

The Siam Cement Public Company Limited

Sustainability Report 2020

Highlights

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.

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

In 2020, the world faced a major global challenge due to the COVID-19 outbreak. SCG has adapted to the crisis with three main strategies: resilience, agility, and speed. Meanwhile, the company continues to strictly operate its business with the Business Continuity Management (BCM) system and build cooperation with stakeholders in all sectors in responding to COVID-19 pandemic. SCG's digital transformation and proactive actions have allowed SCG to turn the crisis into opportunity and satisfactorily survive challenges of 2020. Parts of this success were from our efforts in fostering innovative products and service strategies to achieve the High-Value-Added (HVA) stage and 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.

SCG has leveraged its expertise and innovation in developing around 31 innovation medical equipment to be a solution to the pandemic for the healthcare sector. The devices were contributed through 230 SCG networks to facilitate more than 979 healthcare units and institutions, including different hospitals, healthcare units and communities across the country. On top of that, SCG together with SCG Foundation has donated over 164 million baht to support development of these innovations.

Although COVID-19 has become a global challenge, the world is still facing critical impacts of rapid climate change and biodiversity loss, which continued to escalate in 2020. SCG, hence, has pledged to reduce greenhouse gas emissions and plans to achieve "Net-Zero" greenhouse gas emissions by 2050, through joining the Paris Agreement to limit temperature increases to less than 1.5 degrees Celsius.

Now, the current goals are being reviewed as well as the Natural Climate Solution (NCS) operation and other indirect (Scope 3) GHG emission reductions.

SCG continues to establish projects as drivers for circular economy. The collaboration with all sectors has been initiated. SCG also organized the 2020 SD Symposium under the concept of "Circular Economy: Actions for Sustainable Future" aiming to push forward the implementation of circular economy as a solution for basic problems of living conditions and economic situations in the country and the world. The collaboration has expanded to Indonesia with the organization of the SD Symposium Indonesia 2020 under the theme "Circular Economy: Collaboration for Actions". The event was held in an aim to increase awareness as well as to foster understanding and familiarize the circular economy principles.

SCG has always been committed to operate its business while taking into account the goals of UN's Sustainable Development Goals (SDGs). In 2020, SCG has assessed and listed in the Dow Jones Sustainability Indices (DJSI) as Industry Leader – Construction Materials. Also, the Company has successfully become the first firm in ASEAN to be assessed as a DJSI member since 2004 and continued for the 17th consecutive year.

This Sustainability 2020 Highlights showcases parts of the vision in operating the business for sustainable development, which can be seen through the Company's operation that has been run with strong determination to overcome any crisis and challenges for more than 107 years. The Company always holds on to its goal in driving the 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

Contents

Message from President & CEO, and Sustainable Development Committee, SCG	1
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About SCG

Cement-Building Materials Business	3
Chemicals Business	4
Packaging Business	5
Partnership and Collaboration Towards Sustainability	6
Sustainable Value Chain	8

Feature Story

Adapting and Moving on Amid COVID-19 Crisis	10
SCG Green Choice You can Choose, for the World	14
Zero Burn Creating Renewable Energy while Reducing Pollution from Straw Burning	18

Materiality

Materiality	22
Climate Resilience	24
Circular Economy	28
Health and Safety	32

2020 Highlights	36
------------------------	----



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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.

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.

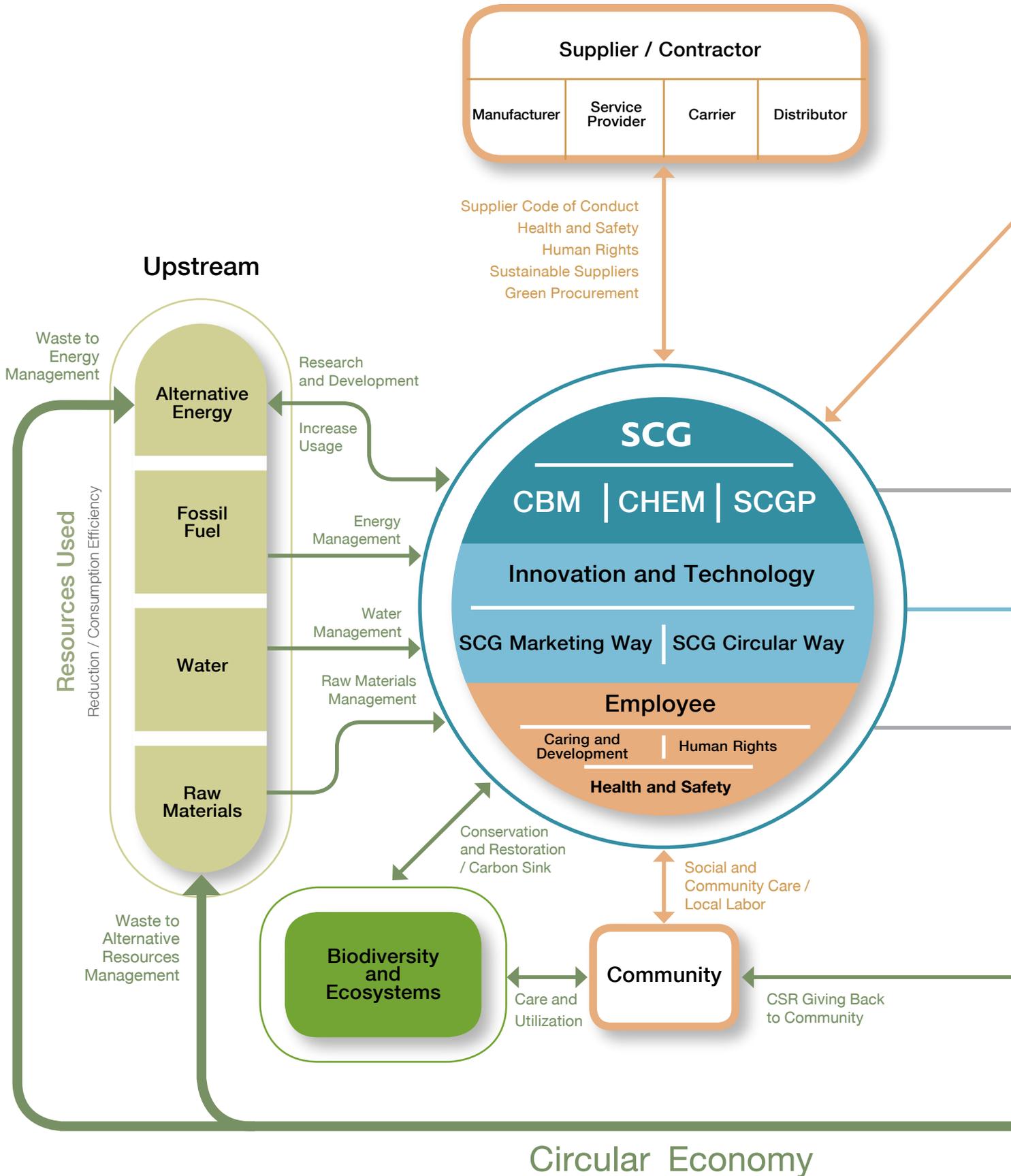
Muangmai Eco Community, Lampang Province

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

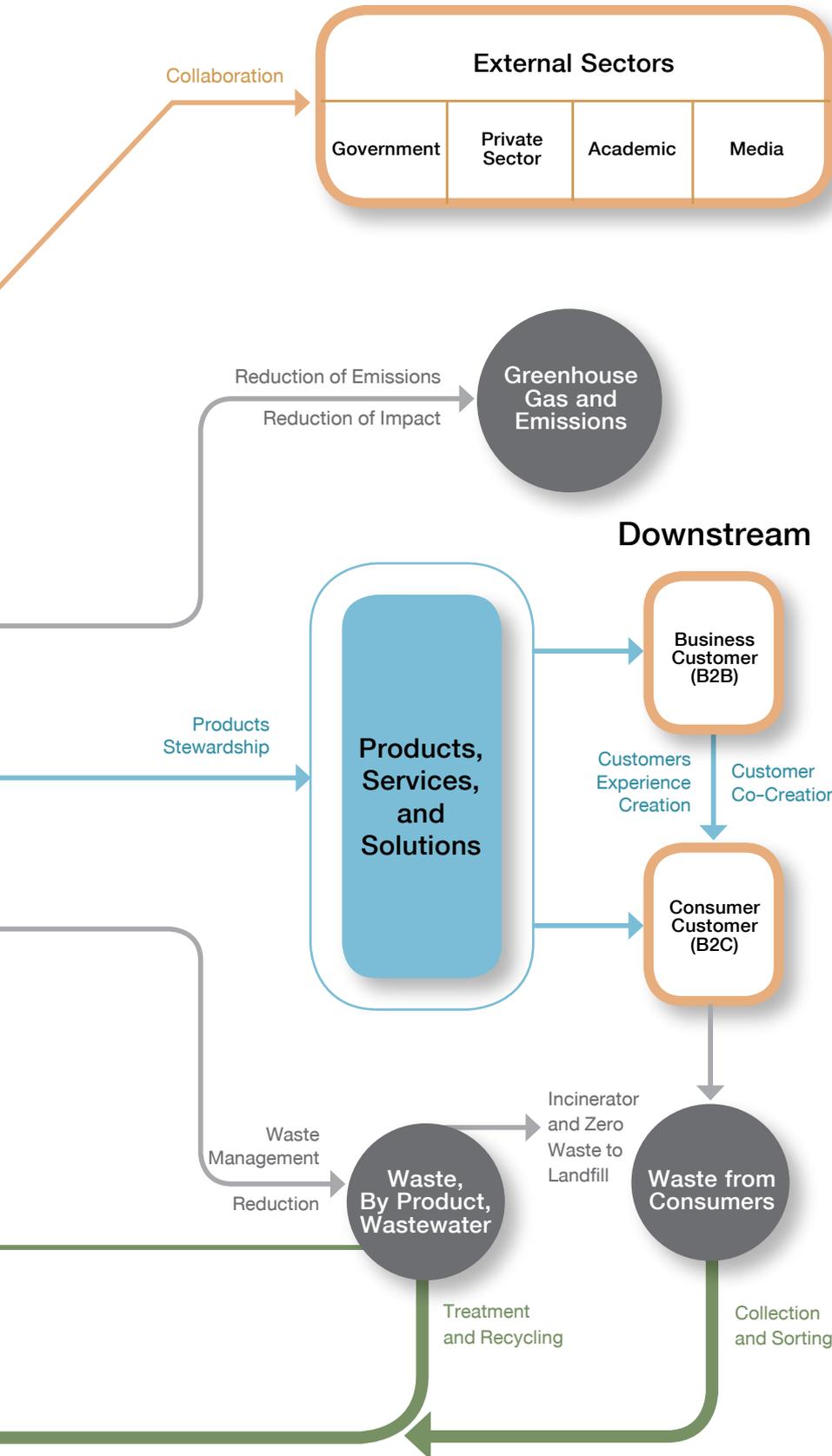


Sustainable Development Approach

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

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.



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.

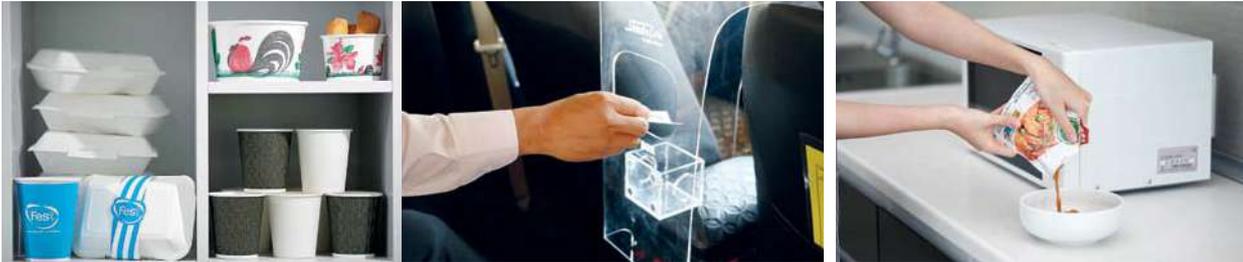
Physical Distancing and Hygiene as a Trend

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.



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 recooking. 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 and 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.



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.

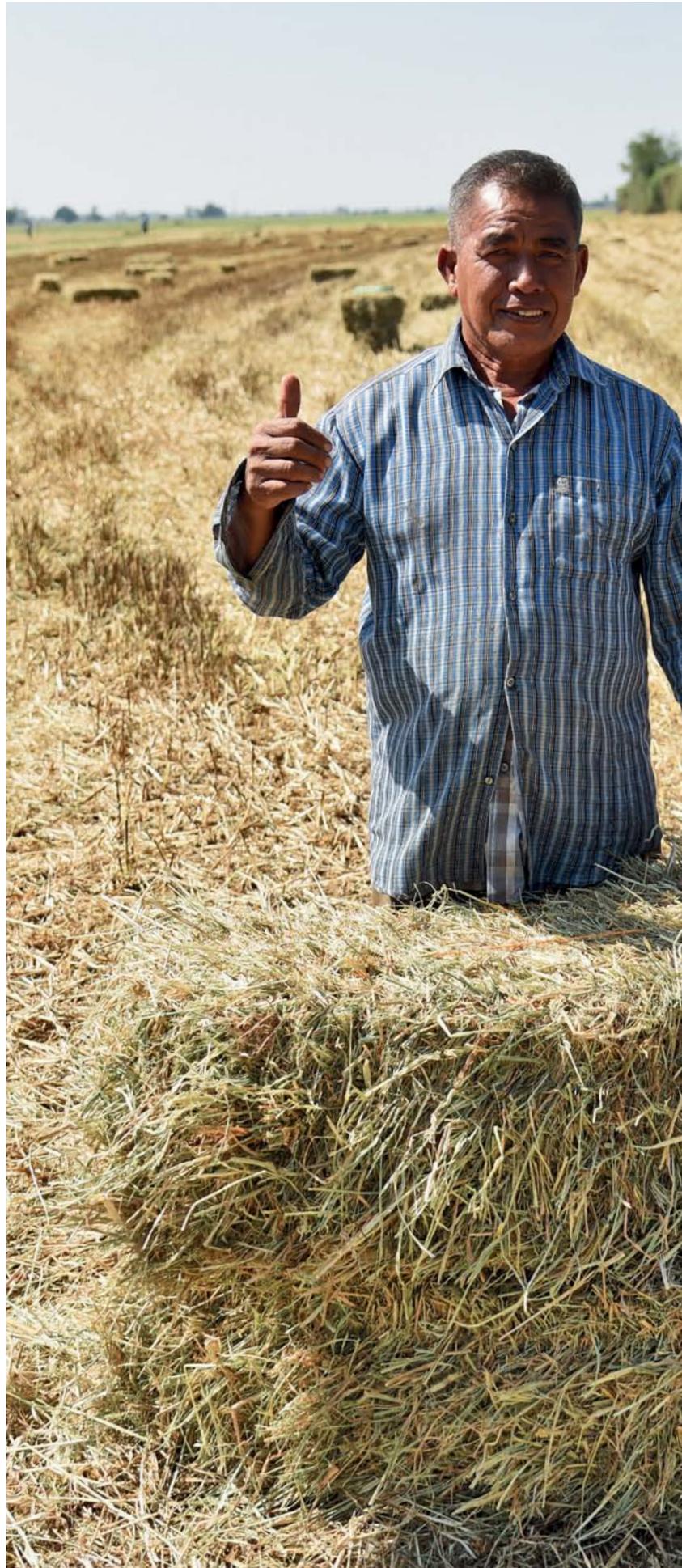
Rangjarakhay Move Forward to Zero Burn

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 Kaengkhoi 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.



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

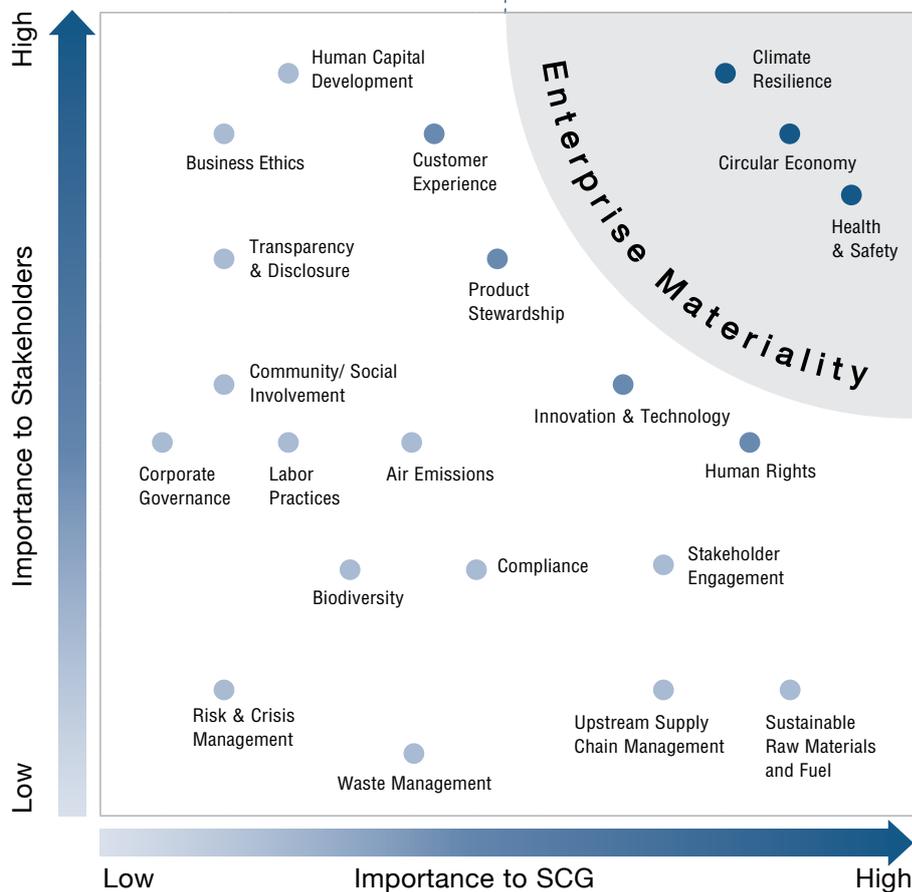
Assess and prioritize sustainability issues with respect to importance to SCG and stakeholders and define materiality.

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 24)

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 28)

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 32)

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.

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.



• **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.



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



LESS



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.

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

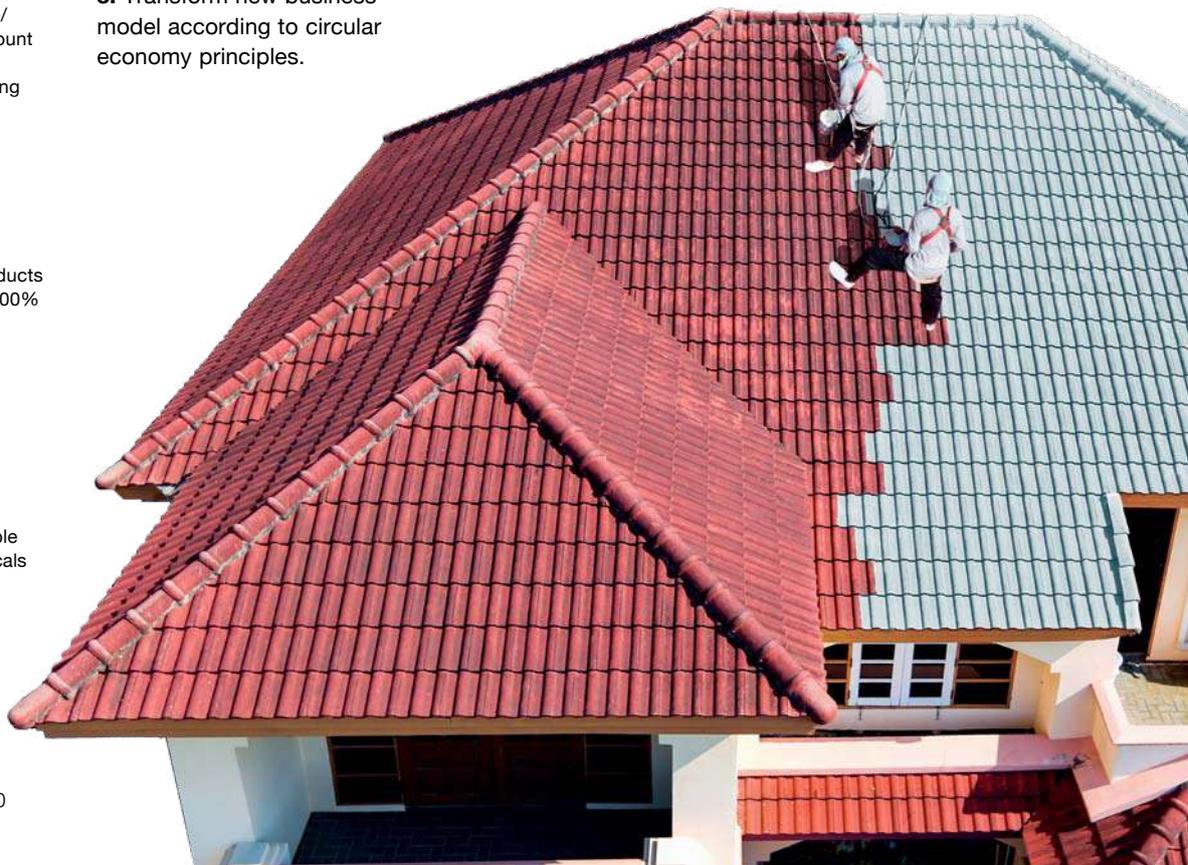
tons per year sales volume of recycled/renewable base polymer products of Chemicals Business

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.

• 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.

• 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.

• 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

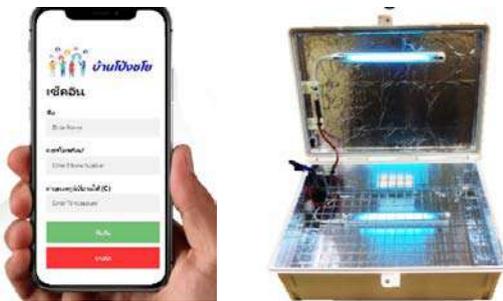
Packaging Business has its operational mill located in Ban Pong district, Ratchaburi province. There, COVID-19 measures and a NEW NORMAL working mode were run as in other places. However, in Ban Pong mill, other innovations were additionally apply including a COVID-19 screening tunnel with an accurate 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.

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.

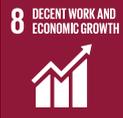
In 2020, Chemicals Business was received a plaque of honor from the Department of Health for its excellent practices in health promotion for good quality of life for working groups and was recognized by the Government sector as a role model in health care practices with other organizations in the country 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.

2020 Highlights

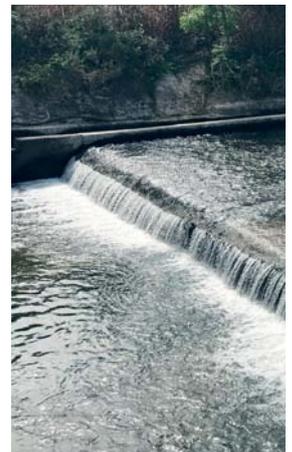
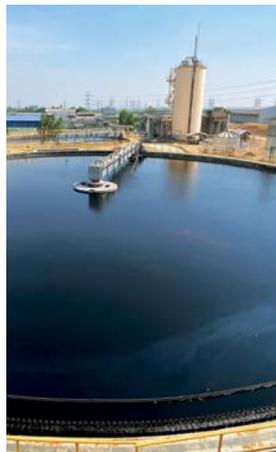
Actions towards Achieving UN Sustainable Development Goals (SDGs)

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:

	<h3>Good Health and Well-being</h3>	<p>0 target of Fatality case in transportation</p>	<p>0 target of occupational illness rate</p>	
	<h3>Decent Work and Economic Growth</h3>	<p>0 target of Fatality case in workplace</p>	<p>0 target of Human Rights Violation Case</p>	
	<h3>Industry, Innovation and Infrastructure</h3>	<p>2% target of R&D spending compared with the revenue from sales</p>	<p>50% target of total revenue from High Value Added products and services compared with the revenue from sales</p>	<p>66.7% target of total revenue from SCG Green Choice products and services in 2030 compared with the revenue from sales</p>
	<h3>Responsible Consumption and Production</h3>	<p>13% target of energy consumption reduction in 2025 compared with BAU at the base year of 2007</p>	<p>23% target of water withdrawal reduction in 2025 compared with BAU at the base year 2014</p>	<p>200,000 tons per year target of sales volume of recycled/renewable base polymer products of Chemicals Business in 2025</p> <p>100% target of products of the Packaging Business to be recyclable or reusable in 2025</p>
	<h3>Climate Action</h3>	<p>28% target of greenhouse gas emissions reduction in 2030 compared with BAU at the base year of 2007</p>	<p>0 Net Zero in 2050</p>	

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 million tons carbon dioxide 10.9 percent	Environmental Expense and Investment 3,896 million baht 1.0 percent of revenue from sales	“SCG Green Choice” Products and Services 32.6 percent of revenue from sales	Lost Time Injury Frequency Rate Employee/Contractor 0.113/0.216 case per 1,000,000 hours worked	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 million cubic meters 15.0 percent	Occupational Illness Frequency Rate Employee/Contractor 0/0 case per 1,000,000 hours worked	Number of Check Dam 100,466 units
Alternative Fuel 14.3 percent	High Value Added Products and Services 31.5 percent of revenue from sales	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 of revenue from sales	Hazardous/ Non-Hazardous Waste to Landfill 0.0043/0.8915 percent		
	Suppliers Being Conducted Environment Social and Governance (ESG) Risk Assessments 100 percent of suppliers with procurement spending over million baht			 Sustainability Report 2020





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