is located in a higher area, to a series of adjoining concrete ponds all the way down the hill slope.





Joining Hands to Turn the Situation Around

Villagers of Ban Sa Phae Nuea came together to build 9 underground dams and dig 11 water retention ponds in Huay Kaew where it ran through Thung Chang, an area dense with farms. The areas above the creek were mainly rice paddies, while the areas below were orchards and vegetable farms.

Wannachai Kajaree, Community Relations and Nature Conservation Officer, Lampang Cement Plant, who had been helping develop the Sa Phae Nuea area since 2016 and giving advice on various matters and who was thus close with the villagers, talked about the concept behind building underground dams.

“We designed an underground dam because we were able to build a reservoir above ground. So why not try building one underground? It was a test.”

He explained that the reason that an underground dam needed to be built deep under the water-retention layer of soil was to prevent the water from seeping through the underground sand layer underneath the Huay Kaew creek, which would cause it to dry up during dry season.

“Huay Kaew only has water in the rainy season. During the dry season, the water will disappear completely underground.” Wannachai said. “The principle of building an underground dam is that we have to dig deep into the soil pan under the rice paddy. Each dam has the width of a creek and approximately two meters long. Usually, we would compress the clay into a core. However, since we could not find clay around here, so we used concrete instead.”

In addition, at each underground dam in the Huay Kaew creek, stop logs were also installed to control the flow of the water. Water retention ponds were also dug in front of the underground dams to increase the storage volume for agriculture.

Wannachai said that the villagers in the community worked together to build 9 dams during the period from 2017 to 2019, while SCG mentored and advised on the construction technology and supported the project with some materials.



Headman **Songkran Penpuak**, the current headman of Ban Sa Phae Nuea, said, “The first underground dam took more than 2 weeks to construct. The villagers were not technicians, so it was difficult for them to understand. However, once we had finished the first one, the second one took only a week to complete. We became more familiar with the process. SCG was the one who brought us the construction plans.”

The headman added that the construction of each underground dam was labor-intensive, requiring hundreds of villagers. They were divided into groups and took turns working. They brought their own food and rallied together, successfully constructing all 9 dams in the end. At the end of each day, they cooked and had a party.

Subsequently, in 2020, it was time for the farmers of Ban Sa Phae Nuea to learn and join forces to build connected concrete ponds. Headman Songkran recounted, “the first concrete pond took us almost a month to construct because we had never done it before. The second one took only 5 days.”

Originally, SCG had planned to build connected ponds to store more water for the community. However, after surveys and analysis, the area was found to be inappropriate. Therefore, the plan was adjusted to a square-shaped concrete tank, also known as connected concrete ponds, each 4x4x3 meters in size and can hold 48,000 liters of water.

The villagers also helped to lay HDPE pipes from Huay Kaew Water Reservoir down a distance of about 5 kilometers to draw the water down to the 8 concrete ponds that lined up around Thung Lao Chang and Thung Lao Yao, where many villagers farmed and planted vegetable gardens. At the end of the pipeline, the water was fed into paddy fields through a pipe system, which helped reduce loss by 100%, compared to the previous year when the water was relayed through the creek.

Each concrete tank serves 10-15 farmer members who have agricultural plots around the tank location.

For instance, at the 6th connected concrete pond, a sign says that the pond has 18 beneficiaries, covering 43 rai of agricultural land.

"Thanks to SCG for teaching us how to build water reservoirs, our village now has crops all year round," said Prayad, another elder of Ban Sa Phae Nuea community.

Reaping the Fruit of Labor

Prayad Tamphian, age 62, said that in the past, he could only grow vegetables in the rainy season, but now, there is enough water for agriculture all year round. Just last year, he began a 2-rai mango orchard and planted over 300 Chokanan mango trees.

"My income has increased because it's possible to do agriculture in the dry season," said Prayad.

Other villagers all agree that their cooperation and hard work to solve the problem of farming is yielding clear results. Today, farmers can place pumps along the creek without having to carry them back home because the Huay Kaew creek has water all year round. The land that was once desolate has now been transformed into lush vegetable gardens.

"Now that our village has water, people who are diligent can work all year round," said **Manop Punneng** or Toi, age 56.

"I used to grow crops for 3-4 months a year, but now I run my farm all year round. I grow crops myself, sell them myself, and I also buy from other farmers. My income has quadrupled because previously, we got only 3 months during the rainy season to work. Now, it's a lot easier for the villagers because there is enough to go around. The cows have enough water to drink."

Inspector Village Headman Thiraphong said, "Products that constitute the main income of the village are mustard greens and sweet corn because in Moo 7, we can grow short-term crops like corn, which can be harvested in just 72 days, or mustard greens, which are harvestable in 65 days. In one year, these vegetables can be planted several times. Last year, our village earned a total income of approximately 25 million baht, an increase compared to the old days when we couldn't work throughout the year. This is a whole different story."

Besides mustard greens grown for sale to pickled vegetable factories, a new economic crop that is popular among farmers of Ban Sa Phae is the cowpea, a product that is exported to Japan.

Toi is one of the farmers who has turned to cowpeas. His cowpea plantation runs along the edge of the creek, from which he can conveniently pump water. His other plantations are near the connected concrete ponds. It only takes 55 days for cowpeas to be ready for harvesting.

"Our village has become a hub where people from other districts come looking for a job and get hired to



harvest cowpeas because we don't have enough manpower in the area. Cowpeas need to be picked at dawn, and it takes up to two hundred people," Toi vividly explained the bustling crowd on the day of the harvest.

.....
Much has changed from the day that Ban Sa Phae Nuea community encountered the drought crisis in 2015 when the rice all died, until the day they had the opportunity to work and exchange knowledge with SCG, which ultimately led to actions that solved the community's water management problem, such forest conservation, building check dams and underground dams, as well as connecting concrete ponds.

Today, everyone can see a positive change. Huay Kaew has the water to support agriculture all year round, and the villagers earn more income, as Toi said: The more you work, the more you earn.

"Right now, our village doesn't have any problems with water at all. I can speak with confidence," said Headman Songkran. "At home, we can grow rice and crops. Most importantly, we have a reliable water source. Since SCG lent us a hand, things got better. I would like to take this opportunity to thank SCG."

The headman of Ban Sa Phae Nuea said some communities are still lacking water sources, such as those to the north of the village. After this harvest, there will be a meeting among the villagers. If everyone agrees, they will join forces to build underground dams in a creek in that area as their next project.

Commitment to Enhancing

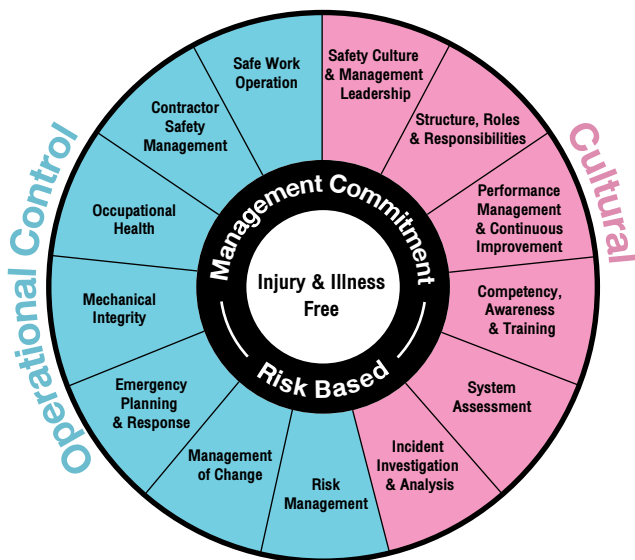
for Excellence in Safety

By 2022, SCG is highly attentive to achieve the ultimate goal for zero lost time injury as well as zero fatality of employees and contractors, both in workplace, travelling and transportation including zero occupational illness and disease each year.

In the past years, SCG has strictly continue to adopt the high standard of the Occupational Health and Safety Management System to sustain strict safety supervision. Several innovations have also been developed for risk reduction, resulting in the continuously reduction of number of accidents.

In 2020, SCG has enhanced the Occupational Health and Safety Management System in order to achieve the goals. We are well aware that the goal is to reach for “better quality of life,” not for better numbers in the report.

Because “every life has value, every person shall get home safely, with no occupational illness and disease.”



Enhancing SCG Safety Framework for Safety in the Workplace

In creating safety in the workplace, SCG has announced to adopt the Occupational Health and Safety Management System (SCG Safety Framework) and been supervised by Safety Performance Assessment Program (SPAP) since 2007 in all operations. We continue to enhance the standard for safety supervision and control to the present.



Based on the SPAP assessment results compared with the total injury frequency rate, it was found that companies with high assessment result were more likely to reduce the lost time injury frequency rate but still cannot meet the goals.

In 2020, the SCG Safety Framework was updated by the Workplace Safety Committee with a concept to elevate risk assessment and risk management as well as established the standards and best practices that have been appropriately applied based on the business context and risks. The risk management has been driven effectively and systematically that align with Operation Control and Safety Culture enhancement throughout the organization. The assessment has been used to assess the efficiency and effectiveness on safety. A Dry Run had been firstly tested by pilot companies in all business units before being applied to all companies in 2021.

This enhancement is of great importance since SCG emphasizes on building an engagement in implementing the system with knowledge, understanding, and operational discipline among employees and contractors at all levels.



To this end, the System Drive Culture would be established at the standard level of SCG. SCG also expresses its commitment to elevate this implementation to higher levels of effectiveness and embed in part of the business to show that the efficiency in its occupational health and safety operations is truly excellent.

Safety Performance Assessment Program (SPAP)

In the past, the Safety Performance Assessment Program was assessed according to the requirements at the specified period which led to a lack of continuity of safety supervision that fit in the business context.

The change in the assessment pattern this time will focus on the understanding the objective of the SCG Safety Framework 2021 and the implementation that will be assessed and certified by the company every year for the standard level. Assessor teams is set up from all business units to further assess the Occupational Health and Safety

Management System in case the company is committed to developing the system to a higher level. The assessment at all levels will reflect both knowledge and competency, execution with know why, effectiveness and continuous improvement. In addition, the corporate function of each business units and SCG will take part in the consultation to help identify any shortcoming to create opportunity for further improvement.

This self assessment and certification will raise awareness for the company to review its performance on occupational health and safety in accordance with the SCG Safety Framework and commit to move towards a higher level of operational effectiveness.

The assessment program not only measures the efficiency of the system's compliance, but also considers the number of fatality and the lost time injury frequency rate. The first level, Awareness, is for companies that still have the number of fatality. The Standard level is when the zero fatality but there are still more lost time injury frequency rate than the goal set. The Advance level is when the zero fatality and the lost time injury frequency



rate is still within the goal set. The highest level is Excellence is when zero fatality and the lost time injury frequency rate have been reached.

With a strong Occupational Health and Safety Management System, it will help all companies, and its contractors become organizations that run with safety culture and eventually achieve the goal of Injury and Illness Free sustainably.

Leader and Safety culture Feel with Care, We Talk for Care

To promote the importance and value of occupational health and safety, the leaders play an important role in supporting the issue of occupational health and safety to be put into action by encouraging employees and contractors to work with discipline, establish safe behaviors as well as help each other supervise for working safely.

SCG focuses on “Safety Observation”. All employees are expected to understand the importance of observing their coworkers, know what to do and can remind their coworkers to work in the right way and appropriateness. The leaders and supervisors are encouraged to be a role model on safety observation through “Leader Standard Work” that covers coaching, “Line Walk” and safety performance monitoring through “Visual Board.”

The leaders are expected to regularly observe with care and advice, especially when encountering unsafe actions, so that employees and contractors can improve their behaviors. Rewards and compliments shall be given to employees and contractors who work safely lead to risks reduction by themselves.

Safety Culture in which everyone in the organization “believes” and “acts” in the same way may not be easily established. However, with a management system that has a clear structure, roles and responsibilities, employees and contractors of all levels will understand the risk of their work and become aware of the consequences from compliance or non compliance.

When all employees and contractors can take care of themselves and their coworkers, we can be sure that the goal of zero accidents is achieved.



Collaboration with All Sectors for Road Safety

Logistics Command Center (LCC) controls and manages the safety for truck that also extended to the school bus group in which the system to prevent children getting stuck in the school bus is established under the Smile Kid School Bus project. With cooperation from the Ministry of Interior, Ministry of Education, Provincial Governors, and Provincial Office across the country, all schools affiliated with the private sector and the public sector have access to this program, including the expansion to the emergency ambulance group with cooperation from the Ministry of Public Health and National Institute for Emergency Medicine who signed a Memorandum of Understanding (MOU) on the development of Ambulance Safety Solution.



Raising the Goods Transportation Safety and Road Safety Standard Align with SCG Medium Term Plans

“Becoming ASEAN’s leader in Goods Transportation Safety and Road Safety” is SCG’s ultimate commitment which aims at “zero fatality on Goods Transportation and Travelling.

SCG establishes a Transportation Safety Committee which is responsible for setting policies, strategies, goals, short, medium and long term plans and key performance indicators to drive operational standards for safe use of vehicles.

The period between 2020 and 2024 marks the implementation of the Medium Term Plan. Earlier in the year 2019, SCG has implemented several important foundations such as establishing the Goods Transportation Safety standard, which is the same standard for all business units and to be applied to all carriers by encouraging them to be able to supervise their own safety.

Furthermore, SCG have 2 sides cameras installed on all trucks, all of which are monitored 24 hours a day by the Logistic Command Center (LCC) of SCG Logistics that detects risky behavior and alerts drivers with AI. In 2020 SCG introduces the Kubdee application which will detect driver’s facial and eyes features that indicate and predict drowsiness or sleep.

In 2020, SCG is in the process of developing the Advance Driver Assistance System (ADAS) to help control a safe distance between vehicles such as collision warning, driving tightly, getting out of the lane and the Drive Monitoring System (DMS) to alter the driver’s behavior for maximum safety including a 100% assessment of carriers according to Goods Transportation Safety Standard and developing carriers by requiring them to pass the assessment criteria at 85%.

Moreover, SCG has established the SCG Transportation Safety: Sustainability Program to promote 7 carriers to be Model Carriers to be a good role model for other carriers. The program starts with communicating to the executives of the carriers and make them understand the importance of being a leader in safety, corporate culture and enable their employees to participate in working safely, understand and able to comply with the required safety standards.

The program has been in operation since June 2020 and will expand to all strategic carriers.

According to the medium term plan, SCG also undertakes many actions such as applying the Goods Transportation Safety Standard to other overseas companies where SCG is operating its business with, Increasing the concentration

of incident investigation and analysis, introducing various innovations, for instance, the trial use of the G7 which is a TELEMATICS system in SCG Logistics pilot group, etc.

In the part of travelling, apart from being part of Life Saving Rules, SCG has set a Road Safety standard that is used as the same standard for all business units. Thus, causing zero fatality from the use of vehicles in the company business.

SCG believes that continuing efforts to improve and develop ourselves, aiming for excellence in safety with care for every life will enable us to achieve our goals soon.

A Carrier Participating in the SCG Transportation Safety: Sustainability Program

“Since 2003, the company has been selected by SCG to be its carrier. A year later we installed GPS on all trucks and started installing 2 sides cameras in every trucks as well as preparing emergency equipment such as traffic cones, wheel chocks, emergency safety hammer, flashlight, tow strap, warning triangle.

“In the past, the company had no knowledge of transportation planning. When drivers had to go into vulnerable areas, they used a map drawing to communicate with each other but after 2018, SCG advised us to implement the Distribution Safety Standard (DSS) then we had a systemic plan to install cameras, which we had to communicate with our employees and made them understand. So far, our transportation accident in 5 years has been zero.

“During the COVID-19 situation, we provide online health tests every morning and the results are sent via application line. There are measures for drivers starting from completing a driver’s daily routine such as wearing a mask, washing hands frequently, measures for picking up products from a customer factory and measures for the delivery of goods.

“Foreign transportation during COVID-19 is very strict. It is very important for us not to allow people from foreign countries to get onto the front of the truck and the driver must not get off the truck, too. According to the requirements of the Ministry of Public Health, the driver is required to return to the country within 7 hours, if there is any risk of failure in making a return within the time limit, then we would choose not to go. When the truck returns, it will be sprayed with a disinfectant solution and the driver will get a screening for COVID-19. Then when they get back to the factory, the truck will be sprayed with a disinfectant solution once again.

“I would like express my appreciation to SCG, my professional mentor.”

Maritsada In-ta

Managing Director
Bunprakob Service Limited Partnership





Materiality

Process of Materiality Assessment and Prioritization

Based on the Global Reporting Initiatives (GRI) Standards

1

Analyze sustainability issues along the value chain, covering the phase of raw material procurement to production, transportation, distribution, utilization of products and services, together with the analysis of changes in key trends.

2

Analyze the issues that matter to the stakeholders through various means comprising survey, panel discussion.

3

Analyze the alignment with the enterprise risk management framework.

4

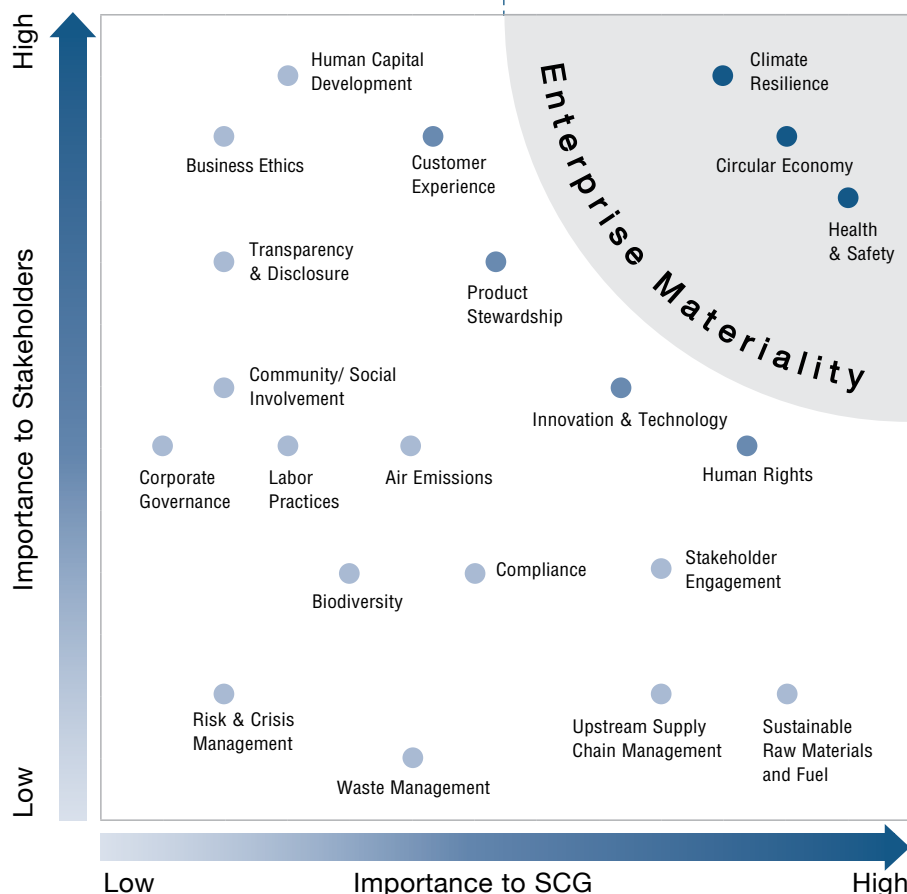
Assess and prioritize sustainability issues with respect to importance to SCG and stakeholders and define materiality.

Materiality Assessment

In 2020, the SCG Sustainable Development Committee defined enterprise materiality based on the enterprise materiality of 2017. SCG's enterprise materiality is revised at least every three years, taking into account changes in key global and regional trends, opinions of key stakeholders, enterprise materiality in the same industry, as well as potential risks and opportunities across the value chain.

Enterprise Materiality

- High economic, environmental, and social impact.
- High impact on assessment, decision-making, or stakeholders' confidence.
- Fully integrated in SCG's short-term and long-term business plans.



Enterprise Materiality

Climate Resilience

Climate Resilience includes greenhouse gas emission reduction and enhancing adaptability and resilience in response to low carbon transition. (see page 66)

Risk

The ongoing climate change crisis has triggered natural disasters in many areas across the world. Thus, stakeholders would like to be informed of related risks that can impact business continuity and lead to higher production costs or compensation for potential damage. In addition, climate change has prompted a shift in consumer behavior towards environmentally friendly products and services, accompanied by an expectation for a collaboration to reduce greenhouse gas emissions according to the Paris Agreement to keep a global rise in temperature under 1.5 degrees Celsius.

Opportunity

Adopt international standards to foster sustainability in activities and plans related to GHG emission reduction and the development of low-carbon products and services, as well as support GHG emission reduction projects by introducing internal carbon pricing (ICP), increasing the use of alternative fuels and energy, implementing GHG emission reduction and energy efficiency projects, and revitalizing ecosystems for carbon sequestration. This is to be in line with the Paris Agreement, which aims to achieve a net zero carbon emission in 2050, SCG is during revisit and reviewing its medium-term target to reduce GHG emissions by 28% by 2030, compared to BAU in the base year of 2007.

Circular Economy

The manufacturing of products and the development of services and solutions with maximum energy and resource efficiency across the value chain to reduce the consumption of natural resources and create a sustainable, closed loop of resource circulation. (see page 70)

Risk

The ocean and land waste crisis across the world has caused widespread environmental impacts. As such, stakeholders, investors, non-profit organizations, and shareholders are advocating against single-use plastics and inefficient waste management. Many governments around the world have introduced a plastic bag ban and imposed taxes on plastic packaging manufacturers. At the same time, consumers are increasingly drawn to products and services that maximize resource efficiency and use less resources, in which waste can be recycled into material for production again.

Opportunity

Offer products and solutions according to the principles of circular economy, reduce resource consumption in production and usage, design for a longer life span and recyclability, improve manufacturing to minimize waste or scraps, collect and manage waste for reuse, create added value to waste by developing it into products or substitute materials, develop a business in line with the circular economy principles to promote shared resource consumption, foster collaboration with every sector to drive the circular economy, and establish a goal of becoming a national and regional leader in circular economy practices.

Health and Safety

Caring for the health and safety of employees, contractors, and stakeholders who may be directly and indirectly affected by SCG's business operations. (see page 74)

Risk

The COVID-19 pandemic has quickly and severely impacted business operations and caused interruptions as well as affected the health and safety of SCG's employees and contractors and SCG's ability to ensure the safety standards of its overseas businesses. The logistics and business expansion, both domestic and abroad, can also pose safety risks with regard to operations, transportation, and traveling and ultimately affect the safety of SCG's employees and contractors as well as communities and society.

Opportunity

Develop organization's operational standards to control risk behavior and ensure active and continuous implementation, elevate the occupational health and safety management system and the safety effectiveness assessment system, encourage executives or supervisors to serve as safety leaders, strive towards an operation driven by the pledge and commitment of the executives of each company, introduce technology in order to enhance the efficiency of safety management to create a safety culture across the organization, as well as promote and expand the practice to contractors, communities, and society.

Sustainability Issue	Climate Resilience	Circular Economy	Health and Safety
Technology and Innovation	●	●	
Sustainable Value Creation			●
Customer Experience		●	
Product Stewardship	●	●	●
Waste Management	●	●	
Water Management	●	●	
Biodiversity	●		
Human Rights	●	●	●
Human Capital Development			●
Social and Community Involvement	●	●	●



Climate Resilience

Exploring New Opportunity and Innovation towards Net Zero

Acute impacts of climate change and global warming necessitate collaboration worldwide in effort to reduce greenhouse gas emissions and deploying innovations for carbon removal. Stakeholders expect SCG to disclose and do its parts on climate-related issues, against the backdrop of transitional risks from changing in climate-related law and regulations in Thailand, competition in low-carbon products market. SCG thus sets greenhouse gas mitigation target in compliance with the Paris Agreement's goal of limiting global warming to 1.5 degrees celsius and net zero in 2050. Our efforts are subject to strict business governance and execution in line with international norms among all business units working to achieve the target.

Target and Performance

Greenhouse gas emissions reduction
2050
Net Zero

Greenhouse gas emissions reduction compared with BAU at the base year of 2007

2020	2025	2030
10%	20%	28%

2020
10.9%

Energy consumption reduction compared with BAU at the base year of 2007

2025

13%

2020

7.6%

Strategy

1. Increase the share of biomass and renewables to replace fossil fuel.
2. Improve or modify process and equipment to enhance energy efficiency.
3. Research and development (R&D) of technology to achieve Net Zero in 2050.
4. Develop products, services and solutions that reduce emissions across the value chain.
5. Apply economic tools to promote greenhouse gas (GHG) emissions reduction.
6. Forestation and rehabilitation of terrestrial forest, mangrove and seagrass as carbon sink.
7. Awareness raising on energy conservation and climate resilience among employees and contractors.

Management

1. Review greenhouse gas emissions reduction target and bring it in line with the Paris Agreement and align with keeping global warming to below 1.5 degrees celsius, and Net Zero target in 2050.
2. Prepare measures to enhance and drive energy efficiency across all business units.
3. Prepare and disclose climate-related issues according to TCFD recommendations, and SBTi.
4. Monitor and regulate climate resilience action by the Board of Directors and top executives while the meetings were hold on a quarterly basis.
5. Drive actions and implementation by the Climate Change and Energy Committee while the meeting were hold on a quarterly basis.



Solar Energy System Solutions

SCG has developed and installed solar energy systems, in a variety of ways ranging from solar farm, floating solar farm, and rooftop solar, in order to increase the share of clean energy and reduce greenhouse gas emissions. SCG has been promoting solar energy solutions within its group, with external partners and customers, homeowners.

- **SUSUNN** the integrated renewable energy solutions, SCG Ceramics Public Company Limited started the endeavor as an internal factory project, to develop its expertise, and subsequently branching out to servicing other factories. From 2018-2020, it installed a total of 18 solar energy projects for companies of Cement-Building Materials Business, Chemicals Business and Packaging Business, and others. These projects result altogether in energy saving of 11 million kilowatt hours per year and reducing GHG emissions by over 6,700 tons of CO₂ per year.

- **SCG Floating Solar Solutions** Thailand's pioneer operator, floating solar farm innovation of Chemicals Business offers end-to-end solutions, from design, buoy production, installation and maintenance. In 2018-2020, it implemented a total of 19 projects for SCG business units and external partners. The combined generation capacity totals over 25.8 megawatts, reducing GHG emissions by over 12,330 tons of CO₂ per year.

- **SCG Solar Roof Solutions** Innovation for energy-efficient home of SCG that helps homeowner customer save cost of electricity usage up to 60%. The solutions look after the entire process from installation to maintenance along with applications to track and monitor the system's functions. SCG developed the solutions to create confidence of customer for the use of solar energy, which will help boost the share of renewable energy use in residential sector. In 2020, sales tripled from 2019 approximately, as people were spending more time at home due to the COVID-19 pandemic.



- **Hybrid Electric/Solar Vehicle Project** Chemicals Business started piloting hybrid electric/solar vehicles in place of diesel-engine vehicles inside RIL 1996 Co., Ltd. Findings from the pilot demonstrate that it can substitute diesel fuel use by 2,580 liters per vehicle per year, while reducing GHG emissions by over 7 tons of CO₂ per year, and saving diesel fuel cost by around 45,570 baht per vehicle per year. These results constitute potential for scaling up, including switch of fleet within the organization to electric vehicles while generating new business such as renewable energy charging station in RIL Industrial Estate and at Map Ta Phut Industrial Estate.

Greenhouse Gas Reduction Innovation

SCG relentlessly explores new ways to reduce energy use, improving production process and equipment towards efficiency with innovation and technology, development of products, services and solutions that contribute to GHG emissions reduction.

• **AI in Energy Management** Map Ta Phut Olefins Co., Ltd., set the goal of saving energy by 1% of energy per production unit compared with the previous year, and therefore adopted Artificial Intelligence technology to manage energy in production units. The result shows energy saving by over 40,000 gigajoules per year, reducing GHG emissions by 1,600 tons of CO₂ per year, and at the same time making production control easier and more efficient. Going forward it plans to replicate this in every production unit of the company and other affiliates within Chemicals Business.

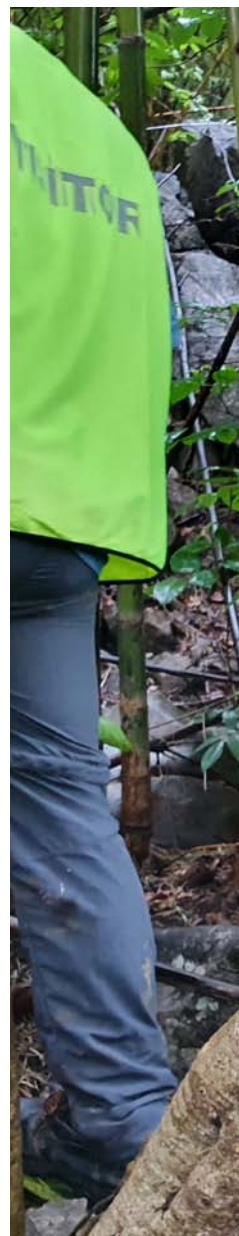


• **Low Carbon Cement Product** Cement-Building Materials Business promotes use of hydraulic cement which has compatible properties to replace Type 1 Portland cement with a view to cutting GHG emissions from production process. In 2020, it delivered over 2 million tons of hydraulic cement to customers, resulting in GHG emissions cut by 100,000 tons of CO₂ compared with use of Type 1 Portland cement. It is collaborating with the Thai Cement Manufacturers Association in advocacy of hydraulic cement use in public sector for construction of buildings, roads and national infrastructure projects.

Drive Low-Carbon Investments through ICP

SCG adopts Internal Carbon Pricing (ICP) scheme as tool in investment decision-making, at the rate of USD 18 per ton of CO₂. In 2020, project that is ICP-evaluated is:

- Energy cost saving project through installation of rooftop solar cell of 0.5 megawatt by Siam Fiberglass Co., Ltd., resulting in annual GHG emissions reduction of 326 tons of CO₂ per year.



Indirect Greenhouse Gas (Scope 3) Reduction

In 2020, SCG has set data collection system to assess other related indirect greenhouse gas emissions (Scope 3) according to the WRI/WBCSD Greenhouse Gas Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Assessing greenhouse gas emissions throughout the value chain can lead to the development of effective reduction management strategies. SCG has assessed other related activities within Scope 3 of greenhouse gas emissions from 5 categories.

- Upstream transportation and distribution
- Downstream transportation and distribution
- Processing of sold products
- Use of sold products
- End of life treatment

Examples of products, services and solutions that influence to greenhouse gas emissions reduction include;

• **emisspro® R Series** is a high emissivity coating for industrial furnaces, which can increase furnace performance, reduce energy consumption and energy loss in the production while reducing greenhouse gas emissions more than 200,000 tons of CO₂ per year.



• **Green Logistics** SCG develops “Green Supply Chain” for logistics sustainability towards customer, community and transportation contractors through enterprise-wide adoption of Total Quality Management system. In addition to winning the Deming Prize, the undertaking results in GHG emissions reduction of 8,000 tons of CO₂ per year from 38 million tons of freight. We apply as core principle Backhaul Logistics Operation to manage rounds of freight trucks, and reducing running on empty trip, while using multi-modal approach to manage big lot haulage to improve efficiency.



SCG Logistics
Deliver your success



Rehabilitation of Forest as Carbon Sink

In 2020 SCG organized tree planting activities in partnership with public agencies and communities to add carbon sinks and biodiversity through various projects inside and outside SCG's factories totaling 660 rai (176,070 trees). These are divided into 576 rai forested, 64 rai of mangrove forest and 20 rai worth of seagrass; providing carbon sink for roughly 14,132 tons of CO₂ in ten years. We continue to plant trees in rehabilitating limestone quarry, totaling 193,775 trees, (680.5 rai) and building a total of 100,466 check dams to increase moisture.



LESS



The Siam Cement (Kaeng Khoi) Co., Ltd., The Siam Cement (Thung Song) Co., Ltd. and The Siam Cement (Lampang) Co., Ltd. collaborate with the Forestry Research Center, Forestry Faculty, Kasetsart University in implementing the project "Zoning of Quarrying Activity for Forest Conservation and Reforestation in Rehabilitated Quarry for Carbon Sink and Biodiversity Conservation" in limestone and shale quarries. The project receives a certificate under the Low Emission Support Scheme certification (LESS) from Thailand Greenhouse Gas Management Organization (Public Organization) counting a span over 20 years of mining operation, with buffer zone totaling 7,514 rai as carbon sink for 389,625 tons of CO₂.

Circular Economy

Innovation for Products, Services and Solutions for Sustainability



Circular Economy under the Make-Use-Return principle is the important concept in managing and responding to waste problem, marine debris, world's resource scarcity and climate change. SCG prioritizes circular economy principle by placing it as material issues in SCG's sustainability and establishing a Circular Economy Committee to provide oversight and foster success factors for circular economy, in which multi-sectoral collaboration and innovation for efficient waste management are key determinants.

Target and Performance

2021

Waste of SCG Head Office in Bangsue zero to landfill

2020

41.5 ton

2020

Revenue from sales of recyclable/reusable polymer packaging account not less than 50% from sales of polymer packaging of Packaging Business

2020

56%

2025

Share of recyclable/reusable products of Packaging Business achieve 100%

2020

96.7%

2025

200,000

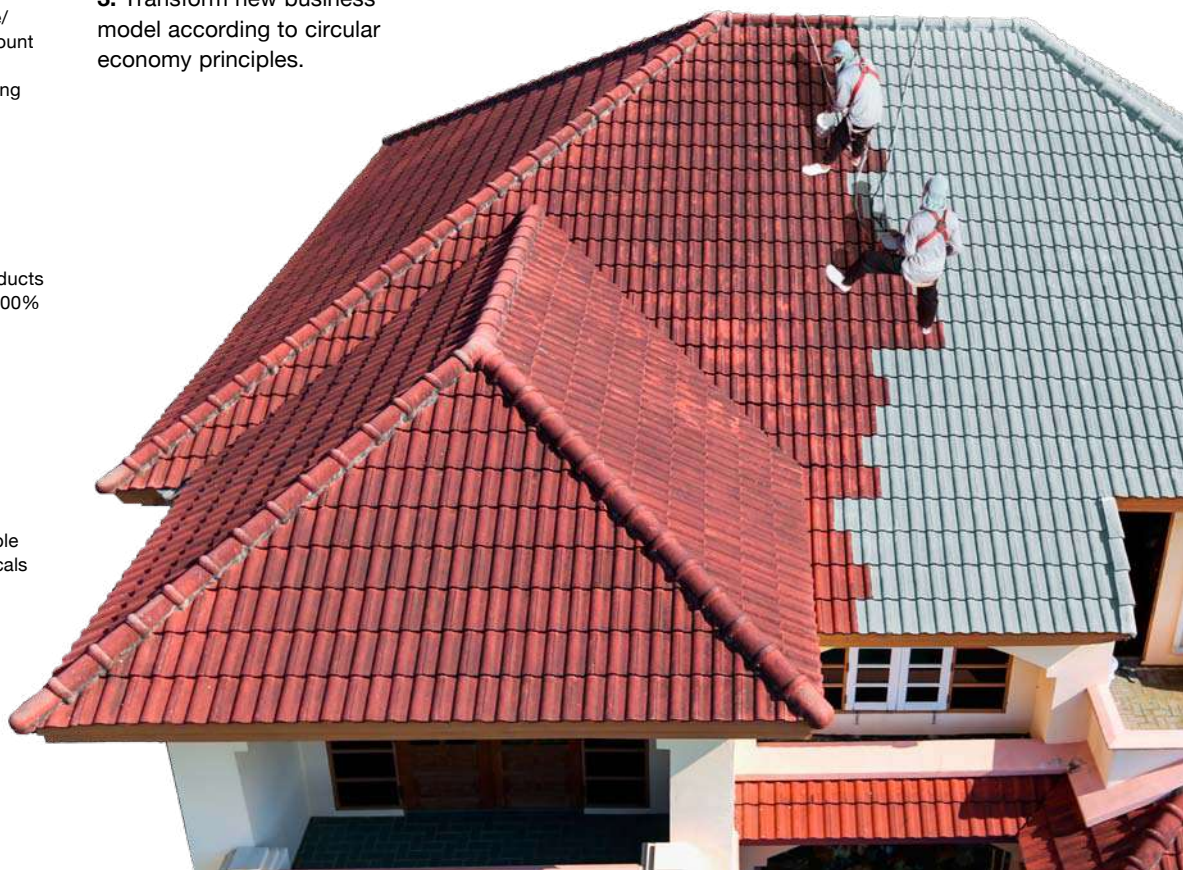
tons per year sales volume of recycled/renewable base polymer products of Chemicals Business

Strategy

1. Develop products and services aligned with circular economy principle to generate and retain maximum value of materials.
2. Collect and manage wastes for recycling.
3. Transform new business model according to circular economy principles.

Management

- Establish a Circular Economy Committee to provide oversight and foster success factors for circular economy in five aspects: awareness raising, building collaboration, setting regulation, innovation and establish management and evaluation system.



Develop Products and Services with Enhanced Property

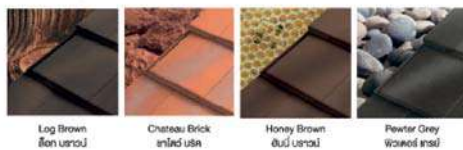
Products with long lifespan effectively reduce waste generation and correspondingly less use of natural resource. SCG prioritizes this concern from the step of product design to extend product lifecycle, offering service to repair the deteriorating products so that they extend its life for use before the products turn to waste, as well as making the product that easy for recycling.

• **X-Shield Technology** The Innovative Coating Special Formulation is used for SCG Prestige X-Shield concrete roof tile and ridge. The innovation enhances the adhesive capability of coating and enamel layers by binding color molecules to tile layer. This makes the color more beautiful and last 3 times longer than common concrete roof.

Prestige X-Shield



Prestige



• **Roof Repaint** SCG Roofing provides roof cleaning and repainting services. Help recondition of the old roof, return back to be beautiful and bright as new. By providing roof cleaning to remove dust stains, repaint the primer to increases the bonding and paint 2 layers of color to keep the color sticking for a long time. The roof repaint repair the products instead of dismantling and replacing the new roof that will create waste.



• **Structure Lifetime Solution** Innovation for Structure Lifetime Extension is an repair service for every kinds of building and its structure especially for building, factory, warehouse, bridge, road and airport. The solution addresses steps ranging from inspection, root cause analysis, and fixing building whose structure is damaged from use, modification of original structure for repurposing, prevention of rusting in reinforced concrete and steel structure. "Structure Lifetime Solution" is the collaboration of CPAC and SHO-BOND & MIT Infrastructure Maintenance Corporation (SB&M) in Japan.



• **HDPE Plastic Resin from SMX Technology™** It has extraordinary strength, and with its reduction of material use while it can be achieved for similar functionality in use for manufacture of a diverse range of products such as packaging film for consumer goods, packaging film for industrial products requiring high-impact resistance, superlight soft drink cap, light-weight bottle, large container for chemicals.



• **OptiSorbX** Packaging with property to prevent oxygen and humidity, jointly with oxygen absorption technique inside the packaging itself helps extend the life of product, appropriate for dessert, bakery, processed meat. As the flexible packaging it uses Mono Material innovation that is recyclable.



Collection and Management of Waste for Recycling



A key approach in waste management is raising awareness, and turn waste to new product which also benefits from the resource use reduction. To this end, research and development work is required for products development using recycled material but still have the required property and meet the standard to gain acceptance of the market, customer and consumer.

• **SCG Thermal Insulation** The insulation use for installation at ceiling to protect heat from roof. It made from 100% recycled glass substituting natural sand as raw material. The product contains HydroProtec™ substance that reduces liquid absorption by ten folds. It is inflammable, compliant with ASTM E84, BS476 standards. The product is certified Energy Efficiency Label Level 5 high efficiency, Carbon Footprint Label and SCG Green Choice Label.

• **High Quality Post-Consumer Recycled Resin (PCR)** This special formula is specifically developed for manufacturing of high quality-grade HDPE resin from recycled plastic from household sector in Thailand. Its production process is already certified according to Global Recycled Standard (GRS). The product can be produced as high as 100% recycle content while retaining property specified by customer's needs. The material is appropriate for production of environmentally friendly plastic bottle.

• **Post-Industrial Recycled Waste (PIR Waste)** takes plastic waste from production processes such as grinding, trimming, molding, to process and then use as raw material to produce new polymer packaging such as shampoo bottle, gasoline gallon, thermoformed barrier, food packaging cups for high-pressure sterilization.



• **Innovative Recycled Plastic Road** is collaboration between Chemicals Business and Dow Thailand Group. The project used plastic trash such as PP, PE, PET plastic bag, plastic straw, coffee cups to mix in asphalt road. It is found that road surface strength is enhanced by 30%. The project helps reduce plastic waste in Thailand while reducing material of road construction. Currently the pilot road of asphalt concrete with recycled plastic stretches 7.7 kilometers, using 23 tons of plastic waste.



• **Recycle Coarse Aggregate (RCA)** CPAC Construction Solution develop the solution using the waste from construction materials such as concrete scraps, recycle as raw material for production again. It started with managing pile head waste into Recycled Coarse Aggregate (RCA) for customer to use as alternative raw material. Currently five pilot projects are in progress, processing pile head waste to RCA in the amount of 5,420 tons.



• **Bangsue #Effective Use #Correct Sorting #Proper Dispose** This is the waste management pilot model at the head office in Bangsue with participation of employees. Zero waste to landfill has been set a goal, and this has resulted in steady decrease of waste generation from the waste in 2018 of averaging 41.5 ton per month of which 14% were recycled, to monthly average of 21.2 ton a month in 2020 and 100% of waste repurposed (41% for soil nutrients, 45% for RDF and 14% recycled).

Transform New Business Model on the Circular Way

Transformation of new business such as sharing platform, and product as a service according to circular economy principle is the application of the principle to maximize utilization of resources and reducing waste.

• **ANGEL Smart Inventory Management System** developed from an internal startup incubation program, leading to successful outcome as a digital platform of Packaging Business. The solution increases the efficiency in inventory management, reduce redundant of stock and difficulty in tracking goods and supply received items. Using ANGEL brought about plans to reduce inventory by as much as 10-15% of value prior to use. In 2020, ANGEL was applied in other businesses totaling 20 factories. Packaging Business has plans to take ANGEL further towards broader scope and towards fuller range, ready to be expanded to other industries that aim at higher efficiency of sourcing, procurement and stock keeping. As the platform expands, users of the same types of products and materials can trade material, reduce idle stock of unused products or materials, resulting in maximization of resource use.

Measurement and Evaluation of Circular Economy Performance

The SCG Circular Economy Committee has developed indicators to evaluate the performance of the circular economy as a value for stakeholders both direct and indirect throughout the value chain according to the sustainable development approach. There are the indicators showing the results for each dimension. In 2020, we started to collect preliminary data to be a model from products, services and solutions based on circular economy principles in each business. The Cement-Building Materials Business started example with 3 products and solutions, cement board, thermal insulation and re-roof solution. Chemicals Business started with 39 products in the PE/PP ROTO and PVC groups. And Packaging Business began with 32 products in the paper packaging group and plastic packaging group. All three businesses aim to collect information on products, services and solutions based on circular economy principles. All of them to be used as base year data in 2021.

1. Economic Indicators: This indicator is shown by revenue from sales of products, services and solutions. For 2020, the samples generated revenues of over 32.9 billion baht.
2. Environmental and Social Indicators: These indicators consist of the ability to reduce the use of natural resources that help tackle the increasing of waste and the ability to reduce the amount of greenhouse gas emissions the cause of climate change.

The ability to reduce the use of natural resources is determined by the percentage of recycled or renewable



CIRCULTICS™

Circulytics Score of Chemicals Business

Circulytics, a circular economy performance measurement tool developed by the Ellen MacArthur Foundation, looks beyond products and material flows. It is designed to assess a company's entire circularity performance in a holistic way. Circulytics was built to help companies take their circularity efforts to the next level by assessing their entire operations. It includes indicators divided into two main categories: "enablers" and "outcomes". All the indicators are assessed separately based on the data provided by the company. The scale is ranging from A (best) to E.

As a member of the Foundation's Network, Chemicals Business participated in testing Circulytics together with over 30 other companies. The Circulytics scorecard based on data of 2019. Chemicals Business's overall score was B* likely paving the way for improvements in outcomes in the coming years. Result of the evaluation helps us see rooms for improvement to deepen our practice in the future.

*The foundation does not validate the submitted data, nor does it endorse companies which have received a score card.



raw materials used in the production, known as Circular Inflow, and the percentage of the product can be recycled after use, the actual recycling process is known as Circular Outflow. In 2020, the products in the paper packaging group have achieved 92% and 67% circular inflow and circular outflow respectively due to the availability of recycle systems equipped with tools and equipment continuously development throughout the value chain.

For examples of products, services and solutions in 2020, it can also help reduce greenhouse gas emissions total over 61,700 tons of carbon dioxide.

Health and Safety

Responding to the Situation of the COVID-19 Pandemic: Confronting Uncertainty through the Crisis



SCG announce SCG Safety Framework and supervise by Safety Performance Assessment Program, SPAP since 2007. In 2020, the SCG Safety Framework has been updated to improve its extent and effectiveness as we strongly aim to achieve at “ZERO accident”. During the time of COVID-19, we faced a new challenge in coping with the crisis. SCG, hence, responded to the situation of COVID-19 Pandemic by launching the rigid COVID-19 prevention and management measures that applied to all business units and contractors. Along with adapting to be able to continuously operate business under safety standards.

Target and Performance

Zero fatality of employees and contractors

2020

0 case
of fatality of employees

4 cases
of fatality of workplace contractors

1 case
of fatality of direct transportation contractors

2 cases
of fatality of other transportation contractors

2022

Zero lost time injury frequency rate of employees and contractors

2020

Employees

0.113

case/1,000,000 hours worked
Contractors

0.216

case/1,000,000 hours worked

Strategy

1. Enhance the Occupational Health and Safety Management System in the workplace and transportation and increase its operational efficiency to cover both in the domestic and overseas.
2. Establish “Safety Culture” that everyone can engage and promote risk management to be taken by individual and coworkers. Aiming to be a safety culture throughout the organizations.
3. Using digital technology to improve efficiency, agility and speed of operational performance to reduce the risks of accidents and occupational illness and disease.

Zero occupational illness frequency rate of employees

2020

Employees

0

case/1,000,000 hours worked
Contractors

0

case/1,000,000 hours worked

Management

- Responsibilities and accountabilities in Occupational Health and Safety managed by Workplace Safety Committee and Transportation Safety Committee, with a role to determine policies, strategies, short term, medium term and long term plans, goals, and key performance indicators, as well as assessments and monitors strictly and effectiveness.
- Extend networks of management collaboration by raising and improving the standard to build knowledge sharing.



Workplace Safety: Moving ahead into the New Normal

In the time of COVID-19 pandemic, the physical distancing measure and hygiene measures for individuals and places impacted organizational activities in all sectors. SCG responded to the situation by managing close monitoring of the situation and establishing a health and safety guideline for the company's offices and factories in April 2020. The guideline was based on the physical distancing and hygiene measures including mask wearing, handwashing with soap or alcohol, touching avoidance, and minimize time of face to face. Employees were encouraged to take appropriate steps to protect themselves.

• COVID-19 Risk Management Based on Area Types

Measures were determined in all areas, including operational areas such as offices, service centers, control rooms, maintenance areas, training rooms etc. For public utility areas such as entrances and doors, elevators, restrooms, and canteens etc., and public areas such as library, visitor areas, and fitness centers etc. Essential information relating to COVID-19 were continually publicized and informed to employees and contractors through different channels including health protection signs, physical distancing signs, regular cleaning in all areas, and provided COVID-19 safety tools such as area partition screens, handwashing toolkit, cleaning toolkit, document boxes, and ventilation systems etc.

• Employee Screening Measures Before Entering the Workplace

SCG managed the Work from Home working system with alternative days at offices. To enter a workplace, employees were required to fill in a daily survey to deliver a health report such as health conditions, travelling records and individual level risk of COVID-19. They were also required to show their health

risk level status via an application to have a close follow up. Before entering their working area, they needed to have temperature check and wear a mask.

• Contractor Screening Measures Before Entering the Workplace

Contractors were required to fill in a self declaration form to inform their health risk level status for the screening of people at risk including temperature check and wear a mask. Restricted entrances for contractors were provided to a workplace. Partition screens were installed to lower a risk of contacting between visitors and staffs. Alcohol was provided in all entrance areas.

• Limited the Number of People and Physical Distancing

Providing 4 square meters of area for each person, marking a standing point in an elevator, a queuing area with 2 meters distance from others, and different break times to reduce crowding in canteens.

• Measures During Turnaround and Project

Before entering an area, a contractor was required to fill in a screening form, have temperature and symptom screening, report a record of travelling and contacting with a person at risk. When entering the area, mask wearing and distancing were required during all activities and in all area. A different lunch break were scheduled and clear communication in building the crisis awareness was delivered. A summary reports and follow up were done daily. Moreover, offices and accommodations of contractors were regularly checked and inspected as well as prepared for inspection by the government agencies.

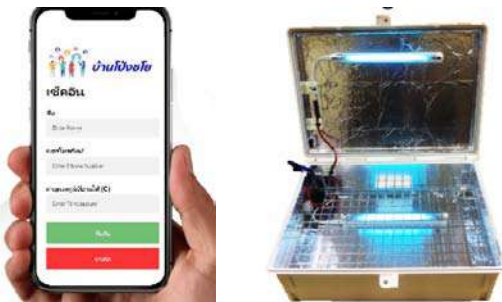
Innovations in Ban Pong

Packaging Business has its operational mill located in Ban Pong district, Ratchaburi province. There, COVID-19 measures and a NEW NORMAL working mode were run as in other places. However, in Ban Pong mill, other innovations were additionally apply including a COVID-19 screening tunnel with an accurate international standard infrared thermal scanning system and body sterilizer spray. Foot operated sanitizers instead of hand were also placed, and work time attendance record cards were located at the entrance areas instead of finger scanners. Besides, SCG has developed innovations to help mitigate risks as follows.

- **Face Recognition Touchless** Facial recognition technology was used together with mask wearing and temperature screening and link to the information of employees automatically which installed at entrance halls of inside the building.



- **Ban Pong Chaiyo** The application offers registration system that helps record a history of people who entranced a meeting area, special control room, offices, employee accommodations, and other public areas. In a case of infection confirmed in the area, all travelling records of that infected person can be tracked and checked, with dates and times. Moreover, SMS will be sent to people in the area of infection.



- **UV Germ Sterilizing Devices** The devices were provided for sterilizing documents. Alcohol was also sprayed on parcel boxes. And also provided to restaurant business owners in canteens to sterilize banknotes.

COVID-19 Prevention Measures for Carriers

Working with carriers can cause COVID-19 risks, hence, policies and measures regarding the transportation operation were launched in line with the law and regulations that had been announced by the Government in the time of COVID-19.

Measures for goods pick up were also announced. The measures relating to transportation included the origin and destination delivery measure, measures for goods transportation to Border Offices. Complying with measures and regulations was required in a province where cross province transportation occurred. Drivers and their assistants were required to follow the hygiene measures and take care of cleanliness of their vehicles and organizations. Transportation documents shall be prepared as it would be asked to be presented to government officials as a part of screening during transportation.

Moreover, drivers were also asked to complete their online health risk level status for continual monitoring and follow up. The transportation system was adjusted with more resilient time such as additional screening times and rescheduling of after curfew transport shifts to ensure on-time goods delivery to customers at its end destination.

The working teams of all business units continually monitored and checked for COVID-19 situation updates, announcements, requirements, and other relevant regulations. The teams also exchanged information and experiences regarding transportation between carriers, customers and related government agencies to maintain business continuity, effective and all employees and contractors safe.



"The current situation is dealing with uncertainty and ongoing changes. It is important to get prepared and learn to adjust to cope with any situations that may occur. Safety of employees and contractors is an important priority that SCG has always been committed to.

"You are strongly encouraged to follow all measures and regulations that have been appointed, demonstrate caring for yourself and others and raise awareness of safety both in the workplace and society. You can be assured that the company emphasizes on the importance of your health and safety and will continue to express our caring and provide a safe and healthful workplace to everyone."

Roongrote Rangsiyopash
President & CEO, SCG

Process Safety Management (PSM)



Chemicals Business has continually adopted the Process Safety Management (PSM) system as a tool to identify, assess and control hazards that covers the implementation in domestic and overseas.

In 2020, Chemicals Business has started to conduct the Process Hazard Analysis Revalidation. The results gained from the hazard analysis and hazard control measures were reviewed to find a linkage in order to ensure the holistic risk management. The process focused

on high risk activities through an involvement of operational workers to enhance their understanding and enable them to comply with the risks control measures correctly. They were also encouraged to report the abnormality so that effective management can be done with leading indicators, e.g. Process Safety Alarm and Process Safety Near Miss. This has led Chemicals Business to a zero lost time in the process safety incidents.



Development of SCG Safety Framework in 2021

SCG announce SCG Safety Framework and supervise by Safety Performance Assessment Program, SPAP since 2007 in all operations. In 2020, the SCG Safety Framework has been updated to improve its extent and effectiveness. SCG Safety Framework 2021 will be put into implementation in the companies of all business units in 2021. (Read more on page 58-60.)

Health Management

SCG has developed Health Management System with an integration of occupational health with industrial hygiene, strives to reach a zero occupational illness and disease. Health Risk Assessment is carried out to establish risk level which will in turn lead to determination of measures to be taking to reduce and control risks, Industrial hygiene monitoring plan, health surveillance that related to health hazards. Then, the information gained from this assessment was analyzed in coordination with occupational medicine doctors to investigate any abnormal signs that may lead to occupational illness and disease. Moreover, the information was used in examining health condition before assigning a suitable task to them and also used in setting up a holistic health care program for improving a higher quality of life of workers.

In 2020, Chemicals Business was received a plaque of honor from the Department of Health for its excellent practices in health promotion for good quality of life for working groups and was recognized by the Government sector as a role model in health care practices with other organizations in the country and region. The company was also considered a role model in establishing digital database of employees' health records in which led to a national collaboration with the Bureau of Occupational and Environmental Diseases (BOED), Department of Disease Control, Ministry of Public Health and building occupational health networking throughout the country.

Moreover, SCG has received Ergonomics Sustainable 5-year Awards from Ergonomics Society of Thailand for 5 consecutive years. The company has driven awareness to reduce risks of ergonomics in the offices by organizing an appropriate working station, setting up break times, stretching, and training.





Sustainability Issues

Economic, Environmental and Social

Sustainability Issues

Sustainability Issue Economic	Risk	Opportunity
Innovation and Technology	COVID-19 pandemic accelerates speed of technology change in response to customer's emerging needs, forcing pre-pandemic practice to adapt to stay competitive and up to speed with change.	Innovation leadership agile to adapt quickly, by investing in research and development (R&D) to innovate business models, fostering incubation through Innovation Management System and acquiring innovation to speed up the process.
Sustainable Value towards Supplier	Supplier conduct in supply chain from producer, service provider, carrier and distributor may disrupt SCG's business in absence of effective oversight of sustainability.	Select supplier with potential to conduct business with integrity. Foster partnership in supplier development towards joint sustainable growth, focusing on empowering supplier self-governance on sustainability compliance.
Customer Experience Creation	The COVID-19 pandemic and leapfrogging of digitalization and social media proliferation change consumer behavior and generating demands for enhanced quality of health and hygiene related products, home improvement and services through online platform.	Being the topmost brand in customer's mind, cultivating close and consistent relationship with customer and consumer, so that we can create innovation that match their demand using online platform and technology to create good user experience.
Sustainability Issue Environmental	Risk	Opportunity
Product Stewardship	Leapfrogging technology that changes consumer behavior while rendering legacy business practice obsolete, climate change impact, plastic waste crisis and global trend for hygiene-oriented goods.	Leverage our strength in technology, innovating high-value products, services and solutions matching customer's demand according to circular economy principle, taking in account impact throughout product lifecycle, and develop certification standards for green/eco products.
Waste Management	Natural resource shortage due to industrial growth and waste pollution for lack of proper management impact the environment and community.	Research and development (R&D) to generate innovation to reuse/recycle material and waste, add value to waste, alongside 3Rs approach to industrial waste management and circular economy principles.
Water Management	Climate change impact has brought about drought and erratic rainfalls resulting in deficit in dams and threat of water shortage for manufacturing.	Enhancing the capability in integrated water management through multi-sectoral collaboration with state and industrial sectors, adopting international tools in assessment, develop reservoirs in and around factory, boost water usage efficiency and water treatment for recycle.
Biodiversity	Heightened expectations among stakeholders and society for environmentally-sound business operation and more rigorous legislative framework of conservation laws nationally and internationally.	Being a role model in biodiversity conservation through sustainable management and applying international indicators in evaluation of management quality.

Sustainability Issue Social	Risk	Opportunity
Human Rights	Any kind of human rights violation, either in SCG's own business conduct or of stakeholders in the value chain and in affiliates where SCG does not have management authority eventually shall affect SCG's business.	Mandate policy for SCG to be a role model in human rights, announcing human rights-related policies, support and promote business value chain directly and indirectly to respect human rights in business conduct.
Employee Caring and Development	SCG's business expansion in Thailand and in ASEAN is changing rapidly against the backdrop of intensifying competition and customer's changing demand. As a result, employees may lack the knowledge and expertise in keeping with the wave of change.	Improve curriculum and format learning, in synch with rapid changes in the business landscape, to develop and equip employees with the relevant and adaptive knowledge and skill for the present and future.
Community and Social Development	Business operation inside Thailand and overseas may impact communities in the vicinity, while expectations of stakeholders and society of business that cares for the society and environment are increasing.	Developing community role model that is sustainable, self-reliant, with enhanced quality of life through inclusivity, as supported by the expertise and SCG and partners.



| Innovation and Technology |

Expanding Partnership and Investment in **STARTUP**

SDGs 8 9 12 13

Target and Performance

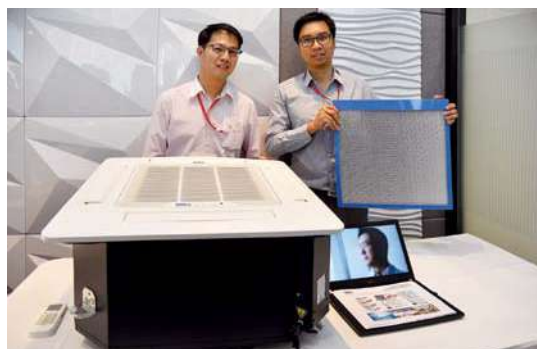
Revenue from HVA
sales accounting
for 50% of total
revenue from sales

2020

31.5%

The rapid progress of innovation and technology is rendering uncompetitive enterprises that are unable to adapt.

SCG thus aims at nimble adaptability by fostering collaboration with external partners, expanding investment in startups and in new business model at global level with the objective of adopting knowledge from outside to expedite and enhance its in-house innovation and technology adoption, to prepare us as change leader.



SCG-CAS ICCB Innovation Hub

SCG and China Academy of Sciences co-founded SCG-CAS ICCB Innovation Hub to promote collaboration in technology transfer, facilitate investment in science and tech fund with strong commercialization prospect in China, and to strengthen network between Thai and Chinese researchers in knowledge exchange and access to technology rights. The five focus industries of the Hub are Smart City, AI and Robotics, High-Value Chemicals, New Energy Business, Environment and Sustainability. To date technology transfer projects have been undertaken including Sensor and IoT for which a Commercial Partnership Agreement was signed between Cement-Building Materials Business and Zifisense to enhance technology and solutions for smart building business.

Nexter Ventures Investing in Drugstore Startup

Nexter Ventures under Cement-Building Materials Business is a startup fund seeking opportunities worldwide focusing on construction technology, logistics as well as health and wellness. In 2020, it joined with Mitsubishi Corporation and Digital Economy Promotion Agency (DEPA) in mobilizing funding to invest in Arincare, a Thai startup on drugstore management system as part of the drive in Thailand's national Health Tech Ecosystem.



AddVentures Expands Investment in the US

AddVentures by SCG, a venture capital fund, continued to explore new investment opportunities in high-growth tech sector worldwide. In 2020, it invested in one additional fund: SVB Capital, bringing to date a total of five funds. It acquired stakes directly in four startup companies namely Janio, Printerous, TaniHub and Bizongo, bringing total to date investment in 16 companies.

SVB Capital Fund focuses on investing in startup in Silicon Valley. Bizongo, India's startup, is B2B packaging market place that will benefit Packaging Business going forward.

Strategy

1. Adopt digital technology as tool to enhance efficiency in business operation, product development, logistics and customer service.
2. Expand investment in R&D, innovation of new business models with new processes and tools.
3. Step up collaboration with external partners and research institutions to support innovation and technology development constructively.
4. Promote a culture of innovation within the workforce where employees constitute creative force in generating new business.
5. Apply circular economy principles to drive innovation and new business model.

Management

- SCG Innovation Committee steers the direction of innovation, and promotes culture of innovation and technology.
- Develop innovation incubation process through Innovation Management System.

Ignitor Project to Accelerate Connecting SCG and Startup

Over 300 companies within SCG are pursuing Research and Development (R&D) to enhance organizational efficiency. In view of this, SCG set up Ignitor Project to connect between SCG and technology developed by startups. Ignitor will analyze problems and needs of individual business unit, and explore technology available globally appropriate for adoption and extension, to expedite and optimize outcome of SCG's in-house R&D.

Roots into FLY

The Internal Startup HATCH-WALK-FLY project supports SCG staffs to develop new business models. In 2020, one more startup originated from this process entered into the stage of FLY, gearing up for growth. Roots is platform for procurement of industrial goods, bringing to a total of six business startups in FLY stage to date.



Intellectual Property Champion

SCG is committed to intellectual property as its business strategy for over a decade, in aspects covering IP Ideation, IP Protection and IP Commercialization to generate innovation, new products and services in response to what consumers want. To date, SCG has filed for over 2,500 cases of patent, petty patent, and product design patent, of which 789 are enforceable patents.

SCG has developed an IP portfolio management system that supports Open Innovation pursuit that facilitates adoption of technology from outside such as tech startup and tech partners from all over the world that have proper IP rights protection such as IP Exploration, Patent Landscape analysis, connecting technology and business data base to identify Technology Solution or Potential Tech Partner. This will speed up development of innovation appropriate to business needs in more than 30 projects.

In 2020, SCG won the IP Champion Award organized by Department of Intellectual Property Rights, Ministry of Commerce in two categories namely IP Champion 2020 in invention patent category for emisspro® and IP Champion 2020 in copyright category for SCG Smart Logistics. The recognition shows success in SCG's application of intellectual property as business strategy and excellence in IP portfolio management.

Sustainable Procurement

SDGs 8 12 17

Target and Performance

Every Year, 100% of supplier in procurement spend pass Environmental, Social and Governance (ESG) assessment

2020
100%

Supplier plays an important role in the business conduct for sustainability. For this reason, we manage supplier from the stage of selection, assessment and strengthening supplier's capability so we grow together.

SCG procures with business ethical supplier with professionalism able to deliver quality products and services. We conduct supplier development plan taking into account and in alignment with the risks including environmental, social and governance (ESG) aspects.

ISO 20400 Sustainable Procurement

From the commitment to sustainable procurement and to the goal of efficient supplier management, Chemicals Business received ISO 20400 certification on sustainable procurement, under 2019 annual organizational development project according to ISO 20400 standards. It is the first company in Thailand's chemicals sector to obtain this international certification.

ISO 20400 is international standard on sustainable procurement. Certified organizations must be assessed in 7 aspects namely human rights, community involvement and development, consumer issues, fair operating practices, labor practices, environment and organizational governance. In addition, ISO 20400 helps to reduce risk relating to procurement of goods and services with economic, environmental and social impact, and ensuring that the organization's procurement conforms to international standard.

Green Procurement Value and Products List in 2020

5,073

million baht

201

suppliers

84

products



Video-Vitamin for Business How to enhance our suppliers to grow together



Management during Pandemic

The COVID-19 pandemic prompted SCG to adapt by managing risk and replacing face-to-face activities with digital and virtual technology-aided interaction, as we enforce strict measures such as physical distancing and minimizing risk of infection.

Cement-Building Materials Business evaluated risk of supply shortage for all critical fuel and raw materials and diversified more than one source of supply with long-term delivery planning in order to prevent effect from lockdown of origin countries. Furthermore, there are implementation of online self-declaration questionnaire for suppliers to submit details of carrier before entering site area for screening and preparation of physical distancing delivery process.

Packaging Business applied online assessment of safety standard among carriers, instead of in-person assessment onsite. An assessment guideline had been prepared and disseminated in advance for suppliers to study and prepare relevant information ahead of the virtual assessment. Six suppliers had been assessed online.

SCG Logistics enforced measures to reduce infection risk in the course of transportation by requiring carriers to submit weekly status report online



in order to analyze COVID-19 infection risk, logging activity and travel as well as health information for collaborative surveillance.

The Corporate Procurement Office adjusted the format of training procurement staff on ESG Assessment of supplier, from face-to-face to online training, and it is developing it into an e-Learning Platform.

Co-Development of Cement Bags with Supplier

Cement-Building Materials Business jointly with suppliers developed cement bag, with the aim of reducing thickness of PE film layer inside the paper bag from 15 microns to 7 microns with the same strength. In 2020, the effort resulted in reduction of plastic use by 10 tons.

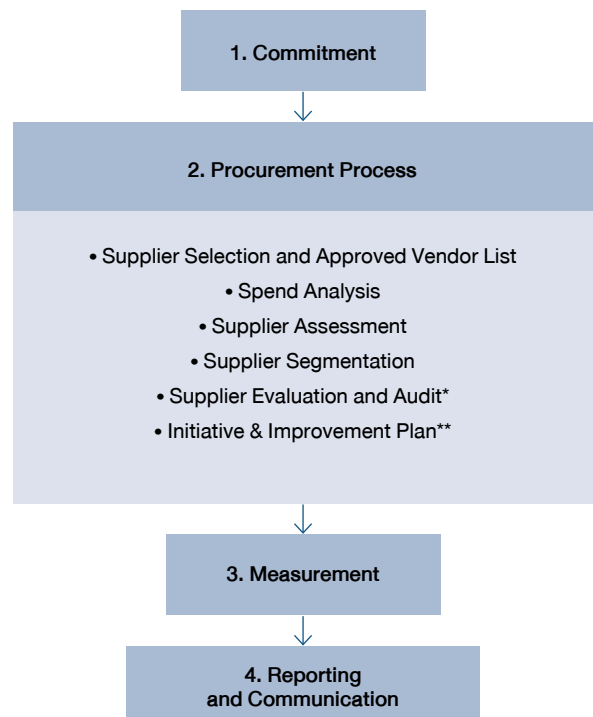
Strategy

1. Select and assess supplier with capability in sustainable business conduct.
2. Conduct risk assessment and supplier segmentation to formulate strategy and supplier development plan corresponding with the risk.
3. Develop and enhance supplier's capability towards sustainability.
4. Raise awareness and enhance employee's competency for efficient procurement.

Management

- Conduct risk assessment and certify all suppliers annually and continually, applying enterprise risk management framework and "SCG Sustainable Procurement Framework" which covers Environmental, Social and Governance (ESG) issues, along with spend analysis.
- Segment supplier into four groups: general tier 1 supplier; critical supplier; high potential sustainability (ESG) risk supplier and critical non-tier 1 supplier.
- Formulate supplier development and capability enhancement plan for business sustainability including ESG aspects for consistency and efficiency like Contractor Safety Management and SCG Transportation Safety: Sustainability Program.
- Establish a committee to enhance the knowledge and competency of employees in the purchasing, procurement and logistics groups, while sharing knowledge, information and practices with procurement entities in both public and private sectors.

Sustainable Procurement Framework



* Evaluate vendors in terms of quality, cost and delivery (QCD Supplier Evaluation) as well as relevant environmental, social and governance (ESG) performance.

** Improvement Plan & Corrective Action and Follow up.



| Customers Experience Creation |

Online Channels for Customers during the COVID-19 Pandemic

SDGs 3 8 9

Target and Performance

Overall customer satisfaction based on surveys via SCG Contact Center

100%

2020

100%

SCG continues to develop its online stores and service platforms in response to customer behavioral changes during the COVID-19 pandemic.

The COVID-19 outbreak in 2020 has been a catalyst for Thais to do more online activities including communication and online transactions. Therefore, SCG aims to develop digital platforms to sell products, services and solutions to gain a competitive edge in the market and to deliver the best experiences to its customers.

SCG Home

The Covid-19 pandemic has caused more people to work from home; thus, the need to improve their homes arises. Under these circumstances, SCG has launched its Active OMNI-Channel retail stores called SCG Home as another sales and services channel for home and living solutions (website: scghome.com, Facebook page: SCGHomeOfficial and other online channels). This channel offers a wide range of home and construction products, services, and solutions to cater to the needs of customers for their home construction, repairs, renovation, decoration needs, as well as complete homebuilding solutions.

SCG Home is linked to the Design Connex and Q-Chang platforms which are used to search for designers and experienced technicians. It also connects to the SCG EXPERIENCE VIRTUAL STORE (www.scgexperience360.com) where customers can view all products virtually instead of visiting a physical storefront.





i2P Virtual Tour

Due to the COVID-19 pandemic, customers may not be able to travel and study business innovations from Chemicals Business at the i2P center. So, we have developed the i2P Virtual Tour to give our customers a virtual experience. This helps promote the New Normal and supports physical distancing.



Fest Shop

Demand for food packaging from restaurant operators has increased due to higher numbers of food delivery orders during COVID-19. Packaging Business, therefore, has opened the e-commerce website www.festforfood.com for our business customers to choose and buy food-safe packaging fast and easy. We also recommend Fest packaging stores for these restaurant operators around their neighborhood as well as recommend the restaurants where Fest-food packaging is used for customers.



Paper Waste Collection

Increased online purchases have created more packaging waste. Packaging Business therefore has cooperated with many organizations including Thai Post Company Limited, Sansiri Public Company Limited, etc., to collect packaging waste from consumers and recycle them into new paper products. This activity helps promote a sustainable environment for consumers.

Strategy

1. Fostering B2B collaboration, leading to strong B2B2C.
2. Engaging with consumers (B2C).

Management

- Analyze and monitor customer experiences, ranging from customer's problems, needs, buying behaviors, and use of products and services; including doing satisfaction surveys on products and services.
- Adopt digital technology to support services provided to business partners, suppliers and all customer groups.
- Connect customer experience with online channels and service centers to ensure maximum service convenience and customer satisfaction.
- Offer innovative products, services and solutions that deliver sustainable benefits to customers.



| Product Stewardship |

Creating Smart Innovation

SDGs 3 9 11 12 13

Target and Performance

2030

revenue from sale of SCG Green Choice products, services and solutions at 66.7% of the total revenue from sales.

2020

32.6%

2030

revenue from sales of SCG Green Choice products, services and solutions, provide directly value to customers at 33.3% of total revenue from sales.

2020

2.3%

Product, services and solutions certified SCG Green Choice

2020

94 products

Technology advance is transforming consumer's behavior and preference, driving an ever-increasing demand for new, creative products and services.

SCG is committed to research and development of product and service innovation and solutions to enhance quality of life of people in the society keeping in mind environment responsibility while creating new business opportunity amidst intensely competitive market.

Smart Mobile Medication Cart

Chemicals Business in collaboration with BDMS Group invested in R&D of Smart Mobile

Medication Cart to support medical professionals' task of dispensing prescription medication to patients in hospital rooms. The Smart Mobile Medication Cart is operated by a close-loop medication regime to deliver prescription drug directly to patient, as directed by connected database. Secured compartments within the smart medication cart require patient identity verification scan to unlock, along with a range of other verification systems to ensure precision and prevent mistakes.

The Smart Mobile Medication Cart is also equipped with sensor technology enabling temperature and humidity check to preserve appropriate storage requirement of medication. In compliance with Joint Commission International standard (JCI), the smart dispenser can respond to full range of a hospital's requirement.

Certified Environmentally Friendly Products, Services and Solutions



SCG Green Choice
94 products



Carbon Footprint Reduction Label
195 products



Green Label
67 products



Carbon Reduction Label
58 products



Carbon Footprint Label
329 products



High-efficiency Label
127 products

Digital Reliability Platform

The digital reliability platform for plant equipment is a joint R&D project between REPCO NEX Industrial Solutions of Chemicals Business and AVEVA Group plc. The Platform collects data and performs real-time performance monitoring of plant equipment. Data collected are used for planning, analysis, processed by the like of Big Data, AI, 3D Virtual Plant among others. There is an early warning system whenever anomaly is detected, as prevention against potential damage from glitches in equipment performance. The Platform also increases efficiency of plant operation and maintenance planning, and plant management in crisis situation, therefore optimizing efficiency while reducing unnecessary cost in machine maintenance. From 2020, Digital Reliability Platform is being marketed among industrial plant clients of SCG and externally.

Packaging Solutions for Keeping Fresh Produce Longer

As consumers pay greater attention to nutritious diet and healthier lifestyle, Packaging Business has come up with innovative packaging solutions to ensure that fruits and vegetables are always delivered from farm to consumer's table fresh, hygienic and safe. These innovative packaging that can keep fresh produce longer also increase marketing opportunity for entrepreneur.

OptiBreath keeps the freshness and natural taste of fruits and vegetables with innovation to control breathability quality which help to optimize the respiration rate of fresh fruits and vegetables.

OptiSorb is a key aide to entrepreneur as OptiSorb in fruits and vegetables container helps slow down the repining process during long distance transportation.



Product and Service Responsibility

SCG has integrated product and service safety policy in a part of Quality Management System that is in conformance to product liability and monitor the effectiveness of the implementation by the Quality Management Review Committee in each company. The Systemic implementation cover the product hazard analysis (PHA) as a whole lifecycle from production, transportation, storage, use and disposal in order to prevent defects in the product design, production process and preparation of warning labels according to international standards to be more effective.

SCG has handling complaints management measures, incident investigation and emergency response are also undertaken to practice in order to promptly and effectively response to the needs of customers and consumers. In addition, SCG also provides training program to employees and relevant stakeholders on a regular basis and the effectiveness of the implementation is assessed through ISO 9001 internal and external audits continuously. In the past year, SCG was no complaints of violations of health and safety requirements from consumer used, information provided and labeling or marketing communication of the products and services including no penalties levied from failure to comply with any regulations relating to the use of such products and services.

Strategy

1. Develop products, services and solutions that meet consumer's needs, enhance well-being, taking into account the impact of climate change and the Circular Economy principles.
2. Develop business processes throughout the value chain according to the international standards.
3. Innovation-oriented approach in the development of products, services and solutions to generate new business opportunities.
4. Consider the impact of product, services and solutions on environment and product safety throughout its life cycle.

Management

- Use innovation and digital technology to enhance efficiency of products development and to reduce cost.
- Apply Circular Economy as a guiding principles in maximizing resource use, reducing energy and water consumption and waste.
- Review Capital Expenditures in products and services development to transform with speed.
- Apply eco-design principles to anticipate and minimize negative environmental impact of new products and services development from the design stage, manufacturing, packing, using and disposing of products and services.

Waste to Value with Circular Economy



SDGs 6 9 12 14 15

Target and Performance

Every year, zero hazardous and non-hazardous waste from process to landfill.

2020

0.0043%
of hazardous and

0.8915%
non-hazardous waste from process to landfill

In 2025

Reduce waste disposal per production ton at

70%

compared to base year in 2014

2020

99%

SCG adheres to Circular Economy principles in waste management, placing emphasis on research and development (R&D) to reuse/recycle and add value to waste.

Inefficient and inappropriate waste management impacts the environment and community. We attempt to govern sending of waste for external management, and to increase share of reuse/recycle of waste on the basis of resource use maximization.

Sustainable Management of Returned Fresh Concrete

Production of ready-mixed concrete of The Concrete Products and Aggregate Co., Ltd. (CPAC) generates waste of fresh concrete, in excess of output delivered to customers. Such waste includes those remained in the mixer. We discover ways for sustainable management of such waste by creating value and reprocessing to produce alternative product or substitute material such as subbase materials, soil pellets. We reuse fresh concrete with active property to produce floor tiles, plant pots and barriers. We also donate excess fresh concrete to local temple, school and community for landscaping use on their parts. In 2020, we manage returned fresh concrete in the amount of 5,572 tons, achieving 100% zero waste to landfill or land reclaim since the second quarter.





To Enhance Value from Waste Plaster

Noritake SCG Plaster Co., Ltd., which manufactures and distributes plaster products for ceramic and building materials industry, uses waste plaster from production process to make plant pots and other decoration materials for more than 80 tons per year.

In addition, we collaborate and submit waste plaster to Sirindhorn School of Prosthetics and Orthotics, Faculty of Medicine, Siriraj Hospital, to use as alternative raw material for molds to make prosthetics for patients, and for this purpose a total of 24 tons was used per year.

Strategy

1. Reduce the amount of waste generation at source.
2. Strive to manage industrial waste according to the 3Rs and Circular Economy principles, both hazardous and non-hazardous waste within SCG.
3. Research and develop innovation to reuse/recycle and add the value to waste.
4. Manage industrial waste without sending to landfill.
5. Reduce waste disposal by incineration.

Management

- Reduce waste generation through prevention, starting from the stage of product design, acquisition of materials and increase production efficiency.
- Reduce waste to be disposed outside SCG to avoid risk of non-compliance or inappropriate waste disposal method.
- Manage chemical substances and all types of waste according to environmentally friendly process stipulated in international cooperation agreements.



Finding Value in Liquid Slurry

The Catalyst R-1 Production Unit under Thai Polyethylene Co., Ltd. is committed to research and development of ways to reduce waste water in its production process, by converting the water treatment system from lime to caustic soda. The process generates a type of waste known as liquid slurry.

In 2020, analysis establishes the presence of titanium (Ti) in liquid slurry. The team sought to improve the process to turn liquid slurry into Ti-Slurry which is beneficial to cement kiln. The effort has reduced waste by 4,500 tons per year. Research is being conducted to apply liquid slurry with titanium as raw material in ceramic industry.



From Lime Mud to Disinfectant for Shrimp Farm

Thai Paper Co., Ltd. and Phoenix Pulp & Paper Public Company Limited together with The Siam Forestry Co., Ltd. are using lime mud which is waste from paper pulp production process as compound for soil quality improvement and disinfectant in shrimp and fish farm. In 2020, we reduce the volume of waste bound for disposal by 3,500 tons per year.

Coping Drought through Integrated Water Management

SDGs 6 9 12 14 15

Target and Performance

2025

Reduction of water withdrawal by 23% compared with BAU at base year of 2014.

2020

15.0%

Climate change is impacting water resources situation in each area, resulting in exposure to water shortage risk to meet demand by various sectors.

SCG integrated the risk assessment tools for water related risks, work with multi-stakeholder and industrial groups in establish plan and management of water, including improved water efficiency within production processes.

Water Related Risks Assessment

SCG applied AQUEDUCT risk management tool of World Resource Institute (WRI) to assess for water stress in the area where SCG operate. Water stress is used to indicate the risk of shortage of water and use with local water data together with the scenario analysis to assess the water related risks. The water related risks include Water Quality & Quantity, Regulatory and Price Structure and Stakeholder Conflicts. The water related risks are reported to management committee for formulating of strategies and water management measures including water initiatives with multi-stakeholders.

In the current year, the water related risks were assessed through the implemented measures,



the net risk scores for each risk is “Low Risk.” The two production areas which facing of risk of water shortage got more water to reservoir. The water level increased to the safe level.

Challenging Drought Crisis in Early 2020

The drought crisis in early 2020 as a result from low level of water in late 2019 affected Choburi, Rayong and Chachoengsao provinces where the Eastern Economic Corridor (EEC) is located. Water volume in reservoirs reached minimal level, posing imminent risk to tap water production, agriculture and industry, and thus the national economy.

Chemicals Business’s representative joins the Water and Environment Institute for Sustainability under the Federation of Thai Industries. The Institute



takes part in policy decision-making via the EEC Water Management Subcommittee of National Water Resource Committee. This is the mechanism for inclusion in planning of risk and crisis management. A proposal of 12 measures was presented to the National Water Command. In collaboration with Eastern Water Command Center where several public agencies are represented, these 12 measures were successfully implemented. The drought crisis was overcome without damaging impact on all stakeholders. Measures to reduce water usage, including reduction of water usage by 10% from the volume used in 2019.

Packaging Business joined the meeting of the state sub-committee for monitoring and analysis of water situation nationwide, while closely tracking water situation in locations of its factories, in particular Khon Kaen province which is at risk of drought. Data collected for situation analysis were generated by tools such as AQUEDUCT, GISTDA satellite images, and an in-house system to monitor and issue early warning of water levels in dams, to set water management measures that address all areas comprehensively. Packaging Business also promotes building of check dam, community forestation, while continuing efforts at water efficiency inside the organization. Treated water that meets standards was sent to farmers around factories, totaling about 4 million cubic meter per year, enabling farmers to save about 10 million baht in the costs of pumping water supply. This is one of the measures with the other measures to reduce water discharge from the production plants.

Ban Pong Complex Reduces Water Consumption Integrally

Ban Pong Complex of Packaging Business in Ban Pong district, Ratchaburi Province establish an integrated water management working group to review the selection of water quality and quantity



suitable for use, increase the efficiency of water use in the production process and recycle water to be reused. Such activities were improving the efficiency of water filtration system (SAVEALL/PETAX), installation of the device reduces the consumption of water for the pump, installation of high-performance machine cleaning equipment by using less water compared to the old technology, etc., recycle treated water to be reused. The water withdrawal was reduced by 3.5 million cubic meters per year.

Water-Saving Products

Siam Sanitary Ware Industry Co., Ltd. and Siam Sanitary Fitting Co., Ltd. has continually developed products that help consumers use less water.



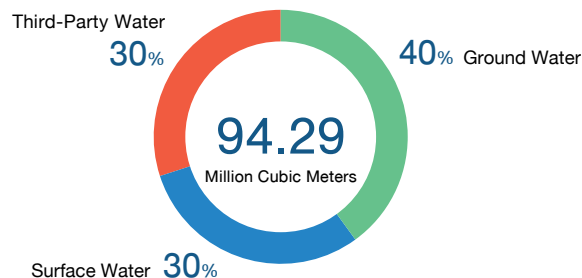
In 2020, it has added the following water saving products to its business: Automatic sanitary ware model C10207 VERZO has a fast cleaning performance with the Powerful Jet using 3.8 liters saving 35% of water per flush compared with standard of 6 liters per flush, Water saving faucet COTTO model ESSENTIA with water flow rate of 4.2 liters per minute saving water usage by maximum 30% compared with standard of 6 liters per minute.

Strategy

1. Water-related risk mitigation through integrated water management.
2. Increase water usage efficiency in production processes and products.
3. Treat the effluent to meet the quality standards, monitoring and measurement of effluent and its quality, reporting on effluent issues, incident investigation and corrective action and reduce effluent.
4. Bring the recycled water after treatment to be used.
5. Rehabilitate the ecosystems related to water resources, and support water to communities and farmers.
6. Capability building of personnel who involve in water management.

Management

- Water Management Committee collaborate in developing the direction and strategy through integrated water management.
- Assess water-related risks and impact quarterly and report to management committee.
- Develop a water simulation plan to predict the amount of water in external water source, together with a business continuity management (BCM) assessment and a water business continuity plan (BCP).
- Follow up water trends and lay out water resources management initiatives with government and industrial sectors.



Conservation of Rare Plant and Animal Species

SDGs 9 11 13 15

Target and Performance

2052

Net Positive Impact after closure of first quarry

2022

Similarity Index in rehabilitated quarry area must equal to buffer zone at higher than

60%

Biodiversity Conservation Area certified by FSC Standard accounts for more than 10% of agroforestry

2020

22%

6,029^{rai}

Biodiversity is under threaten with accelerating species extinction rate upon impact of human activities.

SCG, recognizing the importance of biodiversity and ecosystem, thus implements biodiversity conservation project wherever it conducts business, and is committed to achieve “Net Positive Impact” in all processes involved.

Plant Variety Conservation for Limestone Mountain Ecosystem

Limestone mountain ecosystem is rare in Thailand and certain plant species have adapted to such unique habitat. The Siam Cement (Kaeng Khoi) Co., Ltd. and The Siam Cement (Ta Luang) Co., Ltd. initiated a project on conservation of indigenous and rare plants found only in such ecosystem in Saraburi Province. These plant species are *Wrightia sirikitiae*, *Santisukia kerrii*, along with other rare varieties including *Kalamet*, *Dalbergia lanceolaria*. The project harvests seeds, nurtures saplings and populating them in post-quarry and buffer areas including installing the system to tracks growth of these trees. The project is working with biodiversity experts from Faculty of Forestry, Kasetsart University. With these actions, the project is able to conserve the indigenous and rare plant species, contributing to global effort of keeping biodiversity loss. Further, to enhance efficiency of quarry rehabilitation, SCG develops and enlists technology such as using drone to spread seeds and track growth, and applications to monitor implementation with greater accuracy and precision.



Working with Community on Conservation of Serow, Thailand's Protected Species

Limestone mountain area of Khao Phra Bat Noi community in Saraburi province is habitat of serow, one of 15 species protected by the Thai law, and currently in "vulnerable" status in the IUCN's red list. The local community institutes community forest management system and imposes zoning for habitat of rare wildlife and plants. Villagers have built buffer to prevent forest fire annually. The Siam Cement (Ta Luang) Co., Ltd. collaborating with Khao Phra Bat Noi community installed a drinking well for serows at the foot of the mountain, and built check dams to increase moisture level in the forest, to reduce risk of serows being hunted if they climb down from conservation zone. Efforts are made also to raise awareness on serow conservation among youth at Wat Phra Phutthabat Noi School.



Conserving Indigenous Plant and Managing Alien Invasive Species

The Siam Forestry Co., Ltd. together with Royal Forest Department and community jointly manage a conservation project called "Ban Huay Sapan Samakkee Community Forest" in Kanchanaburi province. The aim is to ensure sustainability of the forest tract covering 2,100 rai. A biodiversity survey conducted in 2013 documented over 25 indigenous plant varieties, alongside invasion of alien species namely hedge flower and bitter bush stunting growth of indigenous plants. From 2014 to 2020, the company and community jointly managed alien invasive species over an area of 220 rai, and plan to manage 50 rai per year incrementally. In 2020 the company and community members planted 300 trees of local varieties, adding to biodiversity.



Strategy

1. Sustainable management of biodiversity benchmarked to international indicators.
2. Engage communities and stakeholders to raise awareness and understanding in ecosystem conservation and biodiversity.
3. Be a model of biodiversity conservation, and extend scope to other areas.

Management

- Biodiversity Committee providing oversight to align implementation and actions with international standards of biodiversity management.
- Build "Net Positive Impact" in all related processes.
- Establish a quarry rehabilitation fund for research, rehabilitation and handover of rehabilitated sites after closure and social activities.
- Communicate and engage with community and external partner to raise awareness and understanding in implementation of ecosystem and biodiversity conservation of SCG.

Biodiversity in Limestone Quarry Area

SCG is committed to rehabilitation of post-quarry land use together with the restoration of biodiversity and create Net Positive Impact of ecological balance in each area of the quarry that operates both domestic and regional by:

- Establish the policy and quarry master plan respect to the restoration of biodiversity with the commitment not to operate/mine in national and international biodiversity conservation areas.
- Establish the quarry rehabilitation plan in parallel with mining throughout the mining period and after closing the mine. The plan consist of preventive and corrective measures to address environmental and social impacts according to the biodiversity management guideline.
- Collaboration with external experts with expertise in limestone quarry rehabilitation and biodiversity, planning and monitoring results of biodiversity and quarry rehabilitation work, and including consistently giving consultation and advice in inspecting of rehabilitation work in quarried area.
- Collaboration with Department of Primary Industries and Mines, and Mining Council to educate 180 mine operators for scale up sustainable mining practice.



| Human Rights |

Towards Becoming a Role Model in Human Rights

SDGs 3 5 6 8 10

**Target and
Performance**

Number of human rights
violation cases
2020
0

Human rights is a vital issue that requires governance both in direct business activities and in activities of related parties in SCG’s value chain and joint ventures not managed by SCG.



SCG attaches great significance on respect for human rights, which has been included in SCG Code of Conduct. The Company has also announced SCG Human Rights Policy, which is effective in every country in which SCG operates and consistent with the Universal Declaration of Human Rights (UDHR), the International Labor Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and other international requirements. This policy requires respect for human rights of every individual, equitable treatment without discrimination, the promotion of freedom of association and participation in negotiation, the elimination of child labor and forced labor, as well as strict compliance with laws related to employment, remuneration, and the determination of working days, working hours, and leaves.

It is also SCG’s policy to become a role model in human rights as well as support and encourage business conduct guided by respect for human rights among all related parties in its value chain and joint ventures not managed by SCG.

Announcement of the Diversity and Inclusion Policy and the SCG Privacy Policy.

In 2020, SCG announced its Diversity and Inclusion Policy to ensure that diversity is embraced in its business practices in accordance with the principles of human rights. Also announced was the SCG Privacy Policy, which serves as a standard for personal data protection for all stakeholders, e.g. shareholders, customers, business partners, employees, directors, visitors, etc. As part of this policy, legal documents and data subject's right management systems were put in place.

Joining SEDEX

The Sedex Members Ethical Trade Audit (SEDEX) is an organization whose members consist of business organizations around the world. It requires the members to comply with SEDEX standards in four areas: labor standards, health and safety, business ethics, and environment, which assure companies, suppliers, customers, and employees of the organization's responsible business practice and respect for human rights.

In 2020, five more companies in the Packaging Business adopted SEDEX's requirements, passed an assessment by external auditors, and were accepted as members of SEDEX. As a result, a total of 11 companies under the Packaging Business were SEDEX members.

Ethics e-Testing

In 2020, SCG administered Ethics e-Testing for the sixth consecutive year to 29,881 Thai employees. The passing rate was 100%.



Strategy

1. Comply with SCG Human Rights Policy as well as the law of each country and the treaty each country has a commitment to.
2. Consistently carry out human rights due diligence processes.

Management

- SCG has announced its Human Rights Policy, which is based on the United Nations Global Compact (UNGC), the International Labor Organization (ILO) Declaration on Fundamental Principles and Rights at Work, and other international requirements.

Human Rights Due Diligence Process

01

Identifying
Human Rights
Risk Issues

02

Identifying
Vulnerable
Groups

03

Formulating
Preventive and
Mitigation Plans
and Remediation
Actions

04

Monitoring
Results

Re-Skill Up-Skill

Improving Skills for the Future

SDGs 5 8

Target and Performance

100% of employees in Thailand receive a competency assessment and have an Individual Development Plan (IDP) on the Learning Management System (LMS) continuously every year.

2020

100%

2022

Employee engagement rate in 2022 based on the total number of employees Over

72%

2020

71%

Employees are key drivers of the organizational readiness for the increasingly competitive and fast-paced business climate.

SCG actively develops the skills and competency necessary to support business transformation in the future among employees, with emphasis on the concepts of consumer centricity and circular economy principle under the culture of lifelong and multimodal learning.

Developing Training Programs for Re-Skilling and Up-Skilling

SCG places importance on expanding new skills and continually enhancing existing skills among employees. In 2020, 13 courses on future capability solutions were developed, such as Constructive Feedback, Coaching & Developing Your Team, Analytical Skills for Problem Solving and Decision Making, Business Strategy in the VUCA World, and Winning with Communication & Highly Effective Team, among others.

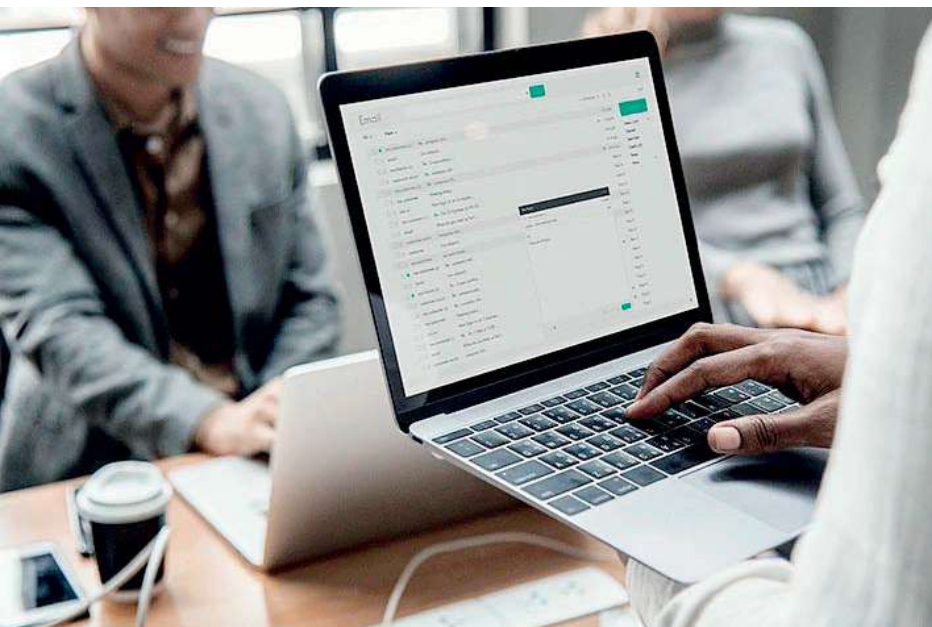
In addition, five flagship programs were revised: SCG Ready Together, Young Leader with Abridged Business Concept (ABC), Business Concept Development (BCD), Management Development Programs (MDP) and Management Acceleration Programs (MAP), to align with business and changes, with content on design thinking, agile mindset, and customer empathy added to all courses in 2020.



Adapting the Learning Model for the Future

To achieve learning outcomes applicable to actual business operations, SCG has shifted away from classroom training towards a model that blends virtual learning or digital learning and project-based learning. The five flagship programs have also been restructured to suit this blended learning.

SCG has adapted learning methods for employees by using virtual classrooms, which allow employees to continue learning and self-improvement during the COVID-19 pandemic without interruption, while still maintaining excellent learning efficacy.



Communicating with Employees during COVID-19

SCG has implemented measures to control the spread of COVID-19 by encouraging working from home and physical distancing as well as encouraging employees to report health and working status via a daily check-in feature in Employee Connect Application.

SCG, by People Caring Team, also provides updated information about the COVID-19 pandemic situation and initiates virtual activities to engage with employees and build up working environment such as self-care technique during work from home, on-line games, infographic guide on safeguarding oneself against COVID-19 and weekly update on the daily check-in system including the provision of communication package for the supervisors to communicate with employees.

Excellent Internship Program

In line with its policy to promote and develop the youth of Thailand, SCG has been organizing the Excellent Internship Program since 2002 as an initiative to recruit potential talents or students in the specific fields required by SCG. The program provides opportunities for third-year students from all educational institutions nationwide studying in a field relevant to SCG's business operations to join a summer internship program, where they can learn and gain real experience by putting ideas into actions. The program also seeks to cultivate the concept of good governance to create and develop quality personnel, which will be a vital force in the development of the society and the nation in the future. In 2020, the program was held online and 110 students joined the program.

Strategy

1. Create a culture of learning, coaching and mentoring in which employees are responsible for their own learning and self-development and are supported by supervisors.
2. Enhance employee competencies to meet the business competitiveness and develop leaders to have attitudes, knowledge and abilities, and be able to develop subordinates to have potential as an important force of SCG.
3. Create a fundamental learning system by using the Learning Management System (LMS), with the same quality and standards across the region, and offer learning opportunities through digital classrooms.
4. Create value for the organization to attract talents and competent prospective employees.
5. Ensure that employee care is equitable and thorough to foster employee engagement.

Management

- SCG has appointed committees and responsible functions to oversee employee learning at the organization level (Learning Council), at the business unit level (BU Academy Committee), and for each specific professional field (Professional Academy Committee) to take care of competency development for all employees.

Economic Stimulation through Career Development during Covid-19

SDGs 1 4 6 12 17

Target and Performance

Social contribution

2020

669

million baht
cash contribution

124

million value of goods
and services
contributed to society

171,398

hours worked
employees' involvement
in CSR activities,
equivalent to

40

million baht

SCG believes that business stability need to be coexisted with community development by providing SCG's expertise, innovation and engagement to foster community adaptation to change and community resilience.

In 2020, the COVID-19 pandemic has affected the economy causing mass layoffs and unemployed workers returning to their hometowns. In consequence, SCG decided to initiate a project to support career development and help people affected by the crisis earn a living to sustain and support themselves during these economic hardships.

Better Job Opportunity with PROBUILD

PROBUILD (Professional Builder Institute), the total knowledge solution for the builders, under Cement-Building Materials Business, established the "Better Job Opportunity with PROBUILD" project to offer technicians an opportunity to develop their skills and potential. The project aimed to help technicians facing income loss and workers who wished to return to start a new career in their hometowns as well as anyone with an interest in the project.

This project offered its first two training courses: Leak and Crack Repair and Ceramic Tiles Installation & Repair. There were 1,071 applicants for the online theory learning and 144 applicants for the practical training and received certificates, while 102 of them had an interest in working with companies under Cement-Building Materials Business network (SCG HOME, Q-CHANG, CON-X).





Living Solution Expert

Cement-Building Materials Business, in collaboration with SCG Foundation, the Office of the Vocational Education Commission and its partners in the residential business sector, has set up the “Living Solution Expert” project. The project purpose is to develop a 2-year high vocational course to promote and develop skills for vocational students in construction and repair services for buildings and houses such as electrical system, plumbing system, door and window system, etc. Despite an increase in consumer demands, there is still an insufficient number of technicians or quality contractors.

In the 2021 academic year, the Business plans to offer 30 scholarships to students at Dusit Technical College who apply for this course.



Tan Batik: Batik Community Enterprise

Community enterprise is one of the best ways to empower and revitalize its cultural heritage. Chemicals Business, therefore, became a supporter of Tan Batik, a community enterprise in Ban Chang District, Rayong Province, to build its brand identity. With support from SCG, Tan Batik developed the usage of seawater, an abundant local resource, as a substitute for saltwater traditionally required in the dyeing process. In addition, a uniquely Rayong batik was created with a flying swan design inspired by the ornaments on the gable of Lum Temple. This was developed in association with a cultural organization in the province and incorporated into their products. The local enterprise has since then developed systematically and contributed to the economic strength in the community.



College of Learning, the Road to Food Security

Packaging Business organized learning activities to enhance people knowledge in agriculture, such as growing drought resistant plants, special techniques for plant protection against pests, and how to switch from monoculture to poly culture farming, etc. The activities aims were to develop a higher quality of life in local communities and to help people learn how to create community food sources and make a living or extra income from them.

Strategy

1. Utilize SCG expertise and external experts to enhance community self-reliance as well as care for society.
2. Foster engagement among employee and all relevant sectors to create sustainable value for society.
3. Develop innovation to serve the needs of communities and solve social issues.
4. Develop models for sustainable development and scale up to other community networks.

Management

- “The CSR Committee for Sustainable Development,” consisting of members of the Board of Directors and SCG top executives, is responsible for formulating policies and guidance on sustainability-oriented social development activities.
- “SCG Foundation,” carries out a key mission focusing on maximizing human capability and having them equipped with knowledge and integrity.
- “Community Relations Unit,” carries out activities that enhance the potential of neighboring communities of SCG’s operational sites to attain better life quality and sustainable self-reliance.





Sustainability Performance Data

About This Report

SCG has published the sustainability report every year since 2001 by presenting the performance in 3 core business units, namely Cement-Building Materials Business, Chemicals Business, and Packaging Business.

The selection of Sustainability Performance information included in this report is based on what is determined by SCG's management to be responsible, relevant and of value for its stakeholders when measuring sustainability performance.

Reporting Scope

The reporting scope, particularly economic data, cover the performance of subsidiaries, joint ventures, associates and other companies both domestic and regional in line with the SCG Annual Report.

Environmental, health and safety data from all business units were included in the report using the combined criteria of equity share of 50% and over and controlled associates, except for overseas operations, the newly established companies (less than 3 years), the merging and acquisition companies (less than 4 years). Exclusivity of the data is as shown on page 130-133. The reporting period for the information in this report is from 1 January 2020 to 31 December 2020.

This Sustainability Report and its data were prepared in accordance with Global Reporting Initiative ("GRI Standards"): Comprehensive Option as shown on page 138-143. The information in this report disclosed the Communication on Progress - Advanced Level of United Nations Global Compact (UNCG) as shown on page 144, Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) as shown on page 145, Action Toward Achieving the United Nation's Sustainable Development Goals (SDGs) as shown on page 34, the Operating Results of Cement Business according to Global Cement and Concrete Association (GCCA) as shown on page 124-125, as well as Response to Sustainability Accounting Standard Board (SASB) as shown in page 146-147.

Sustainability Management System

SCG applied the management system according to various international standard in operations such as quality management system standards, environmental management system standards, occupational health and safety management system standards, etc. To ensure that SCG has a sustainable management system covering the entire organization, SCG has

established sustainable development guidelines such as the Sustainable Development Guidelines, Environmental Management Guidelines, Occupational Health and Safety Management Guidelines. Subsidiaries under business units of SCG have been certified international standards like ISO 9001-Quality Management System, ISO 14001-Environmental Management System, OHSAS/TIS 18001/ISO 45001-Occupational Health and Safety Management System, ISO 50001 - Energy Management System and ISO 14064 - Greenhouse Gases Validation and Verification. In 2020, 99% subsidiaries have been certified for Quality Management System, 98% for Environmental Management System and 92% for Occupational Health and Safety Management System.



SCG Sustainable Development Guideline



SCG Corporate Environment Management Guideline



SCG Safety Framework

Reporting Assurance

Financial data was derived from financial management system similar to those presented in SCG Annual Report and is verified by certified accounting firm.

The integrity and the transparency of environmental, health and safety data in this report has been assured by an external party to verify and assess the selected data against GRI Standards as shown in details on page 136-137.

Environment

The environmental data cover those activities that could have a significant impact on the environment together with sites and production process 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 sources, i.e. accounting evidence, meter reading, data from production system, and estimation with ground rule have been presented in absolute value. For the specific consumption/emission, since 2016 the disclosure of energy, greenhouse gas emission and water withdrawal have been improved with greater visibility by comparing the absolute consumption/emission of the current year with the business as usual (BAU) of the base year prior to the reduction measures. The energy consumption

and greenhouse gas emission use the base year of 2007 and water withdrawal use the base year of 2014.

The report of Cement Business which is under Cement-Building Materials Business is in line with the Guidelines of Global Cement and Concrete Association (GCCA). Air emission and heat consumption effectiveness indexes are calculated from tonnage of clinker while greenhouse gas emission and water consumption effectiveness indexes are calculated from tonnage of cementitious. Since 2016, Cement Business made a retrospective adjustment of cementitious production tonnage to reflect the inclusion of other alternative raw materials used in cementitious manufacturing, such as pulverized fuel ash (PFA), and limestone that are commonly used in production of cement and mortar cement.

Thermal energy consumption =
fuel weight or steam volume or hot air volume
(estimated from volume purchased or stockpile change)
x heating value of each fuel type
(provided by laboratory test or suppliers)

Energy

Total energy consumption includes thermal energy and electricity used in the companies/plants areas. For the details on thermal energy, the amount and ratio of alternative energy utilization is also presented, together with the addition of renewable energy and non-renewable energy from the year 2018.

Greenhouse Gas Emissions (GHGs)

GHGs data in this report represent the amount of GHG emissions from the operation based on the calculation according to "Guidelines to disclose and measure greenhouse gas emissions" from WRI/WBCSD GHG Emissions Protocol as per the following scopes:

1. Reporting Scope

1.1 Direct GHG emissions (Scope 1):

GHG emissions occur from manufacturing process or other activities that are owned, controlled, and managed by SCG, for example emissions from combustion of coal or natural gas in boilers, furnaces, vehicles, etc. In addition, this scope also includes GHG emissions associated with chemical reaction in production process such as calcinations in cement plant and lime kilns while excluding emissions from the combustion of fuel from renewable materials and landfill.

1.2 Indirect GHG emissions (Scope 2):

GHG emissions occur from the secondary energy, such as electricity, as well as purchased thermal energy, in form of steam and hot air.

2. Report of GHG Inventory:

2.1 Direct GHG emission calculation (Scope1)

- From combustion

- The calculation based on quantities of fuel consumption (weight or volume) such as: amount of fuel oil or natural gas x emission factor which was referred to Thailand Greenhouse Gas Management Organization (Public Organization) (TGO). Apart from TGO emission factor, the Intergovernmental Panel on Climate Change 2006 (IPCC) emission factors can be referred.

- The calculation based on fuel consumption (based on heating value) such as: amount of coal x heating value x emission factor which was referred to TGO. Apart from TGO emission factor, the IPCC emission factors can be referred.

- The calculation will be based on carbon mass balance from fuel consumption.

- From chemical reaction in production process e.g. limestone and lime mud is calculated using mass balance.

- For Cement Business, refers to GCCA.

2.2 Indirect GHG emissions (Scope 2) will be calculated from purchased electricity, steam or hot air consumption x GHG emission factors based on TGO, manufacturers, or suppliers.

3. The type of GHG emissions report includes CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃ converted and reported as CO₂ equivalent by Global Warming Potential (GWP). Referred GWP factors are defined by IPCC.

Air Emission

Air emissions are the quantity of air pollution such as NO_x, SO_x, and Particulate Matter deriving from combustions and being the components during the production process. Types of air pollutants depend upon each production process in which chemical substance is produced. The result and measurement method shall refer to method required by laws such as US EPA or equivalent standard or Thai's law.

Reporting of quantity of air emission will be calculated based on concentration measured from random spot check being conducted by laboratories which are certified and registered to the Department of Industrial Works, multiplied by hot air flow rate and production hours.

In addition, Chemicals Business and Cement Business measure their air emissions from stack using Continuous Emission Monitoring Systems (CEMS). Cement Business refers the measurements to GCCA's Guidelines (see details on page 124-125).

Water

Water management consists of the amount of water withdraw from outside, the amount of recycled water and the amount of effluent.

Beginning from 2020, the amount of water withdraw from the outside has been reported with categorized by type of water source such as surface water, ground water, third party water. It also categorized It is fresh water, i.e. water with total dissolved solids not more than 1,000 mg/L and others water with total dissolved solids above 1,000 mg/L. Finally, the water withdrawn of each type taken from water stress area are report in separated column.

Recycled water is the quantity of treated water returned to the process excluded non-treated reused water such as cooling water. Since 2018, the recycled water quantity of Building Materials Business has been included retrospectively from 2014 onwards.

Begin in 2020, the effluent has been reported both by discharged destination and by type of effluent. In addition, the effluent discharge to stress area is categorized by type of effluent. The report of effluent quality in term of BOD, COD and SS are reported along with the amount of effluent.

Industrial Waste

The industrial wastes are reported into 2 categories comprising hazardous waste and non-hazardous waste according to the Ministry of Industry's Decree on the Disposal of Waste and Unused Materials, excluding the waste that can be recycled in production process (Work in process, WIP).

Beginning from 2019, the amount of waste has been reported in term of waste generation, waste management and waste in the storage in order to indicate the efficiency of production process and efficiency of waste management.

The amount of waste management reported by each waste management method e.g. reused/recycled, incinerated without energy recovery and landfilled.

The amount of waste generation is collected from weighting, calculation or estimation in accordance with academic principles, while the amount of waste management is collected from weighting scale which is more accurate.

Health and Safety

Data on Number of Employees and Contractors

1. Employee is a full time employee according to an employment contract such as operational level, supervisory and technical staff level, and managerial level including intern (probationary) and special contracted employee.

- Operational level is a front line worker who uses their skills and technics in their daily operations.

- Supervisor and technical staff level is a front line manager who is responsible for daily management or having a control over subordinates.

- Managerial level is a manager who is responsible for addressing business strategies or policies, delegating, and controlling supervisor and technical staff level who implement policy and daily jobs.

- Special contracted employee is a temporary person being employed on a specific period.

2. Contractor is a person who has been consented to work or provide service or benefit to the company apart from the company's employee as per the definition specified above, which could be divided into 3 groups as follows:

1) Workplace Contractor is a contractor that works for the organization, and whose work and/or workplace is controlled by the organization. (Exclude Transportation contractor.)

2) Direct Transportation Contractor is a transportation contractor with operation under SCG's brand.

3) Other Transportation Contractor is other transportation contractor without operation under SCG's brand.

Workplace contractors data covered in the report will be calculated for number of hours worked. Data on transportation contractors under SCG Logistics Management Co., Ltd., will be reported in kilometer.

Third party is other people, not the employees and contractors, who are not working for the company and not covered in this report.

Hours Worked Calculation

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

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 hours worked.

Number of hours worked =
[Number of Employees/Contractors x Number of working days x Number of normal working hours (per day)]
+ Total number of overtime hours worked
(only operational employees and contractors)

Recording of Health and Safety Data

SCG records data on work-related health and safety as follows:

1. Total Recordable Work-Related Injury and Occupational Illness & Disease Rate from workplace is total number of work-related injury and occupational illness & disease that results in fatality, lost time, restricted work or medical treatment cases (person) per 1,000,000 hours worked.
2. Fatality Work-Related Injury and Occupational Illness & Disease Rate from workplace is number of work-related injury and occupational illness & disease that result in fatality cases (person) per 1,000,000 hours worked.
3. Total Number of Recordable Work-Related Injury from workplace is total number of work-related injury that results in fatality, lost time, restricted work or medical treatment.
4. Total Recordable Work-Related Injury Rate from workplace is total number of work-related injury that results in fatality, lost time, restricted work or medical treatment cases (person) per 1,000,000 hours worked.
5. Number of Fatality Work-Related Injury is number of work-related injury that result in fatality regardless of suddenly death or suffering the consequences and dying later.
6. Fatality Work-Related Injury Rate from workplace is number of work-related injury that result in fatality cases (person) per 1,000,000 hours worked.
7. Number of High-Consequence Work-Related Injury from workplace is total number of work-related injury that result in high-consequence excluding fatality.
8. High-consequence Work-Related Injury Rate from workplace is total number of work-related injury that result in high-consequence excluding fatality cases (person) per 1,000,000 hours worked.
9. Lost Time Injury Frequency Rate from workplace is total number of work-related lost time injury cases (person) per 1,000,000 hours worked.
10. Severity Work-Related Injury Rate from workplace is total number of lost workdays (day) from work-related lost time injury per 1,000,000 hours worked.
11. Total Number of Recordable Occupational Illness & Disease from workplace is total number of work-related occupational illness & disease that results in fatality, lost time, restricted work or medical treatment.
12. Occupational Illness Frequency Rate from workplace is total number of work-related occupational illness & disease that results in fatality, lost time, restricted work or medical treatment cases (person) per 1,000,000 hours worked.
13. Number of Fatality Occupational Illness & Disease from workplace is number of work-related occupational illness & disease that result in fatality regardless of suddenly death or suffering the consequences and dying later.

14. Near Miss Frequency Rate is number of near miss cases per 1,000,000 hours worked.

Lost Time is a work-related injury, occupational illness & disease that cause the injured absence from work on the next working day or the following shift, as well as the case that such injury, occupational illness & disease leads to the leave of absence as the person being incapable of returning to work after the incident.

High-consequence work-related injury is injury that results in a fatality or in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within 6 months.

The electronic file of this report and the previous ones can be downloaded from SCG website.
For more information, please contact:
SCG Sustainable Development Committee
1 Siam Cement Road, Bangsue, Bangkok 10800
THAILAND
Tel: +66-2586-5997 Fax : +66-2586-2836
E-mail: info@scg.com
and website: www.scg.com

Sustainability Performance Data

Economic Performance

Revenue from sales decreased as a result of COVID-19 pandemic, while maintaining return on equity for shareholder and tax paid to government.

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Revenue from sales (Billion Baht)	423.4	450.9	478.4	438.0	399.9	GRI 201-1	0.1	
Profit for the year (Billion Baht)	56.1	55.0	44.7	32.0	34.1	GRI 201-1		
EBITDA (Billion Baht)	97.8	102.1	86.6	75.1	74.6	GRI 201-1		
Employee compensation comprising salary, wage, welfare and regular contributions (Million Baht)	42,458	43,674	43,960	48,139	46,796	GRI 201-1		
Dividend to shareholders (Million Baht)	22,800	22,800	21,600	16,800	16,800	GRI 201-1		
Interest and financial expenses to lender (Million Baht)	7,572	7,112	6,836	6,442	7,082	GRI 201-1		
Taxes to government and local government authorities such as income tax, local maintenance tax, property tax and other specific taxes (Million Baht)	6,938	6,959	6,630	6,143	7,190	GRI 201-1		
Privilege tax and others from investment promotion, and research and development (Million Baht)	4,827	4,300	1,905	1,388	1,149	GRI 201-4		
Non-compliance case through SCG Whistleblowing System (Cases)	43	31	21	30	38	GRI 205-3	1.4.7	
Customer Satisfaction - SCG Contact Center (%)	99	100	100	100	100		1.5.1	
Average Customer Satisfaction - All business unit (%)	NA	NA	93	94	94		1.5.1	
Contributions to organizations** (Million Baht)	5.3	5.2	9.8	22.2	13.79		1.6.1 1.6.2	
Contributions to political activities*** (Million Baht)	0	0	0	0	0		1.6.1 1.6.2	
Suppliers that assessed Environmental, Social and Governance (ESG) Risks (% of procurement spending)	89	98	100	100	100		1.7.4	
Procurement Spending by Geography (% of procurement spending)								
• Domestic	NA	45	50	58	57		1.7.6	
• Regional	NA	55	50	42	43			
Revenue from Sales of High Value Added Products and Services (Billion Baht)	160.9	175.5	185.0	179.2	126.1			
(%)	38.0	38.9	38.7	40.9	31.5			
Revenue from Sales of SCG Green Choice Products and Services (Billion Baht)	170.5	185.2	202.4	128.8	130.4			EM-CM-410a.2
(%)	40.3	41.1	42.3	29.4	32.6			
Revenue from Sales of Products and Services designed for use-phase resource efficiency**** (Billion Baht)	NA	NA	NA	NA	54.7			RT-CH-410a.1
(%)	NA	NA	NA	NA	37.2			
Revenue from Sales of Sustainable Construction Products and Services (Billion Baht)	54.9	58.5	65.5	60.4	59.6		1.10.1	EM-CM-410a.1
(%)	13.0	13.0	13.7	13.8	14.9			

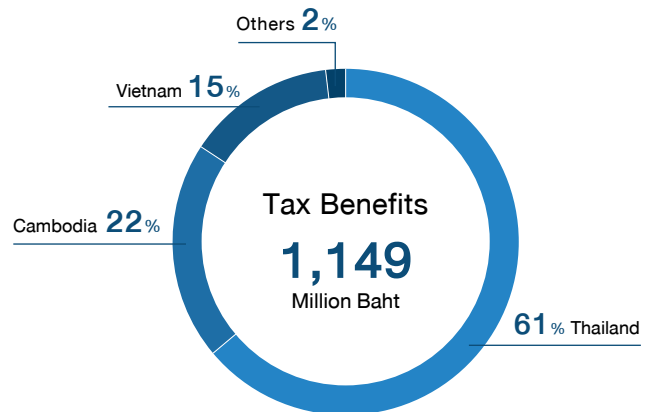
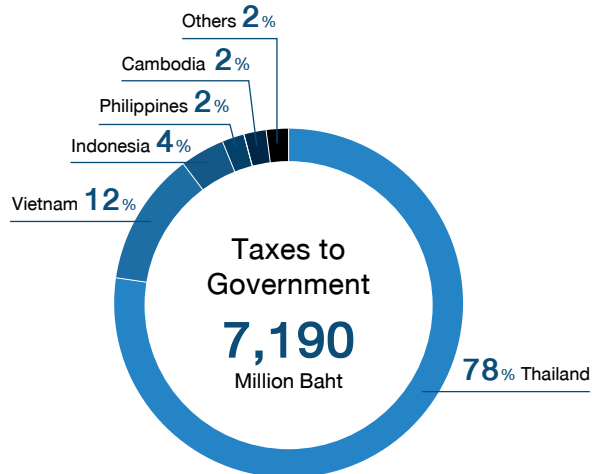
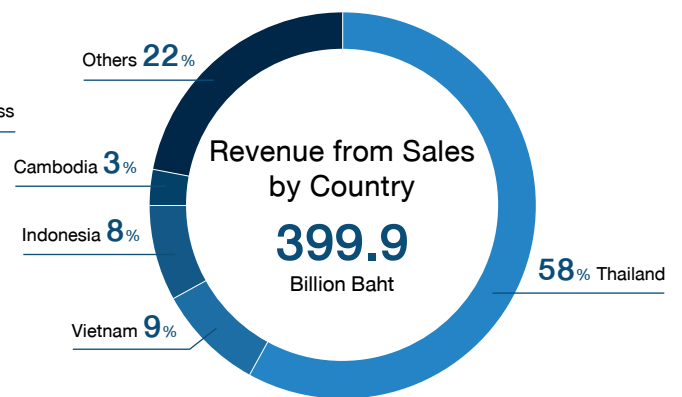
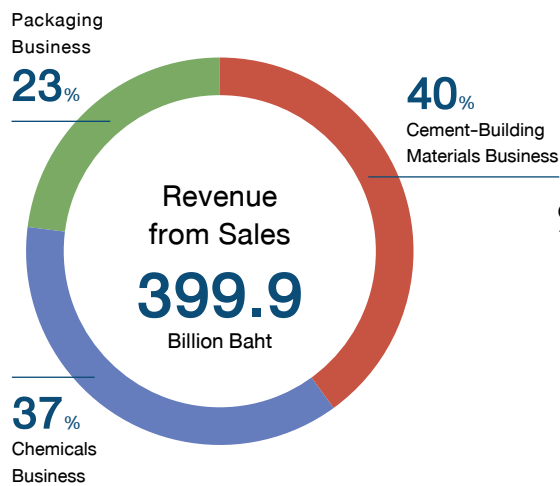
NA = Not Available

* Reference based on DJSI 2020 Questionnaire

** The first seven organizations contributed by SCG are Alliance to End Plastic Waste (AEPW), World Business Council for Sustainable Development (WBCSD), The Federation of Thai Industries, Global Compact Network Thailand, Board of Trade of Thailand, Thailand Management Association and Thai Institute of Directors.

*** SCG remains politically neutral, and does not give financial or any kind of supports to any political party, political group, or candidates in local, regional or national levels or person with political influence or Lobbying or interest representation or similar and other categories (such e.g. spending related to ballot measures or referendums).

**** Only Chemicals Business



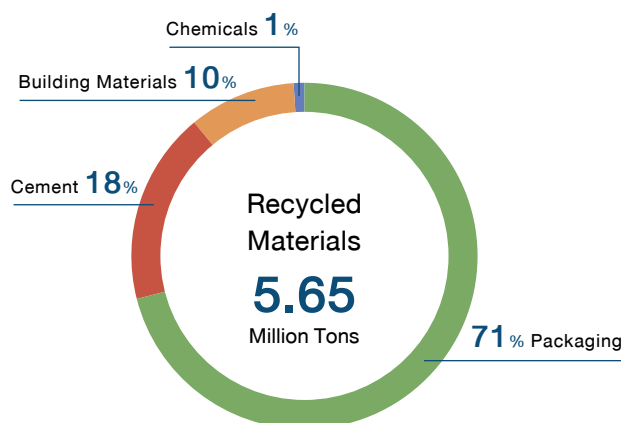
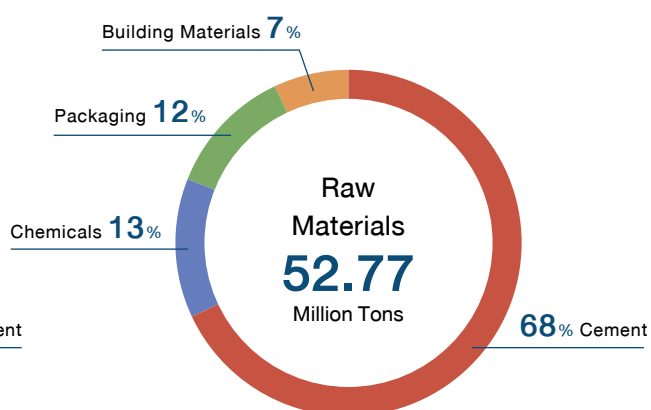
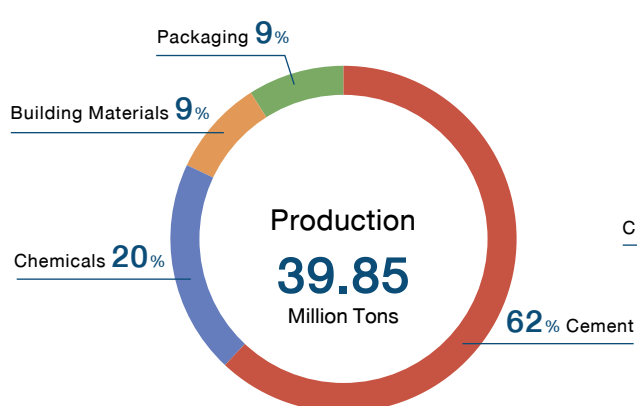
Environmental Performance

Production and Raw Materials

A decrease in production and an increase in recycled materials.

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Production (Million Tons)	39.51	42.05	43.22	43.14	39.85		0.1	EM-CM-000.A
Raw Materials (Million Tons)	49.68	48.79	50.98	51.39	52.77	GRI 301-1		
Recycled Materials (Million Tons)	3.44	3.88	3.73	4.25	5.65	GRI 301-2		RT-CP-410a.1
(%)	6.9	7.9	7.3	8.3	10.7			

* Reference based on DJSI 2020 Questionnaire



Greenhouse Gas Emissions

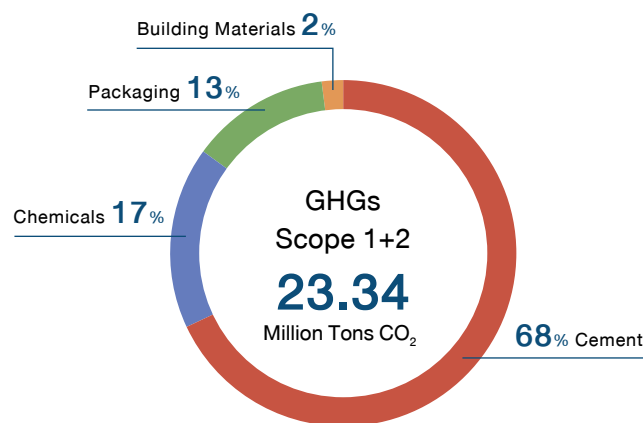
Towards the net zero in 2050, Greenhouse gas emissions decreased 2.86 million tons CO₂ compared with BAU and 1.64 million ton CO₂ compared with Greenhouse gas emission at year 2015.

Performance Data	2007	2015	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
GHGs Scope 1 and 2 (Million Tons CO ₂)	20.08	24.98	23.85	23.60	24.54	23.99	23.34			
GHG Scope 1 (Million Tons CO ₂)**	17.83	22.51	21.51	21.15	22.10	21.59	21.12	GRI 305-1	2.3.1	EM-CM-110a.1
GHG Scope 2 (Million Tons CO ₂)**	2.25	2.47	2.34	2.45	2.44	2.40	2.22	GRI 305-2	2.3.2	
GHG Emission Reduction compare with business as usual (BAU) at base year of 2007 (Million Tons CO ₂)	0	1.46	1.81	1.92	1.96	2.43	2.86	GRI 305-5		
(%)	0	5.5	7.0	7.5	7.4	9.2	10.9			
GHG Emission Reduction compare with base year of 2015 according to Paris Agreement (Million Tons CO ₂)	-	0	1.13	1.38	0.44	0.99	1.64	GRI 305-5		

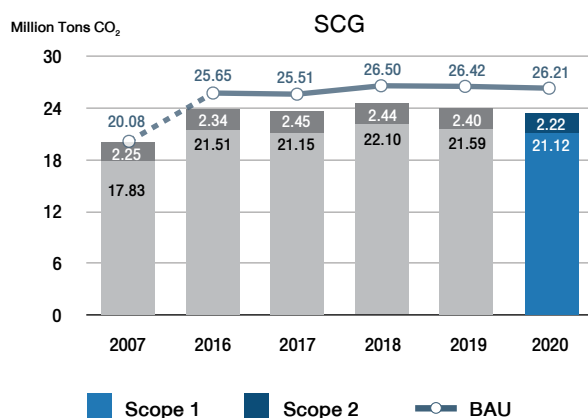
Base year

* Reference based on DJSI 2020 Questionnaire

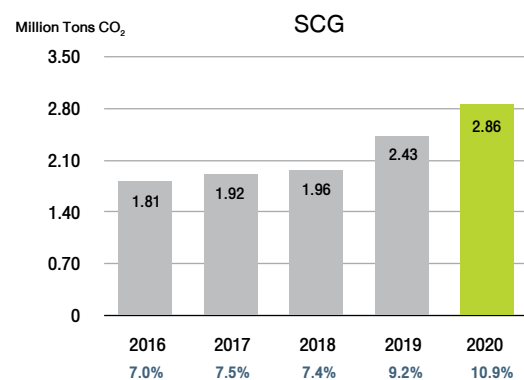
** Within KPMG's limited assurance scope (page 136-137)



Greenhouse Gas Emissions



Greenhouse Gas Emissions Reduction



Energy Consumption

Rate of energy consumption remains stable trend and an increase in alternative fuel used.

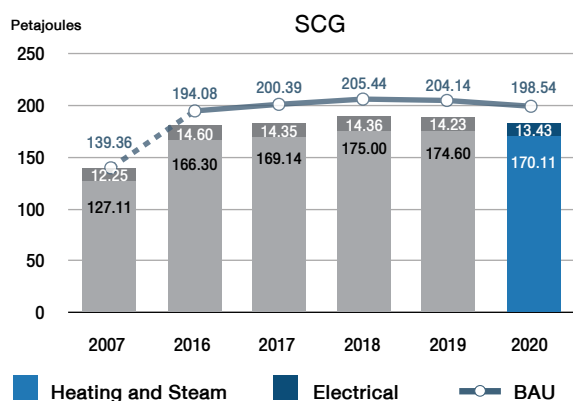
Performance Data	2007	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Total Energy Consumption (Petajoules)**	139.36	180.90	183.49	189.36	188.83	183.54	GRI 302-1	2.3.3	EM-CM-130a.1
Heating and Steam Consumption (Petajoules)**	127.11	166.30	169.14	175.00	174.60	170.11	GRI 302-1		EM-CM-130a.1
Alternative Fuel (Petajoules)**									
• Renewable: Biomass		5.50	5.10	5.66	8.88	9.15	GRI 302-1		EM-CM-130a.1
• Renewable: Industrial Waste	21.46			9.80	9.81	8.81	GRI 302-1		EM-CM-130a.1
• Non-Renewable: Industrial Waste		12.37	12.64	4.42	5.08	6.28	GRI 302-1		EM-CM-130a.1
Portion of Alternative Fuel (%)	16.9	10.7	10.5	11.4	13.6	14.3	GRI 302-1		EM-CM-130a.1
Electrical Consumption (Gigawatt Hours)	3,403	4,057	3,985	3,988	3,953	3,730	GRI 302-1		EM-CM-130a.1
Energy Consumption Reduction compare with business as usual (BAU) at base year of 2007 (Petajoules)	0	13.18	16.90	16.08	15.31	15.00	GRI 302-4		
(%)	0	6.8	8.4	7.8	7.5	7.6			

Base year

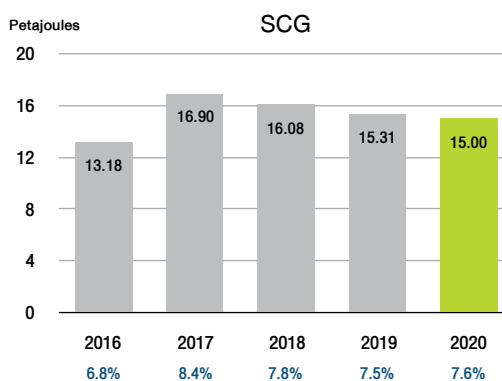
* Reference based on DJSI 2020 Questionnaire

** Within KPMG's limited assurance scope (page 136-137)

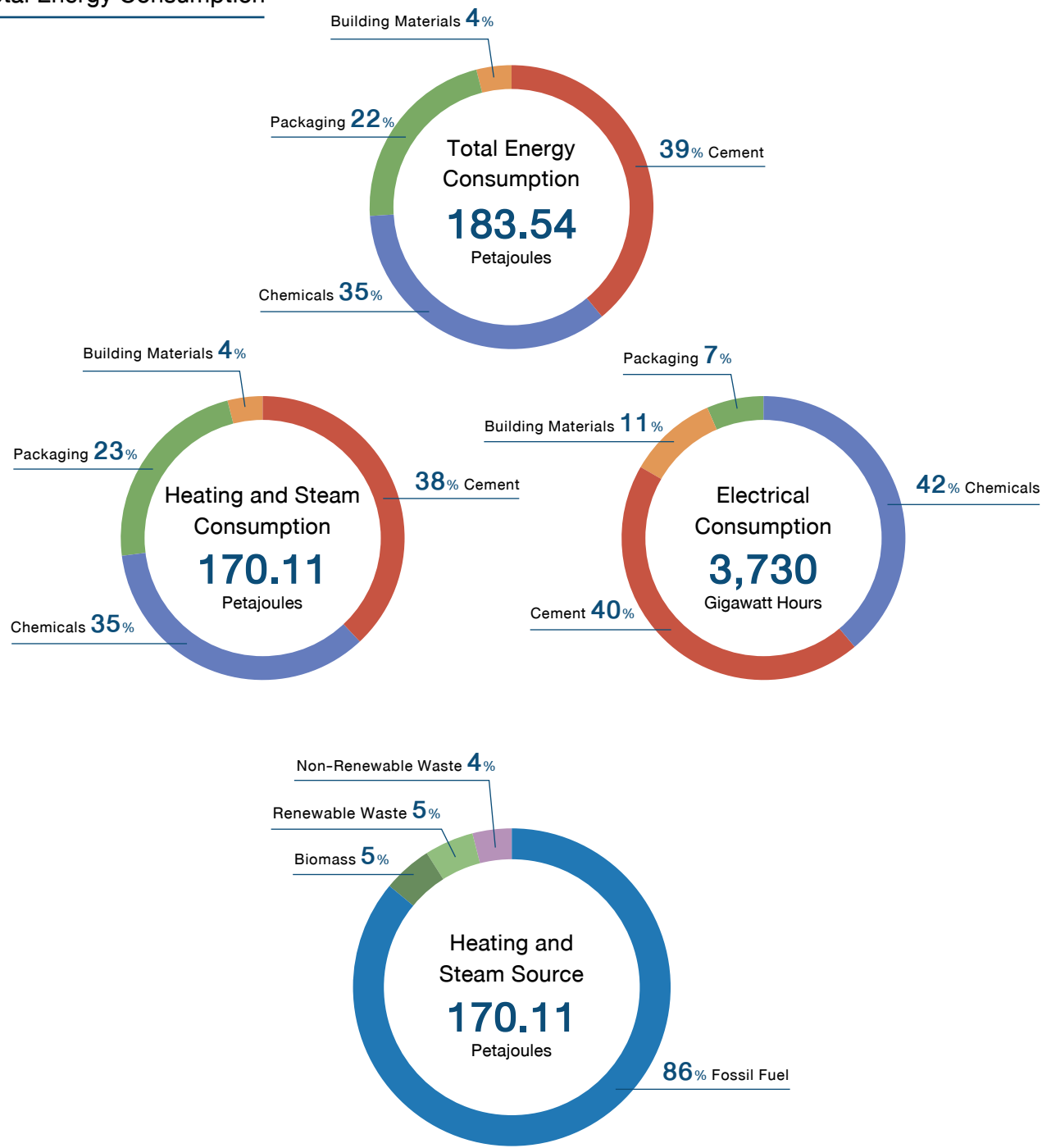
Total Energy Consumption



Energy Consumption Reduction



Total Energy Consumption



Water Withdrawal and Effluent Quality

Water withdrawal decreased 16.61 million cubic meters compared with BAU with an increase in recycled water portion.

Performance Data						Water	Areas with water stress	GRI Standards	DJSI*	SASB
	2014	2016	2017	2018	2019	2020	2020			
Water Withdrawal										
Water Withdrawal by source										
Surface water (Million Cubic Meters)										
• Freshwater (TDS ≤ 1,000 mg/l)	38.56	33.32	33.78	27.79	26.44	28.45	0	GRI 303-3	2.3.4	EM-CM-140a.1
• Other water (TDS > 1,000 mg/l)						0	0			
Groundwater (Million Cubic Meters)										
• Freshwater (TDS ≤ 1,000 mg/l)	37.18	43.48	45.05	44.26	41.79	31.38	0	GRI 303-3	2.3.4	EM-CM-140a.1
• Other water (TDS > 1,000 mg/l)						6.63	0			
Third-party water (total) (Million Cubic Meters)										
• Freshwater (TDS ≤ 1,000 mg/l)	37.76	37.63	38.77	38.13	35.20	27.83	0	GRI 303-3	2.3.4	EM-CM-140a.1
• Other water (TDS > 1,000 mg/l)						0	0			
Total Water Withdrawal (Million Cubic Meters)**	113.51	114.43	117.60	110.18	103.43	94.29	0	GRI 303-3	2.3.4	
Water Withdrawal Reduction compare with business as usual at base year of 2014 (Million Cubic Meters)	0	2.66	3.92	10.03	12.17	16.61	-			
(%)	0	2.3	3.2	8.3	10.5	15.0	-			
Recycled Water (Million Cubic Meters)**	12.19	9.04	10.19	11.24	12.30	12.33	-			EM-CM-140a.1
(%)	9.7	7.3	8.0	9.3	10.6	11.6	-			
Water Discharge***										
Water Discharge by destination										
• Surface water (Million Cubic Meters)	NA	NA	NA	NA	NA	35.57	-	GRI 303-4	2.3.4	
• Groundwater (Million Cubic Meters)	NA	NA	NA	NA	NA	1.16	-	GRI 303-4	2.3.4	
• Third-party water (total) (Million Cubic Meters)	NA	NA	NA	NA	NA	4.76	-			
---Third-party water sent for use to other organizations (Million Cubic Meters)	NA	NA	NA	NA	NA	4.62	-	GRI 303-4	2.3.4	
Water Discharge by freshwater and other water										
• Freshwater (TDS ≤ 1,000 mg/l)	NA	NA	NA	NA	NA	5.45	0	GRI 303-4	2.3.4	
• Other water (TDS > 1,000 mg/l)	NA	NA	NA	NA	NA	36.04	0			
Total Water Discharge (Million Cubic Meters)**	NA	NA	NA	NA	NA	41.49	0	GRI 303-4	2.3.4	
BOD (tons)	485	457	387	240	165	176	-	GRI 306-1		
COD (tons)	6,725	6,753	6,322	5,390	4,422	3,875	-	GRI 306-1		
TSS (tons)	1,019	922	965	793	588	549	-	GRI 306-1		

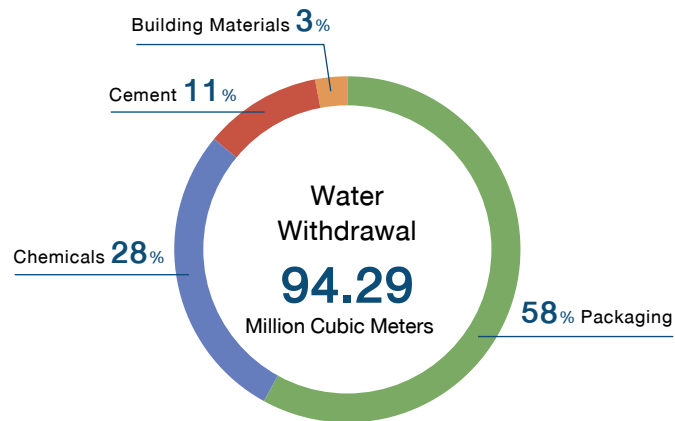
Base year

NA = Not Available

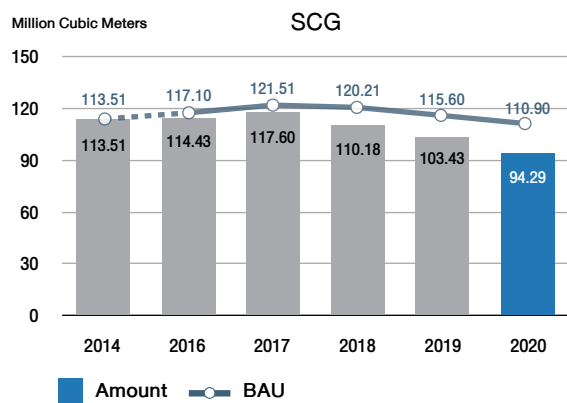
* Reference based on DJSI 2020 Questionnaire

** Within KPMG's limited assurance scope (page 136-137)

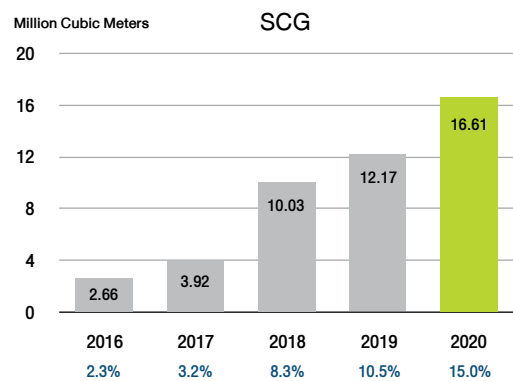
*** Started collecting data in 2020



Water Withdrawal



Water Withdrawal Reduction



Waste Management

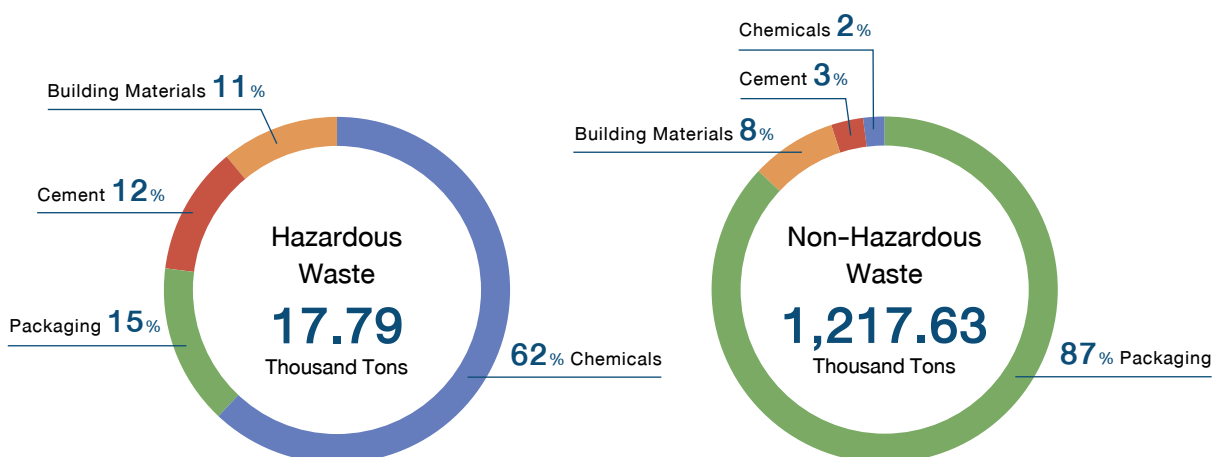
Reducing waste generation while targeting to zero waste to landfill.

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Hazardous Waste Generation (Thousand Tons)**	21.26	12.08	13.94	11.70	17.90		2.3.5	EM-CM-150a.1
Hazardous Waste Management (Thousand Tons)**	20.78	12.20	13.62	11.38	17.79	GRI 306-2	2.3.5	EM-CM-150a.1
• Reuse/Recycled	17.24	9.95	12.31	11.00	17.59			
• Incinerated without energy recovery	3.55	2.22	1.31	0.38	0.20			
• Landfilled	0.00009	0.03	0.00	0.00	0.00077			
Hazardous waste in the storage at the end of the year (Thousand Tons)	NA	NA	NA	1.16	1.24	GRI 306-2		
Non-Hazardous Waste Generation (Thousand Tons)**	1,348.19	1,394.45	1,414.24	1,527.06	1,190.68		2.3.5	EM-CM-150a.1
Non-Hazardous Waste Management (Thousand Tons)**	1,488.48	1,376.28	1,354.88	1,542.30	1,217.63	GRI 306-2	2.3.5	EM-CM-150a.1
• Reuse/Recycled	1,475.39	1,372.58	1,172.79	1,318.96	1,206.66			
• Incinerated without energy recovery	13.08	3.70	2.11	1.36	0.11			
• Landfilled	0.01	0.00	179.98	221.97	10.86			
Non-Hazardous waste in the storage at the end of the year (Thousand Tons)	NA	NA	NA	191.84	164.78	GRI 306-2		

NA = Not Available

* Reference based on DJSI 2020 Questionnaire

** Within KPMG's limited assurance scope (page 136-137)

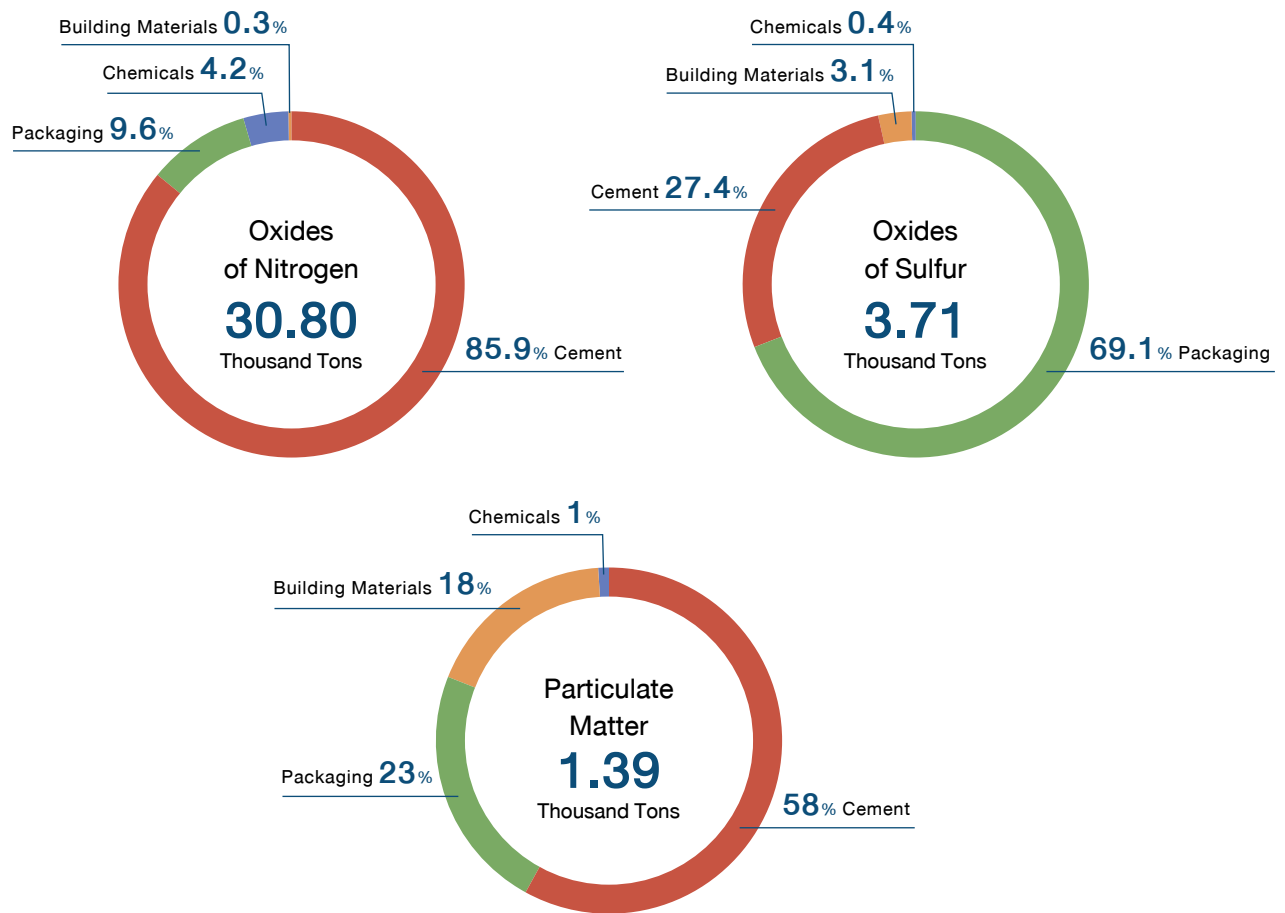


Air Emissions

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Oxides of Nitrogen (Thousand Tons)**	22.16	25.48	27.23	25.72	30.80	GRI 305-7	2.3.6	EM-CM-120a.1
Oxides of Sulfur (Thousand Tons)**	2.84	3.50	2.88	2.75	3.71	GRI 305-7	2.3.7	EM-CM-120a.1
Particulate Matter (Thousand Tons)**	1.37	1.09	1.25	1.36	1.39	GRI 305-7	2.3.9	EM-CM-120a.1

* Reference based on DJSI 2020 Questionnaire

** Within KPMG's limited assurance scope (page 136-137)



Biodiversity/Environmental Expenditures and Benefits/ Violations of Legal Obligations and Regulations

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Quarries with Biodiversity Management Plan in place (Number of Sites)	4	4	4	4	4			
%	100	100	100	100	100		2.4.2	EM-CM-160a.2
Operating Expenses – Environmental (Million Baht)	1,124	1,462	2,190	2,192	2,676		2.2.3	
Capital Investment – Environmental (Million Baht)	1,562	692	1,275	2,593	1,220		2.2.3	
Total Expenses – Environmental (Capital Investment + Operating Expenses) (Million Baht)	2,686	2,154	3,465	4,785	3,896		2.2.3	
Savings, cost avoidance and tax incentives linked to environment investment (Million Baht)**	1,648	1,728	1,441	2,242	9,611		2.2.3	
Number of violations of legal obligations/regulations (Number of Cases)	0	0	0	0	0	GRI 307-1	2.2.4	

* Reference based on DJSI 2020 Questionnaire

**Savings, cost avoidance and tax incentives linked to environment investment include Revenue from sales of SCG Green Choice, provide directly value to customer

Social Performance

Health and Safety

A decrease in lost time injury frequency rate, zero occupational illness and disease but still had fatality cases while a decreasing trend of transportation fatality of contractors.

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
From Workplace								
Hours Worked** (Million Hours Worked)								
• Employee	82.80	79.38	83.18	79.55	79.72	GRI 403-9		
• Contractor	129.57	118.33	110.63	110.95	124.97			
Total Recordable Work-Related Injury and Occupational Illness & Disease Rate (Cases/1,000,000 Hours Worked)								EM-CM-320a.1 RT-CH-320a.1
• Employee**	1.015	1.020	0.854	0.880	0.840			
• Contractor	0.849	0.625	1.094	0.793	0.608			
Fatality Work-Related Injury and Occupational Illness & Disease Rate (Cases/1,000,000 Hours Worked)								RT-CH-320a.1
• Employee**	0.012	0.013	0.000	0.000	0.000			
• Contractor	0.023	0.017	0.018	0.018	0.032			
Total Number of Recordable Work-Related Injury** (Cases)								
• Employee	84	81	71	70	67	GRI 403-9		
• Contractor	110	74	121	88	76			
Total Recordable Work-Related Injury Rate** (Cases/1,000,000 Hours Worked)								
• Employee	1.015	1.020	0.854	0.880	0.840	GRI 403-9		
• Contractor	0.849	0.625	1.094	0.793	0.608			
Number of Fatality Work-Related Injury** (Cases)								
• Employee (Male : Female)	1 : 0	1 : 0	0 : 0	0 : 0	0 : 0	GRI 403-9	3.7.2	
• Contractor (Male : Female)	3 : 0	2 : 0	2 : 0	1 : 1	3 : 1			
Fatality Work-Related Injury Rate** (Cases/1,000,000 Hours Worked)								
• Employee	0.012	0.013	0.000	0.000	0.000	GRI 403-9		
• Contractor	0.023	0.017	0.018	0.018	0.032			
Number of High-Consequence Work-Related Injury** (Cases)								
• Employee	NA	NA	NA	NA	0	GRI 403-9		
• Contractor	NA	NA	NA	NA	4			
High-Consequence Work-Related Injury Rate** (Cases/1,000,000 Hours Worked)								
• Employee	NA	NA	NA	NA	0.000	GRI 403-9		
• Contractor	NA	NA	NA	NA	0.032			
Lost Time Injury Frequency Rate** (Cases/1,000,000 Hours Worked)								
• Employee	0.205	0.250	0.192	0.239	0.113		3.7.3	
• Contractor	0.225	0.110	0.279	0.279	0.216		3.7.4	
Severity Work-Related Injury Rate (Days/1,000,000 Hours Worked)								
• Employee	4.530	4.095	2.685	4.890	2.960			
• Contractor	6.670	1.690	6.000	5.714	5.609			
Total Number of Recordable Occupational Illness & Disease (Cases)								
• Employee**	0	0	0	0	0	GRI 403-10		
• Contractor	NA	NA	NA	NA	0			
Occupational Illness Frequency Rate (Cases/1,000,000 Hours Worked)								
• Employee**	0.000	0.000	0.000	0.000	0.000		3.7.5	
• Contractor	NA	NA	NA	NA	0.000			

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Number of Fatality Occupational Illness & Disease (Cases) • Employee** • Contractor	0 NA	0 NA	0 NA	0 NA	0 0	GRI 403-10		
Number of Reported Cases of Silicosis (Cases) • Employee** • Contractor	0 NA	0 NA	0 NA	0 NA	0 0			EM-CM-320a.2
Near Miss Frequency Rate (Employee & Contractor) (Cases/1,000,000 Hours Worked)	NA	NA	NA	NA	17.524			EM-CM-320a.1
Process Safety Incidents Count (PSIC)*** (Cases)	NA	NA	NA	NA	0			RT-CH-540a.1
Process Safety Total Incident Rate (PSTIR)*** (Cases/1,000,000 Hours Worked)	NA	NA	NA	NA	0			RT-CH-540a.1
Process Safety Incident Severity Rate (PSISR)*** (Cases/1,000,000 Hours Worked)	NA	NA	NA	NA	0			RT-CH-540a.1
Number of Chemicals Spillage (Cases) • Level 1 : High Severity • Level 2 : Moderate Severity • Level 3 : Low Severity	0 4 8	0 0 4	1 1 4	1 0 7	1 0 3	GRI 306-3		
From Travelling and Transportation								
Number of Fatality Work-Related Injury** (Cases) • Employee (Male : Female) • Direct Transportation Contractor (Male : Female) • Other Transportation Contractor (Male : Female)	1 : 0 4 : 0 3 : 0	1 : 0 2 : 0 5 : 0	0 : 0 2 : 0 1 : 1	0 : 0 0 : 0 4 : 0	0 : 0 1 : 0 2 : 0	GRI 403-9	3.7.2	
Number of Transport Incidents (Cases)	NA	NA	NA	NA	33			RT-CH-540a.2
Logistics Drivers Trained from SCG Skills Development School (Persons)	12,196	17,716	17,024	18,224	8,989			
From Workplace, Travelling and Transportation								
Number of Fatality Work-Related Injury** (Cases) • Employee (Male : Female) • Contractor (Male : Female)	2 : 0 7 : 0	2 : 0 4 : 0	0 : 0 4 : 0	0 : 0 1 : 1	0 : 0 4 : 1	GRI 403-9	3.7.2	
Others								
Revenue from Product that have undergone a Hazard Assessment*** (%)	NA	NA	NA	NA	100			RT-CH-410b.1
Revenue from Products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*** (%)	NA	NA	NA	NA	100			RT-CH-410b.1

NA = Not Available

* Reference based on DJSI 2020 Questionnaire

** Within KPMG's limited assurance scope

*** Only Chemicals Business

Employee: A full time employee according to an employment contract such as operational level, supervisory and technical staff level, and managerial level including Intern (probationary) and special contracted employee.

Workplace Contractor: A contractor that works for the organization, and whose work and/or workplace is controlled by the organization (exclude transportation contractor).

Direct Transportation Contractor: Transportation contractor with operation under SCG's brand.

Other Transportation Contractor: Other transportation contractor without operation under SCG's brand.

Level 1 : High severity means that spills that causes of injury or spill to environment or the volume of chemicals spills is more than 2,500 kg (plastic powder or granule is more than 5,000 kg) can be contained (not reaching the environment).

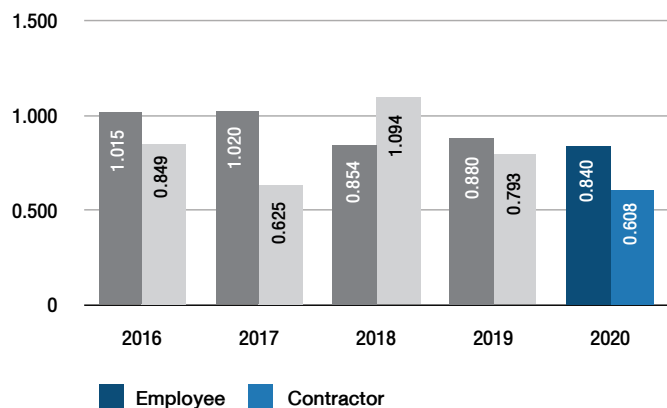
Level 2 : Moderate severity means that spills with no injury occurred and the volume of chemicals spills is more than 500 to 2,500 kg (plastic powder or granule is more than 2,500 to 5,000 kg) can be contained (not reaching the environment).

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

The chemicals exclude flammable gas and utility chemicals, e.g. raw water, filtrated water, distilled water, nitrogen gas, instrument air, service air, or carbon dioxide.

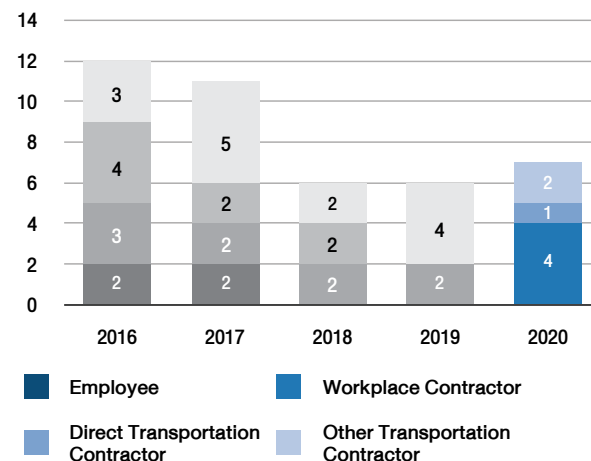
Total Recordable Work-Related Injury and Occupational Illness & Disease Rate

Cases/1,000,000 Hours Worked



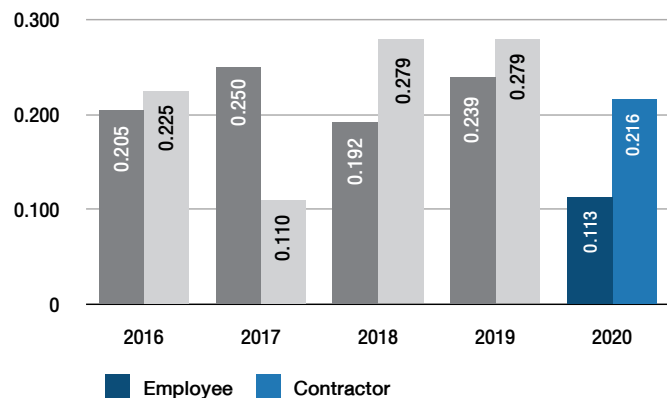
Number of Fatality Work-Related Injury

Cases



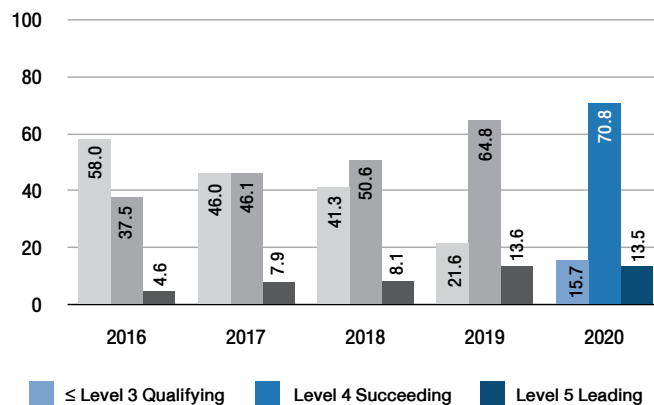
Lost Time Injury Frequency Rate

Cases/1,000,000 Hours Worked



Number of SPAP Certified Companies in Thailand

percent



Workplace Contractor: A contractor that works for the organization, and whose work and/or workplace is controlled by the organization (exclude transportation contractor).

Direct Transportation Contractor: Transportation contractor with operation under SCG's brand.

Other Transportation Contractor: Other transportation contractor without operation under SCG's brand.

Labor and Social Development

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Number of employees (Persons)	53,728	53,670	52,971	54,224	49,754	GRI 102-8		
Female share of total workforce (%)	23.1	22.6	22.8	21.9	23.0	GRI 405-1b	3.2.1	
Females in all management positions (%)	24.0	25.5	24.8	24.7	25.0	GRI 102-8	3.2.1	
Females in junior management positions (%)	25.6	26.5	26.3	26.1	26.4		3.2.1	
Females in top management positions (%)	11.3	14.2	13.3	13.1	13.1		3.2.1	
Females in management positions in revenue-generating functions ** (%)	18.0	19.2	19.2	19.5	19.5		3.2.1	
Proportion of local Management Level overseas *** (%)	0.34	0.31	0.32	0.45	0.86	GRI 202-2		
Number of employees with disability **** (Persons)	41	41	40	39	35		3.2.1	
Remuneration of female to male								
• Average salary of Executive Level (base salary only)						GRI 405-2	3.2.2	
• Female (Thousand Baht)	5,947	6,355	7,072	7,190	7,026			
• Male (Thousand Baht)	6,470	6,987	7,106	7,086	7,218			
• Ratio of average salary of Executive Level (base salary only) (Ratio)	0.919	0.910	0.995	1.015	0.973			
• Average salary of Management Level (base salary only)								
• Female (Thousand Baht)	2,051	2,112	2,222	2,289	2,319			
• Male (Thousand Baht)	2,276	2,372	2,441	2,486	2,511			
• Ratio of average salary of Management Level (base salary only) (Ratio)	0.901	0.890	0.910	0.921	0.924			
• Average salary of Management Level (base salary + other cash incentives)								
• Female (Thousand Baht)	2,735	2,815	2,963	2,956	2,995			
• Male (Thousand Baht)	3,035	3,162	3,254	3,211	3,243			
• Ratio of average salary of Management Level (base salary + other cash incentives) (Ratio)	0.901	0.890	0.911	0.921	0.924			
• Average salary of Non-management Level (base salary only)								
• Female (Thousand Baht)	447	475	523	554	583			
• Male (Thousand Baht)	414	439	471	493	516			
• Ratio of average salary of Non-management Level (base salary only) (Ratio)	1.080	1.082	1.110	1.124	1.130			
Employees represented by an independent trade union or covered by collective bargaining agreements ***** (%)	91.0	89.4	86.2	84.1	88.0		3.2.3	
Proportion of Absence by Type								
• Sick leave (%)	14.4	14.0	14.0	12.7	10.6			
• Work-related leave (%)	0.1	0.1	0.1	0.1	0.1			
• Others (%)	85.4	85.9	85.9	87.2	89.3			
Number of new employees hire (Persons)	2,088	1,659	855	927	482	GRI 401-1a		
• Percentage of total employees (%)	4.2	3.4	1.8	2.0	1.0			
• by Gender (Female : Male) (%)	23 : 77	23 : 77	29 : 71	27 : 73	37 : 63			
• by Employee level (Management level : Other level) (%)	0.2 : 99.8	0.4 : 99.6	1.8 : 98.2	1.7 : 98.3	1.5 : 98.5			
• by Age group (under 30 yr : 30 - 50 yr : over 50 yr) (%)	87.7 : 12.2 : 0.1	76.6 : 23.3 : 0.1	79.8 : 19.1 : 1.1	69.3 : 30.3 : 0.4	70.3 : 29.5 : 0.2			
Number of positions filled by internal candidates (Rotation/Promotion) (Persons)	3,287	2,718	2,946	2,532	2,012		3.4.1	
• Percentage of total employees (%)	6.1	5.1	5.6	4.7	4.0			
• by Gender (Female : Male) (%)	28 : 72	28 : 72	29 : 71	27 : 73	26 : 74			
• by Employee level (Management level : Other level) (%)	5.3 : 94.7	6.5 : 93.5	7.2 : 92.8	11.7 : 88.3	7.9 : 92.1			
• by Age group (under 30 yr : 30 - 50 yr : over 50 yr) (%)	30.4 : 66.3 : 3.3	26.5 : 70.1 : 3.4	26.7 : 69.9 : 3.4	21.0 : 73.3 : 5.7	17.4 : 77.5 : 5.1			

Performance Data	2016	2017	2018	2019	2020	GRI Standards	DJSI*	SASB
Average hiring cost per employee (Baht/Person)	312,963	235,321	123,000	97,264	98,140		3.5.3	
Voluntary employee turnover (Persons)	1,487	1,825	1,599	1,560	1,180	GRI 401-1b	3.5.3	
• Percentage of total employees (%)	2.8	3.4	3.0	2.9	2.4			
• by Gender (Female : Male) (%)	25 : 75	23 : 77	26 : 74	27 : 73	27 : 73			
• by Employee level (Management level : Other level) (%)	1.2 : 98.8	1.1 : 98.9	1.4 : 98.6	1.5 : 98.5	2.6 : 97.4			
• by Age group (under 30 yr : 30 - 50 yr : over 50 yr) (%)	52.6 : 45.4 : 2.0	47.6 : 50.3 : 2.1	40.5 : 55.2 : 4.3	33.2 : 61.6 : 5.2	24.8 : 64.3 : 10.9			
Total employee turnover (Persons)	2,128	2,437	2,340	1,880	1,804	GRI 401-1	3.5.3	
• Percentage of total employees (%)	4.0	4.5	4.4	3.5	3.6			
• by Gender (Female : Male) (%)	21 : 79	23 : 77	26 : 74	26 : 74	23 : 77			
• by Employee level (Management level : Other level) (%)	1.7 : 98.3	2.6 : 97.4	2.9 : 97.1	3.4 : 96.6	5.4 : 94.6			
• by Age group (under 30 yr : 30 - 50 yr : over 50 yr) (%)	46.1 : 37.9 : 16.0	42.1 : 41.9 : 16.0	30.1 : 50.1 : 19.8	28.9 : 54.0 : 17.1	17.3 : 53.5 : 29.2			
Return to Work after Parental Leave *****						GRI 401-3		
• Number of employees taken parental leave (Persons)	210	375	339	492	306			
• Number of employees returned to work after parental leave (Persons)	203	358	311	461	303			
Employee engagement level ***** (%)	66	66	67	68	71		3.5.4	
• by Gender (Female : Male) (%)	NA	NA	NA	NA	66 : 73			
• by Employee level (Management level : Other level) (%)	NA	NA	NA	NA	76 : 71			
• by Service year (under 5 yr : 5-20 yr : over 20 yr) (%)	NA	NA	NA	NA	67 : 68 : 79			
Employee engagement level by ethnic group of employees (Thai / Others) (%)	NA	NA	NA	NA	70 : 76			
Average hours of training and development (Hours/Person)	48	72	104	136	124	GRI 404-1	3.4.1	
• Mandatory (Hours/Person)	NA	NA	NA	NA	104			
• Non mandatory (Hours/Person)	NA	NA	NA	NA	20			
Average amount spent on training and development (Baht/Person)	30,000	26,924	28,766	23,933	15,794		3.4.1	
Number of sites where human rights risks have been identified with mitigation plans (Company)	97	107	49	47	34		3.3.4	
Contribution for social and community development (Million Baht)	710	689	748	719	669	GRI 201-1	3.6.3	
• Contribution by SCG (Million Baht)	437	516	494	414	326			
• Contribution by SCG Foundation (Million Baht)	273	173	254	305	343			
Employee volunteering during paid working hours (Million Baht)	106	87	82	82	40		3.6.3	
In-kind giving: product or services donations, projects/partnerships or similar (Million Baht)	21	39	46	132	124		3.6.3	
Management overheads related to CSR activity (Million Baht)	264	291	233	152	167		3.6.3	

NA = Not Available

* Reference based on DJSI 2020 Questionnaire

** Revenue-generating functions e.g. marketing, sales, production

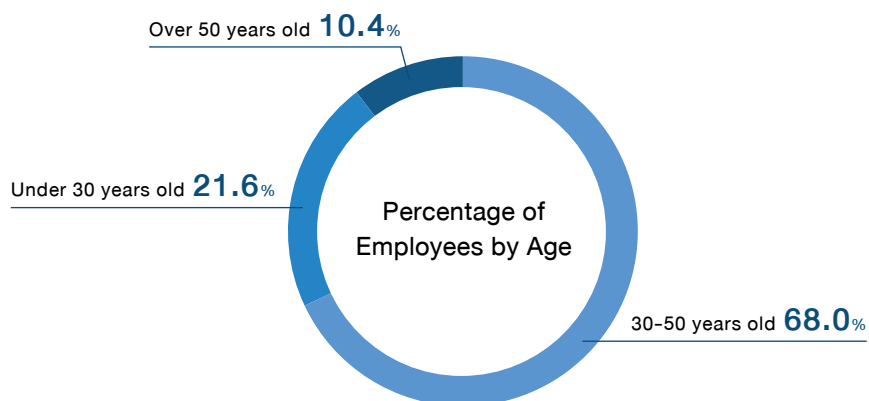
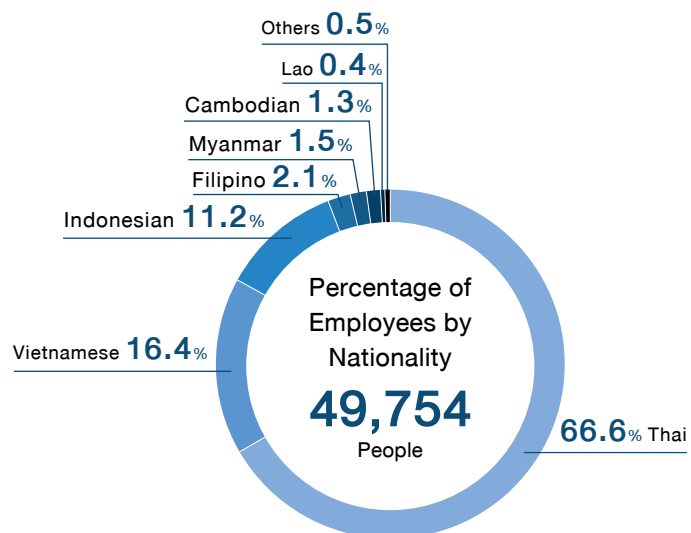
*** Calculate from percentage of local Management Level overseas over total overseas staff

**** Visual and physical impairment and movement disability or other, e.g. hearing impairment, mental disability, communication disability

***** Employees joining trade union or working with companies covered by Welfare Committee

***** Under Thai laws, only female employees can take parental leave

***** Employee engagement level by Gender is available since 2020



Operating Results of Cement Business in Accordance with Global Cement and Concrete Association (GCCA)*

	Unit	2016	2017	2018	2019	2020	DJSI**
Number of facilities adopting GCCA Cement CO ₂ Protocol	number of factory	6	6	6	6	6	
	%	100	100	100	100	100	
Absolute Gross CO ₂	million tons of CO ₂	15.24	14.92	16.17	15.74	15.49	
Absolute Net CO ₂	million tons of CO ₂	15.00	14.68	15.91	15.42	15.15	
Specific Gross CO ₂	kgCO ₂ /ton Cementitious	651	662	669	647	630	
Specific Net CO ₂	kgCO ₂ /ton Cementitious	641	651	658	634	616	
Heat consumption	MJ/ton clinker	3,319	3,372	3,455	3,479	3,448	
Alternative fossil fuel	% by heat	5.0	5.0	4.9	6.2	6.6	2.5.1
Biomass	% by heat	6.9	6.1	7.0	11.3	11.7	2.5.1
Alternative raw material in clinker produced	%	0.9	0.9	1.3	1.4	1.5	
Alternative raw material in cement produced	%	13.5	13.4	13.8	9.6	8.4	2.5.1
Total alternative raw material	%	3.9	3.9	4.5	3.5	3.4	
Clinker factor (cementitious)	%	76.0	75.6	74.8	74.4	72.9	2.5.1
Clinker produced with monitoring of Dust, NO _x , SO ₂ , VOC/THC, Heavy Metal, PCDD/F (KPI1)***	%	99.17	99.17	99.24	99.29	99.41	
Clinker produced using CEMs measurement of Dust, NO _x , SO ₂ , emissions (KPI2)***	%	-	86.56	90.15	87.31	95.82	
Dust emissions (KPI3)***	tons	603	498	635	767	794	
Specific dust emissions (KPI3)***	g/ton clinker	34	29	34	41	42	
NO _x emissions (KPI3)***	tons	16,919	21,015	22,631	21,602	26,406	
Specific NO _x emissions (KPI3)***	g/ton clinker	941	1,205	1,201	1,155	1,409	
SO ₂ emissions (KPI3)***	tons	158	717	561	760	992	
Specific SO ₂ emissions (KPI3)***	g/ton clinker	9	41	30	41	53	
Clinker produced with monitoring of Dust, NO _x , SO ₂ (KPI4)***	%	100	100	100	100	100	
VOC/THC emissions (KPI3)	tons	864	801	632	641	385	
Specific VOC/THC (KPI3)	g/ton clinker	37	46	34	34	21	
Mercury emissions (KPI3)	kg	14.95	14.53	112.28	84.21	32.95	2.3.8
Specific Mercury emissions (KPI3)	mg/ton clinker	0.84	0.84	6.00	4.50	1.72	
Clinker produced with monitoring of VOC/THC and Mercury (KPI4)	%	99.17	99.17	99.24	99.29	99.41	
Dioxin emission (PCDD/F) (KPI3)	mg	1,048	237	271	72	89	
Specific Dioxin (PCDD/F) (KPI3)	mg/ton clinker	63.96	18.64	14.47	4.81	5.54	
Clinker produced with monitoring of Dioxin (PCDD/F) (KPI4)	%	91.08	72.96	92.14	79.86	99.41	
Quarries where rehabilitation plan is implemented*****	number of site	4	4	4	4	4	
	%	100	100	100	100	100	
Quarries with community engagement plan in place	%	100	100	100	100	100	
Quarries with high biodiversity value where biodiversity management plan is implemented*****	number of site	4	4	4	4	4	2.4.2
	%	100	100	100	100	100	

	Unit	2016	2017	2018	2019	2020	DJSI**
Total water withdrawal	million cubic meters	10.33	10.28	10.24	10.12	10.28	
Specific water withdrawal	liter/ton Cementitious	442	448	433	433	418	
Health and Safety****							
Number of Fatality Work-Related Injury (From Workplace and Transportation)							
- Employee***	Cases	0	0	0	0	0	3.7.2
- Contractor***	Cases	1	2	0	2	5	3.7.2
- Third Party	Cases	4	4	3	9	1	
Fatality Work-Related Injury Rate of Employee	Cases/10,000 Employees	0	0	0	0	0	
Lost Time Injury Frequency Rate of Employee	Cases/1,000,000 Hours Worked	NA	NA	NA	0.15	0.16	3.7.3
Lost Time Injury Frequency Rate of Workplace Contractor	Cases/1,000,000 Hours Worked	0.19	0.06	0.07	0.25	0.06	3.7.4
Severity Work-Related Injury Rate of Employee	Days/1,000,000 Hours Worked	NA	NA	NA	6.70	0.98	

NA = Not Available

* Data of cement plant in Thailand and in Year 2019 apply the reporting scope in accordance with GCCA Sustainability Guidelines

** Reference based on DJSI 2020 Questionnaire

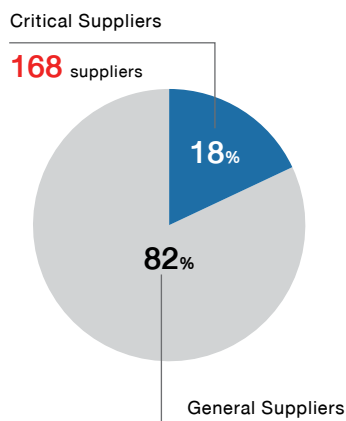
*** Within KPMG's limited assurance scope (page 136-137)

**** In 2019, the scope of reporting covered only domestic operations for the transport of cement and ready mixed

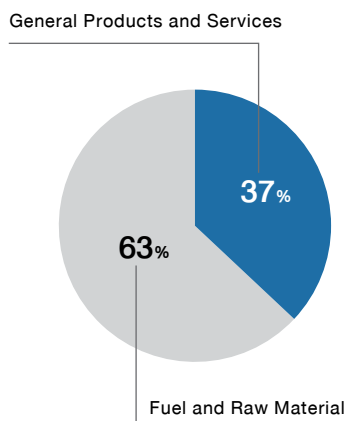
***** Data of quarries in Thailand and in Year 2020 apply the reporting in accordance with GCCA Sustainability Biodiversity Management

Supplier Governance and Enhance towards Sustainability

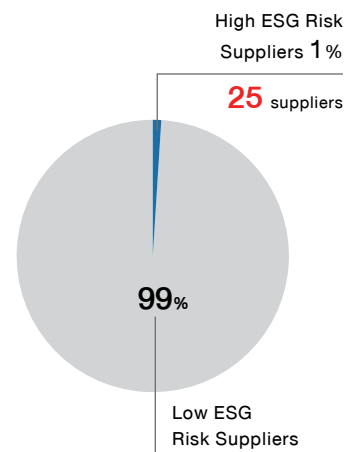
Ratio of Procurement Spend on Products and Services by Group of Suppliers in 2020



Ratio of Procurement Spend on Products and Services by Category in 2020

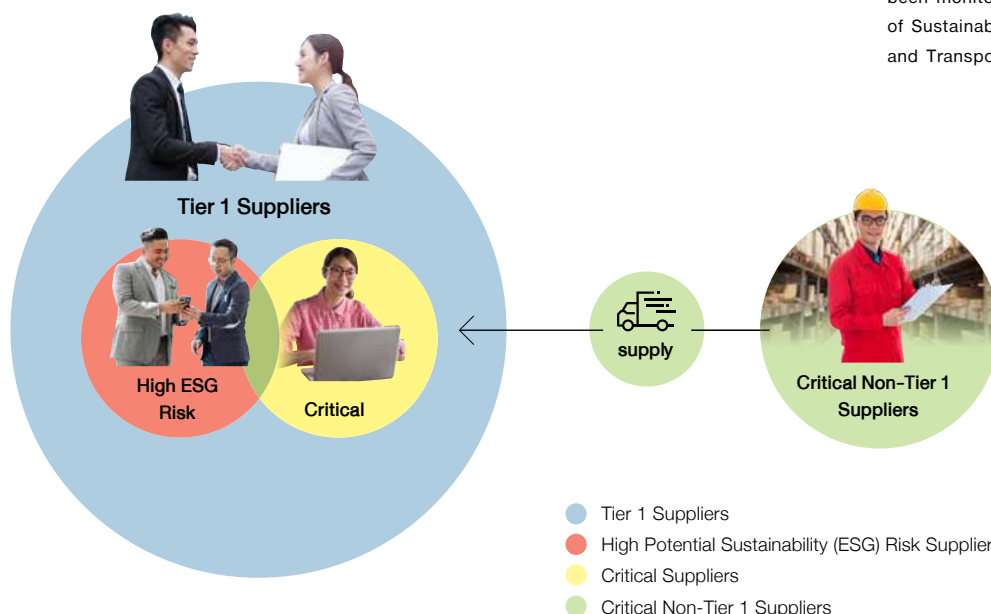


Ratio of Procurement Spend of High Potential Sustainability Risk Suppliers in 2020



Active suppliers in 2020
9,938 suppliers

Sustainability risk found relates to safety. Corrective actions have been monitored under the oversight of Sustainable Supplier Committee and Transportation Safety Committee.



Critical Suppliers

refer to manufacturers and distributors of products and services that are significant to SCG's business operations, such as high purchasing volume, critical component, or non-substitutable products.

High Potential Sustainability (ESG) Risk Suppliers refer to manufacturers and distributors that are likely to cause negative impacts from their improper operations in the social (e.g. human rights, employee and labor care), environment (e.g. waste management) and governance (e.g. legal compliance) aspects.

Sustainability Risk	Number of Suppliers	Examples of Corrective Actions
Work-related safety	0	<ul style="list-style-type: none"> • Training on safety issues • Sensitization on the compliance with safety Travel and standards
Travel and transport related safety	25	

	Strategy	Implementation	Measurement	2016	2017	2018	2019	2020	Target
Economic	• Select and assess suppliers with the capability for sustainable business.	• Evaluate vendors in terms of quality, cost and delivery (QCD Supplier Evaluation).	• Evaluate suppliers under Approved Vendor List (AVL) with vendor evaluation (QCD Supplier Evaluation).	100%	100%	100%	100%	100%	100% suppliers under Approved Vendor List (AVL) receive vendor evaluation (QCD Supplier Evaluation).
	• Conduct risk assessment and supplier segmentation to formulate strategy and supplier development plan corresponding with the risk.	• Conduct a supplier assessment program and segmentation of critical suppliers with a systematic approach.	• Assess and classify critical suppliers.	100% procurement spend	100% procurement spend	100% procurement spend	100% procurement spend	100% procurement spend	
		• Conduct sustainability risk assessment and supplier segmentation since 2013.	• Assess sustainability risks (ESG Risk).	89% procurement spend	98% procurement spend	100% procurement spend	100% procurement spend	100% procurement spend	100% suppliers of the procurement spend pass the annual ESG risk assessment every year.
Environment	• Develop and enhance supplier's capability towards sustainability.	• Promote and audit suppliers for registration in the Green Procurement List. • Purchase products and services according to the Green Procurement List. 100%.	• Green procurement and products on the Green Procurement List.	9,936 million baht	10,909 million baht	9,698 million baht	7,852 million baht	5,073 million baht	-
				75 products	80 products	84 products	84 products	84 products	
		• Promote and support suppliers to participate in the assessment of Green Industry (GI)*	• Suppliers achieve the Green Industry Level 2 or higher certification.	-	777 suppliers	883 suppliers	1,053 suppliers	458 suppliers	-
Social	• Develop and enhance supplier's capability towards sustainability.	• Raise awareness and behavioral change to create safety culture. • Use safety management system to uplift contractors safety standard. • Having contractors informed and signed for Life Saving Rules in every access for work.	• Operation contractors certified under Contractor Safety Management	100%	89%	91%	87%	90%	100% Operation contractors certified under Contractor Safety Management every year from 2012 onwards.
			• Major carriers certified under Fleet Carriers Standards.	100%	100%	100%	100%	100%	100% major carriers certified under Fleet Carriers Standards.
			• Lost Time Injury Frequency Rate (LTIFR) for contractors.	0.225 cases/1,000,000 Hours Worked	0.110 cases/1,000,000 Hours Worked	0.279 cases/1,000,000 Hours Worked	0.279 cases/1,000,000 Hours Worked	0.216 cases/1,000,000 Hours Worked	Reduce Lost Time Injury Frequency Rate of contractors and target for zero by 2022
Governance	• Select and assess suppliers with the capability for sustainable business.	• Developed SCG Supplier Code of Conduct in 2013. • Started supervising new and main suppliers to commit to comply SCG Supplier Code of Conduct continuously since 2014.	• Suppliers committed to comply with SCG Supplier Code of Conduct.	-	48% procurement spend	83% procurement spend	93% procurement spend	91% procurement spend	90% of the procurement spend comes from suppliers who commit to comply with SCG Supplier Code of Conduct by 2020.

*Green Industry: certification developed by the Ministry of Industry (Thailand) to encourage the industrial sector to operate a green business for sustainable development.

SCG's Key Activities on Human Rights Risks in 2020

Scope	Salient Human Rights Issues	Potential Affected People and Number of Companies	Mitigation Plans and Remediation Actions	Result Monitoring
SCG's Own Operations	Personal Data Protection Full protection of stakeholder rights in compliance with personal data protection laws	Customers, shareholders, SCG's employees, suppliers and contractors and related parties (318 companies)	<ul style="list-style-type: none"> • Announce SCG Privacy Policy to establish a standard of personal data management for SCG's employees. • Introduce personal data protection processes and control to every step in compliance with the law and SCG Privacy Policy, such as designating Data Protection Officers (DPOs), creating records of processing and data flow diagrams, developing relevant legal documents, and adopting privacy management software. • Create a data subject's right management system, allowing data owners to exercise legal rights. • Heighten data leakage prevention measures to prevent illegal data access, use, disclosure, and editing. • Train employees to be aware of the importance of personal data protection. 	<ul style="list-style-type: none"> • All companies of which their operations are significant and included in SCG's consolidated financial statements fully complied with personal data protection laws (both Thai laws and those of other countries where applicable) through the use of the 3 Lines of Defense System, consisting of: <ul style="list-style-type: none"> 1st Line refers to data users, who must comply with personal data protection laws and SCG Privacy Policy. 2nd Line refers to DPO and Compliance. SCG DPO and DPO Office were also established to oversee SCG's overall legal compliance. 3rd Line refers to the Internal Audit Office, responsible for governance. • SCG employees were equipped with basic knowledge about personal data protection laws and strictly complied with SCG Privacy Policy through annual training and Ethics e-Testing on personal data protection.
	Occupational Health and Safety Lost-time injury and fatality	Employees of SCG and subsidiaries (242 companies)	<ul style="list-style-type: none"> • Communicate and educate to raise awareness of safety culture through the Occupational Health and Safety Management System or the SCG Safety Framework. • Communicate, educate, and monitor compliance with standards for high-risk operations and SCG Life Saving Rules in the production process, workplace, travelling, and transportation. • Establish COVID-19 measures and guidelines for employees and contractors to minimize health impacts, such as measures for operating in plants, offices, transportation, external visitors, travelling, working from home, and organizing meetings/seminars. 	<p>84% of the plants/subsidiary companies passed SPAP assessment as required</p> <p>0 subsidiary company had fatality work-related injury case</p> <p>8 subsidiary companies had lost time injury cases</p>
	Community Rights Impacts from issues related to water, pollution, resource consumption, and safety	Communities	<ul style="list-style-type: none"> • Conduct surveys and dialogues to obtain opinions from communities and develop approaches to different matters through engagement fostering. • Be prudent and prevent potential impacts on communities. 	Communities in every location where SCG operates.

Scope	Salient Human Rights Issues	Potential Affected People and Number of Companies	Mitigation Plans and Remediation Actions	Result Monitoring
Operations of Contractors and Suppliers	Personal Data Protection Full protection of stakeholder rights in compliance with personal data protection laws	SCG's contractors (9,938 companies)	<ul style="list-style-type: none"> Fully follow every step of personal data protection processes and control to every step in compliance with the law and SCG Privacy Policy. 	SCG's contractors were treated in full compliance with personal data protection laws.
	Workplace Safety and Transportation Safety Lost time injury and fatality from workplace and transportation	SCG's contractors/carriers (1,133 companies)	<ul style="list-style-type: none"> Develop a contractor safety management system and conduct assessments periodically. Officially inform contractors of safety rules that SCG enforces and require them to sign an agreement acknowledging their willingness to comply with SCG Life Saving Rules (for both recurring and employment agreements). Implement screening and control measures for contractors before entry to the on-site area and before and during operations as well as clarify and review risks to workers to ensure they understand how to operate safely. Appoint a Transportation Safety Committee to establish transportation safety standards as well as control and assess transportation contractors to ensure that they comply with prescribed regulations and standards. Encourage transportation contractors to comply with the law and constantly monitor their drivers through GPS and in-cab camera. Encourage contractors to continuously improve their safety standards and develop relations towards business partnerships. 	90% of operation contractors certified under contractor safety management 100% of major carriers certified under Fleet Carrier Standards 5 contractors had fatality work-related injury case 21 contractors had lost time injury cases
	Human Rights and Labor Rights	SCG's suppliers/contractors (9,938 companies)	<ul style="list-style-type: none"> Monitor new suppliers and contractors to comply with SCG Supplier Code of Conduct. Conduct environmental, social and governance assessment (ESG Risk) 	91% of suppliers signed for SCG Supplier Code of Conduct 100% of suppliers with procurement spend of over million baht, passed ESG assessment
Operations of Joint Ventures	Personal Data Protection Full protection of stakeholder rights in compliance with personal data protection laws	SCG's joint ventures (81 companies)	<ul style="list-style-type: none"> Fully follow every step of personal data protection processes and control to every step in compliance with the law and SCG Privacy Policy. 	All SCG's joint ventures included in its consolidated financial statements were treated in full compliance with personal data protection laws.

Subsidiaries included in Sustainability Report 2020*

Business / Company		Production	Environment												Waste	Safety	Occupational Illness and Disease
			Energy		Air				Water								
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS				
SCG																	
1	The Siam Cement Public Company Limited																
Cement-Building Materials Business																	
Subsidiaries																	
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/Khao 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	The Siam Refractory Industry Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
9	ECO Plant Services Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	✓	✓
10	SCI Eco Services Co., Ltd.	✓	NR	✓	NR	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
11	Q Mix Supply Co., Ltd.															✓	✓
12	Silathai Sanguan (2540) Co., Ltd.															✓	✓
13	Green Conservation Solution Co., Ltd.															✓	✓
14	CPAC Construction Solution Co., Ltd.																
15	Silasanon Co., Ltd.															✓	✓
16	SCG Building Materials Co., Ltd.															✓	✓
17	The Siam Fibre-Cement Co., Ltd.																
18	Siam Fibre Cement Group Co., Ltd. (Saraburi/ Ta Luang/Thung Song/Nongkae/Lumpang)	✓	✓	✓	✓	NR	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
19	SCG Landscape Co., Ltd. (Khonkaen/Thung Song/ Ladkrabang/Lamphun/Sriracha/Nongkae)	✓	✓	✓	NR	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
20	Siam Fiberglass Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
21	Cementhai Gypsum Co., Ltd.																
22	Cementhai Ceramics Co., Ltd.																
23	SCG Distribution Co., Ltd.																
24	BetterBe Marketplace Co., Ltd.																
25	SCG International Corporation Co., Ltd.															✓	✓
26	SCG Logistics Management Co., Ltd.															✓	✓
27	Nexter Living Co., Ltd.																
28	Nexter Ventures Co., Ltd.																
29	SCG Experience Co., Ltd.															✓	✓
30	SCG Skills Development Co., Ltd.																
31	SCG Roofing Co., Ltd. (Saraburi/Saraburi Nuestile/ Nakorn Prathom/Chonburi/Nakorn Rajchasrima/ Lamphun/Khonkaen/Nakorn Sri Thammaraj, Nong Khae)	✓	✓	✓	✓	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓

Business / Company		Production	Environment												Safety	Occupational Illness and Disease
			Energy		Air				Water					Waste		
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS			
32	MRC Roofing Co., Ltd.															
33	The Siam Sanitary Fittings Co., Ltd. (Pathumthani/Nakorn Rajchasrima)	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
34	Saraburirat Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓	✓
35	Siam Sanitary Ware Co., Ltd.														✓	✓
36	Siam Sanitary Ware Industry Co., Ltd.	✓	✓	✓	✓	NR	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
37	Siam Sanitary Ware Industry (Nongkae) Co., Ltd.	✓	✓	✓	✓	NR	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
38	Quality Construction Products Public Company Limited (Bang Pa-in/Nongkae)	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
39	Q-Con Eastern Co., Ltd.	✓	✓	✓	✓	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
40	SCGT Automobile Co., Ltd.															
41	Panel World Co., Ltd.														✓	✓
42	Sosuco Ceramic Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
43	SCG-Sekisui Sales Co., Ltd.														✓	✓
44	SCG Yamato Express Co., Ltd														✓	✓
45	Jumbo Barges and Tugs Co., Ltd	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
46	SCG Ceramics Public Company Limited (Nong Khae 1, Nong Khae Industrial Estate, Hin Kong, Geoluxe)	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
47	Nexter Digital Co., Ltd.															
48	Nexter Retail Co., Ltd.															
49	SCG Retail Holding Co., Ltd.															
50	SCG Home Retail Co., Ltd.															
51	Rudy Technology Co., Ltd.															
52	SCG-PSA Holdings Co., Ltd.															
53	Thai Connectivity Terminal Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
54	Bangkok Interfreight Forwarding Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
55	SCG-Boonthavorn Holding Co., Ltd.															
Joint Ventures, Associates and Other Companies																
1	Sekisui-SCG Industry Co., Ltd.	✓	NR	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓	✓
2	Noritake SCG Plaster Co., Ltd.	✓	✓	✓	✓	NR	✓	✓	✓	NR	✓	✓	✓	✓	✓	✓
3	SCG Nichirei Logistics Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4	BIMobject (Thailand) Co., Ltd.															
5	CPAC SB&M Lifetime Solution Co., Ltd.															
6	Siam Smart Data Co., Ltd.															
Chemicals Business																
Subsidiaries																
1	SCG Chemicals Co., Ltd.														✓	✓
2	Thai Polyethylene Co., Ltd.	✓	✓	✓	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.	NR	NR	✓	NR	NR	NR	✓	NR	NR	NR	NR	NR	✓	✓	✓
8	Texplore Co., Ltd.														✓	✓

Business / Company		Production	Environment												Safety	Occupational Illness and Disease
			Energy		Air				Water					Waste		
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS			
9	Vina SCG Chemicals Co., Ltd.															
10	Rayong Pipeline Co., Ltd.														✓	✓
11	Thai Plastic and Chemicals Public Company Limited	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	TPC Paste Resin Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13	Nawa Plastic Industries Co., Ltd. (Rayong/Saraburi)	✓	✓	✓	NR	NR	NR	✓	✓	NR	✓	✓	✓	✓	✓	✓
14	Nawa Intertech Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	NR	✓	✓	✓	✓	✓	✓
15	Total Plant Service Co., Ltd.															
16	SCG Ico Polymers Company Limited	✓	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓	✓
17	Map Ta Phut Tank Terminal Co., Ltd.	NR	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓	✓
18	Map Ta Phut Olefins Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓
19	Rayong Olefins Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20	Flowlab & Service Co., Ltd.														✓	✓
21	SMH Co., Ltd.															
22	Repco Maintenance Co., Ltd.														✓	✓
23	WTE Company Limited															
24	Circular Plas Company Limited															
Associates and Other Companies																
1	Rayong Terminal Co., Ltd.	NR	✓	✓	NR	NR	NR	✓	✓	NR	NR	NR	NR	✓	✓	✓
2	Thai MMA Co., Ltd.	✓	✓	✓	NR	NR	✓	✓	✓	NR	✓	✓	✓	✓	✓	✓
3	Grand Siam Composites Co., Ltd.	✓	✓	✓	✓	NR	NR	✓	✓	NR	✓	✓	✓	✓	✓	✓
4	Thai MFC Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
5	Siam Tohcello Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	NR	✓	✓	✓	✓	✓	✓
6	Bangkok Synthetics Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Packaging Business																
Subsidiaries																
1	SCG Packaging Public Company Limited														✓	✓
2	Thai Paper Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	✓	✓	✓
3	Siam Kraft Industry Co., Ltd. (Kanchanaburi/Ratchaburi)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	The Siam Forestry Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	NR	NR	NR	NR	NR	NR	✓	✓
5	Panas Nimit Co., Ltd.														NR	NR
6	Thai Panason Co., Ltd.														NR	NR
7	Thai Panadorn Co., Ltd.														NR	NR
8	Thai Panaram Co., Ltd.														NR	NR
9	Suanpa Rungsaris Co., Ltd.														NR	NR
10	Siam Panawes Co., Ltd.														NR	NR
11	Thai Panaboon Co., Ltd.														NR	NR
12	Thai Wanabhum Co., Ltd.														NR	NR
13	Phoenix Pulp & Paper Public Company Limited	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	Phoenix Utilities Co., Ltd.															
15	SCGP Excellence Training Center Co., Ltd.	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
16	SCG Paper Energy Co., Ltd.															
17	Thai Cane Paper Public Company Limited (Kanchanaburi/Prachinburi)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Business / Company		Production	Environment												Safety	Occupational Illness and Disease
			Energy		Air				Water					Waste		
			Thermal	Electricity	Dust	SO _x	NO _x	GHG	Water Withdrawal	Recycled Water	BOD	COD	TSS			
18	Thai Containers Group Co., Ltd. (Navanakorn/Pathumthani/Samutprakarn/ Ratchaburi/Songkhla/Chonburi/Prachinburi/ Saraburi/Kamphaeng Phet)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19	Thai Containers Khonkaen Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓
20	Thai Containers Rayong Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
21	Invenique Co., Ltd.															
22	TC Flexible Packaging Co., Ltd.															
23	Orient Containers Co., Ltd. (Omnoi/Samutsakorn/Nakorn Prathom)	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
24	Tawana Container Co., Ltd.	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
25	Prepack Thailand Co., Ltd. (Samutsakorn/Samut Songkhram/Rayong)	✓	✓	✓	✓	✓	✓	✓	✓	✓	NR	✓	✓	✓	✓	✓
26	Precision Print Co., Ltd	✓	✓	✓	NR	NR	NR	✓	✓	✓	NR	✓	✓	✓	✓	✓
27	Conimex Co., Ltd	✓	✓	✓	NR	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓
28	Visy Packaging (Thailand) Limited															
29	SCGP Solutions Co., Ltd.															
30	SCGP-T Plastics Company Limited															
31	SCGP Rigid Plastics Company Limited															
32	SKIC International Company Limited															
Associates																
1	Siam Nippon Industry Paper Co., Ltd.	✓	✓	✓	NR	NR	NR	✓	✓	✓	NR	NR	NR	NR	✓	✓
Other																
Subsidiaries																
1	Cementhai Holding Co., Ltd.															
2	Cementhai Property (2001) Public Company Limited															
3	Property Value Plus Co., Ltd.															
4	SCG Accounting Services Co., Ltd.															
5	SCG Legal Counsel Limited															
6	CTO Management Co., Ltd.															
7	Siam Innovation Product and Solution Co., Ltd.															
8	SCG Learning Excellence Co., Ltd															
9	SCG HR Solutions Co., Ltd.															
10	Bangsue Industry Co., Ltd.															
11	Add Ventures Capital Co., Ltd.															
12	Add Ventures Capital International Co., Ltd.															
13	Siam GNE Solar Energy Co., Ltd															

* Economic performance covers all significant subsidiaries, joint ventures, associates and other companies according to Annual Report 2020

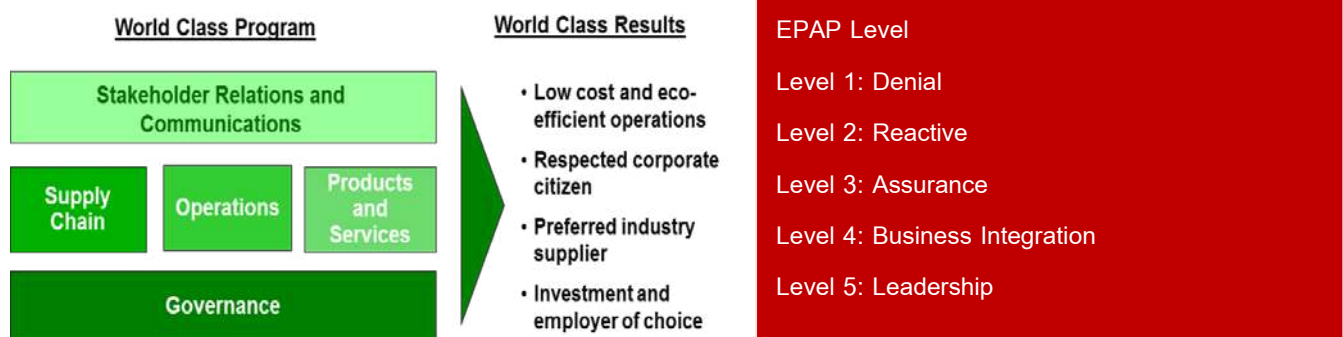
NR = Non Relevance

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

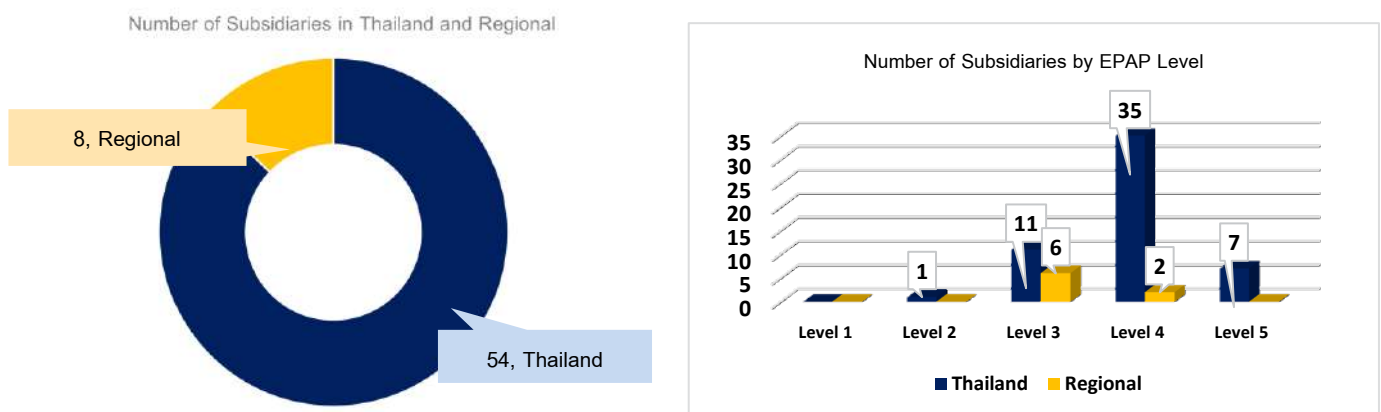
Greenfield (less than 3 years) or newly acquired companies (less than 4 years) is not required to incorporate data into SCG

Environmental Performance Assurance Statement, 2020

SCG started implementing the Environmental Performance Assessment Program (EPAP) in 2001. Up to 2020, 62 subsidiaries have participated, with a total of 219 assessments conducted. SCG criteria require certain subsidiaries to participate based on business type and activities with potential environmental impacts. Since 2013, the assessment criteria follow the sustainable development framework, with relevance to the environment. These criteria enable benefits for the assessed subsidiaries, drive environmental performance improvement and ensure alignment with SCG's sustainable development policy. Notably, the assessment scope includes five main elements: governance, supply chain, operations, products and services, and stakeholder relations and communications. Each participating subsidiary is assessed every three years.



Assessment results from each plant will be categorised into five levels, with considerations given to the management system, compliance, effectiveness and performance of the operations according to the assessment criteria.



Past assessment results demonstrate that, for the most parts, each subsidiary in SCG continues to improve in environmental management. Currently, there are 62 plants eligible for the assessment, with 54 plants based in Thailand and eight other plants internationally. Overall, 11% (7 subsidiaries) have a level 5 environmental performance, 60% (37 subsidiaries) are at level 4, 27% (17 subsidiaries) are at level 3, and 2% (1 subsidiary) are at level 2.

The 2020 assessment results cover three subsidiaries in total. The overall management in each aspect and issue ascertains an achievement of sustainable business goals. The aspects and issues that SCG emphasises are as follows:

Governance



Governance

Top management of each subsidiary is involved in defining a sustainability strategy, targets, and sustainable development plans and establishing the organisation and functions responsible for monitoring and reporting environmental performance to achieve the defined targets. There are also a risk assessment process, control measures, and mitigation measures to ensure effective management of key risks. Furthermore, the Company also prioritises enhancing knowledge and sustainable development capacity for companies based outside of Thailand. This ensures that the performance is consistent and aligns in the same direction throughout the entire Company. However, some subsidiaries should review non-technical risks, which may generate environmental impacts and non-compliance issues, such as if the treated wastewater quality does not meet the new standards effective in 2021 (international plant). Some subsidiaries should enhance their emergency preparedness and response plans to be more comprehensive, such as conducting drills in the case of a fire at a diesel storage tank (international plant), which may impact the nearby communities.

Supply Chain



Supply Chain

Risk management processes and expansion of partnership opportunities with suppliers and contractors elevate the environmental work of critical suppliers and contractors according to the SCG's Greening the Supply Chain program. The program is implemented in subsidiaries operating internationally by systematically applying the process in the selection and contract management, as the implementation may differ for each business and subsidiary. Therefore, some subsidiaries should integrate environmental issues into in supplier and business partner management to increase efficiency. Some examples of this are integrating selection criteria, ensuring contracts are thorough and specific to environmental and social risks, and developing and establishing performance evaluation of suppliers and contractors that infer the effectiveness of environmental performance.

Operations



Operations

There is a process of environmental risk analysis to establish a control measure of critical risks. Most operations comply with the law as a minimum standard. In addition, some subsidiaries in regional areas improve working environmental conditions by installing air emission controls to reduce environmental impacts and community concerns, e.g., dust collector and effective wastewater treatment system for the tile operation plant overseas. However, a subsidiary needs to review and enhance their environmental programs to reduce air emission pollution to regulation standards (e.g., SO₂) and report environmental non-compliance with internal standards ensuring the corrective actions are analysed and implemented. As well, a subsidiary needs to enhance the control of environmental issues, such as coal dust dispersion and overflow of contaminated rainwater from the drainage system due to construction activities. Moreover, the effective environmental data verification should be extended to international companies.

Products and Services



Products and Services

Most subsidiaries implemented new product research and development, which is in line with the circular economy policy of SCG, and some business units conducted a Life Cycle Analysis (LCA) for their main products to assess key impacts. However, some subsidiaries should integrate environmental aspects in the new product development process and establish a guideline for the using the LCA's results. The LCA study should be extended to the international subsidiaries to reduce environmental impacts in critical processes or components of the product's life cycle.

Stakeholder Relations and Communications



Stakeholder Relations and Communications

Stakeholder identification and prioritisation are conducted thoroughly, including establishing an approach to collaborate with external parties, as well as surveying critical stakeholders' opinions for improvement in the subsidiary's sustainability operation. However, an international subsidiary should expand the scope of stakeholder engagement to contractors working at baling stations to enhance the level of engagement to every group. Some subsidiaries should expand their scope of complaint records to include more channels than receiving a formal letter from stakeholders. This will ensure corrective actions and the engagement program are in place for all concerns raised from all key stakeholders.

Plerngtape Chamikorn
Country Managing Partner

ERM-Siam Co.,Ltd., 19 February 2021



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.



KPMG Phoomchai Audit Ltd.
50th Floor, Empire Tower
1 South Sathorn Road, Yannawa
Sathorn, Bangkok 10120, Thailand
Tel +66 2677 2000
Fax +66 2677 2222
Website home.kpmg/th

บริษัท เคพีเอ็มจี ภูมิไชย สอบบัญชี จำกัด
ชั้น 50 เอ็มไพร์ทาวเวอร์
1 ถนนสาทรใต้ แขวงยานนาวา
เขตสาทร กรุงเทพฯ 10120
โทร +66 2677 2000
แฟกซ์ +66 2677 2222
เว็บไซต์ home.kpmg/th

Independent limited assurance report

To the Sustainable Development Committee of The Siam Cement Public Company Limited (“SCG”)

Conclusion

Based on the procedures performed, as described below, nothing has come to our attention that causes us to believe that the selected subject matters (“Subject Matters”) identified below and included in the Sustainability Report 2020 (the “Report”) for the year ended 31 December 2020, are not, in all material respects, prepared in compliance with the reporting criteria (the “Criteria”).

Our Responsibilities

We have been engaged by SCG and are responsible for providing a limited assurance conclusion in respect of the Subject Matters for the year ended 31 December 2020 to be included in the Report as identified below.

Our assurance engagement is conducted in accordance with the International Standard on Assurance Engagements ISAE 3000 *Assurance Engagements other than Audits or Reviews of Historical Financial Information* and ISAE 3410 *Assurance on Greenhouse Gas Statements*. These standards require the assurance team to possess the specific knowledge, skills and professional competencies needed to provide assurance on sustainability information, and that we plan and perform the engagement to obtain limited assurance on whether the Subject Matters are prepared, in all material respects, in compliance with the Criteria. We have complied with the independence and other ethical requirements of the International Ethics Standards Board for Accountants’ *International Code of Ethics for Professional Accountants (including International Independence Standards)* (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. The firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have not been engaged to provide an assurance conclusion on any other information disclosed within the Report.

Subject Matters

Subject Matters comprised of the following data expressed numerically or in descriptive text for the year ended 31 December 2020:

- GRI 302-1 (2016) Energy consumption within the organization
- GRI 303-3 (2018) Water withdrawal
- GRI 303-4 (2018) Water discharge
- Water recycled and reused
- GRI 305-1 (2016) Direct (Scope 1) GHG emissions
- GRI 305-2 (2016) Energy indirect (Scope 2) GHG emissions
- GRI 305-7 (2016) Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions
- GRI 306-2 (2016) Waste by type and disposal method
- GRI 403-9 (2018) Work related injuries
- GRI 403-10 (2018) Work-related ill health
- % of clinker produced by kilns covered by a monitoring system (dust, NO_x, Sulfur Dioxide (SO₂), VOC/THC, heavy metals, and PCDD/F) (KPI 1) (%)
- % of clinker produced by kilns covered by a continuous monitoring system (dust, NO_x, and SO₂) (KPI 2) (%)
- Dust emission (KPI 3) (tons)
- Specific dust emission (KPI 3) (g/ton clinker)
- NO_x emission (KPI 3) (tons)
- Specific NO_x emission (KPI 3) (g/ton clinker)
- SO₂ emission (KPI 3) (tons)
- Specific SO₂ emission (KPI 3) (g/ton clinker)
- % of clinker produced by kilns covered by a monitoring system (dust, NO_x, SO₂) (KPI 4) (%)

Criteria

The Subject Matters were assessed according to the following criteria:

- The Sustainability Reporting Standards of the Global Reporting Initiative (“GRI Standards”): Comprehensive Option;
- the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard issued by the World Business Council for Sustainable Development and World Resources Institute;
- GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing (November 2018); and
- The Sustainability Accounting Standards Board (“SASB”) sustainability accounting standards for the Construction Materials, Containers & Packaging, and Chemicals industries.

Sustainable Development Committee’s responsibilities

The Sustainable Development Committee of SCG is responsible for the preparation and presentation of the Subject Matters, specifically ensuring that in all material respects the Subject Matters are prepared and presented in accordance with the Criteria. This responsibility also includes the internal controls relevant to the preparation of the Report that is free from material misstatement whether due to fraud or error.

Procedures performed

In forming our limited assurance conclusion over the Subject Matters, our procedures consisted of making enquiries and applying analytical and other evidence gathering procedures including:

- Interviews with senior management and relevant staff at corporate and operating sites;
- Inquiries about the design and implementation of the systems and methods used to collect and process the information reported, including the aggregation of source data into the Subject Matters;
- Inquiries about managements practices and procedures related to identifying stakeholders and their expectations, determining material sustainability matters and implementing sustainability policies and guidelines;
- Visits to 6 sites, selected on the basis of risk analysis including the consideration of both quantitative and qualitative criteria;
- Agreeing the Subject Matters to relevant underlying sources on a sample basis to determine whether all the relevant information has been included in the Subject Matters and prepared in accordance with the Criteria.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and consequently the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, we do not express a reasonable assurance opinion.

Inherent limitations

Due to the inherent limitations of any internal control structure, it is possible that errors or irregularities in the information presented in the Report may occur and not be detected. Our engagement is not designed to detect all weaknesses in the internal controls over the preparation and presentation of the Report, as the engagement has not been performed continuously throughout the period and the procedures performed were undertaken on a test basis.

Restriction of use of our report

Our report should not be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than SCG, for any purpose or in any other context. Any party other than SCG who obtains access to our report or a copy thereof and chooses to rely on our report (or any part thereof) will do so at its own risk. To the fullest extent permitted by law, we accept or assume no responsibility and deny any liability to any party other than SCG for our work, for this independent limited assurance report, or for the conclusions we have reached.



KPMG Phoomchai Audit Ltd.

Bangkok

25 February 2021

GRI Content Index

SCG follows the Global Reporting Initiative's (GRI) Sustainability Reporting Standards in our Sustainability Report. This report has been prepared in accordance with the GRI Standards: Comprehensive option. General and topic-specific disclosures with a reference to external assurance in the GRI content index have been externally assured by an independent third party KPMG Phoomchai Audit Ltd. The Independent Assurance Reports is available in SCG's Sustainability Report on page 136 and 137. The index below shows where the GRI disclosures are addressed in the Annual Report (AR), the Sustainability Report (SR) on SCG's website.

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
GRI 102: General Disclosures				
Organizational profile				
102-1	Name of the organization	AR Cover, AR211, SR Front & Back Cover		
102-2	Activities, brands, products, and services	AR16-39, SR14-19		
102-3	Location of headquarters	AR211, SR Back Cover		
102-4	Location of operations	AR105-125		
102-5	Ownership and legal form	AR211		
102-6	Markets served	AR15, SR20-23		
102-7	Scale of the organization	AR13-15, SR107		
102-8	Information on employees and other workers	AR187-188, SR121-123		
102-9	Supply chain	SR84-85, SR126-127		
102-10	Significant changes to the organization and its supply chain	AR14, SR14-19		
102-11	Precautionary Principle or approach	AR64-74		
102-12	External initiatives	AR2-5, AR82-88, SR24-25		
102-13	Membership of associations	SR1, SR97		
Strategy				
102-14	Statement from senior decision-maker	AR2-5, SR4-6		
102-15	Key impacts, risks, and opportunities	AR64-74		
Ethics and integrity				
102-16	Values, principles, standards, and norms of behavior	AR140-165		
102-17	Mechanisms for advice and concerns about ethics	AR140-178		
Governance				
102-18	Governance structure	AR166, SR7		
102-19	Delegating authority	AR167-178, SR8-11		
102-20	Executive-level responsibility for economic, environmental, and social topics	AR146-150, SR8-11		
102-21	Consulting stakeholders on economic, environmental, and social topics	AR150-158, SR28-31		
102-22	Composition of the highest governance body and its committees	AR166, SR7		
102-23	Chair of the highest governance body	AR167-168		
102-24	Nominating and selecting the highest governance body	AR142-145		

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
102-25	Conflicts of interest	AR158		
102-26	Role of highest governance body in setting purpose, values, and strategy	AR167-178, AR198, SR8-11		
102-27	Collective knowledge of highest governance body	AR146-150, AR167		
102-28	Evaluating the highest governance body's performance	AR145-147		
102-29	Identifying and managing economic, environmental, and social impacts	AR64-74		
102-30	Effectiveness of risk management processes	AR64-74		
102-31	Review of economic, environmental, and social topics	AR191, SR11	Frequency of the board's review of sustainability impacts, risks, and opportunities	
102-32	Highest governance body's role in sustainability reporting	AR2-5, AR198, SR4-6		
102-33	Communicating critical concerns	AR65-66		
102-34	Nature and total number of critical concerns	AR64-74		
102-35	Remuneration policies	AR182-187		
102-36	Process for determining remuneration	AR182-184		
102-37	Stakeholders' involvement in remuneration	AR182-184		
102-38	Annual total compensation ratio	AR185-187		
102-39	Percentage increase in annual total compensation ratio	AR185-187		
Stakeholder engagement				
102-40	List of stakeholder groups	AR150-158, SR28-31		
102-41	Collective bargaining agreements	SR121	100% of employees are covered by collective bargaining agreements	
102-42	Identifying and selecting stakeholders	AR150-158, SR28-31		
102-43	Approach to stakeholder engagement	AR150-158, SR28-31		
102-44	Key topics and concerns raised	AR150-158, SR28-31		
Reporting practice				
102-45	Entities included in the consolidated financial statements	AR106-125		
102-46	Defining report content and topic Boundaries	SR104-107		
102-47	List of material topics	SR64-65, SR80-81		
102-48	Restatements of information	SR104		
102-49	Changes in reporting	SR104		
102-50	Reporting period	SR104		
102-51	Date of most recent report	SR104		
102-52	Reporting cycle	SR104		
102-53	Contact point for questions regarding the report	SR104		
102-54	Claims of reporting in accordance with the GRI Standards	SR104		
102-55	GRI content index	SR138-143		
102-56	External assurance	SR134-137		
GRI 103: Management Approach				
103-1	Explanation of the material topic and its Boundary	SR64-65, SR80-81		
103-2	The management approach and its components	SR7-11		
103-3	Evaluation of the management approach	SR7-11		
GRI 200: Economic				
GRI 201: Economic Performance				
201-1	Direct economic value generated and distributed	AR12, SR108-109		
201-2	Financial implications and other risks and opportunities due to climate change	AR66-67, SR66-69		

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
201-3	Defined benefit plan obligations and other retirement plans	-	Under company rules and regulations	
201-4	Financial assistance received from government	SR108-109		
GRI 202: Market Presence				
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	SR121-123		
202-2	Proportion of senior management hired from the local community	SR121-123		
GRI 203: Indirect Economic Impacts				
203-1	Infrastructure investments and services supported	SR108-109		
203-2	Significant indirect economic impacts	SR108-109		
GRI 204: Procurement Practices				
204-1	Proportion of spending on local suppliers	SR126-127	Share of General Products and Services Spend are Local Procurement Spend (suppliers in Thailand)	
GRI 205: Anti-corruption				
205-1	Operations assessed for risks related to corruption	AR195-197		
205-2	Communication and training about anti-corruption policies and procedures	AR195-196		
205-3	Confirmed incidents of corruption and actions taken	AR197		
GRI 206: Anti-competitive Behavior				
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	AR195-197		
GRI 300: Environmental				
GRI 301: Materials				
301-1	Materials used by weight or volume	SR110		
301-2	Recycled input materials used	SR110		
301-3	Reclaimed products and their packaging materials	-	Information of reclaimed products and packaging materials are collected by business unit for efficient production and quality improvement	
GRI 302: Energy				
302-1	Energy consumption within the organization	SR112		Yes
302-2	Energy consumption outside of the organization	-	Data was collected by SCG Logistics of it's inbound/outbound but for internal use only	
302-3	Energy intensity	SR112		
302-4	Reduction of energy consumption	SR66-69, SR112		
302-5	Reductions in energy requirements of products and services	SR88-89		
GRI 303: Water				
303-1	Interactions with water as a shared resource	SR92-93		
303-2	Management of water discharge-related impacts	SR92-93		
303-3	Water withdrawal	SR92-93, SR114-115		Yes
303-4	Water discharge	SR92-93, SR114-115		Yes
303-5	Water consumption	SR92-93, SR114-115		
GRI 304: Biodiversity				
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	SR94-95, SR117		

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
304-2	Significant impacts of activities, products, and services on biodiversity	SR94-95, SR117		
304-3	Habitats protected or restored	SR94-95, SR117		
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	SR94-95, SR117		
GRI 305: Emissions				
305-1	Direct (Scope 1) GHG emissions	SR66-69, SR111		Yes
305-2	Energy indirect (Scope 2) GHG emissions	SR66-69, SR111		Yes
305-3	Other indirect (Scope 3) GHG emissions	SR66-69	Data was collected by SCG Logistics of it's inbound/outbound but for internal use only	
305-4	GHG emissions intensity	SR111		
305-5	Reduction of GHG emissions	SR111		
305-6	Emissions of ozone-depleting substances (ODS)	-	Data not available	
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	SR116		Yes
GRI 306: Effluents and Waste				
306-2	Waste by type and disposal method	SR116		Yes
306-3	Significant spills	SR119		
306-4	Transport of hazardous waste	-	Information of waste transportation are reported directly to the Minister of Industry comply with the Notification of Ministry of Industry on Industrial Waste Disposal 2005	
GRI 307: Environmental Compliance				
307-1	Non-compliance with environmental laws and regulations	SR117		
GRI 308: Supplier Environmental Assessment				
308-1	New suppliers that were screened using environmental criteria	SR84-85, SR126-127	Environmental, Social and Governance (ESG) risk assessment were conducted 100% of procurement spent, including new suppliers	
308-2	Negative environmental impacts in the supply chain and actions taken	SR84-85, SR126-127	Number and coverage of supplier identified as having high Potential Sustainability (including environmental) Risk	
GRI 400: Social				
GRI 401: Employment				
401-1	New employee hires and employee turnover	SR121-122		
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	-	Employment contract of temporary or part-time employees	
401-3	Parental leave	SR122	Under company rules and regulations	
GRI 402: Labor/Management Relations				
402-1	Minimum notice periods regarding operational changes	-	Under Labor Protection Act	
GRI 403: Occupational Health and Safety				
403-1	Occupational health and safety management system	SR58-61, 77	Under OHSAS 18001/ ISO 45001 and SCG Safety Framework	
403-2	Hazard identification, risk assessment, and incident investigation	SR58, 77	All companies are implemented regarding to OHSAS 18001/ ISO 45001 and SCG Safety Framework	
403-3	Occupational health services	SR74-77		

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
403-4	Worker participation, consultation, and communication on occupational health and safety	SR58-61, 74-77		
403-5	Worker training on occupational health and safety	SR58-61, 74-77		
403-6	Promotion of worker health	SR58, 77		
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	SR58-61, 74-77		
403-8	Workers covered by an occupational health and safety management system	SR130-133	100% of employees and contractors	
403-9	Work-related injuries	SR116-117		Yes
403-10	Work-related ill health	SR116-117		Yes
GRI 404: Training and Education				
404-1	Average hours of training per year per employee	SR122		
404-2	Programs for upgrading employee skills and transition assistance programs	SR98-99		
404-3	Percentage of employees receiving regular performance and career development reviews	-	100% of employees	
GRI 405: Diversity and Equal Opportunity				
405-1	Diversity of governance bodies and employees	SR121		
405-2	Ratio of basic salary and remuneration of women to men	SR121		
GRI 406: Non-discrimination				
406-1	Incidents of discrimination and corrective actions taken	-	No case found	
GRI 407: Freedom of Association and Collective Bargaining				
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-	No case found	
GRI 408: Child Labor				
408-1	Operations and suppliers at significant risk for incidents of child labor	-	No case found	
GRI 409: Forced or Compulsory Labor				
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	-	No case found	
GRI 410: Security Practices				
410-1	Security personnel trained in human rights policies or procedures	-	100% of security personnel were trained by contracted company in accordance with SCG Supplier Code of Conduct	
GRI 411: Rights of Indigenous Peoples				
411-1	Incidents of violations involving rights of indigenous peoples	-	No case found	
GRI 412: Human Rights Assessment				
412-1	Operations that have been subject to human rights reviews or impact assessments	SR96-97, SR128-129		
412-2	Employee training on human rights policies or procedures	SR97		
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	SR96-97, SR126-127		
GRI 413: Local Communities				
413-1	Operations with local community engagement, impact assessments, and development programs	SR46-49, SR54-57, SR100-101		
413-2	Operations with significant actual and potential negative impacts on local communities	-	No case found	

Standard	Disclosure	Location (AR, SR, others)	Disclosure/Comment	Assurance
GRI 414: Supplier Social Assessment				
414-1	New suppliers that were screened using social criteria	SR85, SR126-127		
414-2	Negative social impacts in the supply chain and actions taken	-	No case found	
GRI 415: Public Policy				
415-1	Political contributions	SR108		
GRI 416: Customer Health and Safety				
416-1	Assessment of the health and safety impacts of product and service categories	-	All products and services are assessed regarding health and safety impact by using the Product Hazard Analysis under ISO 9001	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	-	No case found	
GRI 417: Marketing and Labeling				
417-1	Requirements for product and service information and labeling	SR88-89		
417-2	Incidents of non-compliance concerning product and service information and labeling	SR89	No case found	
417-3	Incidents of non-compliance concerning marketing communications	SR89	No case found	
GRI 418: Customer Privacy				
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	-	No case found	
GRI 419: Socioeconomic Compliance				
419-1	Non-compliance with laws and regulations in the social and economic area	-	No case found	

United Nations Global Compact (UNGC)

Communication on Progress – Advanced Level



Criteria of UNGC Advanced Level		Disclose	
		AR	SR
Implementing the Ten Principles into Strategies & Operations	Criterion 1: The COP describes mainstreaming into corporate functions and business units	1	4-6
	Criterion 2: The COP describes value chain implementation	-	26-31, 84-89
- Robust Human Rights Management Policies & Procedures	Criterion 3: The COP describes robust commitments, strategies or policies in the area of human rights	67-68	81, 96-97, 128-129
	Criterion 4: The COP describes effective management systems to integrate the human rights principles	97, 152-153, 156, 158	96-97
	Criterion 5: The COP describes effective monitoring and evaluation mechanisms of human rights integration	67-68	96-97, 128-129
- Robust Labour Management Policies & Procedures	Criterion 6: The COP describes robust commitments, strategies or policies in the area of labour	67-69, 153-154	81, 98-99
	Criterion 7: The COP describes effective management systems to integrate the labour principles		98-99, 121-123
	Criterion 8: The COP describes effective monitoring and evaluation mechanisms of labour principles integration		34-35, 98-99, 121-123
- Robust Environmental Management Policies & Procedures	Criterion 9: The COP describes robust commitments, strategies or policies in the area of environmental stewardship	75-81, 96-97	34-35, 42-45, 50-57, 80, 88-95, 110-117
	Criterion 10: The COP describes effective management systems to integrate the environmental principles		
	Criterion 11: The COP describes effective monitoring and evaluation mechanisms for environmental stewardship		
- Robust Anti-Corruption Management Policies & Procedures	Criterion 12: The COP describes robust commitments, strategies or policies in the area of anti-corruption	195-197	-
	Criterion 13: The COP describes effective management systems to integrate the anti-corruption principle		
	Criterion 14: The COP describes effective monitoring and evaluation mechanisms for the integration of anti-corruption		
Taking Action in Support of Broader UN Goals and Issues	Criterion 15: The COP describes core business contributions to UN goals and issues	-	34-35
	Criterion 16: The COP describes strategic social investments and philanthropy		122
	Criterion 17: The COP describes advocacy and public policy engagement		1, 24-25
	Criterion 18: The COP describes partnerships and collective action		38-41
Corporate Sustainability Governance and Leadership	Criterion 19: The COP describes CEO commitment and leadership	2-3	4-6
	Criterion 20: The COP describes Board adoption and oversight	166-167, 177-178	7, 11
	Criterion 21: The COP describes stakeholder engagement	96-103	28-31

AR = Annual Report
SR = Sustainability Report

Task Force on Climate-related Financial Disclosures (TCFD)

Recommendations		Disclose	
		AR	SR
GOVERNANCE	Disclose the organization's governance around climate-related risks and opportunities.		
	a) Describe the board's oversight of climate-related risks and opportunities.	64-65	7, 11
	b) Describe management's role in assessing and managing climate-related risks and opportunities.		
STRATEGY	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.		
	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	66	50-57, 66-69, 92-93
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.		
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.		
RISK MANAGEMENT	Disclose how the organization identifies, assesses, and manages climate-related risks.		
	a) Describe the organization's processes for identifying and assessing climate-related risks.	64-74	7, 11, 66-69, 92-93
	b) Describe the organization's processes for managing climate related risks.		
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.		
METRICS and TARGETS	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.		
	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	-	35, 66, 88, 90, 92
	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	81	68, 111
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	66, 81	35, 66, 88, 90, 92, 111-113

AR = Annual Report
SR = Sustainability Report

Sustainability Accounting Standards Board Response (SASB)

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE/REFERENCE
Activity Metrics	Production by major product line	Quantitative	Metric tons (t)	EM-CM-000.A RT-CH-000.A RT-CP-000.A	P.110
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO ₂ -e, Percentage (%)	EM-CM-110a.1 RT-CH-110a.1 RT-CP-110a.1	P.111, 124
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	EM-CM-110a.2 RT-CH-110a.2 RT-CP-110a.2	P.66
Air Quality	Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , (3) particulate matter (PM10), (4) dioxins/furans, (5) volatile organic compounds (VOCs), (6) polycyclic aromatic hydrocarbons (PAHs), and (7) heavy metals	Quantitative	Metric tons (t)	EM-CM-120a.1 RT-CH-120a.1 RT-CP-120a.1	(1) (2) (3) P.116, 124 (4) (5) (7) P.124
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage alternative, (4) percentage renewable*	Quantitative	Gigajoules (GJ), Percentage (%)	EM-CM-130a.1 RT-CH-130a.1 RT-CP-130a.1	(1) (2) (3) (4) P.112-113, 124
Water Management	(1) Total fresh water withdrawn, (2) percentage recycled*, (3) percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic meters (m ³), Percentage (%)	EM-CM-140a.1 RT-CH-140a.1 RT-CP-140a.1	(1) (2) (3) P.114
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	RT-CH-140a.2 RT-CP-140a.3	P.92-93
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Discussion and Analysis	n/a	RT-CH-140a.3 RT-CP-140a.2	P.92-93
Waste Management	Amount of waste generated, percentage hazardous, percentage recycled*	Quantitative	Metric tons (t), Percentage (%)	EM-CM-150a.1 RT-CH-150a.1 RT-CP-150a.1	P.116

*Represents group level only

CONSTRUCTION MATERIALS Specific

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE/REFERENCE
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a	EM-CM-160a.1	P.94-95, 117
	Terrestrial acreage disturbed, percentage of impacted area restored	Quantitative	Acres (ac), Percentage (%)	EM-CM-160a.2	3,507 ac, 7.6%
Workforce Health & Safety	(1) Total recordable incident rate (TRIR)* and (2) near miss frequency rate (NMFR)* for (a) fulltime employees and (b) contract employees	Quantitative	Rate	EM-CM-320a.1	(1) P.118 (2) P.119
	Number of reported cases of silicosis	Quantitative	Number	EM-CM-320a.2	P.119
Product Innovation	Percentage of products that qualify for credits in sustainable building design and construction certifications	Quantitative	Percentage (%) by annual sales revenue	EM-CM-410a.1	P.108
	Total addressable market and share of market for products that reduce energy, water, and/or material impacts during usage and/or production	Quantitative	Reporting currency, Percentage (%)	EM-CM-410a.2	P.108
Pricing Integrity & Transparency	Total amount of monetary losses as a result of legal proceedings associated with cartel activities, price fixing, and anti-trust activities	Quantitative	Reporting currency	EM-CM-520a.1	No case found in 2020

*Represents group level only

CHEMICALS Specific

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE/REFERENCE
Community Relations	Discussion of engagement processes to manage risks and opportunities associated with community interests**	Discussion and Analysis	n/a	RT-CH-210a.1	P.30
Workforce Health & Safety	1) Total recordable incident rate (TRIR)* and (2) fatality rate* for (a) direct employees and (b) contract employees	Quantitative	Rate	RT-CH-320a.1	P.118-119
	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	Discussion and Analysis	n/a	RT-CH-320a.2	P.77
Product Design for Use-phase Efficiency	Revenue from products designed for use-phase resource efficiency	Quantitative	Reporting currency	RT-CH-410a.1	P.108
Safety & Environmental Stewardship of Chemicals	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Quantitative	Percentage (%) by revenue, Percentage (%)	RT-CH-410b.1	(1) 100% (2) 100%
	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	Discussion and Analysis	n/a Community Relations	RT-CH-410b.2	P.89
Genetically Modified Organisms	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Quantitative	Percentage (%) by revenue	RT-CH-410c.1	Not Applicable
Management of the Legal & Regulatory Environment	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Discussion and Analysis	n/a	RT-CH-530a.1	Annual Report 2020, P.68-69
Operational Safety, Emergency Preparedness & Response	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Quantitative	Number, Rate	RT-CH-540a.1	P.119
	Number of transport incidents*	Quantitative	Number	RT-CH-540a.2	P.119

*Represents group level only

**Applies the same practice as SCG

CONTAINERS & PACKAGING Specific

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE	RESPONSE/REFERENCE
Activity Matrix	Percentage of production as: (1) paper/wood, (2) glass, (3) metal, and (4) plastic	Quantitative	Percentage (%) by revenue	RT-CP-000.B	(1) 93% (4) 7%
	Number of employees	Quantitative	Number	RT-CP-000.C	Annual Report 2020, P.188
Product Lifecycle Management	Percentage of raw materials from: (1) recycled content, (2) renewable resources, and (3) renewable and recycled content	Quantitative	Percentage (%) by weight	RT-CP-410a.1	(1) P.110
	Revenue from products that are reusable, recyclable, and/or compostable	Quantitative	Reporting currency	RT-CP-410a.2	3,905 MB (recyclable polymer container)
	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	Discussion and Analysis	n/a	RT-CP-410a.3	P.70-73
Product Safety	Number of recalls issued, total units recalled	Quantitative	Number	RT-CP-250a.1	Zero recall
	Discussion of process to identify and manage emerging materials and chemicals of concern	Discussion and Analysis	n/a	RT-CP-250a.2	P.89
Supply Chain Management	Total wood fiber procured, percentage from certified sources	Quantitative	Metric tons (t), Percentage (%)	RT-CP-430a.1	2,112,362 t, 100% FSC™-CW
	Total aluminum purchased, percentage from certified sources	Quantitative	Metric tons (t) CO ₂ -e, Percentage (%)	RT-CP-430a.2	Not Applicable



**The Siam Cement Public Company Limited
Corporate Headquarters**

1 Siam Cement Road, Bangsue, Bangkok 10800 Thailand
Tel: +66-2586-3333, +66-2586-4444 Fax: +66-2586-2974
www.scg.com

