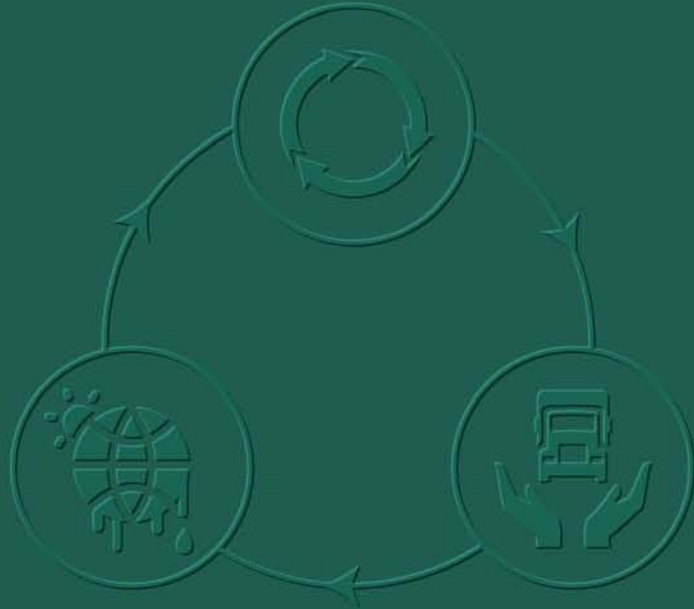


THE SIAM CEMENT PUBLIC COMPANY LIMITED

SUSTAINABILITY HIGHLIGHTS 2019



COLLABORATION
COLLABORATION
COLLABORATION
COLLABORATION
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COLLABORATION
COLLABORATION
COLLABORATION
COLLABORATION
FOR ACTION

Message from President and CEO



In 2019, SCG demonstrated its commitment to long-term target of reducing greenhouse gas emissions by 28% in 2030 compared with business as usual (BAU) at the base year in 2007 as well as its intermediate target by 20% in 2025. These ambitions are in response to the climate change crisis, which has been declared a climate emergency across the world. In addition, SCG continued to actively apply the Circular Economy principle to its cycle of Make-Use-Return across the organization, with innovation as a key driver, as well as foster collaboration with organizations at all levels to effect real change that would enable all involved to cope with changes currently faced across the world.



Roongrote Rangsiyopash



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Progress of Sustainable Development Strategy

Implementation Status

- Awards and Recognitions
Extended Projects
- Projects in Progress
Ongoing Projects
- New Projects / Initiatives



Develop Materials with Better Performance

●●○ Using SMX Technology developed by Chemicals Business to enhance special grade of polyethylene resin to develop a downgauging moldable plastic products with the same resistance to high impact

●●○ Advancing the Multilayer Laminated Mono Material, with a property for the multilayer plastic packaging products, which helps increase the recyclability of the packaging



Waste Collection and Recycling



Promote Alternative Energy

●○○ Introducing “SCG Solar Roof System” as the integrated solution for installation of solar power system on the residential roofs

●●○ Expanding solar rooftop project to other SCG’s factories

●●○ Developing solar floating system to provide integrated solutions for customers with water reservoir

●●● Biogas project by SCG Paper Energy Co., Ltd. received Thailand Energy Award 2019 in the Off-Grid (Alternative Energy) Category



Improve Energy Efficiency

●●○ Continuously improving the efficiency of manufacturing process

●●● Rayong Olefins Co., Ltd. received an Outstanding Award for Energy Conservation from Thailand Energy Award 2019

●●● SCG Health Center Building received ASEAN Energy Award 2019 in the Green Building – Small and Medium Category



Adopt the International Standards and Collaboration with International Organizations

●●○ Enhancing the Internal Carbon Pricing (ICP) to help evaluate projects’ potentials in the approval process

●●○ Formulating business plan to tackle climate change as per the recommendation of the Task Force on Climate-Related Financial Disclosures (TCFD)

●○○ Joining the WBCSD for Natural Climate Solutions (NCS) in the assessment of carbon capture and carbon offset by natural methods

Circular



Climate Resilience



- Developing the application “Koomkah” to efficiently manage the recyclable garbage banks and facilitate recycling

- Developing PaperX Digital Platform, the system that collaborates with retailers nationwide to facilitate more convenient and faster purchasing of recycling paper

- Motivating employee behavior in sorting and dump garbage in Bangsue Model project by achieving target of zero waste from office to landfill by the year 2021



Create New Business under the Product as a Service Business Model

- Developing the platform application “ALLRENT” to provide service of machines rental from the manufacturers that have unused machines capacity in order to foster the resources sharing efficiency

- Applying the Building Information Modeling (BIM) with building construction project to help design system, precisely estimate size and volume of material use in production, and decrease the construction materials waste



Economy



Safety



Workplace Safety

- Develop SAFEsave Intelligent Safety Management as the safety measures in the factories of Packaging Business

- Continue to operate and extend the results of Process Safety Management (PSM) to cover every company under Chemicals Business to ensure the Incident Free Operation

- Monitor the application of SCG Safety Framework in combination with Safety Performance Assessment Program (SPAP) earnestly and continually

- Encourage Safety Leadership behavior with constant monitoring as well as strictly enforcing the Life Saving Rules

Transportation Safety

- Develop “Kubdee” application to link and has access to dual view camera installed in the vehicle’s cockpit to detect the position of facial features in real-time to alert the driver before dozing off

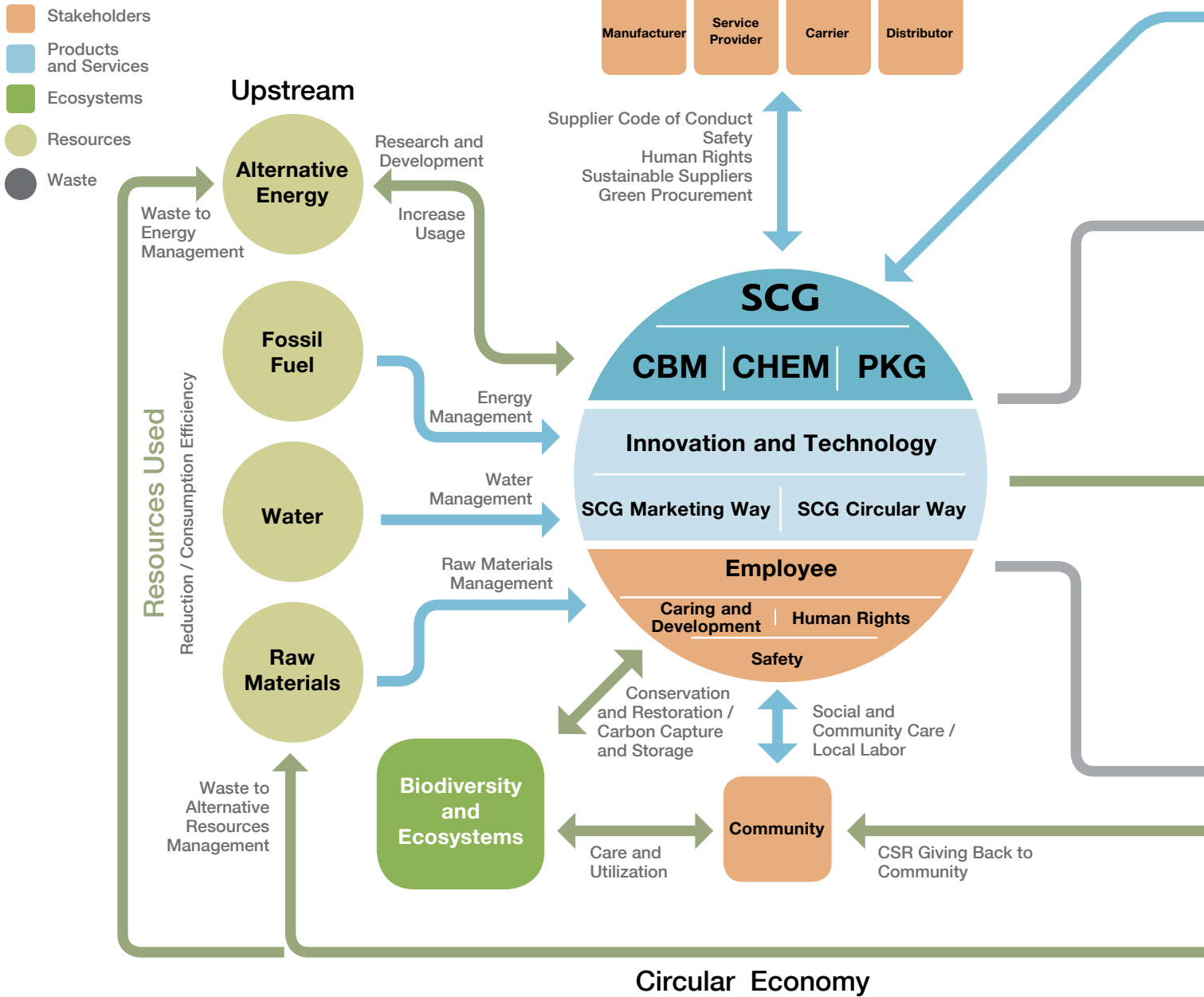
- Develop driver’s training through virtual AR and VR technology to increase training hours and accessible anywhere anytime

- Strictly use transportation management system covering from before commencing transport, during transport, and after transport by collaborating with the control center to monitor the driver’s behavior with GPS

- Establishing Goods Transportation Safety Standards as the guideline for traveling and transportation to be implemented by the entire organization and further adapted by the carriers

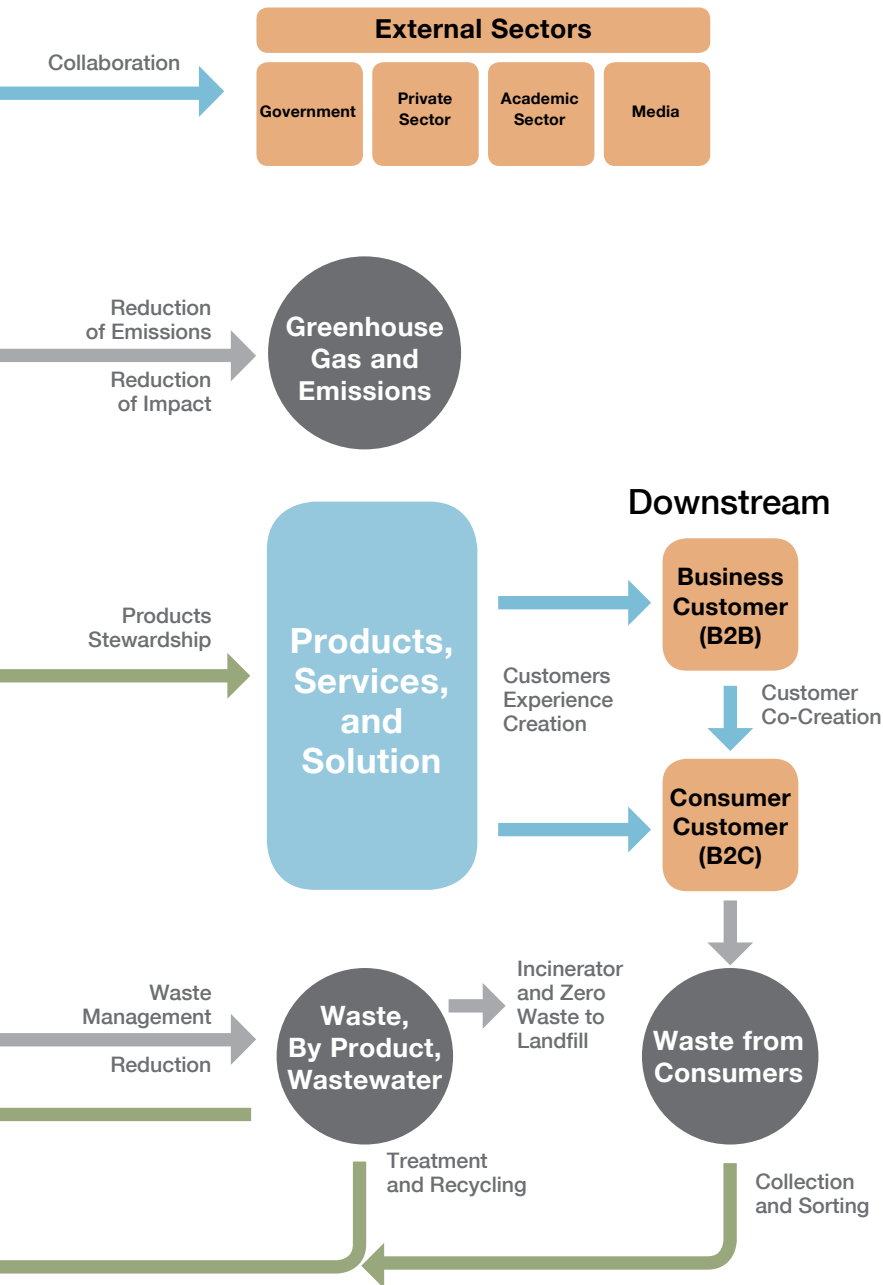


Sustainable Value Chain and Stakeholders



Stakeholders Engagement and Collaboration

Employees	Suppliers / Contractors	Customers
<ul style="list-style-type: none"> Recognize and facilitate employees' needs for happy workplace Promote continuous development of skills and potentials Disclose and communicate business activities with employees Promote collaboration culture with other stakeholders 	<ul style="list-style-type: none"> Reassure business environment and safety at work for contractors Create values for the suppliers and contractors' operations Advance supplier and contractors' operations and enrich knowledge for the maximum operational efficiency Develop collaboration projects for business growth and expansion 	<ul style="list-style-type: none"> Respond to the needs of customers in various dimensions Involve in products and services development with customers Provide channels for customers to give feedbacks about products and services, request for solutions, and file complaints Promote collaboration among B2B customer to develop a more sustainable products and services



Sustainable Value Chain

SCG incorporates Circular Economy principle 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 and energy consumption reduction and amount of waste and long lifespan, 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
 PKG = Packaging Business

Community	Government Sector	Civil Society, Academic, Media
<ul style="list-style-type: none"> • Be a part of a community, respect community's rights in parallel with caring for the environment around the community • Enhance quality of life and promote integrity of the society in Thailand and ASEAN countries where SCG operates • Conduct the community dialogue • Develop collaboration projects to enhance community competence for society benefits 	<ul style="list-style-type: none"> • Be a role model for other organizations in terms of operational transparency and excellence • Collaborate with public sectors and present guideline for Sustainable Development • Support collaboration projects for the country to achieve committed SDGs 	<ul style="list-style-type: none"> • Disclose information with completeness and transparency • Step up the efforts in partnering to drive and push forward sustainable development • Utilize knowledge from experts to support collaboration projects

Cement-Building Materials Business

Challenges and Goals

The advancement of new technology, scarcity of natural resources, climate and environment change including global economic fluctuation are posed as challenges for the operations of Cement-Building Materials Business.

We, therefore, strives to raise the standard of construction and total living solution under the Circular Economy principle to create products and innovation that satisfy to lifestyles and customers' needs with the least impact on the environment.



Recycled Material

2.9% Cement Business

14.7% Building Materials Business

Recycled Water

39.9% Building Materials Business

Alternative Energy

17.5% Cement Business

Sustainable Change

- Transforming business model from manufacturer to a creator to complete solutions and innovations in living products and services that meet the needs of customers.
- Using technology to support data analytics to create new business model that reach diverse customers in a rapid manner.
- Encouraging employees to develop knowledge and skills, having working approach and having capabilities to find true customers' needs through the Design Thinking process.

Achievements and Progress

- Launching the new business model of Construction Solution using Building Information Modeling (BIM) technology to help the virtual building development before construction, reduce material loss in construction, including budget and operation period control to be in accordance with plan
- Establishing CPAC Solution Center, as center for knowledge exchange and sharing, counseling and providing construction related solutions in form of Open Innovation for construction technicians and contractors. With CPAC's strength in exclusive information and innovation and also the construction industry alliances' technology, the center's 9 branches have been officially opened in 9 big provinces.
- Partnering with leading construction industry companies as founding members of Circular Economy in Construction Industry (CECI) to find the way solving construction waste management in sustainable way.



Chemicals Business

Challenges and Goals

Amidst the global economic fluctuation and chemicals market slowdown, and geopolitical tensions, we place full emphasis on creating and developing High Value Added, safety and environmentally friendly products and services to meet consumer's needs with responsible products and services and also Circular Economy principle. We applied technology and digital systems to enhance operational efficiency throughout the value chain. We implement Process Safety Management (PSM) and Industrial Hygiene Management System to accidents, injuries prevention and to be prevent without occupational illness. We are ready to expand production capacity and aim to be the sustainable leader in ASEAN region.

SCG eco value Products and Services

49%

Fatality and Lost Time Injury Case

0



Sustainable Change

- Transforming from a regular commodity chemical products producer to a creator of innovative High Value Added products and services and moving forward to become Service Solution Provider.
- Research and development of products by focusing on vastly increasing recyclable resource raw materials into the system and reducing natural resources materials.
- Driving the Circular Economy principle through continually educating and providing information on resources consumption and waste management to employees and communities.
- Investing in Start-ups and Venture Capital Funds relating to in-depth technology to address Circular Economy.
- Developing employees' potential through Digital Platform to enable them to be organizational leaders in preparation for future business expansion in the ASEAN region.

Achievements and Progress

- RIL Industrial Estate has been certified as Eco-World Class, which is the first industrial estate in Thailand to achieve the highest honorary status, from the Industrial Estate Authority of Thailand.
- Build the prototype of “Community Like (No) Garbage” by encouraging the community engagement at Khao-Phai Village, Rayong Province and developing the application named “Koomkah” to manage the waste banks, in 2019, the application has been used in more than 23 areas.
- Collaborate with Department of Marine and Coastal Resources to develop 24 sets of “floating litter trap” to be installed in the estuaries and canals in 13 seaside provinces. In 2019, the floating litter traps reduce the amount of waste entering the sea by at least 30 tonnages.
- Become the joint founding member of Alliance to End Plastic Waste (AEPW) in collaboration with a group of the world's leading companies to solve ocean plastic waste in the sustainable way.

Packaging Business

Challenges and Goals

As the consequence of the economic slowdown from trade war, include changing customers' behavior by digital technology advancement and the trend of customers to pay more attention to the environment. We, therefore, emphasize on finding new packaging solutions in response to consumers diverse and different needs under the Circular Economy principle and strive to become the leader of packaging solutions in ASEAN region.

Recycled Material

50.2%

Recycled Water

12.0%

Alternative Energy

30.6%



Sustainable Change

- Adjust to be aligned the rapid growth business by becoming Packaging Solutions Provider, particularly in the high growth potential of ASEAN Market.
- Apply digital technology and automation in the production process to reduce production time, reduce minimum production lot size, and be able to fulfill more needs of customers.
- Maintain leading position through packaging solutions accordance with the Circular Economy principle to meet the needs of consumers in terms of environmental friendliness and gain the competitive advantages.
- Modify the organizational management structure and enrich employee development for more capabilities, competence consistent with sustainable development with good leadership skills and new capabilities on digital technology to create value that meets the customers' needs.

Achievements and Progress

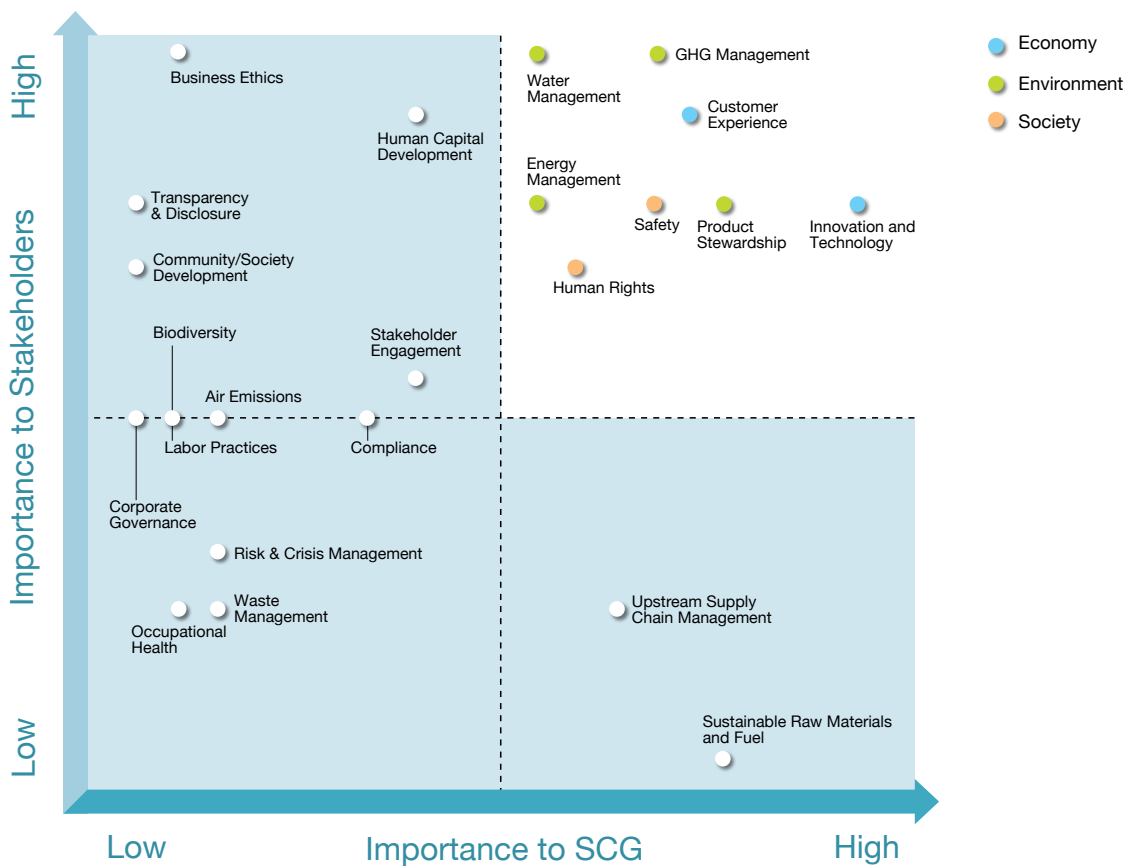
- FEST BIO, a biodegradable and non-chemical hazardous food packaging made from natural eucalyptus membranes from commercially afforestation.
- FEST Chill, a recyclable and non-chemical hazardous food packaging made from natural eucalyptus membranes from commercially afforestation.
- The production of packaging with Digital Printing technology shortens the lead time of printing plate preparation and production process, enables to print on variety of materials, and reduce minimum production lot size.
- The "Sharing is Caring, FEST Giving Back to The Environment" Project is the collaboration with 9 partners to promote the use of safe and environmentally friendly food packaging and contribute for purchase the fertilizer production machine from food waste to The Sirindhorn International Environmental Park Foundation under the patronage of HRH Princess Maha Chakri Sirindhorn.
- Collaborate with Tesco Lotus launching a campaign "Rethinking Packaging : New Think New Idea for Environment" to collect and recycle used paper packaging to be paper bags replacing plastic bags and to collect and transform plastic bottles into fabric bags.

Materiality

Process of Materiality Assessment

1. Analyze sustainability issues along the value chain, covering the phase of raw material procurement to production, transport, distribution, utilization of products and services, together with the analysis of sustainability issues in related industries
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. Validate the material issues and improve continually

The Process of Materiality Assessment and Prioritization in Accordance with the Global Reporting Initiatives (GRI) Standards



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

Dimension	Sustainability Issue	Risk	Opportunity
Economy	Innovation and Technology	<ul style="list-style-type: none"> The world is facing the megatrends in technology advancement that the traditional pattern of activities has become outdated under the intense competitive and volatile setting 	<ul style="list-style-type: none"> Become an innovation leader who is agile and adaptable to dynamic changes including increased investment in research and development of new business models
	Customer Experience	<ul style="list-style-type: none"> The speedup of digital disruptive technology and online social media have changed customers' behaviors with more varied and diverse needs 	<ul style="list-style-type: none"> Be the first choice of brand for customers by fostering customer intimacy to develop innovation and deliver value that creatively meet the customer expectations
	Sustainable Supplier	<ul style="list-style-type: none"> Supplier's key operations in the supply chain including manufacturers, service providers, carriers, and distributors could cause SCG's business interruption 	<ul style="list-style-type: none"> Select suppliers on the basis of ethical business conduct and the spirit of collaboration to raise the suppliers' capability for the mutual sustainable growth
Environment	Energy Management	<ul style="list-style-type: none"> Oil price volatility and limited availability of natural resources, as well as the increasing impacts of fossil use on climate change 	<ul style="list-style-type: none"> Research and develop alternative energy technology by embracing the Circular Economy principle as the key strategy and continual improvement to increase energy efficiency
	Greenhouse Gas Management	<ul style="list-style-type: none"> Escalating global warming and climate change has led to the international cooperation to ultimate target of greenhouse gas emissions in line with the Paris Agreement to control the global average temperature rise to well below 2 degrees Celsius 	<ul style="list-style-type: none"> Develop products and services that help reduce GHG emissions, control GHG emissions and restore the ecosystem to increase carbon capture area in conformity with the Paris Agreement
	Product Stewardship	<ul style="list-style-type: none"> The speedup of digital disruption technology has changed customers' behaviors and causes the traditional pattern of activities to become outdated while the climate change issues draw global attention 	<ul style="list-style-type: none"> Utilize the strength of being the innovation-oriented organization to develop products, services and solutions that meet the needs of customers, elevate better living, reduce resource and energy consumption and minimize emissions and waste to the environment

Dimension	Sustainability Issue	Risk	Opportunity
Environment	Water Management	<ul style="list-style-type: none"> Climate change is the cause of unseasonal rain and drought in the upstream watershed leading to decreased water input to reservoirs and the risk of water stress for factory use 	<ul style="list-style-type: none"> Enhance the integrated water management ability and construct water reservoir within the factory's area through a collaboration with public and industrial sectors to apply international tools to assess water situations, increase water usage efficiency, and develop products that consume less water
	Waste Management	<ul style="list-style-type: none"> The depletion of natural resources from industrial growth and pollution from improper waste management have adverse impacts on the environment and communities 	<ul style="list-style-type: none"> Research and develop innovation to reuse/recycle raw materials and waste as well as to add value to waste, in line with the 3Rs principle for waste management and Circular Economy principle
	Biodiversity	<ul style="list-style-type: none"> Higher expectation from the stakeholders and society towards business conduct with environmental concern and stringent law on conservation of biological resources in domestic and international levels 	<ul style="list-style-type: none"> Be a role model in biodiversity conservation through sustainable development and the application of international index to evaluate the quality of management
Society	Human Rights	<ul style="list-style-type: none"> Human Rights violations, occurred in SCG's direct business activities, the business value chain, and in joint ventures where SCG has no authority in management, have entirely impacts on SCG's business operations 	<ul style="list-style-type: none"> Announce Human Rights Policy to demonstrate SCG's commitment to achieve being the role model of human rights respect and protect, by directly and indirectly promoting and advocating those involved in its value chain to conduct business with respect to human rights
	Safety	<ul style="list-style-type: none"> Tendency on accidents of employees and contractors has not yet reduced as targeted. Fatality cases of the contractors remain higher than target. Safety management system is to be implemented regionally to ensure the conformity with SCG standards 	<ul style="list-style-type: none"> Create change for practical and continual practices by applying digital technology as the monitoring tools to elevate safety standards and management
	Human Capital Development	<ul style="list-style-type: none"> Dynamic change and intense business competition as well as varied needs of customers result in the lack of proper knowledge and skills of employees to cope with such change 	<ul style="list-style-type: none"> Redesign courses and training programs to equip the employees with knowledge and skills to promptly adapt to present and future circumstance
	Social and Community Involvement	<ul style="list-style-type: none"> Business operations, locally and regionally, might affect neighboring communities, coupled with higher expectation from stakeholders and society towards our business conduct in terms of social and environmental concern 	<ul style="list-style-type: none"> Develop a role model community to achieve its sustainable, self-reliant, and higher quality of life by drawing the involvement of all stakeholders and employing knowledge and competency of SCG and other related entities

Sustainable Development in Action

Economy

Innovation and Technology

41%

revenue from sales of High Value Added products and services of total revenue from sales

Target

50%



• **DoCare Project** Innovation that helps monitor and provide special care at home, particularly for elderly, by the installation of the motion detector within bedroom or bathroom and submission of data processing on activities, along with the transmission of a distress signal to the Care Center for 24 hour on-call support available to coordinate with the hospital in case of emergency.

• **AddVentures** Investment in the startup companies worldwide by either investing indirectly through the leading investment funds, which increased from 2 to 4 investors in 2019, or investing directly in the startup, increased from 9 to 14 investors. Examples of the startups by category are Logistics startup: Giztix (Thailand), and Logivan (Vietnam), Agriculture Technology startup: Adatos, HG Robotics.

• **Hatch-Walk-Fly** Internal Startup Project. In 2019, entering the Fly phase with the increase of customer base and the rapid expansion of business totaling 5 companies, namely Rudy, Dezpax, Mez, Agcura and Urbanice: Platform.

Customer Experience

100%

of overall customer satisfaction based on surveys via SCG Contact Center



• **SCG Marketing Way** Marketing guidelines, developed by SCG, has been implemented to enhance customers' satisfaction of all business units in 2019.

• **HDPE S111F** Plastic resin that Chemicals Business has joined hands with Betagro Group to develop a plastic flexible packaging for fresh food with the same resistance to high impact.

• **World Star Winner 2018** Packaging Business and Chao Phraya Abhaibhubejhr Hospital worked in a collaboration to add value to the products by redesigning the hospital's packaging, of which had been awarded the Packaging Design Award.

Sustainable Value towards Supplier

100%

of suppliers with procurement spend over 1 million baht, passed the Environment, Society and Governance risk assessments

Target

100%



• **PP Woven Bag** The determination to develop business potential of its suppliers led to the successful innovation development of plastic woven sack for white cement by Lucky Star Co., Ltd. by reducing material consumption while maintaining mechanical properties in terms of strength and load.

• **Good Business Conduct** organizing the seminars for 39 of the suppliers' companies with the emphasis on Anti-Corruption and Circular Economy.

• **Sustainable Procurement Framework** organizing the training programs for related employees to foster the understanding concerning Sustainable Procurement Framework to allow the employee to manage risks and start the collaboration with suppliers to improve operational efficiency.

Environment

Energy Management

7.5%

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

Target

13%

in 2025



- **Excellence Award, Thailand Energy Awards 2019 and 2nd Runner-up, ASEAN Energy Awards 2019** SCG Ceramics Public Company Limited implemented “Solar Floating and Solar Rooftop Project” to increase efficiency of tap water production within Nong Kae Industrial Estate, reducing energy consumption by 14%, lowering Greenhouse Gas Emissions by 134 ton CO₂ per year.

- **Excellence Award, Thailand Energy Awards 2019 SCG Paper Energy Co., Ltd., Siam Kraft Industry Co., Ltd. and Thai Paper Co., Ltd. launch** the Biogas from Wastewater Treatment System Project at Wangsala plant to substitute fuel oil and coal, energy of which had been used as fuel in the lime kiln of Thai Paper Co., Ltd. to substitute fuel oil at approximately 3.3 million liters per year and in Siam Kraft Industry Co., Ltd. to substitute coal at approximately 4,500 tons per year.

Greenhouse Gas Management

9.2%

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

Target

28%

in 2030



- **Internal Carbon Pricing (ICP)** Adoption of Internal Carbon Pricing Scheme worth 18 USD per ton CO₂ as criteria for approval of project that reduce greenhouse gas emissions.

- **Task Force on Climate-Related Financial Disclosures (TCFD)** Applying guidance of the TCFD to assess risks, impacts, and opportunities relating to climate change to plan SCG’s business operations.

- **Natural Climate Solutions (NCS)** Establishing the Natural Climate Solutions Committee to take care for the capture of carbon dioxide with nature solutions conforming to international standards under the collaboration with both domestic and international entities such as WBCSD.

Sustainable Products and Services

29%

revenue from sales of SCG eco value products and services of total revenue from sales

Target

Two-third or

66.7%

in 2030



- **Energy Smart Solution** New business that provides service solution to save building energy consumption and converting the building into a Smart Building through leading technologies from worldwide start-ups.

- **Building Information Modeling (BIM)** Cement-Building Materials Business implements BIM technology to use with building construction project to precisely estimate the material use in production, reduce the construction materials waste, and enhance operation efficiency.

- **Optibreath** Packaging developed by Packaging Business with characteristics to control the rate of respiration and extend the shelf-life of fruits and vegetables for longer storage before consumption.

Environment

Waste Management

92%

reduction of waste disposal per unit of production, compared with the base year of 2014

Target

60%

in 2025



- **Concrete Waste Management** The CPAC Roof Tile Co., Ltd. conducts a research and development on roof tiles scraps from Nakhon Pathom plant to be used as substitute raw materials for sand in construction, civil work, and production. In 2019, the substitute materials for natural sand have been used within SCG and external at around 4,546 tons.

- **ECO Energy Power Plant IWPP** SCG build the industrial waste power plant located in Map Ta Phut Industrial Estate, with 8 MW capacity. It is the first plant with the ability to handle both hazardous and non-hazardous waste from industry as its feed at approximately 65,000 tons per year.

- **Waste Water Treatment Fuel Energy** Thai Polyethylene Co., Ltd. improves the process of catalyst production to reduce the volume of waste water for more than 5,000 tons yearly. By further recycling such waste water as an alternative fuel for cement kiln, the company reduces solid waste by 1,000 tons per year.

Water Management

10.5%

reduction of water withdrawal, compared with BAU at the base year of 2014

Target

23%

in 2025



- **WRI AQUEDUCT** Applying Water Resources Institute (WRI)'s Water Risk Atlas Tool to assess water-related risks. The tool is well accepted internationally for assessment of water stress situation. The data from the tool is used in integrated with data from governmental sector for further manage water in collaboration with all sectors.

- **Increase the Efficiency of Production Process to Reduce Water Consumption** Strive to improve the efficiency of all factories to reduce water usage and recycle the water. In 2019, recycled water was reused equaling to 12.3 million cubic meters or 10.6%.

- **Water Saving Product** Siam Sanitary Ware Industry Co., Ltd. continuously designs and develops water-saving sanitary wares such as water saving toilets, COTTO C10257 using water with only 4.8 liters per flush, and faucet, COTTO XPOSH series, controlling water flow with only 4.8 liters per minute.

Biodiversity

1

number of quarry with Biodiversity Index in the limestone quarry rehabilitated area, compared with natural forest buffer zone of at least 60%

Target

4

by 2022



- **CSI : Methodology for the Net Impact Assessment of Biodiversity in Cement Sector** Apply the biodiversity assessment tool provided by Cement Sustainability Initiative (CSI) to assess the quarry rehabilitation activities at quarries in Kaeng Khoi and Ta Luang in Saraburi province to bring about Net Positive Impact on the ecosystem in the post quarrying area.

- **Biodiversity of Birds in Lampang Quarry Rehabilitation Area** Success in Lampang Quarry Rehabilitation results in the constant finding of more bird species from 98 species found in 2002 to 172 species in 2019.

Society

Human Rights

0

Human Rights Violation Case



- **Opinion Panel 2019** Sustainable Development Committee organized the Opinion Panel of esteemed figure from government, private, and academic entities focusing on human rights.
- **SEDEX** Packaging Business joins hand with The Sedex Members Ethical Trade Audit or SEDEX to implement SEDEX standards in treating employees and contractors in the company and business partners.

Safety

0.239 and
0.279

case per 1,000,000 man-hours

Lost Time Injury Frequency Rate of Employee and Contractor, respectively

Target

0

in 2022



- **SAFEsave** Packaging Business develops an innovative Security Management Platform, to manage safety of individual and property with digital technology and Artificial Intelligence (A.I.) such as utilizing surveillance cameras to monitor and notify of the entering of restricted areas.
- **Process Safety Management (PSM)** Continually applying the PSM and extend the results through the conduct of Contractors Safety Management system, which emphasizes the involvement of the contractors' executives together with making the joint commitment towards the sustainable Incident Free Operation.
- **Goods Transportation Safety** Raising the standards for goods transportation safety through the close collaboration among all business units to conduct standardized guideline for goods transportation safety for the entire organization and for further implementation with the carriers.
- **Driver Management System (DMS)** SCG Logistics develops the driving behavior monitoring system through innovation and technology for safety such as using "Kubdee" application.

Employee Caring and Development

68%

Employee engagement when compared to total employee (domestic only)

Target

70%

in 2022



- **Re Skill-Up Skill** equip the employees with the capacity to cope with changes through training and learning via various setups such as Digital Literacy, Business Model Canvas, Design Thinking, Data Analytics, etc.
- **Action Learning** redesign the learning styles of employees from classroom training to actual practice training including Project-Based Learning

Community / Society Development

19

Community capable of managing water resources

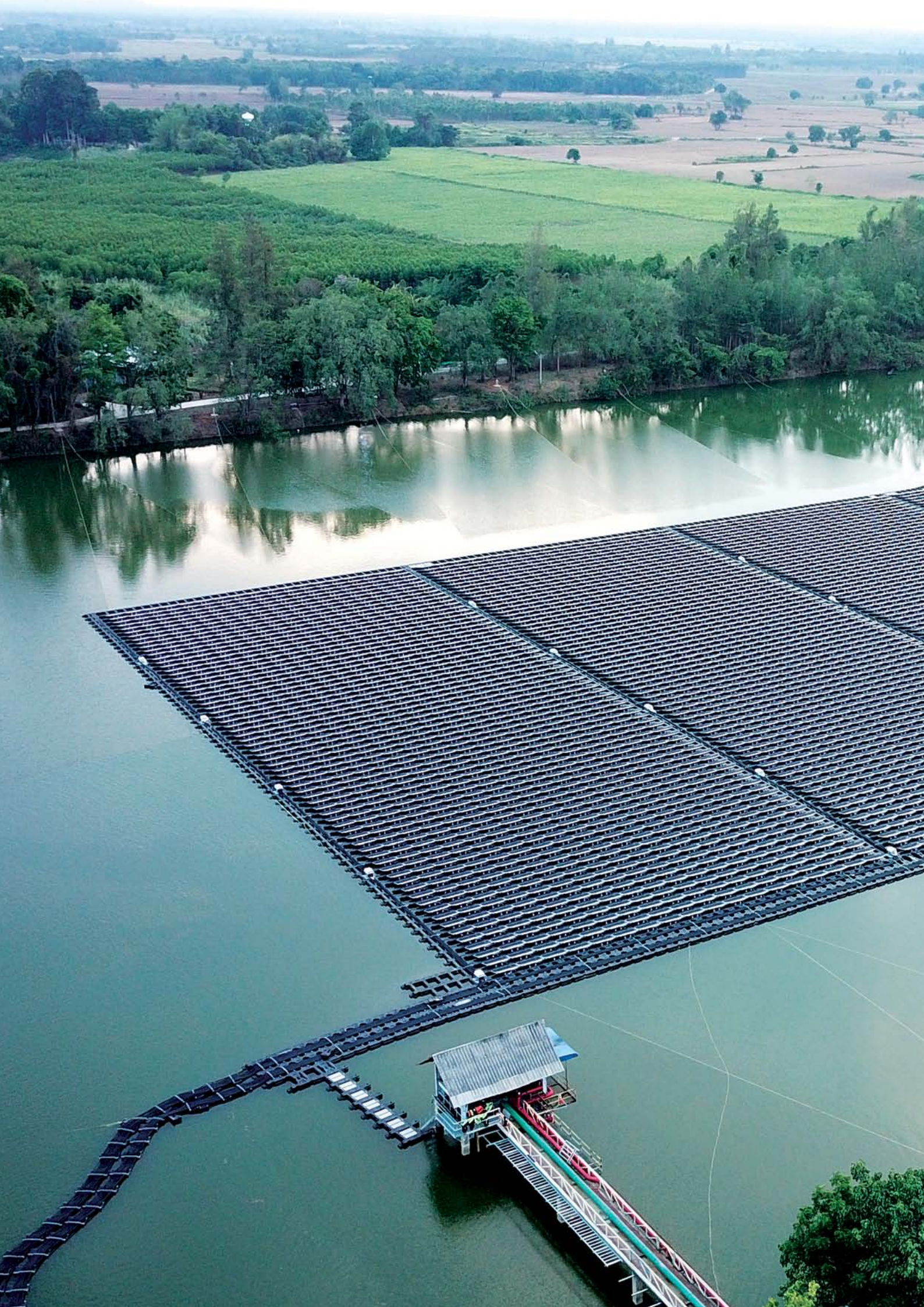
Target

108

Additional community in 2021



- **Conserving Water from the Mountain to the Mighty Rivers Project** Encouraging communities to implement water management by adopting His Majesty King Bhumibol Adulyadej The Great's water management approaches as guidance using Information Technology to solve water issues and to ensure sufficient water for consumption, utilization and agricultural purposes.
- **SCG Smart Litter Trap and Floating Litter Trap** Chemicals Business develops 24 sets of "floating litter trap" to be installed in the estuaries and canals in 13 seaside provinces and "smart litter trap" to float in the river and use Artificial Intelligence to automatically sort waste and bring back to the dumping point.
- **Commemorate His Majesty the King, Volunteers Developing National Crown Prince Hospitals Nationwide** Cement-Building Materials Business and SCG Foundation jointly renovate the service areas of Crown Prince Hospitals, covering 21 hospitals nationwide, by using BIM technology to design and construct the buildings, which help reduce cost, time consuming, scraps of construction materials in alignment with the Circular Economy principle.



Climate Resilience



The Years 2016 – 2019 Have Been Reportedly the Warmest Four-Year Period on the World History’s Record.

The report of the World Meteorological Organization stated that the average global temperature rise more than 1 degree Celsius in 2018, reaching the emissions limit at 1.5 degrees Celsius as agreed upon in the Paris Agreement.

International community is well aware of the catastrophe to be caused by the temperature rise of 2 degrees Celsius, and, therefore, joined hands in adopting the Paris Agreement to keep the global average temperature rise to well below 2 degrees Celsius within this century, with the pursuing effort to limit the temperature rise to 1.5 degrees Celsius. At present, 75 countries pledged to work towards net zero emissions target by 2050.

From 2006, SCG committed to energy saving through the use of alternative energy, continual reduction of greenhouse gas emissions, together with product development that lessen the carbon footprint. Then, in 2018, SCG integrated the climate resilience into one of the three sustainable development strategies targeting the reduction of greenhouse gas emissions by 28% within 2030 compared with business as usual (BAU) at the base year of 2007 to achieve the conformity of the temperature target of the Paris Agreement. In order to be confident that the target will be achieved, SCG establishes the Interim Goal aiming at the greenhouse gas emissions reduction and energy consumption reduction by 20% and 13% within 2025, respectively.

In 2019, SCG adopted the Internal Carbon Pricing (ICP) Scheme by setup value at USD 18 per ton CO₂ as criteria for

Our Target

2020
10%

2025
20%

2030
28%

9.2%

greenhouse gas reduction in 2019 compared with BAU at the base year of 2007



approval of project that reduce greenhouse gas emissions helping increase return on investment.

Another important step in 2019 is the conduct of assessment on risks and opportunities relating to climate change and its impact, as well as the management in line with the Task Force on Climate-Related Financial Disclosures (TCFD), which is the international organization encouraging the private sectors to provide voluntary climate-related financial risk disclosures for the benefit of the investors and stakeholders. In turn, the private sectors will take advantage of incorporating TCFD recommendations to foster their sustainable business conduct.

Expansion of Solar Energy Projects



Since 2014, SCG has started to put emphasis on solar energy as clean energy that bolsters the energy security and reduces greenhouse gas emissions by persisting with the research and development of solar energy system from solar farm, floating solar farm, and solar rooftop.

From 2014 to 2019, SCG has implemented 22 projects, with a total of 75.68 MW, generating electricity at 102.65 GWh/year and reducing greenhouse gas emissions by 48,272 tons of CO₂ per year

An outstanding project in 2019 is “Solar Floating and Solar Rooftop Project” to increase efficiency of tap water production within Nong Kae Industrial Estate by SCG Ceramics Public Company Limited, which



has been awarded the Excellence Award by Thailand Energy Awards 2019 and the 2nd Runner-up by ASEAN Energy Awards 2019 in the Off-Grid (Alternative Energy) Category. The project's highlight is the installation of 2 solar energy systems, solar rooftop and floating solar farm, that generate electricity for production of tap water at approximately 236 MWh/year leading to the decrease in electricity usage from transmission line by 14% equaling to greenhouse gas reduction of 134 tons of CO₂ per year.

Energy Saving Home Solutions

Our expertise in solar energy system development has been further developed into new business model of SCG Solar Roof Solutions providing the comprehensive services of solar roofing system installation for household covering the phases of consulting and surveying, budget estimation, pre-installation inspection to ensure the life-long efficiency and safety, solar system designing for maximum electricity generation, and installation by experts' team. The innovation of Solar FIX to end roof leakages together with the application that allows the home owners to track real-time solar energy generation, check the electricity cost saving on a daily, monthly, and yearly basis. For 55 services in 2019, 600 kWh has been saved, equivalent to the reduction of greenhouse gas emissions of 500 tons CO₂ per year.

Energy Conservation Commitment

SCG has strived to improve the production process and equipment efficiency in every business unit since 2010 by regularly monitoring the energy usage along with inventing, researching and developing new approaches for production process improvement and equipment modification that lead to the energy reduction in each step.

SCG firmly believes that the employee are the important key in energy conservation. In order to encourage the employees' engagement, SCG hosts the Energy Award initiative contest every two years since



Energy Saving Target

2025
13%

48,272

tons of CO₂ per year from the reduction of greenhouse gas emissions from solar energy projects from 2014 onwards



7.5%

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

2014 for the initiation of alternative energy and energy conservation projects from actual operations. Each awarded project succeeds in increasing energy efficiency, saving energy cost with low budgeting, and being a model of sustainable energy conservation.

SCG continually organizes the Energy Day event every year to raise the employee's awareness of energy conservation under the concept "Close when not in use, Control to comfort, Change for better" or 3Cs' concept "Close, Control, Change".

In 2019, SCG's affiliates received an outstanding award for energy conservation from both national and ASEAN levels. Rayong Olefins Co., Ltd., the affiliate of Chemicals Business, won an Outstanding Award for Energy Conservation from Thailand Energy Award 2019. The determination to use energy to the maximum extent in terms of management, awareness raising campaign through activities relating to 3Cs concept, and brainstorming sessions among all employee for energy efficiency enhancement measures, led to the reduction in energy consumption by 10.69% during 2016 – 2018, comparing to the year 2015, which accounted for electrical energy of 1.058 GWh/year, and also reduction in energy cost of 384 million Baht.

SCG won another Thailand Energy Award 2019 in the Green Building – Small and Medium Category from SCG Health Center Building, which has been designed in consistent with the direction of sun light to lessen the effect of the heat by incorporating also double-glazing windows with inert air filled, thermal insulation under the roof, high efficiency air-conditioning system, energy saving elevator, as well as the LED lighting systems in combination with natural light. The building exterior features green landscaping with shady trees and ponds to keep the heat flow from the building.

Alternative Energy Development

SCG has keened on alternative energy usage since 2001. Starting out by transforming industrial waste into alternative energy for cement production, SCG then proceeded with the installation of Waste Heat Generator, development of Refuse Derived Fuel (RDF) from municipal wastes transformation, and production of biogas from wastewater treatment, the processes of which not only reducing greenhouse gas emissions, but also adhering to the Circular Economy principle in terms of waste recycling.



In 2019, SCG also received the Excellence Award from Thailand Energy Awards 2019 in the Off-Grid (Alternative Energy) Category from Biogas from Wastewater Treatment System Project at Wangsala plant, the collaboration project between SCG Paper Energy Co., Ltd., Siam Kraft Industry Co., Ltd. and Thai Paper Co., Ltd. The project involves the additional installation of anaerobic wastewater treatment system to the original aeration system to produce biogas as alternative energy for two factories; as fuel in the lime kiln of Thai Paper Co., Ltd. to substitute fuel oil at approximately 3.3 million liters per year and in Siam Kraft Industry Co., Ltd. to substitute coal at approximately 4,500 tons per year. This project reduces greenhouse gas emissions at 17,000 tons of CO₂ per year, further decreases the electrical use for wastewater system by 5.6 GWh/year and lessens the volume of waste disposal of 12,000 tons per year.



Natural Climate Solutions

Natural Climate Solutions (NCS) is the approach of using natural forests to mitigate climate change problems.

Based on scientific research, forests absorb and store carbon dioxide with the



13.6%

alternative energy

86,557

tons of carbon being captured by Low Emission Support Scheme (LESS) Project

2,197

Rais (351 hectares) of our conserved forest areas



potential to reduce 37% of CO₂ emissions in accordance with the goal to keep global warming temperature rise to well below 2 degrees Celsius whilst in fact, 1% of forests have been utilized as natural climate solutions.

For the past year, NCS has been strongly supported by The World Business Council for Sustainable Development (WBCSD), CEO-led global association of over 200 companies that join hands in striving to create the sustainable future.

SCG has been a member of WBCSD since 2000. SCG has presented our natural restoration support through many related activities including the rehabilitation of limestone quarries, planting of mangrove forest and seagrass. For over a decade, SCG has worked in collaboration with local communities to rehabilitate the degraded forest areas through the construction of check dams and interconnected ponds under the Conserving Water from the Mountain to the Mighty Rivers Project. The NCS approach is, then, in line with the direction and practice of SCG. In order to integrate NCS into our strategies to achieve target of greenhouse gas emissions, in 2019, SCG established Natural Climate Solutions Committee to be responsible for planning NCS activities involving natural forest planting and conservation, together with creating partnership with related entities in NCS conduct in the context of national and international levels. In addition, joining WBCSD Natural Climate Solutions in the assessment of carbon capture and emissions offset by natural methods will lead to the future setup of Protocol on the assessment of carbon emissions offset by natural methods.





แปลงต้นไม้นี้
ใช้สารปรับปรุงดิน
จากเศษอาหารในโรงอาหาร

Circular Economy



How Do We Adopt the Circular Economy?

Amid increasing global attention towards environmental awareness together with higher impact from global waste crisis and aggravating resources scarcity, a Circular Economy principle has become widely accepted as a viable and sustainable cure for the world. Under the Make-Use-Return principle, all sectors join hands in fostering efficient waste management, utilization of resources for maximum value, and reduction in wasteful use of virgin resources.



SCG hosted SD Symposium 2018 Circular Economy: The Future We Create to raise awareness on the implementation of Circular Economy for the sustainable development of Thailand. Then, SCG set Circular Economy as one of our three sustainable development strategies by establishing the SCG Circular Economy Committee to monitor and accommodate success factors. In 2019, SCG continues to promote collaboration in Circular Economy through SD Symposium 10 Years "Circular Economy: Collaboration for Action".



Our Target

2020

50%

Revenue from sales of recyclable/reusable polymer packaging of total revenue from sales of polymer packaging of Packaging Business

2021

0

waste from the Head Office in Bangsue to landfill

2025

100%

of products from Packaging Business to be recyclable or reusable

2025

9%

of domestic sales of single use product of Chemicals Business

SCG set forth SCG Circular Way consisting of the following strategies:

1. Reduce the amount resources used in production process and design products for longer durability.
2. Upgrade innovation to replace the existing products or raw materials with the new and more efficient ones by utilizing less resources and becoming more recyclable-friendly
3. Increase recyclability and reusability of products

SCG strengthens our internal operations in line with Circular Economy principle to become a role model that can transfer knowledge to society. SCG, in collaboration with all sectors, public, private, communities, and other related entities, strictly determines to drive effective waste management and circular resources use system.

Product and Service Development with Special Quality Materials Innovation

SCG believes that an approach to reduce raw materials use and recycle more waste materials while maintaining the durability and long-lasting quality of the product is through the innovation of special quality materials that enable the use of its maximum value in the development of High Value Added Products & Services (HVA), which substitutes existing products and materials, reduce materials use, extend the lifespan, and foster the recyclability.



SMX Technology helps reduce the amount of plastic use in the production by

10%



The year 2019, research and development of product from SMX Technology totally

8

items

SMX Technology Innovation that Drastically Change the Plastic Industry

Technology developed by Chemicals Business to enhance the production of HDPE (High Density Polyethylene) to develop a downgauging moldable plastic products with the same resistance to high impact that leads to lighter products and higher recyclability potential.

At present, SMX Technology has been used to develop several types of products such as large chemical tank, electric equipment plastic cover film, secondary film layers for transportation paper packaging, and lightweight soda cap.

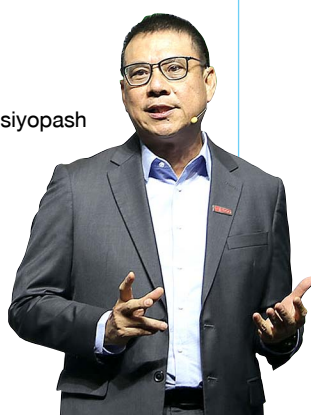
Recyclable Polymer Packaging

Packaging Business has adopted the Circular Economy as its operation guideline by seeking for ways to reduce waste from packaging through product designing, increasing the proportion of recyclable polymer materials such as thermoformed barrier food packaging, that obtains the characteristic of food preservation for as long as metal or glass packaging, lightweight and recyclable. In 2019, Performance and Polymer Packaging Business (PPP Business) recorded the revenue contribution from recyclable polymer packaging at 47% of total revenue from PPP Business sales.



“The most vital element for change is starting primarily from ourselves. SCG initiated the dialogue of Circular Economy principle for the first time in 2018 and having formed the partnerships with over 40 organizations throughout the entire year. Construction industry switches up it approaches to the use of recycling materials and the waste disposal. Retail industry collaborated on the environmental-friendly packaging designs and value creation from waste. SCG is delighted to collaborate with partners to ensure the sustainable future not only for a Thai economy but also the ASEAN economies.”

Roongrote Rangsiyopash



47%

Revenue from sales of recyclable/reusable polymer packaging of total revenue from sales of polymer packaging of Packaging Business

30%

waste reduction*

200%

increased in recyclable waste*

(* compared data of December 2019 and September 2018)

Collection and Management of Waste for Recycling

A crucial factor in propelling Circular Economy forward is the appropriate and effective waste collection and management to re-enter the recycling process at best possible. In order to succeed in waste management requires the change in behavior and management system, right facility for efficient collection of waste, proper procedures in waste sorting and transporting, and reduction of contaminated waste to the minimum.



Bangsue Model SCG has made serious efforts with the launch of “Bangsue Model” to encourage employees in the Head Office at Bangsue and affiliated factories nationwide to change their behaviors in alignment with “Resource Maximization-Correct Sorting-Proper Disposal” concept. With the finding that correct waste sorting is the first stage for waste management, SCG has designed 6-color bins to address the problem, delivering an easy-to-understand and clear message by assigning bin color for each material waste.

After two years of Bangsue Model in practice, employee waste sorting has become more accurate. The amount of total waste steadily decreases from month to month. Sorted waste has been increasingly recycled and properly managed. Paper and plastic waste have been recycled. Waste from food scraps is composted as soil improvement substances for planting. SCG target at reducing the amount of waste sent to landfill to zero (Zero Waste to Landfill) by the year 2021.

SCG aims at driving Bangsue Model towards success throughout the organization and further adapt to the factories, contractors, suppliers, customers, and society to generate positive impacts on national waste management.



Garbage Bank Support Garbage bank is considered a mechanism in the cycle of Circular Economy through the buying back of sorted waste from the members and passing them on to the recycling process of the factories. The hindrance of the garbage bank is the lack of proper management tool as most of them still record the transaction in the notebook, which delays and causes difficulty in processing large amount of data. SCG, therefore, launches “KoomKah” application to assist in systematically managing garbage bank via mobile phone by enabling them to record type and amount of waste, selling and buying prices, as well as facilitating the setup of trading and transporting plan. The application increases the opportunity to distribute garbage to recycling factory and power generation plant from waste. Currently, Koomkah application has been used by 23 communities’ garbage banks.



An Approach to Waste Recycling Collaboration SCG realizes that to enhance waste collection to be successful in accordance with Circular Economy principle requires the involvement from a number of sectors outside the organization. SCG, therefore, steps up the effort to develop project and innovation as a tool.

An example in 2019 is with regards to the development of PaperX Digital platform by Packaging Business to provide service in buying back the wastepaper and returning them to the recycling process through PaperX application. At present, SCG promotes the use of PaperX application in the organizations that we form the collaboration with. In addition, SCG cooperates with Modern Trade stores in collecting scraps form paper packaging in their distribution centers and directing them to the factory for the production of the new products.

Another example of cooperation is Siam Fiberglass Co., Ltd., the producer of



Target in 2020
encourage the formation of garbage banks at

170
places nationwide

Target in 2024
1,000
garbage banks use Koomkah application

PaperX Digital platform – recycle paper for

68,000
tons per year

ALLRENT
rented out more than
990
customers

insulation glass wool, processed the insulator waste, reclaimed from the customers production process in manufacturing of insulation materials for household electrical appliances, as the new material for new insulation glass wool production. The project increases the use of recycled materials by 4% and decreases the amount of disposal waste from the customers for more than 435 tons per year. Besides, Siam Fiberglass Co., Ltd. processed Post Consumed Glass Cullet as substitute raw materials for Silica Sand, which reduces consumption of natural resources at 10,500 tons per year.

New Business Model by Transforming to Product as a Service



Technology and innovation advancement lead to a volatile economy and society. Business sector needs to adapt to consumer’s behavior. The Circular Economy principle corresponds to various new businesses such as resources sharing platform and product as a service. SCG, then, began to alter its strategy to setup the new business in accordance with “product as a service” concept through the application of digital technology as a tool to develop efficient solution to maximize resources utilization.

ALLRENT SCG develop the application to solve the excessive procurement of machines for construction representing a waste of resource and cost increase for the company. ALLRENT, then, compile information about more than 3,000 items of unused machines in possession of managing and facilitating to offer the rental machines to the companies in need, instead of having to procure the new machines. This service is the way to efficiently allocate and make use of the existing resources and also helps customers to control cost with the effective management options.

We continue to focus on driving sustainable development with the Circular Economy principle as the key mechanism.





Safety



Every Life Matters, Everyone Must Return Home Safely

With a variety of business activities from production, services providers, transportation, together with the important role of employees and contractors in the organization, SCG is highly attentive and putting the best effort towards accidents reduction with the ultimate goal for zero lost time accident by 2022, as well as zero fatality case of employee and contractors each year. Even though the target is not yet achieved, there is a tendency for SCG's effort to get closer to the goal.



Since 2019, SCG uplifts the safety management level by forming the Occupational Health & Safety Committee with 2 subcommittees namely, Workplace Safety Committee and Transportation Safety Committee for stricter and higher efficient control.

SCG has created high safety standard through the years and continued to develop innovation to reduce occupational risks while encouraging supervisors and management to act as safety leaders to



Our Target

Every year

0

Fatality of Employees and Contractors

2022

0

Lost Time Injury Frequency Rate of Employees and Contractors

embed safety into SCG organization's culture in all countries where SCG operates.

Workplace Safety

SCG is well aware of the company high risk activities such as working at height above 1.8 meters, working with machines, working with energy and electrical system, etc. Causes of accidents are the lack of knowledge and awareness of safe working and an inadequate of operation control.

SCG, therefore, announce SCG Safety Framework and Safety Performance Assessment Program (SPAP) since 2007, followed by the announcement of 9 Life Saving Rules in 2017, which is mandatory for all companies. Penalty will be strictly enforced in case of violation.

SCG Safety Framework and SPAP

The continuous implementation of SCG Safety Framework incorporated with SPAP in safety management, and the monitoring of interrelationship between SPAP assessment result and Injury Frequency Rate (IFR) of each company for the past 3 years demonstrate the finding that SPAP assessment level is significantly interrelated with the accident rates.

That is, the company achieves SPAP Level 4 (Succeeding) and Level 5 (Leading) has an accident rate for the past 3 years lower than Level 3 (Qualifying). Therefore, in a determined effort to raise safety standards for all SCG companies in Thailand and regional shall also be employed as the operating guideline to achieve the specified target of accident rate reduction.

78%

of factories in Thailand that passed SPAP, level 4 (Succeeding) or higher that increased by 19% from 2018

Safety Leadership Improvement

SCG believes that an important key to workplace safety is for the leaders to show their leadership and set themselves as a committed role model to safety.

SCG develops guideline for leaders such as Leader Standard Work that covers coaching, leadership line walk and safety performance visual board monitoring (Visualization). Safety Observation Program allows the leader to regularly observe the employees, show their caring and give a piece of advice for behavioral change when encountering unsafe actions together with awareness raising of employees to reduce risk by themselves, which ultimately lead to the creation of safety culture.

In addition, SCG encourages employees to organize campaigns to express their safety concerns such as "We share for love,

We talk for care” by Cement-Building Materials Business, “The Lifesaver” by Chemicals Business that encourage employees to warn for each other when found unsafe, and “My Safety Commitment” by Packaging Business that employees are create a personal safety commitment motto.



Cement-Building Materials Business We give precedence to limiting unsafe action and unsafe condition that are fundamental cause of accident, and focuses on participatory risk identification from employees and contractors via Line Walk and Safety Caring application that facilitate the identification and recording of risk for corrective actions. The promotion of Safety Caring Culture through various campaigns such as “SHARE=CARE” and “Hai-Jai” allows employees to pass their caring messages to their co-workers by admire for the safety action and advice for risky behaviors. The application of technology helps uplift safety standard and reduce risks in production, maintenance, and projects. For instance, the Building Information Modeling (BIM) is the technological tool to help visualize the sequence of activities for the pre-design and planning phases that help reduce rework in process. We will achieve safety performance through the application of technology on high-risk working applications such as using drones to conduct roof inspections, etc.



Chemicals Business In 2019, we have implemented the Process Safety Management (PSM) for all factories. System performance evaluation has been conducted both internal and external, with no major finding, and later being extended to factories in regional and new mega green field projects for the efficient management from the start. In terms of operators safety, we enhances efficiency measures for hazards and injury



prevention by carrying out the Incident Prevention Concept, start with risk assessment and develop safe operating procedures from the initial stage, setting up of clear measures as the standard for the whole group to comply with, and control of high-risk job by required work permit from area owner. The conduct of near-miss incident report, incident investigation, and follow-up measures for concrete solution should be promoted. In addition, to promote caring in all level of employees we putting in place the Safety Observation Program to analyze behaviors and create control measures leads to a decrease in accident rate of Chemicals Business, particularly in Thailand, zero Lost Time Accident, and reduction in Medical Treatment Case by 80%.



Packaging Business To upgrade safety standard in Thailand and regional, we uplifts its safety system innovation through digital technology program, namely “SAFEsave”, with advanced machine learning capabilities to alert danger in real time and administer centralize database instead of paper recording to timely control risk.

We have developed SAFEsave since 2018 and conducted trial at Wangsala plant, Ban Pong District and at the Engineering Department of Packaging Business. In 2019, SAFEsave has successfully developed 14 out of 15 modules. The highlights of the works are People Classification – Using QR Code scanner to verify contractors whether they completed the operational high-risk training specified by law, Restricted Area for Security – Inspection of the restricted areas via CCTV which will send the alert and record the photo footage as evidence when detecting the abnormal activities in the area.

0

case of Fatality of employees

2

cases of Fatality of contractors in the workplace

0.239

case/1,000,000 man-hours Lost Time Injury Frequency Rate of employees

0.279

case/1,000,000 man-hours Lost Time Injury Frequency Rate of contractors in the workplace



Transportation Safety

“Zero Road Accident” has been SCG’s challenge that we continue to undertake, aiming at maximum road safety for SCG drivers, carriers, and people on the road. SCG develops Driver Management System with safety supervision measures for goods transportation safety covering from prior to, during, and after transportation.



Driver Development Fully aware that “driver” is the key to safety, SCG enhances driving standard and develop digital technology to be implemented for strict logistics management.

Since 2011, SCG established SCG Skills Development School as a non-formal private vocational school offering curriculum offering a truck driving course for interested parties and transportation contractors with standard driving training field and qualified trainers.

In 2019, SCG develops a truck driving program by way of mobile training through the Augmented Reality and Virtual Reality (AR & VR) to be launched in 2020. This training platform will increase the driver’s training hours, allowing the training access anytime of their convenience and reducing traveling time to the training center.

0

case of Fatality of direct transportation contractor

4

cases of Fatality of other transportation contractor

0.207

time/million kilometers of transport accident rate under SCG Logistics

66%

of trucks having in-cab camera installed, both SCG’s and contractors’



Logistics Command Center and Kubdee SCG Logistics launched the Logistic Command Center providing assistance and services 24 hours a day including real-time tracking of trucks that entirely have GPS installed and the alert to the driver when found risky behaviors arise such as driving excessive speed, parking on the shoulders, driving over 4 consecutive hours, etc.

In 2019, SCG has started to strengthen safety measures by installing in-cab camera in all trucks and develop Kubdee application to detect facial and eyes features of the driver for the sign of drowsiness or fatigue and alerts the driver in advance to prevent accident before it happens. The application will be officially launched in 2020.

In addition, the Advance Driver Assistance System (ADAS) is being developed to help maintain an optimum distance between vehicles, detect objects surrounding or in vehicle blind spot and sound the alarm. The system also analyzes driving log for road conditions and driving behaviors for further development of more effective safety supervision methods.



Goods Transportation Safety

In 2019, all SCG Business Units conduct the meetings to exchange views on transportation safety and set the guidelines for transportation as a unified standard, namely Goods Transportation Safety Standard. The implementation of the standard has started with Chemicals Business and being further adapted by Cement-Building Materials, and Packaging, respectively. The standard applied to carriers, by equipping the carrier with ability to self-monitor safety.

2019 Highlights

Actions Towards Achieving UN Sustainable Development Goals (SDGs)

In 2019, SCG has set up the United Nations Sustainable Development Goals (SDGs) which must be responded seriously through the 3 core dimensions of the implementation of sustainable development strategies and various sustainable development issues which have the significant goals as follow:

	<h3>Good Health and Well-being</h3> <p>SCG has implemented the Health and Safety, and Human Rights policy for all employees, contractors, and communities, develop the innovative products and services to provide good quality of life for the customers, together with formulating sustainable development strategies for safety.</p>	<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>SCG has implemented the Human Rights Policy, the Customer Experience, as well as the Innovation and Technology.</p>	<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>SCG has implemented the Customer Experience, the Innovation and Technology, as well as the responsibility for the products and services.</p>	<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 eco value products and services in 2030 compared with the revenue from sales</p>
	<h3>Responsible Consumption and Production</h3> <p>SCG has implemented the Innovation and Technology and the responsibility for products and services.</p>	<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 of 2014</p>	<p>9% target of domestic sale of single use product of the 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>SCG has implemented the Innovation and Technology, the energy and greenhouse gas emissions management, the responsibility for products and services, and the sustainable development strategies for climate resilience.</p>	<p>28% target of greenhouse gas emissions reduction in 2030 compared with BAU at the base year of 2007</p>		

Sustainability Performance in 2019

GHG Emissions Reduction (compared with BAU at the base year of 2007)

percent

2.43 | **9.2**

million tons carbondioxide

High Value Added Products and Services

percent

41

of revenue from sales



Green Procurement Purchased

7,852

million baht

Research and Innovation Spending

percent

5,663 | **1.3**

million baht of revenue from sales

“SCG eco value” Products and Services

percent

29

of revenue from sales



Carbon Label Certified

472

items



Environmental Expense and Investment

percent

4,785 | **1.1**

million baht of revenue from sales

Hazardous/Non-Hazardous Waste to Landfill

percent

0.0/14.4

Alternative Energy

percent

13.6



Energy Consumption Reduction

(compared with BAU at the base year of 2007)

percent

15.31 | **7.5**

petajoules

Suppliers Being Conducted Environment Social and Governance (ESG) Risk Assessments

percent

100

of suppliers with procurement spending over 1 million baht

Recycled Water

percent

10.6



Water Withdrawal Reduction

(compared with BAU at the base year of 2014)

percent

12.17 | **10.5**

million cu.m.

Number of Check Dam

91,405

units

Lost Time Injury Frequency Rate (case per 1,000,000 man-hours)

Employee **0.239**

Contractor **0.279**

Logistics Drivers Trained from “SCG Skills Development School”

18,224

persons



Social Contribution

719

million baht



Sharing Opportunities, Drawing the Future Program

241 Projects

24 million baht



We are inspired to Change
for our Sustainable Future
not only for Thailand,
but for all ASEAN countries.



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