

1. Business Policies and Operation

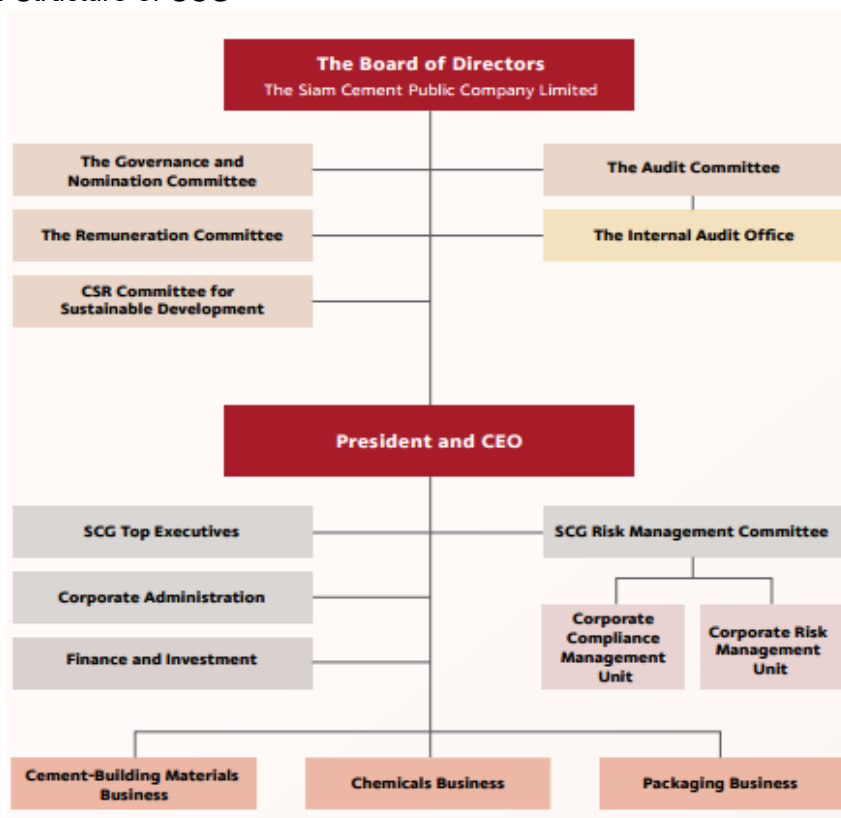
Overview of business and vision

SCG, a leading business conglomerate in the ASEAN, conducts business in line with sustainable development principles and good corporate governance for more than 105 years. It was established in 1913 following a royal decree of His Majesty King Rama VI in producing cement, the essential materials for the construction of Thailand's infrastructure projects during that period. SCG has grown continually and earned widespread recognition as a role model for other businesses, both locally and internationally. Today, SCG is comprised of three core businesses, namely, Cement-Building Materials Business, Chemicals Business, and Packaging Business.

Our vision to become a regional business leader with a relentless commitment to driving innovative products, services, and solutions that meet the diverse needs of customers whilst creating business success in accordance with the Circular Economy concept to contribute to the sustainable growth of each and every society and community where we operate under our new promise "Passion for Better".

SCG is the first in ASEAN to have been included in Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM), the global indexes tracking the performance of the leading sustainability driven company worldwide, as the Global Industry Leader in Construction Materials for 15 consecutive years since 2004. All achievements reflect our commitment on creating value for customers, employees and all stakeholders under world-class management capability and uncompromising safety standard to become a sustainable business leader in accordance with SCG's vision.

Organization Structure of SCG



Please refer to page 7-16 for shareholding structure of direct and indirect ownership of company, subsidiaries, joint ventures, associates and other companies.

Significant developments during 2016 – 2018 are as followed:

2018

Cement – Building Materials business

- JV with JUSDA Supply Chain Management formed an integrated logistics and supply chain management company in southern China (Guangxi province) with linkages to ASEAN.
- In Q3/18, invested in “CSA” -- the operator of the modern retailer (“Mitra 10”) and distributor of home products in Indonesia.
- JV with Boonthavorn towards the home-related design solutions retail outlets.
- Approved the amalgamation of five companies and a new name as SCG Ceramics Public Company Limited, using the symbol “COTTO” From 1 August 2018 and started trading from 3 August 2018 onward.

Chemicals business

- The company has increased indirectly stake from 71% to 100% in Long Son Petrochemicals Company Limited (LSP), Vietnam's first petrochemicals complex.
- The company has approved capacity debottlenecking of Map Ta Phut Olefins Company Limited (MOC), a joint venture company of SCG Chemicals Company Limited and The Dow Chemical Company (DOW) with an approximate budget of 15,500 million Baht. The project will enable MOC for more feedstock flexibility and allow opportunity to tap into competitive propane to be used as feedstock. MOC's annual olefins production capacity will be boosted by 350,000 tons.
- The company has increased stake to 54.29% in Binh Minh Plastics Joint Stock Company (BMP), a plastic pipes and fittings market leader in Vietnam, holding by Nawaplastic Industries (Saraburi) Company Limited.
- The company has co-invested in 50% shares of PT Nusantara Polymer Solutions (NPS), a newly established plastics trading company for High Value Added (HVA) products in Indonesia, holding by SCG Performance, a wholly-owned subsidiary of SCG Chemicals Company Limited.
- Expanded new business, Energy Business, developed the first “Floating Solar Farm” in Thailand with capacity of 1 megawatt at SCG's complex in Rayong, which is an environmental innovation readily applicable to the industrial sector. The key strengths are well-thought-out design offering simple and quick installation, space efficiency, and streamlined setup compatible with various area types. The floating pontoons are made from durable and weather-proof plastic, which is environmental-friendly and recyclable.
- Invested in startup and venture capital funds related to deep technology as a way to speed up innovation in various areas involving circular economy.

- The company has divested entire 60% stake in Siam Stabilizers and Chemicals Company Limited (SSC), a manufacturer of stabilizers for PVC.
- The company has divested all of 64.68% stake in Alliance Petrochemical Investment (Singapore) Pte. Ltd. (API), a holding company in Singapore.
- The company has divested entire 50% stake in Siam Mitsui PTA Company Limited (SMPC), a Purified Terephthalic Acid (PTA) manufacturer and distributor, and entire 20% stake in Thai PET Resin Company Limited (TPRC), a manufacturer and distributor of polyethylene terephthalate (PET).

Packaging business

- Packaging business has acquired additional stakes from existing shareholders from 75% to 100% in two packaging companies in Thailand, namely Dyna Packs Company Limited and Orient Containers Company Limited. Dyna and Orient are producers of high-quality corrugated containers, that are used in a packaging of consumer products, mainly food and beverages. Furthermore, Packaging business has completed the acquisition of a 68.3% stake in Interpress Printers Sendirian Berhad (IPSB). IPSB is a sector-leading food-grade paper packaging company, highly accredited and vetted by the global leading fast food restaurant chain, located in Selangor state, Malaysia. Its main products include folding cartons, formed trays, clamshells, wrappers and bags, where its primary clients are well-established global quick service restaurant chains. This acquisition emphasizes Packaging business's commitment in becoming a total packaging solutions provider in ASEAN countries and will further enhance the overall portfolio while exhibiting its potential to serve the burgeoning region's fast food consumption, evolving lifestyle and preferences of consumers.

Moreover, SCG Packaging proceeded to expand packaging paper line in United Pulp and Paper Co., Inc. (or "UPPC"), a subsidiary of SCC in Philippines, with additional capacity of approximately 230,000 tons per annum to tap Philippines' continuous growth in demand of packaging paper. The new production facility is scheduled to start up in the fourth quarter of 2020.

2017

Cement – Building Materials business

- Acquisition of Cement Operations in Central Vietnam with capacity of 3.1 million tons, for the amount of 15,400 million baht which includes net debt and additional efficiency improvement investment to the acquired assets. VCM is potential for further efficiency enhancements to the total capacity.
- Establish Logistics Company in Indonesia, there is joint venture company between SCG Cement – Building Materials Company Limited with stake 49% and PT Barito Investa Prima with stake 51%. This investment has an enterprise value (EV) of approximately 162 million Baht and the operations are expected to commence within the fourth quarter of 2017.

- Approve the restructuring will be contemplated through the amalgamation of five Thai-based ceramic tile companies, which are currently separate entities with varying shareholding structures and indirectly held by SCC through Cementhai Ceramics Company Limited ("CCCL") (the "Amalgamation").

Chemicals business

- The company has delisted Thai Plastic and Chemicals Public Company Limited (or "TPC") from the Stock Exchange of Thailand
- The company has increased stake to 71% in Long Son Petrochemicals Company Limited (LSP), Vietnam's first petrochemicals complex. While Vietnam Oil and Gas Group (PetroVietnam) hold 29%.
- The company has subscribed Rights Issue of PT Chandra Asri Petrochemical Tbk to maintain stake.
- The company has divested entire 23.8% stake in Tien Phong Plastic Joint Stock Company (or "NTP"), a manufacturer of PVC pipes, located in Northern Vietnam, on The Hanoi Stock Exchange.
- The company has established two new wholly owned companies in Europe, SENFI UK Limited and SENFI Swiss GmbH, to extend the open innovation network while exploring opportunities to market new products from our proprietary technology.

Packaging business

- Acquired 80% stake in PT Indocorr Packaging Cikarang, an Indonesian producer of high quality corrugated containers which serves consumer products of multinational corporations (MNC), with a combined capacity of 32,000 tons per year. Following this transaction, SCG Packaging's combined production capacity of corrugated containers increased to 1,045,000 tons per year across ASEAN. Moreover, SCG Packaging has expanded its business portfolio in Display Packaging to serve premium packaging market. This is achieved by acquiring a 75% stake in Precision Print Company, specializes in Offset Printing of folding cartons which are used in industries ranging from cosmetics and supplementary food. Furthermore, SCG Packaging has invest in rigid plastic packaging business by acquiring 75% stake in Conimex Company Limited. Conimex is Thailand's leading manufacturer of rigid plastic packaging products including plastic bottle, plastic tube, cap and closure. Its market coverage includes both domestic and international manufacturers in cosmetic, personal care, consumer products and industrial liquid industries. These investments illustrate SCG Packaging's strong commitment in becoming a total packaging solution provider in ASEAN and strengthening its footstep in premium packaging segment

Furthermore, SCC has divested all of its 29.91% stake in Maxion Wheels (Thailand) Co., Ltd. (or "Maxion") to lochpe-Maxion S.A (Brazil).

2016

Cement – Building Materials business

The company had major investment projects and changed in shareholder proportion both in Thailand and abroad as follow;

- Acquired construction rock business with capacity of 4 million ton per year, for the amount of 1,161 million baht at Chalermphrakiat district, Saraburi Province. The business has been running since Q3/2016 with propose of uplifting and improving quarry and cement mill in Thailand. To do so, SCG applied production technology from cement plant to reduce cost of production and decrease any effects to environmental and surrounding society. Also, SCG has improved production process to make all natural resources used by the process worth.
- The Company has invested in establishing SCG Yamato Express Co., Ltd, a joint venture company between SCG Cement-Building Materials Co., Ltd and Yamato Asia Pte., Ltd. In proportion of 65% and 35% respectively. The total investment amount is 633 million baht. The purpose is to run a logistics business in Thailand with an expertise in shipping small parcel in both B2C and C2C market. Since e-commerce, m-commerce and Urbanization play important role in supporting the growth of B2C and C2C of logistics business. It is expected that an average growth of such markets are more than 10% per year for the next 5 year.
- The company increased shareholder proportion in JBT, a leading SCG vessel contractors in Thailand, from 45% to 55% in order to reduce risk in lacking vessel for transferring coal and cement products in the future.
- The company increased shareholder proportion in Prime Group, Vietnam to 100% in order to create sustainable growth of the company.
- The company sold shareholder proportion of 10.4% in Holcim Cement (Bangladesh) Ltd. ("HCBL"), a grinding cement plant in Bangladesh, to Holderfin B.V., a wholly-owned subsidiary of LafargeHolcim.
- The company sold shareholder proportion of 33% in Maker-Manifatture Ceramiche S.r.l, which is the Italy-based joint venture for manufacturing ceramics between SCG Cement – Building Materials Business Unit, a major business unit of SCC, and Florim Ceramiche S.p.A.

Chemicals business – the company has completed the tender offer to delist Thai Plastic and Chemicals Public Company Limited (or "TPC") from the Stock Exchange of Thailand.

Packaging business – SCG Packaging has expanded flexible packaging capacity in Thailand to serve food and consumer products (e.g. diaper or refill packaging). Prepack, a leading producer of flexible packaging products, is expanding its capacity by 70 million sq. meters at the new facility in Samut Sakhon province (35 kilometers from Bangkok). The production is commencing in the first quarter of 2016. Furthermore, SCG Packaging has expanded the manufacturing base for packaging paper in Vietnam through capacity upgrade and expansion project at Vina Kraft Paper Co.,Ltd. (VKPC). This project increased the company's production capacity by 243,000 tons per year; enable it to meet the fast-growing

demand for packaging paper in Vietnam. The expansion project was commenced operations in the first quarter of 2017, three months earlier than previously planned. This as a result of a well-planned strategy.

Furthermore, SCG has sold all of its 21% stake in Musashi Auto Parts Co., Ltd. (or “Musashi”). Musashi was a 1988 joint venture formed between SCC, Musashi Seimitsu Industry Co., Ltd. (Japan), and other shareholders, and is a leading manufacturer of motorcycle parts and automotive parts.

Supplementary Information

Investment in subsidiaries, joint ventures, associates and other companies of which their operations are significant.

Name	Principal Business / Products	Location (Head Office / Factory)	Telephone	Facsimile	Type of shares	Number of paid-up shares (Million shares)	Issued and paid-up shares (Million Baht)	Direct / Indirect Company and Subsidiaries Holding (Percent)	Total Direct / Indirect Holding * (Percent)
Cement-Building Materials Business Subsidiaries									
1 SCG Cement Co., Ltd.	Holding company	Bangkok	66-2586-3060-1	66-2586-3072	Ordinary shares	122	4,894	100	100
2 The Concrete Products and Aggregate Co., Ltd.	Holding company/ ready-mixed concrete	Bangkok	66-2555-5000	66-2555-5003	Ordinary shares	104	10,416	100	100
3 The Siam Cement (Kaeng Khoi) Co., Ltd.	Cement and dry mortar	Saraburi	66-3624-0000-98	66-3624-0099	Ordinary shares	6	625	100	100
4 The Siam Cement (Ta Luang) Co., Ltd.	Cement, dry mortar and white cement	Saraburi	66-3628-8900	66-3628-8909	Ordinary shares	6	575	100	100
5 The Siam Cement (Thung Song) Co., Ltd.	Cement and dry mortar	Nakorn Sri Thammaraj	66-7553-8222	66-7553-8111	Ordinary shares	35	700	100	100
6 The Siam Cement (Lampang) Co., Ltd.	Cement and dry mortar	Lampang	66-5423-7500	66-5423-7501	Ordinary shares	94	589	100	100
7 Khammouane Cement Co., Ltd.	Cement	Lao PDR	(856) 51-628-000	-	Ordinary shares	32	11,188	100	100
					Preferred shares	0.06	21		
8 Siam Mortar Co., Ltd.	Dry mortar	Saraburi	66-3624-0000-98	66-3624-0083	Ordinary shares	4	443	100	100
9 The Siam White Cement Co., Ltd.	White cement	Saraburi	66-3621-8400	66-3635-1219	Ordinary shares	2	200	100	100
10 The Siam Refractory Industry Co., Ltd.	Refractory	Bangkok	66-2586-3230	66-2586-2982	Ordinary shares	3	300	100	100
11 Cemen Thai Energy Conservation Co., Ltd.	Energy service	Bangkok	66-2586-2410	66-2586-3098	Ordinary shares	13	1,310	100	100
12 Eco Plant Services Co., Ltd.	Technical services and plant installation	Saraburi	66-3628-9103	66-3628-1212	Ordinary shares	1	50	100	100
13 Siam Research and Innovation Co., Ltd.	Research and development	Saraburi	66-3627-3152-63	66-3627-3151	Ordinary shares	1	100	100	100
14 SCI Eco Services Co., Ltd.	Industrial waste disposal	Bangkok / Saraburi / Nakorn Sri Thammaraj	66-2962-7295-7	66-2962-7298	Ordinary shares	2	187	100	100
15 Q Mix Supply Co., Ltd.	Ready-mixed concrete	Bangkok	66-2022-7888	66-2022-7889	Ordinary shares	8	800	100	100
16 Silathai Sanguan (2540) Co., Ltd.	Aggregates	Khonkaen	66-4335-8031	66-4335-8033	Ordinary shares	1	54	100	100
17 Silasanon Co., Ltd.	Aggregates	Saraburi	66-2555-5000	66-2555-5003	Ordinary shares	3	280	100	100
18 PT SCG Pipe and Precast Indonesia	Concrete products	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	15	466	100	100
19 PT Semen Lebak	Cement	Indonesia	(6221) 798-3751	(6221) 791-80919	Ordinary shares	0.04	1,193	100	100
20 PT SCG Readymix Indonesia	Ready-mixed concrete	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	12	365	100	100
21 PT CPAC Surabaya	Ready-mixed concrete	Indonesia	(6231) 732-1512	(6231) 732-1512	Ordinary shares	1	43	100	100
22 CPAC Lao Co., Ltd.	Ready-mixed concrete	Lao PDR	(856) 21-720-385	(856) 21-720-224	Ordinary shares	0.1	31	100	100
23 The Concrete Products and Aggregate (Vietnam) Co., Ltd.	Ready-mixed concrete	Vietnam	(84) 28-3974-4380-3	(84) 28-3974-1888	**	-	178	100	100
24 Myanmar CPAC Service Co., Ltd.	Ready-mixed concrete	Myanmar	(951) 681-351	(951) 681-351	Ordinary shares	4	124	100	100
25 CPAC Concrete Products (Cambodia) Co., Ltd.	Precast slab	Cambodia	(855) 12-222-102	-	Ordinary shares	0.0004	17	100	100
26 SCG Cement-Building Materials Vietnam Limited Liability Company	Cement distribution	Vietnam	(84) 93-3558-096	-	**	-	47	100	100
27 Vietnam Construction Materials Joint Stock Company	Cement	Vietnam	(84) 52-6262-666	(84) 52-6268-666	Ordinary shares	363	5,505	100	100
28 Song Gianh Cement Joint Stock Company	Cement	Vietnam	(84) 232-3535-098	(84) 232-3535-071	Ordinary shares	226	3,284	100	100
29 Mien Trung Cement One Member Company Limited	Cement	Vietnam	(84) 511-2227-803	(84) 511-3784-139	**	-	23	100	100

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Name	Principal Business / Products	Location (Head Office / Factory)	Telephone	Facsimile	Type of shares	Number of paid-up shares (Million shares)	Issued and paid-up shares (Million Baht)	Direct / Indirect Company and Subsidiaries Holding (Percent)	Total Direct / Indirect Holding * (Percent)
30 Danang Cement One Member Company Limited	Cement	Vietnam	(84) 511-3481-302	(84) 511-3481-302	**	-	15	100	100
31 Phu Yen Cosevco Cement Company Limited	Cement	Vietnam	(84) 57-3790-178	(84) 57-3790-236	**	-	15	100	100
32 SCG Building Materials Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	149	14,894	100	100
33 Cementhai Gypsum Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	7	193	100	100
34 MRC Roofing Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2555-0001	Ordinary shares	8	762	100	100
35 Cementhai Ceramics Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	60	6,037	100	100
36 Cementhai Roof Holdings Philippines, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	14	136	100	100
37 Cementhai Ceramics Philippines Holdings, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	174	192	100	100
38 Cementhai Gypsum (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	(65) 6297-9662	Ordinary shares	14	278	100	100
39 The Siam Fibre-Cement Co., Ltd.	Fiber cement products / roofing ceiling wall floor and decorative materials	Saraburi	66-2586-3333	66-2586-2761	Ordinary shares	110	11,000	100	100
40 Siam Fibre Cement Group Co., Ltd. (Formerly: The Fibre-Cement Products (Lampang) Co., Ltd.)	Fiber cement products / ceiling and wall	Lampang	66-5433-7301-5	66-5433-7300	Ordinary shares	2	230	100	100
41 SCG Landscape Co., Ltd.	Concrete blocks for floor wall and fence	Saraburi	66-2586-6822	66-2586-6800	Ordinary shares	16	1,630	100	100
42 Siam Fiberglass Co., Ltd.	Insulation and glass wools	Saraburi	66-3637-3441-4	66-3637-3445-6	Ordinary shares	13	422	100	100
43 The CPAC Roof Tile Co., Ltd.	Concrete roof tiles	Nakorn Prathom / Saraburi / Chonburi / Khonkaen / Nakorn Sri Thammaraj / Lamphun / Nakorn Rajchasma	66-2586-3333	66-2586-4308	Ordinary shares	10	1,030	100	100
44 SCG Concrete Roof (Vietnam) Co., Ltd.	Concrete roof tiles	Vietnam	(84) 274-3767-581-4	(84) 274-3767-686	**	-	235	100	100
45 SCG Concrete Roof (Cambodia) Co., Ltd.	Concrete roof tiles	Cambodia	(855) 23-454-3888	-	Ordinary shares	0.1	43	100	100
46 Thai Ceramic Roof Tile Co., Ltd.	Ceramic roof tiles	Saraburi	66-2586-3333	66-2586-5017	Ordinary shares	4	400	100	100
47 PT SCG Lightweight Concrete Indonesia	Light-weight concrete	Indonesia	(6226) 7861-0360	(6226) 7861-0361	Ordinary shares	4	1,253	100	100
48 SCG Distribution Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-5454	Ordinary shares	270	15,109	100	100
49 SCG Cement-Building Materials Company Limited	Holding company / Domestic distribution	Bangkok	66-2586-3333	66-2586-2961	Ordinary shares	976	22,257	100	100
50 SCG International Corporation Co., Ltd. (Formerly: SCG Trading Co., Ltd.)	International trading	Bangkok	66-2586-2222	66-2587-2159	Ordinary shares	4	400	100	100
51 SCG Trading Australia Pty. Ltd.	International trading	Australia	(612) 9439-1441	(612) 9436-0195	Ordinary shares	0.2	5	100	100
52 SCG International China (Guangzhou) Co., Ltd. (Formerly: SCG Trading Guangzhou Co., Ltd.)	International trading	China	(86) 208-365-2559	(86) 208-365-2595	Ordinary shares	0.03	24	100	100
53 SCG Trading Hong Kong Limited	International trading	Hong Kong	(852) 2838-6456	(852) 3549-7219	Ordinary shares	45	220	100	100
54 SCG Trading Philippines Inc.	International trading	Philippines	(632) 501-8634	(632) 501-8635	Ordinary shares	0.5	38	100	100
55 SCG Trading USA Inc.	International trading	USA (1310)	323-2194-106	(1310) 324-9528	Ordinary shares	0.1	36	100	100
56 PT SCG Trading Indonesia	International trading	Indonesia	(6221) 350-9488	(6221) 352-0718	Ordinary shares	8	8	100	100
57 SCG Trading Lao Co., Ltd.	International trading	Lao PDR	(856) 21-454-596-7	(856) 21-454-598	Ordinary shares	0.02	11	100	100
58 SCG Marketing Philippines Inc.	International trading	Philippines	(632) 501-8634 (632) 501-8630	(632) 501-8635	Ordinary shares	1	90	100	100
59 SCGT Malaysia Sdn. Bhd.	International trading	Malaysia	(60) 35-632-0168	(60) 35-632-0158	Ordinary shares	2	14	100	100

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60 SCG Trading (Cambodia) Co., Ltd.	International trading	Cambodia	(855) 23-990-401-5	(855) 23-990-400	Ordinary shares	0.0001	1	100	100
61 SCG Trading Middle East Dmcc	International trading	UAE	(971) 4-552-0293	(971) 4-552-0294	Ordinary shares	0.001	11	100	100
62 SCG Trading Vietnam Co., Ltd.	Logistics service, international trading and local distribution	Vietnam	(84) 83-5269-001	(84) 83-5269-009	**	-	64	100	100
63 SCG International India Private Limited	International trading	India	(91) 124-400-6413	-	Ordinary shares	1	27	100	100
64 SCG Logistics Management Co., Ltd.	Logistics service	Bangkok	66-2586-3333	66-2586-2158	Ordinary shares	33	3,340	100	100
65 SCG Logistics Lao Co., Ltd.	Logistics service	Lao PDR	(856) 20-9591-9650	-	Ordinary shares	0.1	13	100	100
66 SCG Logistics Management (Cambodia) Co., Ltd.	Logistics service	Cambodia	(855) 23-966-206	(855) 23-966-205	Ordinary shares	0.03	11	100	100
67 Unify Smart Tech Joint Stock Company	Information Technology service	Vietnam	(84) 90-5559-562	-	Ordinary shares	1	7	100	100
68 SCG Trading Services Co., Ltd.	Business services	Bangkok	66-2586-2222	66-2586-2250	Ordinary shares	0.1	10	100	100
69 Myanmar CBM Services Co., Ltd.	Business services	Myanmar	(951) 966-2014	(951) 966-2014	Ordinary shares	0.02	66	100	100
70 Nexter Digital Co., Ltd. (Formerly: Tip Fibre-Cement Co., Ltd.)	Business services	Bangkok	66-2586-6950	-	Ordinary shares	10	50	100	100
71 BetterBe Marketplace Co., Ltd. (Formerly: Cementhai Home Services Co., Ltd.)	Business services	Bangkok	66-2586-4111	66-2586-4017	Ordinary shares	10	149	100	100
72 SCG Sourcing Co., Ltd.	Retail	Bangkok	66-2586-3333	66-2586-5625	Ordinary shares	1	100	100	100
73 Nexter Retail Co., Ltd.	Franchise - retail business	Bangkok	66-2586-3333	-	Ordinary shares	0.5	47	100	100
74 SCG Experience Co., Ltd.	Exhibition center, services and consultation	Bangkok	66-2101-9922	66-2101-9920	Ordinary shares	5	500	100	100
75 SCG Skills Development Co., Ltd.	Logistics skills development school for SCG business partners	Saraburi	66-3672-4377	66-3672-4378	Ordinary shares	0.1	5	100	100
76 SCG Retail Holding Co., Ltd.	Holding company	Bangkok	66-2586-3333	-	Ordinary shares	24	2,400	100	100
77 Prime Group Joint Stock Company	Holding company	Vietnam	(84) 211-3888-987	-	Ordinary shares	101	1,413	100	100
78 Prime Trading, Import and Export One Member Limited Liability Company	Marketing and sales of floor and wall ceramic tiles	Vietnam	(84) 211-3888-987	-	**	-	420	100	100
79 Prime International Import-Export and Service Trading Company Limited	Marketing and sales of sanitary ware	Vietnam	(84) 211-3888-386	-	**	-	6	100	100
80 Prime - Ngoi Viet Joint Stock Company	Clay roof tiles	Vietnam	(84) 211-3597-696	-	Ordinary shares	25	350	100	100
81 Prime Pho Yen Joint Stock Company	Floor ceramic tiles	Vietnam	(84) 280-3866-632	-	Ordinary shares	15	210	100	100
82 Prime - Yen Binh Joint Stock Company	Wall ceramic tiles	Vietnam	(84) 211-3866-152	-	Ordinary shares	13	182	100	100
83 Prime - Tien Phong Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3888-174	-	Ordinary shares	12	168	100	100
84 Prime - Vinh Phuc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3866-637	-	Ordinary shares	25	350	100	100
85 Prime - Truong Xuan Joint Stock Company	Water heater and mechanical	Vietnam	(84) 211-3726-552	-	Ordinary shares	6	84	99	99
86 Buu Long Industry and Investment Joint Stock Company	White cement	Vietnam	(84) 251-3965-475	(84) 251-3965-478	Ordinary shares	4	56	99	99
87 PT Semen Jawa	Cement	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	331	10,778	98	98
88 PT KIA Serpih Mas	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	3,143	1,528	97	97
89 PT KIA Keramik Mas	Ceramic roof tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	2,926	2,162	96	96
90 PT Keramik Indonesia Assosiasi, Tbk.	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	14,929	5,603	96	96
91 Prime Dai An Joint Stock Company	Exploration and processing materials	Vietnam	(84) 211-6535-659	-	Ordinary shares	3	35	95	95
92 Kampot Cement Co., Ltd.	Cement	Cambodia	(855) 23-996-839	-	Ordinary shares	13	4,275	94	94

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93 PT Tambang Semen Sukabumi	Limestone quarry	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	3	8	93	93
94 SCG Ceramics Public Company Limited	Floor and wall ceramic tiles and Industrial Estate	Bangkok	66-2586-4092	66-2587-0162	Ordinary shares	5,963	5,963	91	91
95 PT Kokoh Inti Arebama Tbk.	Building materials distribution	Indonesia	(6221) 350-6227	(6221) 350-1767	Ordinary shares	981	350	91	91
96 The Siam Sanitary Fittings Co., Ltd.	Faucets and fittings	Bangkok	66-2973-5040-54	66-2529-1608	Ordinary shares	2	200	91	91
97 Prime Dai Viet Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3845-238	-	Ordinary shares	13	182	90	90
98 Prime Thein Phuc Joint Stock Company	Exploration and processing materials	Vietnam	(84) 234-3626-282	-	Ordinary shares	5	70	90	90
99 Prime Phong Dien Joint Stock Company	Manufacture of materials	Vietnam	(84) 234-3625-966	-	Ordinary shares	3	35	90	90
100 Prime Dai Loc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 235-3509-999	-	Ordinary shares	30	414	90	90
101 CPAC Cambodia Co., Ltd.	Ready-mixed concrete	Cambodia	(855) 12-222-102	-	Ordinary shares	0.002	128	90	90
102 Saraburirat Co., Ltd.	Floor and wall concrete tiles	Saraburi	66-2586-6822	66-2586-6800	Ordinary shares	1	96	83	83
103 Mariwasa-Siam Ceramics, Inc.	Floor and wall ceramic tiles	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	600	430	80	83
104 SCG Myanmar Concrete and Aggregate Co., Ltd.	Ready-mixed concrete and related products	Myanmar	(959) 783-914-137 (959) 783-914-139	-	Ordinary shares	6	207	80	80
105 PT Surya Siam Keramik	Ceramic floor tiles	Indonesia	(6221) 5397-091	(6221) 5397-094	Ordinary shares	0.01	87	80	80
106 Green Conservation Solution Co., Ltd.	Municipal solid waste management service and use refuse derived fuel as alternative energy	Bangkok	66-2586-3333	66-2586-2979	Ordinary shares	2	185	74	74
107 Siam Sanitary Ware Co., Ltd.	Holding company	Bangkok	66-2973-5040-54	66-2551-3512	Ordinary shares	1	60	71	71
108 Siam Sanitary Ware Industry Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-3626-3522	Ordinary shares	2	200	71	71
109 Siam Sanitary Ware Industry (Nongkhai) Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-3637-3664	Ordinary shares	2	160	71	71
110 Mawlamyine Cement Limited	Cement	Myanmar	(959) 796-093-056 (959) 978-757-519	-	Ordinary shares	0.1	1,631	70	70
111 Prime Hao Phu Joint Stock Company	Exploration and processing materials	Vietnam	(84) 27-383-2270	-	Ordinary shares	3	35	69	69
112 Quality Construction Products Public Company Limited	Autoclaved aerated concrete blocks, reinforced wall panels, floor panels and lintels for construction uses	Phra Nakhon Si Ayutthaya	66-3525-9131	66-3525-9130	Ordinary shares	400	400	68	68
113 Q-Con Eastern Co., Ltd.	Autoclaved aerated concrete blocks, reinforced wall panels, floor panels and lintels for construction uses	Rayong	66-3865-0515	66-3865-0517	Ordinary shares	59	590	68	68
114 SCGT Automobile Co., Ltd.	Dealer	Bangkok	66-2586-1402	66-2586-2203	Ordinary shares	15	146	67	67
115 SCG Yamato Express Co., Ltd.	Logistics service	Bangkok	66-2239-8999	66-2168-3230	Ordinary shares	0.6	633	65	65
116 Prime Dai Quang Joint Stock Company	Packaging	Vietnam	(84) 235-3761-666	-	Ordinary shares	2	28	56	56
117 Guangxi SCG Logistics Co., Ltd.	Logistics service	China	66-2586-1590	-	**	-	34	55	55
118 SCG-Shwe Me Logistics (Myanmar) Co., Ltd.	Logistics service	Myanmar	(959) 961-404-851	-	Ordinary shares	2	58	55	55
119 Panel World Co., Ltd.	Cement-bonded particleboard	Samutsakorn	66-3447-3067-70	66-3447-3063	Ordinary shares	2	245	55	55
120 Jumbo Barges and Tugs Co., Ltd.	Transportation by lighter	Bangkok	66-2872-3014-5	66-2872-3016	Ordinary shares	5	457	55	55
121 SCG-Sekisui Sales Co., Ltd.	Construction service and construction components for housing	Bangkok	66-2586-1323	66-2586-4364	Ordinary shares	8	825	51	51

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122 SCG-Boonthavorn Co., Ltd.	Franchise - retail business	Bangkok	0-2693-1108-6010	-	Ordinary shares	4	377	51	51
123 Mingalar Motor Co., Ltd.	Dealer	Myanmar	(951) 514-940	-	Ordinary shares	0.004	141	50	50
124 PT Siam-Indo Gypsum Industry	Gypsum boards	Indonesia	(6221) 8832-0028	(6221) 8832-0036	Ordinary shares	0.03	306	50	50
125 PT Siam-Indo Concrete Products	Fiber cement roof tiles	Indonesia	(6226) 743-2140	(6225) 743-2149	Ordinary shares	0.03	446	50	50
126 PT Pion Quarry Nusantara	Aggregates	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.01	16	49	49
127 Sosuco Ceramic Co., Ltd.	Floor and wall ceramic tiles	Saraburi	66-3637-6300	66-3637-6309	Ordinary shares	0.01	800	49	49
128 PT SCG Barito Logistics	Logistics service	Indonesia	(6221) 634-5668	(6221) 634-5666	Ordinary shares	4	103	49	49
129 Kampot Land Co., Ltd.	Land investment	Cambodia	(855) 12-442-737	-	Ordinary shares	0.001	0.2	46	46
Associates, Joint Ventures and Other Companies									
130 Global House International Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-5454	Ordinary shares	15	1,519	50	65
131 CMPI Land, Inc.	Land rental	Philippines	(632) 908-3720	(632) 750-6650	Ordinary shares	50	49	40	64
					Preferred shares	50	48		
132 SCG Nichirei Logistics Co., Ltd.	Cold Chain	Bangkok	66-2586-6610	66-2586-3136	Ordinary shares	6	570	51	51
133 Siam Smart Data Co., Ltd.	Holding company	Bangkok	66-2586-3021	66-2586-2391	Ordinary shares	0.03	30	51	51
134 Thai Prosperity Terminal Co., Ltd.	Shipping port	Samut Prakarn	66-2754-4501-9	66-2754-4513	Ordinary shares	1	63	50	50
135 Bangkok Interfreight Forwarding Co., Ltd.	Logistics service	Samut Prakarn	66-2754-4501-9	66-2754-4513	Ordinary shares	0.02	2	50	50
136 Sekisui-SCG Industry Co., Ltd.	Construction components for housing	Saraburi	66-3637-3478	66-3637-3480	Ordinary shares	23	2,325	49	49
137 Survey Marine Services Co., Ltd.	Land rental	Bangkok	66-2296-1490-2	66-2296-1494	Ordinary shares	0.4	37	48	48
138 Noritake SCG Plaster Co., Ltd.	Manufacture and distribute plaster	Saraburi	66-3637-3578-82	66-3637-3577	Ordinary shares	4	405	40	40
139 Mariwasa Holdings, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	248	235	40	40
140 Green Siam Resources Corporation	Baling business	Philippines	(632) 501-8631	(632) 501-8631	Ordinary shares	13	95	40	40
141 CMPI Holdings, Inc.	Holding company	Philippines	(632) 813-1666	(632) 813-1704	Ordinary shares	48	55	40	40
142 Siam Saison Co., Ltd.	Financial service	Bangkok	66-2586-3021	66-2586-2391	Ordinary shares	0.05	48	31	31
143 Siam Global House Public Company Limited	Building materials and home improvement products distribution	Roi Et	66-4351-9597	66-4351-1492	Ordinary shares	4,001	4,001	30	30
144 Anhui Conch-SCG Refractory Co., Ltd.	Refractory	China	(86) 553-839-9857	(86) 553-839-9888	**	-	497	30	30
145 The Siam Gypsum Industry Co., Ltd.	Holding company	Bangkok	66-2555-0055	66-2555-0001-6	Ordinary shares	2	150	29	29
146 The Siam Gypsum Industry (Saraburi) Co., Ltd.	Gypsum board / product derived from gypsum and plaster	Saraburi	66-3621-8200	66-3621-8201	Ordinary shares	5	470	-	29
147 The Siam Gypsum Industry (Songkhla) Co., Ltd.	Gypsum board / product derived from gypsum and plaster	Songkhla	66-7420-0400	66-7420-0401	Ordinary shares	1	120	-	29
148 PT Catur Sentosa Adiprana Tbk	Retailer and distributor of construction materials	Indonesia	(6221) 566-8801	(6221) 5696-5178	Ordinary shares	4,458	1,030	29	29
149 PT Catur Mitra Sejati Sentosa	Modern retail business	Indonesia	(6221) 5420-4999	(6221) 5421-7375 (6221) 5421-7383	Ordinary shares	7,000	1,617	-	29
150 PT Catur Sentosa Berhasil	Modern retail business	Indonesia	(6221) 580-0757	(6221) 580-0758	Ordinary shares	130	300	-	29
151 PT Catur Sentosa Anugerah	Distribution	Indonesia	(6221) 619-7255	(6221) 619-0009	Ordinary shares	0.1	185	-	29
152 PT MClass Industry	Clay roof tiles	Indonesia	(6202) 6743-6888	(6221) 539-7094	Ordinary shares	34.0	222	28	28

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153 PT Caturaditya Sentosa	Distribution	Indonesia	(6221) 4682-6456-58	(6221) 4682-6455	Ordinary shares	0.003	7	-	26
154 Asia Pacific Logistics and Transportation Joint Stock Company	Logistics service	Vietnam	(84) 43-7738-420	(84) 43-7738-421	Ordinary shares	2	44	25	25
155 PT Catur Logamindo Sentosa	Distribution	Indonesia	(6227) 445-2010	(6227) 445-2011	Ordinary shares	0.002	3	-	20
156 Global House (Cambodia) Company Limited	Building materials and home improvement products distribution	Cambodia	(855) 23-232-232	(855) 23-232-231	Ordinary shares	0.001	420	-	17
157 PT Catur Hasil Sentosa	Modern retail business	Indonesia	(6272) 132-057	(6272) 132-058	Ordinary shares	0.001	2	-	16
158 PT Kusuma Kemindo Sentosa	Distribution	Indonesia	(6221) 565-3736 (6221) 5694-2213	(6221) 566-9443 (6221) 560-2025	Ordinary shares	2	5	-	15
159 PT Caturadiluhur Sentosa	Distribution	Indonesia	(6271) 1564-5723-29	(6271) 1564-5730	Ordinary shares	0.01	23	-	15
160 PT Eleganza Tile Indonesia	Distribution	Indonesia	(6221) 566-6360	(6221) 568-2081	Ordinary shares	0.03	58	-	15
161 Asia Cement Public Company Limited	Cement	Bangkok	66-2641-5600	-	Ordinary shares	778	4,671	10	10
162 Finfloor S.p.A.	Holding company	Italy	(39) 05-3684-0111	(39) 05-3684-0322	Ordinary shares	11	429	10	10
Chemicals Business									
Subsidiaries									
163 SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-4762	66-2586-5561	Ordinary shares	344	32,277	100	100
164 Thai Polyethylene Co., Ltd.	Polyethylene and polypropylene	Rayong	66-3868-3393-7	66-3868-3398	Ordinary shares	52	5,190	100	100
165 SCG Plastics Co., Ltd.	Trading	Bangkok	66-2586-6161	66-2910-4022	Ordinary shares	0.1	5	100	100
166 SCG Performance Chemicals Co., Ltd.	Trading	Bangkok	66-2586-4115	66-2586-3676	Ordinary shares	0.1	3	100	100
167 SCG Chemicals Trading Singapore Pte. Ltd. (Formerly: SCG Singapore Trading Pte. Ltd.)	International trading	Singapore	(65) 6221-5368	(65) 6221-5346	Ordinary shares	1	23	100	100
168 Rayong Engineering & Plant Service Co., Ltd.	Engineering and plant service	Rayong	66-3868-5040-8	66-3891-1309	Ordinary shares	0.04	2	100	100
169 Protech Outsourcing Co., Ltd.	Engineering and plant service	Rayong	66-3868-2632-3	66-3868-2633	Ordinary shares	0.01	1	100	100
170 RIL 1996 Co., Ltd.	Industrial Estate	Rayong	66-3868-9471-2	66-3891-1955	Ordinary shares	11	1,100	100	100
171 Texphore Co., Ltd.	Chemical technology services	Rayong	66-2586-6353	66-2586-2086	Ordinary shares	0.01	1	100	100
172 Vina SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-5435	-	Ordinary shares	373	11,813	100	100
173 Long Son Petrochemicals Co., Ltd.	Raw materials for plastic resins	Vietnam	(84) 83-8257-226	(84) 83-8257-268	**	-	18,259	100	100
174 SCG Chemicals (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	38	804	100	100
175 Tuban Petrochemicals Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	112	2,349	100	100
176 Hexagon International, Inc.	Holding company	USA	66-2586-4444	-	Ordinary shares	2	67	100	100
177 Norner Holding AS	Holding company	Norway	(47) 3557-8000	(47) 3557-8124	Ordinary shares	0.01	3	100	100
178 Norner AS	Research and development	Norway	(47) 3557-8001	(47) 3557-8125	Ordinary shares	0.001	0.1	100	100
179 Norner Research AS	Research Institute	Norway	(47) 3557-8002	(47) 3557-8126	Ordinary shares	0.001	0.1	100	100
180 Norner IP AS	Technology service and licensing	Norway	(47) 3557-8003	(47) 3557-8127	Ordinary shares	0.001	0.1	100	100
181 Norner Verdandi AS	Technology service and licensing	Norway	(47) 3557-8004	(47) 3557-8128	Ordinary shares	0.01	3	100	100
182 CO2 Technologies AS	Holding company	Norway	(47) 3557-8005	(47) 3557-8129	Ordinary shares	0.001	0.5	100	100
183 SMH Co., Ltd.	Research and development and technology service	Bangkok	66-2586-4859	66-2586-6277	Ordinary shares	2	170	100	100

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184 PT TPC Indo Plastic and Chemicals	PVC	Indonesia	(6231) 395-2945	(6231) 395-2944	Ordinary shares	0.03	1,020	100	100
185 Thai Plastic and Chemicals Public Company Limited	PVC	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	875	875	100	100
186 TPC Paste Resin Co., Ltd.	PVC paste resins	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	3	333	100	100
187 The Nawaplastic Industries (Saraburi) Co., Ltd.	PVC pipe and fittings	Bangkok	66-2586-3930-5	66-2586-4305	Ordinary shares	4	400	100	100
188 Nawaplastic Industries Co., Ltd.	PVC pipe and PVC products	Bangkok	66-2586-3930-5	66-2586-2444	Ordinary shares	4	426	100	100
189 Nawa Intertech Co., Ltd.	Molding products	Rayong	66-3889-2190	66-3889-2244	Ordinary shares	0.4	40	100	100
190 Chemtech Co., Ltd.	Plastic compound	Vietnam	(84) 650-3784-992	(84) 650-3784-993	**	-	103	100	100
191 Total Plant Service Co., Ltd.	Holding company	Rayong	66-3868-7320-3	66-3892-5299	Ordinary shares	12	1,180	100	100
192 SENFI UK Limited	Research and development	UK	66-2586-4444	-	Ordinary shares	1	43	100	100
193 SENFI Swiss GmbH	Marketing service	Switzerland	66-2586-4444	-	Ordinary shares	0.0003	1	100	100
194 Rayong Pipeline Co., Ltd.	Rights of pipe rack use	Rayong	66-3893-7065	66-3803-5381	Ordinary shares	4	200	92	92
195 SCG Ico Polymers Company Limited	Rotomolding compound	Bangkok	66-2586-2006	-	Ordinary shares	4	380	87	87
196 Map Ta Phut Tank Terminal Co., Ltd.	Tank and terminal service	Rayong	66-3868-9471-2	66-3891-1955	Ordinary shares	7	700	82	82
197 Viet-Thai Plastchem Co., Ltd.	PVC compound	Vietnam	(84) 650-3710-993	(84) 650-3740-065	**	-	75	72	72
198 TPC Vina Plastic and Chemicals Corporation Ltd.	PVC	Vietnam	(84) 83-8234-730	(84) 83-8234-725	**	-	1,013	70	70
199 Rayong Olefins Co., Ltd.	Raw materials for plastic resins	Rayong	66-3868-5040-8	66-3868-5036	Ordinary shares	108	10,820	51	68
200 Map Ta Phut Olefins Co., Ltd.	Raw materials for plastic resins	Rayong	66-3893-7000	66-3891-5310	Ordinary shares	225	22,520	55	67
201 Nawaplastic (Cambodia) Co., Ltd.	PVC pipe and fittings	Cambodia	(855) 23-882-072	(855) 23-885-172	Ordinary shares	1	179	60	60
202 Grand Nawaplastic Myanmar Co., Ltd.	PVC pipe and fittings	Myanmar	(959) 863-3988	-	Ordinary shares	1	237	57	57
203 PT Nusantara Polymer Solutions	Trading	Indonesia	(6221) 535-5678	(6221) 536-79185	Ordinary shares	1	23	50	55
204 Binh Minh Plastics Joint Stock Company	PVC pipe	Vietnam	(84) 83-9690-973	(84) 83-9606-814	Ordinary shares	82	1,123	54	54
205 Northern Binh Minh Plastics One Member Limited Company	PVC pipe	Vietnam	(84) 321-3967-868	(84) 321-3967-869	**	-	213	54	54
206 Flowlab & Service Co., Ltd.	Calibration service	Rayong	66-3891-1321-2	66-3891-1381	Ordinary shares	0.02	4	51	51
Associates and Other Companies									
207 SCG Plastics (China) Co., Limited	Trading	Hong Kong	(852) 2544-9991	(852) 2544-9992	Ordinary shares	0.1	4	60	60
208 SCG Plastics (Shanghai) Co., Ltd.	Trading	China	(86) 216-888-6091	(86) 216-888-6092	**	-	25	-	60
209 Siam Styrene Monomer Co., Ltd.	Raw materials for polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	48	4,755	50	50
210 Siam Synthetic Latex Co., Ltd.	Synthetic latex	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	59	5,789	50	50
211 Siam Polyethylene Co., Ltd.	Polyethylene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	45	4,455	49	50
212 Siam Polystyrene Co., Ltd.	Polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	10	995	50	50
213 MTP HPPO Manufacturing Co., Ltd.	Propylene oxide	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	32	3,150	-	50
					Preferred shares	48	4,750		
214 Rayong Terminal Co., Ltd.	Tank and terminal service	Rayong	66-3868-9471-2	66-2586-6220	Ordinary shares	14	1,325	-	50
215 PT Siam Maspion Terminal	Tank and terminal service	Indonesia	(6231) 395-2945-8	-	Ordinary shares	0.01	327	50	50
216 SD Group Service Co., Ltd.	Holding company	Bangkok	66-2365-7000	66-3868-3991	Ordinary shares	1	78	50	50
217 Bangkok Synthetics Co., Ltd.	Raw materials for synthetic rubber	Bangkok	66-2679-5120	66-2679-5119	Ordinary shares	12	1,173	49	49
218 Thai MMA Co., Ltd.	Raw materials for acrylic	Rayong	66-3868-5040-8	66-2586-5393	Ordinary shares	56	5,590	46	47

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219 Grand Siam Composites Co., Ltd.	Polypropylene compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	1	64	46	46
220 Thai MFC Co., Ltd.	Melamine compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	2	200	45	45
221 Siam Tohcello Co., Ltd.	Packaging film	Rayong	66-3801-0500	66-3801-0506	Ordinary shares	1	592	45	45
222 PT Trans-Pacific Polyethylene Indonesia	Polyethylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.2	472	39	39
223 PT Trans-Pacific Polyethyindo	Polyethylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	337	39	39
224 Riken (Thailand) Co., Ltd.	PVC compound	Bangkok	66-2501-1054	66-2501-1198	Ordinary shares	1	120	35	35
225 PT Chandra Asri Petrochemical Tbk.	Raw materials for plastic resins	Indonesia	(6221) 530-7950	(6221) 530-8930	Ordinary shares	17,834	27,248	31	31
226 PT Styrimdo Mono Indonesia	Raw materials for polystyrene	Indonesia	(6221) 530-8505	(6221) 530-8506	Ordinary shares	0.3	10,093	-	31
227 GTC Technology US, LLC	Chemical technology services	USA	66-2586-4444	-	Ordinary shares	0.2	102	25	25
228 GTC Technology International, LP	Chemical technology services	USA	66-2586-4444	-	Ordinary shares	13	191	25	25
229 Mitsui Advanced Composites (Zhongshan) Co., Ltd.	Polypropylene compound	China	(86) 760-533-2138	(86) 760-389-8880	Ordinary shares	15	596	20	20
230 Da Nang Plastics Joint Stock Company	PVC pipe	Vietnam	(84) 36-3714-460	(84) 36-3714-561	Ordinary shares	2	31	16	16
231 Binh Minh Viet Trading Investment Real Estate Joint Stock Company	Real estate business	Vietnam	(84) 83-9690-973	(84) 83-9606-814	Ordinary shares	21	288	14	14
232 PT SriThai Maspion Indonesia	Melamine compound	Indonesia	(6231) 891-3630	-	Ordinary shares	0.01	118	10	10
233 PT Trans-Pacific Polypropylene Indonesia	Polypropylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	220	10	10
234 PT Trans-Pacific Styrene Indonesia	Raw materials for polystyrene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	314	10	10
235 PT Trans-Pacific Petrochemical Indotama	Raw materials for aromatics	Indonesia	(6221) 574-5880	-	Ordinary shares	15	8,931	5	5
Packaging Business									
Subsidiaries									
236 SCG Packaging Public Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	156	1,563	99	99
237 Siam Kraft Industry Co., Ltd.	Kraft paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	35	3,450	99	99
238 Invenique Co., Ltd.	Asset and intellectual property management service	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	1	70	99	99
239 SCGP Excellence Training Center Co., Ltd.	Training and seminar	Bangkok	66-2586-3876	66-2586-4507	Ordinary shares	1	49	99	99
240 SCG Paper Energy Co., Ltd.	Energy	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	9	890	99	99
241 SCGP Solutions Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	2	170	99	99
242 SCGP-T Plastics Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	1	149	99	99
243 SCGP Solutions (Singapore) Pte. Ltd.	Holding company	Singapore	66-2586-3333	66-2586-2164	Ordinary shares	30	727	99	99
244 United Pulp and Paper Co., Inc.	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	141	1,082	99	99
					Preferred shares	840	3,246		
245 Paperlink Inter-Trade Corporation	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	0.1	1	99	99
246 Thai Cane Paper Public Company Limited	Kraft paper	Kanchanaburi	66-3461-5800	66-3461-5899	Ordinary shares	358	3,583	97	97
247 Precision Print Co., Ltd.	Offset-printed cartons	Samutsakorn	66-2105-4477	66-3445-2339	Ordinary shares	3	33	74	74
248 Conimex Co., Ltd.	Rigid plastic packaging	Samut Prakarn	66-2738-0305	66-2738-0318	Ordinary shares	4	420	74	74
249 Thai Containers Group Co., Ltd.	Corrugated boxes	Bangkok / Ratchaburi / Samut Prakarn / Pathumthani	66-2586-5991	66-2586-4723	Ordinary shares	14	1,384	69	69
250 Thai Containers Khonkaen Co., Ltd.	Corrugated boxes	Khonkaen	66-2586-3333	66-2586-2164	Ordinary shares	0	150	69	69

* Directly and indirectly holding through the Company, subsidiaries, joint ventures, associates and other companies.

Name	Principal Business / Products	Location (Head Office / Factory)	Telephone	Facsimile	Type of shares	Number of paid-up shares (Million shares)	Issued and paid-up shares (Million Baht)	Direct / Indirect Company and Subsidiaries Holding (Percent)	Total Direct / Indirect Holding * (Percent)
251 Thai Containers Rayong Co., Ltd.	Corrugated boxes	Rayong	66-2586-3333	66-2586-2164	Ordinary shares	1	650	69	69
252 Vina Kraft Paper Co., Ltd.	Kraft paper	Vietnam	(848) 268-0240-2	(848) 268-0239	**	-	6,069	69	69
253 TCG Rengo (S) Limited	Corrugated boxes	Singapore	(65) 6261-5846	(65) 6265-3144	Ordinary shares	2	56	69	69
254 New Asia Industries Co., Ltd.	Corrugated boxes	Vietnam	(84) 83-7294-160	(84) 83-7293-028	**	-	345	69	69
255 Alcamax Packaging (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 650-3743-031	(84) 65-0378-2816	**	-	607	69	69
256 AP Packaging (Hanoi) Co., Ltd.	Corrugated boxes	Vietnam	(84) 32-0375-3862	(84) 32-0375-2868	**	-	248	69	69
257 Packamex (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 83-7291-030	(84) 83-7291-031	**	-	220	69	69
258 Dyna Packs Co., Ltd.	Corrugated boxes	Samutsakorn	66-2810-9346-7	66-2810-9103	Ordinary shares	1	90	69	69
259 Orient Containers Co., Ltd.	Corrugated boxes	Samutsakorn	66-3488-3422-4	66-3488-3421	Ordinary shares	26	260	69	69
260 D-In Pack Company Limited	Corrugated boxes	Nakhonpathom	66-3498-1401-4	66-3498-1406-7	Ordinary shares	0.01	50	69	69
261 PT Indorisi Printingdo	Corrugated boxes	Indonesia	(6221) 596-0772-3	(6221) 596-0774 (6221) 596-3076	Ordinary shares	0.02	55	69	69
262 Phoenix Pulp & Paper Public Company Limited	Bleached pulp / Printing and writing paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	236	2,365	69	69
263 Phoenix Utilities Co., Ltd.	Utilities	Khonkaen	66-4343-3104-6	66-4343-3101	Ordinary shares	15	1,500	69	69
264 Thai Paper Co., Ltd.	Printing and writing paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	78	7,770	69	69
265 Thai Union Paper Public Company Limited	Printing and writing paper	Samut Prakarn	66-2754-2100-10	66-2754-2118	Ordinary shares	43	430	69	69
266 The Siam Forestry Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	2	184	69	69
267 Panas Nimit Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
268 Thai Panason Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
269 Thai Panadorn Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
270 Thai Panaram Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
271 Suanpa Rungsaris Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
272 Siam Panawes Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
273 Thai Panaboon Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
274 Thai Wanabhum Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
275 Interpress Printers Sendirian Berhad	Food packaging	Malaysia	(60) 35-542-1716	(60) 35-542-1703	Ordinary shares	47	384	68	68
					Preferred shares	28	225		
276 PT Primacorr Mandiri	Corrugated boxes	Indonesia	(6221) 596-2345	(6221) 596-2000	Ordinary shares	0.1	294	67	67
277 PT Indocorr Packaging Cikarang	Corrugated boxes	Indonesia	(6221) 893-6868	(6221) 893-6565	Ordinary shares	0.4	258	55	55
278 TC Flexible Packaging Co., Ltd.	Holding company	Bangkok	66-2586-5991	66-2586-4723	Ordinary shares	21	2,108	52	52
279 Tawana Container Co., Ltd.	Corrugated boxes	Samut Prakarn	66-2324-0781	66-2324-0079	Ordinary shares	3	300	50	50
280 Tin Thanh Packing Joint Stock Company	Flexible packaging	Vietnam	(84) 72-3779-747	(84) 72-3779-750	Ordinary shares	10	158	47	47
281 Prepack Thailand Co., Ltd.	Flexible packaging	Samutsakorn	66-3444-0600-5	66-3444-0606-7	Ordinary shares	3	322	37	37
		Samut Songkhram / Rayong			Preferred shares	1	90		
Associates									
282 Siam Toppan Packaging Co., Ltd.	Offset-printed cartons	Samut Prakarn	66-2709-3110-7	66-2324-0336	Ordinary shares	5	500	49	49
283 P&S Holdings Corporation	Holding company	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	28	263	40	40

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The capital contribution is as stipulated in the investment certificate of the invested company.

Name	Principal Business / Products	Location (Head Office / Factory)	Telephone	Facsimile	Type of shares	Number of paid-up shares (Million shares)	Issued and paid-up shares (Million Baht)	Direct / Indirect Company and Subsidiaries Holding (Percent)	Total Direct / Indirect Holding * (Percent)
284 Siam Nippon Industrial Paper Co., Ltd.	Specialty paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	11	1,100	31	31
285 Saha Green Forest Co., Ltd.	Energy and utilities	Kamphaengphet	66-5585-8033	66-5585-8031	Ordinary shares	19	190	17	17
Other Subsidiaries									
286 Cementhai Holding Co., Ltd.	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	0.01	1	100	100
287 Cementhai Property (2001) Public Company Limited	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	7	72	100	100
288 Property Value Plus Co., Ltd.	Land business and land lease service	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	8	820	100	100
289 SCG Accounting Services Co., Ltd.	Accounting, financial and tax services	Bangkok	66-2586-3333	66-2586-2398	Ordinary shares	1	5	100	100
290 SCG Legal Counsel Limited	Legal consultant	Bangkok	66-2586-5777	66-2586-2976	Ordinary shares	0.2	15	100	100
291 CTO Management Co., Ltd.	Marketable securities investment	Bangkok	66-2586-3333	66-2587-2157	Ordinary shares	25	380	100	100
292 Cementhai Captive Insurance Pte. Ltd.	Insurance	Singapore	66-2586-3333	66-2587-2157	Ordinary shares	0.3	34	100	100
293 Siam Innovation Product and Solution Co., Ltd.	Provide innovative technology products and services	Bangkok	66-2586-3333	66-2587-2157	Ordinary shares	1	13	100	100
294 SCG Learning Excellence Co., Ltd.	Training service	Bangkok	66-2586-3333	66-2586-2684	Ordinary shares	0.2	20	100	100
295 SCG Vietnam Co., Ltd.	Management consulting service	Vietnam	(84) 83-526-9011-13	(84) 83-526-9014	**	-	16	100	100
296 PT SCG Indonesia	Management consulting service	Indonesia	(6221) 350-9491	(6221) 352-0718	Ordinary shares	0.1	26	100	100
297 Bangsue Industry Co., Ltd.	Provide products and services on new online platform and others	Bangkok	66-2586-1920	-	Ordinary shares	4	303	100	100
298 Add Ventures Capital Co., Ltd.	Venture capital	Bangkok	66-2586-3333	-	Ordinary shares	12	305	100	100
299 Add Ventures Capital International Co., Ltd.	Overseas venture capital	Bangkok	66-2586-3333	-	Ordinary shares	5	455	100	100
300 Siam GNE Solar Energy Co., Ltd.	Manufacturing and sales the electricity from renewable energy	Bangkok	66-2586-5684	66-2586-6284	Ordinary shares	0.2	16	50	50
Associates and Other Companies									
301 Siam Kubota Corporation Co., Ltd.	Agricultural machinery	Pathumthani	66-2909-0300-1	66-2909-1698	Ordinary shares	31	2,739	40	40
302 Siam Kubota Metal Technology Co., Ltd.	Cast iron	Chachoengsao	66-3885-5115	66-3885-5110	Ordinary shares	9	900	-	40
303 Siam Kubota Leasing Co., Ltd.	Leasing	Pathumthani	66-2909-0300	66-2909-1697	Ordinary shares	80	2,000	-	40
304 Siam AT Industry Co., Ltd.	Automotive parts	Chonburi	66-3845-4266-8	66-3845-4266	Ordinary shares	2	240	30	30
305 Thai Engineering Products Co., Ltd.	Automotive parts	Pathumthani	66-2529-3518-22	66-2529-1677	Ordinary shares	1	85	29	30
306 The Nawaloha Industry Co., Ltd.	Cast iron	Saraburi	66-3633-6531-4	66-3622-3209	Ordinary shares	3	300	30	30
307 Aisin Takaoka Foundry Bangkok Co., Ltd.	Cast iron	Chonburi	66-3845-4671-7	66-3845-4670	Ordinary shares	5	475	30	30
308 Muang Thong United Co., Ltd.	Football team	Bangkok	66-2508-8100	66-2508-3369	Ordinary shares	3	233	30	30
309 The Siam Nawaloha Foundry Co., Ltd.	Cast iron	Saraburi	66-3628-8300	66-3628-8309	Ordinary shares	3	308	20	25
310 Lysando AG	Research and development	Liechtenstein	(423) 262-5753	(423) 262-5752	Ordinary shares	1	39	20	20
311 IT One Co., Ltd.	Technical services	Bangkok	66-2271-5111	66-2271-5112	Ordinary shares	1	80	20	20
312 Toyota Motor Thailand Co., Ltd.	Automotives	Samut Prakarn	66-2386-1000	66-2386-1883	Ordinary shares	8	7,520	10	10
313 Siam Yamato Steel Co., Ltd.	Structural steel	Rayong	66-3868-3723-30	66-3868-3200	Ordinary shares	30	3,000	10	10
314 Siam Toyota Manufacturing Co., Ltd.	Automotive engines and automotive parts	Chonburi	66-3821-3451-5	66-3874-3310	Ordinary shares	29	2,850	4	4

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2. Operation of Key Business Units

Revenue Structure for Year 2018

	(in Million Baht)				
	Revenue from sales	Other Income	Total Revenue	Sale breakdown (%)	Equity in Associates *
Cement-Building Materials Business	182,952	2,400	185,352	35.08	924
Chemicals Business	221,538	4,393	225,931	46.08	11,183
Packaging Business	87,255	515	87,770	17.90	(15)
Other	100	9,133	9,233	0.94	2,951
Total Consolidated	478,438	11,823	490,261	100.00	15,047

Remark: Financial figures are classified according to business unit before intersegment elimination, as disclosed in note 24 to the financial statements pages 230-235 of the Annual Report 2018 .

*Share of profit of associates and jointly ventures entities recognized by using equity method.

Key operations of each business unit

Cement-Building Materials business

Cement-Building Materials business consists of cement, building materials and distribution business, focuses on developing High Value Added Products & Services (HVA) and aims to be the market leader in both domestics and ASEAN. The main products in the company are cement product group, building material product group, and ceramic product group.

Key Information			
Capacity	<ul style="list-style-type: none"> Grey cement (Thailand) 23 million tons per year Grey cement (Outside Thailand) 10.5 million tons per year Ready-mixed concrete 767 plants Roofing products 97.2 million Sq. M. per year Ceiling/board/wood substitutions 103 million Sq. M. per year Floor and wall ceramic tiles 210 million Sq. M. per year 		
Brand	<ul style="list-style-type: none"> Grey cement: SCG and K-Cement Mixed/Masonry cement: SCG, Tiger, and K-Cement Mortar cement: SCG and Tiger Mortar Decorative cement: SCG and Tiger Décor White cement: SCG and Tiger Décor Ready-mixed concrete: SCG, Jayamix by SCG and CPAC Fireclay bricks and special refractory: SRIC Aerated Lightweight Concrete: Q-CON and SCG 		

Key Information	
	<ul style="list-style-type: none"> • PVC pipe and accessories: SCG and Tiger • Concrete pipe and precast: SCG • Roofing products: SCG • Ceiling/board/wood substitutions: SCG • Concrete blocks, concrete floor tiles and precast concrete walls: SCG • Reinforcing steel: SCG • Thermal and acoustic insulations: SCG • Home building service: SCG HEIM • Precast concrete system: SCG • Solar roof system: SCG • Active AIRflow™ system: SCG Living Tech • Prefabricated wall system (S Wall, Fulfill Wall): SCG • Prefabricated wall system (Walli-T): Tiger • Unit bathroom: SCG • Products/service/installation for elderly: SCG Elder Care Solution • Complete consulting service on eco-friendly buildings in line with international standards: SCG Green Building Solution • Ceramic floor and wall tiles: COTTO, SOSUCO, CAMPANA, Prime, KIA and Mariwasa • Pyrolithic stone: GEOLUXE • Sanitary ware, sanitary fittings and bathroom: COTTO • Total solution in tiles and sanitary wares: COTTO Studio • Building materials flagship store: SCG Experience • Building materials retail store: SCG Home Solution • Logistics and delivery services: SCG Logistics and SCG Express • Import/export service: SCG Trading
Strengths	<ul style="list-style-type: none"> • Major integrated producer of cement and building material products in ASEAN • The second world's largest production capacity in floor and wall ceramic tiles • Sustainable development philosophy Embeddment in parts of company policies and operations • Rigorous in-house R&D efforts to create innovative products and services
Major Business Policy	<ul style="list-style-type: none"> • Expand business in ASEAN in order to be the regional market owner • Maintain price and market stability as well as enhance its domestic market leadership • Develop high value added products and services (HVA)

Key Information	
	<ul style="list-style-type: none"> Continuously conserve and reduce natural resources consumption, protect environment and join social development program with local community for sustainable development

2.1 Product or Service Features

Products and services are primarily classified by companies as follows:

Cement group

1. Grey cement
2. White cement
3. Mortar cement
4. Ready mixed-concrete
5. Fireclay bricks and special refractory
6. Precast concrete system

Building Material Group

7. Aerated Lightweight Concretes (ALC)
8. Roofing products (fiber cement roof, concrete roof, ceramic roof, metal roof, clay roof, and glasolit roof), roof truss and accessories
9. Ceiling, wall, floor, fiber cement board and cement board products
10. Wood substituted products
11. Landscape products (paving block, paving tile, wall tile and fence)
12. Reinforcing steel
13. Thermal and acoustic insulation
14. PVC pipe and accessories
15. Concrete pipe and precast
16. Solar roof system
17. Active AirflowTM system
18. Prefabricated wall system (S Wall, Fulfill Wall)
19. Prefabricated wall system (Walli-T)
20. Unit bathroom

Ceramic group

21. Floor and wall tiles
22. Pyrolithic stone
23. Sanitary ware, sanitary fittings, and bathroom

Other products and services

24. Logistics service
25. Import/export service
26. Disposal of industrial waste
27. Other products and services such as roofing center, and home product and service

28. An expert consultant specializing in sustainability advice and services on both national and international green building standard practices
29. Products/service/installation for elderly
30. Home building service
31. Total solution in tiles and sanitary wares

2.2 Market and Competition

A. Policy and Market Features of Main Products and Services

- Policy and Market Features

1) Competitive Strategy

- The business rigorously creates value to customers through high value added products and services (HVA) to differentiate and respond to customers' needs such as continuing products improvement through R&D, becoming trend settler, and developing eco-friendly products to reduce natural resource consumption. In addition, the business has its own Research and Development institution that allows business to efficiently develop its goods and services to serve the needs of each customer segment. Moreover, the business can flexibly support the trend changes toward cement industries and consumer's behaviors by improving better quality of products and launching new products to the market. For instance, SCG hybrid cement (Eco-friendly), Tiger Plastering cement, SCG Precast Cement, SCG marine cement, SCG Extra Durable cement, SCG Portland Pozzolan cement, Tiger Mortar General and Lightweight Block Plastering Xpert Formula crack resistant mortar cement, Tiger Tile Adhesive for ceramic granite marble granite tiles, Grey-White skim coat, Walli-T sound insulation, SCG WOOD with advanced bonding technology, X-TRUSION, SCG EXCELLA Classic Thai GLED-PLA, Porcelain tiles 'Calacatta Classico' and 'M-Stone' series which offer aestheticity and strength for versatile usage, thin ceramics technology 'COTTOCERAM™' in COTTO sensation series which makes wash basins look slimmer, Modern design toilet 'Simply Modish', Smart toilet Tunio Laconic series which combined design and technology combined together, and soft paddle faucet that designed produced with under universal design concept. Not only core product offerings, the business also provides total range of products, services and solutions to serve agricultural sector, government infrastructure projects, commercial buildings and residential segment by joining with various SCG alliances and partners.
- The business has policy to continuously increase production efficiency and implement cost reduction, for example, energy cost reduction, and waste reduction. Furthermore, the business also has its own cement business solution team to provide professional consultant and recommendation to the business partners and direct customers. This is not limited to advices on more efficient and effective production process, quality control and cost reduction as well as possible solution of any related problems. Therefore, customers can promptly and directly notify their problems to the customer complaint call center.

- The business gives priority to society, community and environment by providing many marketing and social activities, for example, “Membership program for contractors” as to improve their skills and living standard enhancement and “Project to educate architecture students” as to increase knowledge about building materials and construction technology.

2) Customer Features and Target Groups

- Cement product: products are sold to affiliate companies such as ready mixed concrete, concrete roof, board. Besides SCG customers, products are also sold to dealers, major concrete building material producers, and major contractors.
- Building material products: products are classified by pricing and target group of customers in each area. However, such products are value designed to respond to customer’s needs.
- Ceramic products can be classified into two customer segments: middle to lower and middle to upper segments.

3) Channel of Distribution

- Domestic distribution: the business provides strong domestic distribution network through sales campaign and activities to 500 dealers nationwide. System “Project Management” also be applied as one-stop solution service for customers to enhance most efficiency in products. The segment that needs consulting, designing, price estimation, and service installation, is served by the one-stop shop and one-stop service dealer called SCG Home Solution and COTTO Studio. The business further improves distribution strength towards renovation segment through retail channel by joint venture with Boonthavorn to enhance one stop service. Indeed, customer experience in all channels has been improved from SCG e-commerce and digitized through application and startup platforms.
- ASEAN distribution: for strategic countries, the business provides distribution network and sales campaign and activities which focus on the market situation in each country and also expand investment in retails business in Indonesia, Cambodia, Myanmar, and Vietnam.
- Distribution in other regions: SCG International Corporation Co., Ltd. (previously SCG Trading Co., Ltd.) as SCG’s subsidiary, is the SCG exporting agent to other countries. The export will focus on needs of destination customers or dealers in each country.

In addition, the business focuses on increasing efficiencies of business dealers as follows:

- Wholesales channel: The business increases dealers’ capabilities through loyalty program “SCG Family Chang Family”. The program not only support and co-implement system of cost reduction, warehouse and logistics management but also manage software to enhance their efficiency.
- Project channel: the business strengthens project channel through advanced information technology (IT) and supply chain management to connect all operations and serve customer needs. Moreover, the business also set up the customer service to support the

product installation to meet standard (onsite service) for customer's convenience and good installation.

- Retail channel: The business sustainably develops network through SCG Home solution and SCG – Boonthavorn in order to respond householder's requirements. For example, design service, price estimation, material selection, service installation, and products warranty. The business also expands network through loyalty program "SCG Family Chang Puean Chang" as to educate installers to improve their professional skills. Lastly, SCG Contact Center is established to provide solution and consultation directly to home owners.

- **Policy and Market Features of Main Products and Services**

Presently, the business has five grey cement plants in Thailand: 1) Ta Luang cement plant 2) Khao Wong cement plant 3) Kaeng Khoi cement plant (Saraburi) 4) Thung Song cement plant (Nakorn Sri Thammarat) 5) Lampang cement plant (Lampang). Under total production capacity of 23 million tons, the business gains the highest market share in Thailand compared to other domestic cement producers. In terms of building materials group, the business has factories in Saraburi, Nakhon Prathom, Lampang, Lamphun, Chonburi, Khonkaen, Nakhon Ratchasima, and Nakhon Si Thammarat to produce roofing products, ceiling and board products. Recently, the business rigorously expands marketing activities of cement and housing products in 5 countries in ASEAN: Indonesia, Myanmar, Cambodia, Vietnam, and Philippines by focusing on strengthening sales and distribution channels.

For Ceramic business, there are floor and wall tiles plant in domestic and regional with total capacity of 210 million Sq. meter per year: 1) Saraburi, Thailand 2) Philippines 3) Indonesia and 4) Vietnam. Furthermore, the sanitary ware and fitting business are still being the leader in domestic market. The business emphasizes to continuously develop sanitary ware and fitting business for being well known in global market in the future. The innovative products launched to the market as follows;

- 1) Expand production capacity of SCG Hybrid Cement (Eco-Friendly) as the product has special feature of reducing CO2 emissions in the manufacturing process which is a major cause of global warming. Furthermore, the product contributes strength and durability to the concrete structures as well.
- 2) Continue to increase competitive advantage of Silo & Spraying service by lifting up service standard and build expert team to service project customers. As a result, Silo & Spraying Service System has been increased capacity of Silo together with service teams and expanding to big cities throughout Thailand, in order to provide feature of convenience and solving labor shortage problem.
- 3) Develop and launch localized products that response to different needs for various customer segments. For instance, SCG Extra Durable cement and SCG Portland Pozzolan cement are innovated to enhance structural strength to endure changing weather condition and soil problem in Southern and Northeastern part of Thailand, respectively.

- 4) Increase production capacity of Tiger decorative cement under brand “Tiger Décor which is for floor and wall decoration to serve customers that need unique and outstanding covering cement. In 2018, business expands to renovation segment by launching Tiger Decor Polymercement Loft floor and wall to capture DIY customers.
 - 5) Develop new formula and the first brand approved by TIS standard of Tiger Tile Adhesive for ceramic granite marble tiles. Tiger Tile Adhesive has been commercialized and sold throughout Thailand in wholesale, retail and project channel.
 - 6) Passive Stack Ventilation System and indoor air quality control system for better living standard in Thailand: the combination of natural ventilation concept, which depends on the amount of the movement of external air, and the external temperature and a ventilation system using a solar powered fan with a smart control to provide optimum cooling comfort and reduce the build-up of heat during the day. Furthermore new products have been developed to improve indoor air quality – humidity, temperature, CO₂ and VOCs, by controlling and monitoring the air quality with IoT technology.
 - 7) SCG Eldercare Solution, a housing innovation for the elderly has wide range of innovation solutions offering healthcare caution. The concept is to focus on bedding solutions to solve problems or to ease pain associated with joints and muscles in the lower body problem, bed and chair that help elderly more convenient to get up, movable toilet, automatic turn-on intelligence light when leaving bed at night or special mattress to ease bed sore.
 - 8) Research and develop 3D Printing Mortar: Extrusion 3D Printing is a future of a new construction fabrication technique. It is able to build furniture, specific rooms, fence and complete house while using less labors. In SCG, we are aware of a future of this technology and prepare to develop 3D printing technology by inventing SCG 3D printing mortar. The SCG 3D printing mortar has a high quality and suitability to serve the extrusion 3D printers. This technology can solve future challenges we are facing not only labor shortage but also the convenience of onsite installation, free-form architectural design, complex precast element and fast installation.
 - 9) Research and develop concrete fabric: after success in product development and applied real installation at construction sites, for example reservoir at Baan Sa Phae in Lampang province, check dam at Baan Ta Mode in Pattalung province and dual track train project of Jira-Khon kaen Ch. Kamchang. This year, business commercialize and expand towards online retail channel on SCG store online.
 - 10) Research and develop wood substituted product in new various applications such as decorative plank and skirt by using extrusion technology and fiber-reinforced composites to develop.
- **Domestics Market and Competition**
- In 2018, domestic demand for cement slightly increased compared to the previous year, largely attributable to infrastructure projects from government investments and industrial

sector. Whereas cement demand from household users and the private sector starts to recover, exports slightly increased compared to last year.

Domestic demand for building products slightly grows up due to recovery of consumer confidence and purchasing power. Nonetheless, the business managed to maintain its leadership status in the building product business through the continued development of high value-added products and services to better accommodate consumer needs.

The business focuses on maintaining its market leadership by creating value to customers and rigorous continuing enhances product quality and new product and service development. And the business sustains leadership by building good relationship with customers as well as implementing cost reduction program in order to be more competitive. In addition, we have also improved and expanded distribution network nationwide to increase points of purchase to facilitate our customers' accessibility to our products.

- Regional Market and Competition

Overall, the reboot growth in the demand for building materials in ASEAN was fueled by the cement and housing products market expansion. Cambodia, in particular, witnessed a steady growth driven by the housing and commercial building projects and the government's large-scale infrastructure projects such as expansion of airport project. In Myanmar, construction market slightly decreased mainly because of private direct investment especially the industrial construction in special economic zones. Vietnam construction market had grown slightly from government investing in infrastructure such as bridge and port. Whereas, Philippines Government increased infrastructure project to stimulate construction and domestic economy. Construction market in Indonesia picked up from last year as a result of government's continuous investment in infrastructure e.g. toll road, airport, dam and high speed train.

2.3 Products and Services Procurement

A) Product Procurement Feature

Type	Number of Sellers	Procurement method	Local / Foreign	Remark
Main Raw Materials				
Limestone	-	-	100% / 0%	Own supply sources and self-operated
Shale	-	Long-term contracts with external contractors	100% / 0%	Own supply sources. Long-term contracts with contractors
Sand	~ 3	Occasional purchase with long - term suppliers	100% / 0%	Own supply sources kept as reserve. Currently buy from external sellers
Clay	~ 3	Long-term contracts with external contractors	100% / 0%	Own supply sources. Currently have long-term contracts with contractors

Type	Number of Sellers	Procurement method	Local / Foreign	Remark
Copper Slag	2	2-year contracts with external suppliers	0% / 100%	Buy from external suppliers
Gypsum	~ 7	Long-term contracts and occasional purchase with long-term suppliers and partly operate from own sources	100% / 0%	Currently buy from external sellers and partly operate from own sources
Kraft Paper	5	Yearly contracts with SCG affiliates and international vendors	10% / 90%	Currently buy from international vendors and partly from SCG affiliates
Fuel				
Lignite	~ 3	Long-term contracts with suppliers	40% / 60%	Self-operate from its supply sources and buy from external suppliers
Petroleum Coke	1	Occasional purchase	0% / 100%	Buy from external suppliers
Coal	~ 4	Long-term contracts with suppliers and occasional purchase	0% / 100%	Buy from external suppliers and from SCG affiliates
Bunker Oil	2	Occasional purchase	100% / 0%	Buy from external suppliers
Biomass	22	Occasional purchase	100% / 0%	Buy from external suppliers

For other materials, the business has long-term contracts with many raw material producers both domestics and international. The company will not depend too much on any single supplier to prevent shortage of raw materials.

B) Environment Protection

Circular Economy

Cement business promoting the use of resources to be worthwhile, there is a rotation back into the new production process to reduce the use of natural resources. The business has improved the production process to be able to bring waste from other industries can be used as fuel and raw materials in the production process such as biomass, rice husk, palm shell or used oil, and tires as fuel in cement burners to reducing the use of fossil fuels and reducing glass vessel emissions simultaneously. The use of fly ash to mix in cement or in ready mixed concrete which enhances the strength of the structural work that uses cement or concrete and helps to reduce fly ash to landfill is a cost-effective resource.

In addition, companies in the cement-building materials has adopted the circular economy application, including

- Siam Fiberglass Co., Ltd. has introduced post consumed glass cullet as the main raw material for the production of glasswool by replacing natural raw materials such as Silica Sand makes the glass fiber insulation production process with 80% of recycled raw materials, reducing the use

of natural materials by up to 11,000 tons / year. In addition, there is a policy to return waste from the customer's production process. To be reused as a raw material for new production by accepting scrap glass fiber insulation that is a waste from the production process of the insulated parts manufacturer, household electrical appliances by bringing the insulation debris back and through the waste conversion process of the factory to return to use as a raw material in the new production process up to 3%, reducing the amount of waste that customers have to deliver, eliminating more than 400 tons / year.

- CPAC Roof Tile Co., Ltd. using dust rocks of 98,000 tons/ year, which is the remaining material from the milling / grinding process and fly ash of 8,000 tons / year from the power plant to be used as a substitute material in the roof tile production process.
- SCG Landscapes Co., Ltd. has used fly ash from power plants of 10,800 tons / year to be used as raw materials in the production of brick blocks.
- Siam Sanitary Ware Industry Co., Ltd. and Siam Sanitary Ware Industry Co., Ltd. (Nong Khae) have used 5% ceramic scrap to recycle in ceramics products as COTTO brand in sanitary ware, wash basin, male-female urinal, and bathroom accessories through consideration register products that are eco-friendly in the Eco Process criteria: Products that contain the recycle content of SCG Eco Value.
- Siam Sanitary Ware Industry Co., Ltd. has delivered waste materials of 2,600 tons/year from the production process of sediment to be a raw material for TPS Material Company Limited for replacement natural soil materials for the production of ceramic crockery and deliver to the United Mosaic Industry Public Company Limited, totaling 237 tons/year, to replace natural soil materials for the use of floor tiles. In addition, the expired plaster pieces are sent out to be a raw material for Siam Gypsum Industry Company (Saraburi) Co., Ltd. to replace natural materials of 2,684 tons/year for gypsum production.
- The Siam Fiber Cement Group has replaced synthetic gypsum with gypsum that is by product from the electricity production of Mae Moh Power Plant, Lampang Province, about 1,040 tons/year.
- The Siam Fiber-Cement (Tha Luang) Co., Ltd. has brought dust from the process of decorating the fiber cement sheet both from in the factory and factories in our business to replace raw materials of 6,000 tons/year and recycle fiber cement sheets from the production process which can be crushed and used as a substitute material for 6,000 ton/ year

Green Operation plants

- A Program to improve process efficiency and reduce greenhouse gas emission (GHGs)
 - The Siam Fiber-Cement (Ta Luang) Co., Ltd. has a project to reduce the amount of electricity consumption and increase the efficiency of the sand grinding of the sand pot through the Increase Rate Sandmill project by starting the model at the grinding pot of sand pot 3 and expand to pot 1 and 2 and have plans to expand to Nong Khae factory in the future by reducing the grinding ball size to increase the contact area for grinding resulting in increased efficiency

of the sand grinding pot can reduce electricity consumption by 1.2 million units per year or equivalent to reducing the amount of carbon dioxide by 519 tons per year.

- Project to improve air pollution control system efficiency.
 - The CPAC Roof Tile Co., Ltd. has installed the Air Model system to improve the chimney efficiency of the Activated Carbon machine by improving the direction and height of the chimney for order not to affect the community

Energy Efficiency

- SCG Ceramics Tile PLC (HK1) has used renewable energy from Biomass, such as rice husk, can reduce energy consumption by up to 107,000 gigajoules per year.
- SCG Ceramics Tile PLC (NKIE) has used renewable energy from solar cells, which can reduce energy consumption by up to 7,000 gigajoules per year.

Green product & Solution

- The Siam Fiberglass Co., Ltd. has been certified for carbon footprint labeling of products or labels to reduce global warming. SCG acoustic materials for sound-absorbing decorative walls, Cylence Zandera model. In addition, the carbon footprint label of the product is also received 3 models of SCG thermal insulation, including SCG insulation for Cool wall 65 mm, premium, SCG insulation for ceiling, STAY COOL 75 m Premium grade, SCG insulation for ceiling panels STAY COOL 150 mm Premium and 2 models of SCG acoustic materials, including acoustic material SCG for soundproof walls, Cylence ZoundBlock S050 and SCG acoustic materials for walls Sound absorption version of Cylence Zandera.
- The CPAC Roof Tile Co., Ltd. has been certified "Green Label" by the Thai Environment Institute for roofing concrete products (TGL-40/3-R1-13), Prestige Egile Concrete Roof Tile, Ivory Gray, size 297.5 X 420 mm, which has more than 45% solar reflectance index that helps consumers save energy in their homes.
- The Siam Fiber-Cement (Saraburi) Co., Ltd. has been certified "Green Label" by the Thai Environment Institute for roofing cement tiles (TGL-40/1-R1-13) Cement tiles, small corrugation sheets, double-sided white jasmine sheets, 5.5 mm thick, which have more than 45% solar reflectance index that helps consumers save energy in their homes.
- The Siam Fiber-Cement (Saraburi) Co., Ltd. has received the Carbon Reduction Label of SCG Smart Board 5 models and SCG synthetic woods 9 models from the Thai Environment Institute.
- Siam Sanitary Ware Industry (Nong Khae) Co., Ltd. has received the SCG Eco Value (Eco Process) label certification from the use of 5% recycled materials in all product models. To reduce the use of natural resources and reuse waste materials according to the revolving economic principles.

- Sosuko Industry Co., Ltd. has received the certification of carbon reduction label by the Thai Environment Institute for floor and wall tile products from the production process improvement to reduce greenhouse gas emissions by more than 2% from the base year
- The Siam Sanitary Fittings Co., Ltd. has been certified “Green Label” by the Thai Environment Institute for products faucets for washbasins - hand washing, faucets for bowl sinks, sprinkler kits, soft shower and a hard shower and is also certified label showing efficiency of water saving equipment level 4 from Metropolitan Waterworks Authority for product types wash basin faucet - COTTO model CT1061.

Stakeholder Engagement, CSR & Networking

- Siam Sanitary Ware Industry Co., Ltd. has cooperated with Land Development Agency Saraburi and Cham Phak Phae community, Kaeng Khoi District, Saraburi Province, to bring sediment and soil residue from the production process to produce fertilizer, pellet soil and the soil is planted with rice seedlings for reduce the use of natural soil and encourage the community to have a better career and living.

2.4 Undelivered Projects or High-Valued Purchase Agreements

None

Chemicals business

2.1 Product or Service Features

- Olefins

Olefins are the primary petrochemical product comprising of Ethylene and Propylene which are the main raw materials for downstream Polyolefin plastics and related products such as Polyvinyl Chloride and Styrene Monomer. The business’s current Olefins capacity is 3,050,000 tons per year and by-products from the olefins plant such as Mixed C4, Benzene and Toluene. Main products are mainly consumed within the business’s downstream plants.

- Polyolefin and related products

Polyolefin are the business’s main products. The business has total polyolefin capacity of 1,912,000 tons per year, covering a wide range of applications as follows:

- 1) High Density Polyethylene (HDPE): outstanding features are good flow-ability, easy formation, and high resistance to chemicals. It is normally used as the main raw material for the production of plastic shopping bags, milk bottles, shampoo and cosmetics bottles, lubricant containers, bottle crates, fruit crates, trash bins, water pipes, power cord insulators, and etc.
- 2) Medium Density Polyethylene (MDPE): outstanding features are high dart impact strength, stable formation, and low temperature resistance. It is normally used as the main raw material for the production of coolers, water tanks, water treatment tanks, traffic cones, and etc.

- 3) Linear Low Density Polyethylene (LLDPE): outstanding features are high stiffness, high tensile strength, and puncture resistance. It is normally used as the main raw material for the production of industrial and agricultural films, plastic rice bags, and etc.
- 4) Low Density Polyethylene (LDPE): outstanding features are clarity, good adhesion strength and high stiffness. It is normally used as the main raw material for the production of Flexible packaging, Aseptic packaging, and etc.
- 5) Polypropylene (PP): outstanding features are good stiffness, high dart impact strength and high heat resistance. It is normally used as the main raw material for the production of hot food bags, general wrapping films, woven bags, household utensils, furnitures, battery shells, electrical appliance parts, car components, and etc.
- 6) High Density Polyethylene Compound for Pipe: The product is normally in pellet form dry-blended with various additives to improve properties such as pressure resistance and UV resistance. It is used as the main raw material for the production of high pressure pipe; large size pipe for water work system and gas pipe system, mining pipe, buoy, and etc.

- **Polyvinyl Chloride (PVC) and related products**

PVC products from Thai Plastics and Chemicals Public Company Limited, the leading PVC producer in Thailand and ASEAN with total PVC resins production capacity of 886,000 tons per year (Thailand, Vietnam and Indonesia), can be divided into three main categories:

- 1) PVC Resin - a type of thermoplastic in pure powder form which can withstand heat and pressure without changing its original structure and can be reused in different productions. However, it cannot be directly formed into finished goods, thus needs various additives to adjust its properties according to customers' specifications.
- 2) PVC finished products – consist of PVC pipe and fittings, PVC tube, profiles for window and door, rain gutter, and other building material from PVC.
- 3) PVC Compound - normally in pellet or powder which has already been dry-blended with various additives such as additives to increase impact strength, additives to help the forming process, additives to increase heat resistance capability without changing its form, and etc. Due to its many outstanding features such as weather resistance, flame retardant, light weight, and rust-free material, it can be used as cable jacketing, pipe and fitting, window and door profile, and etc.

- **Jetty & Tank Terminal**

The business provides SCG affiliates services that include storage of petrochemical gases and liquids, such as Naphtha, Olefins, Benzene, and Mixed Xylene, as well as transport of raw materials and products via pipelines and terminals. At present, the business owns four jetties with deadweight tonnage of 100,000, 80,000, 20,000 and 10,000 tons.

- **Other services** such as Industrial Furnace Coating service, Robotics Inspection service and Technology Licensing.

2.2 Market and Competition

A) Policy and Market Features of Main Products and Services



- Policy and Market Features

Polyolefin and PVC are commodity products with a fairly volatile price cycle.

1) Competitive Strategy

● High Value-Added Products

The business has planned and developed high value-added products in order to improve product quality and respond to customer needs. In this regard, the business has continually invested in the enhancement of research and development capability and efficiency. Currently, the business is setting up Application Development Center. In addition, the business has emphasized to adjust product portfolio to reduce the portion of plastic resins sales in single-use applications and increase the portion in durable product applications which also serve circular economy concept.

At present, sales of high value-added products and services accounts for 30% of total sales from subsidiaries.

1. High value-added products:

- Food and Beverage business: Flexible packaging, retort pouch, rice bags and milk bottles
- Building and Infrastructure and Formulation business
 - Building sector: Insulation for power cord and telephone cable, water tank from Rotational Molding, PVC pipe and fitting, plastic doors and windows
 - Infrastructure: Large HDPE pipe for water work system, mining and natural gas industry, insulation for power cord and fiber optic cable
 - Formulation: Medical equipment, kayak boat and components of agricultural machinery
- Automotive business: Interior and exterior automotive parts and battery
- Electrical Appliances business: Parts for refrigerator and washing machine

2. High value-added services:

- Industrial Furnace Coating service: Coating in high temperature industrial applications such as fired heaters and furnaces in refinery, petrochemical and steel industries.
- Robotics Inspection service: Carburization Inspection Robot (CiBot™), Tank Inspection Robot and Aerial Visual Inspection Robot
- Technology Licensing: License of High Density Polyethylene (HDPE) production process, license of functional material CIERRA™

The business aims to further increase sales portion of high value-added products to reduce impact of business volatility in the down cycle while enhancing overall competitiveness of the business.

- **Price and Cost**

The business focuses on value creation for customers, business partners, and stakeholders, including technology development and innovation creation. As both domestic and export prices of Polyolefin and PVC resins move in-line with the global market prices, the business aims to create premium by offering high quality products, services, and innovations in response to customers' need in order to be competitive in the market.

In terms of cost management, the business also places importance to maintaining competitive cost position. As petrochemical industry requires high investment, the business has to constantly expand the plant capacities and improve productivity to achieve economy of scale with lowest investment cost per ton. The business's upstream and downstream integration also provides significant competitiveness. Business expands Integrated Business Excellence (IBE) system which help reduce loss in production time which brought about higher plant productivity, cost reduction, improved product lines management and ability to set product prices to serve customer needs.

The business also utilizes Total Productivity Management (TPM), which emphasizes on equipment maintenance, production efficiency, and cost reduction. By following TPM concept, the business was awarded with Advanced Special Award for its achievement in production efficiency enhancement, energy conservation, accident and environmental impact reduction, as well as in development of the employees' capabilities.

The business also employs digital technology, and advanced information technology, in business processes and operations in e-Business platform, such as e-Procurement, Warehouse Management, Advanced Process Control, Advanced Planning and Scheduling, ReadyPlastic, CRM (Customer Relationship Management), and e-DP (Electronic Delivery Paper) and B2P (Blockchain for Procure-to-Pay to achieve best-in-class efficiency and customer satisfaction. With RPA (Robotic Process Automation), the business is able to improve efficiency by automating repetitive manual tasks using robotic software. Moreover, the business has developed Smart Online Fault Analysis (SmartOFA) which can estimate risk and also send out alerts before potential problem occur. This helps reduce maintenance cost and reduce opportunity loss from machinery breakdown.

- **Product Quality Management**

One of the business's main policies is to produce safe and high quality products without any effects on the environment and communities. The business has adopted Total Quality Management (TQM), which emphasizes on customer and quality. Therefore, it integrated Risk Management Policy and ISO system with TQM and TPM to come under one quality management resulted in being certified by the various international quality systems, namely ISO 9001, ISO 14001, ISO13485, ISO 16949, OHSAS and TIS 18001. The business also applied for ISO17025 resulting to product assurance in both quality and safety throughout the process, such as procurement, production, storage, and logistics. Moreover, the business has supported in

research and development constantly improve and create its product with quality and safety to truly meet customers' needs in various product applications.

- **Service**

The business recognizes that “service is the heart of selling”. Therefore, it has developed Customer Relationship Management system (CRM) through advanced IT technology, which gathers and analyzes customers' requirements to accurately and timely respond to those needs. The system is also designed to receive customer complaints to ensure that every problem will be recorded and solved systematically and sustainably.

Moreover, the business provides technical advices on plastics conversions, engage in collaboration with customers to co-create values from development of products and services that better satisfy customers' latent needs, develop and expand network of business (Business Matching), host seminars or business panels to provide both business and technical information to increase customer's competency for their sustainable growth. The business also emphasizes on accuracy of the delivery. It also engages in continuous improvement to enhance the service efficiency in order to match the customers' business operations which vary by segments.

- **Management**

The business's main focus is on improving management practices in order to timely and accurately responds to market volatility. On a monthly basis, the business develops integrated forward-looking plan for the whole value chain, covering production and sales, demand and supply of both raw materials and end products, as well as new products in the pipeline. This is for the business to become more proactive in adapting to the fast-pacing market and changing customers' needs. Moreover, the business constantly measures the effectiveness of the management plan for future improvement.

The business places high importance on cultural transformation to shape continuous improvement mindset of the employees. The business also selects high potential employees to work full-time on improvement projects.

The business elevates strategic workforce planning, starting from assessing the needs and readiness of human resources in terms of numbers, capability, and traits that are vital to business operations, readying them for business development both today and tomorrow. The business also aligns enterprise's goals to those of the employees', using the new Performance Management System (PMS) and creates organizational culture that promotes common understanding. Added to this is the development of a better performance evaluation between supervisors and subordinates, as well as the development of necessary skills for executives, enabling them to be role models for employees to work collaboratively in an efficient manner.

The business enhances the efficiency of Enterprise Resource Planning (ERP) system through the integration of all departments' systems to quickly response to the customers. The system consists of various functions, such as order forecast, sales and logistics planning, and inventory management.

Furthermore, the business invites world-class consultants whose expertise lies in supply chain management to co-develop and continuously improve its supply chain management with the emphasis on visibility of supply chain as a whole. In addition, the business also extends Business Continuity Management (BCM) system to all of its subsidiaries for ongoing customer responsiveness in case of emergency.

2) Customer Features and Target Groups

The business has rearranged target customers into groups of businesses, in order to directly response to customer's need, which can be classified as building and infrastructure business, automotive business, electrical appliances business, food and beverages business, and general purpose business.

The business's customers are mostly small and fragmented so the business aims to diversify the customer base into diverse segment and region to reduce the risk from depending on a limited number of customers. However, the business has also collaborated with global leading players in order to be leader in technology for best responding to end users' needs in advance.

3) Channel of Distribution

In 2018, the business's domestic and export sales of polyolefin are accounted for 41% and 59%, respectively. Domestic and export sales of PVC through Thai Plastic and Chemicals Public Company Limited are 54% and 46%, respectively. The business has expanded the distribution channel by setting up e-market place, namely ReadyPlastic, e-commerce platform for non-prime product trading, to cover recycled product.

- **Domestic**

Domestic customers can be categorized in 2 groups; customers who convert and sell in domestic market represent 93% of the total domestic sales, whereas those who convert and export (re-export customers) represent 7%. For sales of PVC are for customers who convert and sell in domestic market only.

- **Export**

The business mainly exports to the Asia-Pacific region. Products are distributed directly to end-users or local distributors so that customer needs are satisfied efficiently. The proportion for the export market is 38% in East Asia, 32% in Southeast Asia, 7% in South Asia, and 23% in other regions and PVC export to Southeast Asia 45% , South Asia 38% and the rest 17%.

The business exports this year around 1.4 million tons of polyolefin 1.1 million tons and PVC 0.3 million tons, respectively. By diversifying its export destinations, the business is able to avoid risks from political or economic change in a particular country. In addition, by having global based customers, the business is able to manage export products quantities for profit optimization as prices may differ depending on market conditions of each country.

- **Competition and Capacity**

- 1) **Domestic**

Thailand has Polyolefin capacity of approximately 6.3 million tons per year while the country's demand in 2018 was approximately 3.0 million tons. Moreover, Thailand export Polyolefin around 50% of total production. However, when comparing with local producers, the business has around 30% of total domestic capacity. For PVC, Thailand has total PVC production capacity of 0.9 million tons per year. Thai Plastic and Chemicals Public Company Limited is the largest producer, accounting for 67% of total domestic capacity.

2) Foreign

In 2018, Polyolefin demand in Asia equaled 90 million tons, with China as the largest importer. Major exporters are producers in the Middle East, USA, and South Korea. For PVC, demand in 2018 was 27 million tons with India as the largest importer in Asia.

2.3 Products or Services Procurement

A) Product Procurement Feature

- Production

The business has 2 Olefins plants, 9 Polyolefin plants located in Map Ta Phut Industrial Estate, Rayong Province and 14 PVC plants located in Thailand and regional countries. Nameplate capacities are displayed below:

Company	Product / Service	Capacity (Ton / Year)	Year First Operated	% Shareholding
Rayong Olefins	Ethylene	900,000	1999	67
	Propylene	450,000		
Map Ta Phut Olefins	Ethylene	900,000	2010	67
	Propylene	800,000		
Thai Polyethylene	HDPE 1	140,000	1989	100
	HDPE 2	180,000	1997	
	HDPE 3	200,000	2001	
	HDPE 4	400,000	2010	
	LLDPE	120,000	1990	
	LDPE	152,000	1995	
	PP 1	140,000	1993	
	PP 2	180,000	1997	
	PP 3	400,000	2010	

Company	Product / Service	Capacity (Ton / Year)	Year First Operated	% Shareholding
Thai Plastics and Chemicals	PVC Resin PVC Compound	530,000 63,500	1971	100
Nawaplastic Industries (Saraburi)	PVC Pipe and Fittings	227,810	1970	100
Binh Minh Plastics Joint Stock Company (BMP)	Plastic Pipe and Fittings	150,000	1977	54
Nawaplastic (Cambodia)	PVC Pipe and Fittings	17,400	2016	60
Grand Nawaplastic Myanmar	PVC Pipe and Fittings	16,000	2016	57
TPC Paste Resin	PVC Paste Resin	36,000	1993	100
PT. TPC Indo Plastic & Chemicals	PVC Resin	120,000	1996	100
TPC Vina Plastic and Chemicals Corporation	PVC Resin	200,000	1995	70
Viet-Thai Plastchem	PVC Compound	16,500	1994	72
Map Ta Phut Tank Terminal	Jetty and Tank Terminal	-	1998	82
Rayong Pipeline	Pipe Transportation	-	1998	92
Rayong Engineering and Plant Service	Engineering and Plant Service	-	2001	100

- **Raw Material Procurement**

- **Olefins Production**

The key raw material in Olefins production is Naphtha. The business purchased 21% of total naphtha from local producers, and 79% from producers in the Middle East. In addition, the crackers were designed to use alternative raw materials, such as liquid petroleum gas (LPG), raffinate, and condensate if Naphtha price is higher than other raw materials.

- **Polyolefins Production**

The key raw material in Polyolefin production is Olefins. The business has olefins purchasing contracts with olefins producers in SCG Chemicals of 1,590,000 tons per year, while the rest of olefins production is sold to joint ventures and external customers who are the business's olefins plant shareholders. Moreover, the business is also able to procure more Olefins from PTT Global Chemical PLC. (PTTGC) or import in case of Olefins shortages.

- **PVC Production**

The key raw material in PVC production is Vinyl Chloride Monomer (VCM). The business can produce VCM to fulfill all demand from its domestic PVC production. For its production facilities in

Indonesia and Vietnam, the business obtains VCM from Thailand production base and additional overseas imports.

B) Environmental Impact

Chemicals Business of SCG operates business with policies that support sustainable development by placing importance on the environment and communities to create the harmonious living between industry, environment, and communities. The business is the first company in Thailand to achieve Eco Factory certification on 100% of its production facilities in 2015. Besides, RIL Industrial Estate has also been certified as the first and only eco industrial estate at the level of Eco-Excellence in 2017. The business has also engaged several sectors to develop Eco Community, Eco School, and Eco Temple, with a final aim to become Eco Industrial Town, in accordance with the government's policies to develop environmental friendly industries in the country. To date, the company has engaged a total of 4 communities, 2 temples, and 3 schools to join the program covering resource and waste management as well as safety culture promotion.

The business has initiated various sustainable development initiatives covering economic, social and environmental aspects. For instance, Fish Home project, an eco-innovation project from business sector to community and society. Adding value to waste by turning discarded PE pipes from product testing into a fish home to serve as marine nursery areas and set up "protection zone" for sustainable living of local fishery groups. By 2018, the business together with concerned government agencies, local fishery groups and over 11,500 volunteers have placed over 1,600 fish homes in 37 fishery groups in Thailand's East coast including Rayong, Chonburi, Chanthaburi, and Trat.

In addition, the business also leverages the Circular Economy concept through its business operations as well as continuous campaigns. The project "Recycled Fish Home" was introduced as a way to convert plastic marine debris and community waste such as bottle caps through the moulding process into the recycled fish homes. Furthermore, The business has entered into a collaboration with Dow Thailand Group to develop Recycled Plastic Road. The first model road with 220 meters length has been built at RIL Industrial Estate in Rayong. The business also took part in a Thailand Public-Private Partnership aiming to tackle plastic waste issues sustainably and cut marine waste in Thai oceans by 50% within 2027.

2.4 Undelivered Projects on High-Valued Purchase Agreements

None

Packaging business

SCG Packaging PLC. and its subsidiaries is Thailand's only integrated producer of high quality pulp, paper, and containers. SCG Packaging PLC's main business chains consist of packaging chain and fibrous chain.

Key Information	
Capacity	<p>Packaging Chain</p> <ul style="list-style-type: none"> • Packaging paper 2,549,000 tons per year • Containers <ul style="list-style-type: none"> - Corrugated containers 1,010,000 tons per year - Flexible packaging 590,000,000 square meter per year <p>Fibrous Chain</p> <ul style="list-style-type: none"> • Pulp 406,000 tons per year • Dissolving pulp 96,000 tons per year • Semi-chemical pulp 139,000 tons per year • Unbleached euca kraft pulp 25,000 tons per year • Printing and writing paper 495,000 tons per year
Main Products	<p>Packaging Chain</p> <ul style="list-style-type: none"> • Kraft paper, duplex board, corrugated containers, flexible packaging, and rigid plastic packaging <p>Fibrous Chain</p> <ul style="list-style-type: none"> • Pulp, dissolving pulp, printing and writing paper
Brand	<ul style="list-style-type: none"> • Packaging : Green Carton, Inspired Studio • Printing and writing paper Idea Green, Idea Work, Idea Max, Supreme, Delight, Spring PRO Series – Offset PRO New, Card PRO, Note PRO, Text PRO Green Series – Green Offset, Green Card, Green Matt, Green MattCard, Green Plus • Food Packaging: Fest
Strengths	<ul style="list-style-type: none"> • Response to customer needs by provide “Total Packaging Solution” • World-class quality • Continual offering innovative products and services • Strong domestic distribution channel and marketing system, as well as the worldwide exports • Efficient production cost control • Total Quality Management – TQM
Major Business Policy	<ul style="list-style-type: none"> • Maintain domestic market leadership by providing “Total Packaging Solutions” • Aspiring for regional leadership in paper and packaging business • Focus on sustainable growth strategy and providing good returns to shareholders and stakeholders • Conserve the environment

Key Information	
Business Development Policy	<ul style="list-style-type: none"> ● Improve existing machines for higher efficiency ● Develop innovative products to better serve customers' needs ● Seek opportunities in expanding its business with merger and acquisition as a priority ● Develop knowledge, skill and experience for all levels of employees to maintain competitive advantage and become a regional leader

2.1 Product or Service Features

Packaging business is Thailand's leading manufacturer of paper and containers. The business is the only integrated producer in Thailand with production process starting from pulp production to manufacturing of printing and writing paper, packaging paper, corrugated containers, flexible packaging and rigid plastic packaging. This allows it to appropriately allocate the production capacity and efficiently control the costs, thus making it relatively less vulnerable to external changes, while adding value to its products. Packaging business consists of two major business chains as follows:

- **Packaging Chain**

The main products comprise of kraft paper for the manufacturing of corrugated containers, extensible sacks, kraft bags, paper core, processed-finished products, gypsum linerboard, coated duplex board and various types of corrugated containers, flexible packaging, rigid plastic packaging, logistics materials, folding carton, merchandising display, and total packaging design solutions services.

- **Fibrous Chain**

The main products are eucalyptus pulp, dissolving pulp and printing and writing paper. Additionally, the Chain also provides specialty paper, and paper & packaging for food and beverage. Eucalyptus pulp that the fibrous chain produced is used as raw materials for various paper grades e.g. printing & writing paper which is used for magazines, notebooks, textbooks, photocopy paper, kraft paper which is used for packaging and containers, specialty paper which is used for industrial applications such as label paper, paper for furniture uses, paper for medical & hygiene uses and also paper & packaging for food and beverage such as cup stock paper, cone cup, lunch box, paper bowl and tray.

2.2 Market and Competition

A) Policy and Market Features of Main Products and Services

- **Policy and Market Features**

- 1) **Marketing strategy**

Packaging business focuses on continuous development of products and services to satisfy customers' needs, prioritizing developing "Innovation" as the key strategy to increase our sustainable competitiveness in highly competitive market. This includes a newly developed packaging paper called "Hi-Strength" paper, which has lower basis weight but higher strength

compares to normal packaging paper, helping to save production cost and environmental resources.

Moreover, packaging business also focuses on developing more environmentally friendly products. Many of our products are certified with the “Green Label”, which is the national level certification awarded to products that comparatively have lower environmental footprint, for promoting the reduction and reuse of raw materials. Additionally, SCG also has its own certificate, the “SCG eco value”, which is given to innovative products and services that are environmentally friendly. For example, our linerboard (KA, KH, KT), corrugating medium (CA, CS), coated duplex board and gypsum linerboard were certified by SCG eco value for their higher recycled content comparing with other competitors’ in the market.

Furthermore, packaging business encourages production and sales of packaging paper with the FSC-CoC (Chain of Custody) certification, this internationally-recognized certification is granted to products that come from FSC-certified forest and processes. The FSC or the Forest Stewardship Council has taken into accounts, the raw material selection, raw material handling and storage, product amount control, sales and delivery of products to ensure that the materials in the supply chain are sustainably sourced. Our products have earned several types of the FSC-CoC certification (FSC Recycled 100%, FSC Mix 100%, and FSC Mix 70%), confirming that our products are environmentally friendly, and committed to social responsibility.

For the packaging business, we aim to be a provider of “Total Packaging Solution” who can address a wider range of customers’ packaging requirements, including corrugated containers, flexible packaging, rigid plastic packaging, logistics materials, folding carton, and merchandising display. To this end, packaging business has developed technologies and expanded capacity in flexographic preprint, offset printing and digital printing in order to meet the rising demand for packaging with higher printing quality in Thailand, Vietnam and Indonesia, with special focus on the capacity expansion of flexographic preprint to serve the growing footwear industry and the food & beverage industry.

As packaging business has foreseen the impressive growth potential of the packaging industry and the growing need to cater to a wider range of customers’ demand, we have invested in rigid plastic packaging and folding carton businesses, at the same time, developing new forms of packaging to better suit the modern lifestyles.

Furthermore, for the packaging design services, Packaging Business continues to focus on the development of proactive designer teams with comprehensive set of skills, including the designing of logo, brand, merchandising display, exhibition, and other printing materials. Our design expertise, together with our network of well-equipped plants across Thailand and the ASEAN region, our customers can be confident that we can consistently provide them with excellent quality goods and services.

For the fibrous chain, printing and writing paper business increased the import of coated paper to satisfy wider customers' needs and to expand its photocopy paper's customer base domestically and internationally. The marketing promotion has been continuously implemented for domestic market. Meanwhile, for the international marketing activities have been increased in the neighboring countries, Asia and Americas.

As for the "Fest" brand, which was developed as hygienic and safe with Food Direct Contact standard, since the brand's introduction to the market 2 years ago, the demand for food packaging has consistently increased from the growth of quick chain restaurants and food delivery service businesses, along with the growing global trend for environmentally friendly products. Fest has developed a new food packaging made from natural fiber as an alternative for consumers. The packaging is made from eucalyptus fiber that are sustainably sourced from plantation. The eucalyptus fiber has more strength than fibers from common herbaceous plants. This results in a food packaging that has several outstanding qualities: white color, high smoothness, high strength that supports food delivery services, water and oil resistant, leak proof and microwavability. Several designs and shapes are available, to serve all customers' urban lifestyles.

2) Customer Features and Channel of Distribution

Packaging Chain

Packaging Paper

Channel: Directly sells to affiliated firms under packaging business and external customers. Products include paper rolls for converting plants and converted products such as sheet board, paper bags, ream paper, and small rolls. The products are also exported to several countries especially Asian countries such as Malaysia, Indonesia, Vietnam, Cambodia, Myanmar and India.

Packaging and Containers

Channel: Packaging business (corrugated containers) directly sells to customers through sales representatives, account executives and now has established special section that serves E-commerce segment, that working closely with the customers from both offline and online platforms. Packaging business now owns 24 corrugated containers plants, 4 flexible packaging plants, and 1 rigid plastic packaging plant with locations covering Thailand domestic market and ASEAN market, including Vietnam, Indonesia, and Singapore.

Fibrous Chain

Pulp

Channel: Directly sells to affiliates in the packaging chain and external customers and sells through agents for export markets.

Printing and Writing Paper

Channel: 70% of total sales is from domestic market through different channels, including printing house, industry uses, agents, converter, modern trade stationery stores. The rest, 30%,

is sold to export markets; Vietnam, USA, Myanmar, India, Cambodia, Hongkong and other ASEAN countries.

Specialty paper for industrial uses

Channel: Directly sells to industrial customers or convertors and agents for export markets.

Paper & Packaging for food and beverage

Channel: Sells through convertors, food packaging stores, modern trade and agents for export market and online channel.

- Industry, Competition, and Trend

1) Packaging Chain

Demand for packaging paper in Thailand grew 3% y-o-y. For ASEAN, the demand for packaging paper increased 5% y-o-y. In 2019, demand for packaging paper in Thailand is expected to increase by 3% y-o-y, as a result of higher domestic consumption. For ASEAN market, demand for packaging paper is expected to grow 5% from economic growth and higher manufacturing for export. However, there are both risk and opportunity from trade war between USA and China that might change the production base of packaging paper in ASEAN. On the supply side, packaging paper producers plan to increase capacity.

Thailand's demand for corrugated containers in 2018 is estimated to grow at 3% y-o-y, a number which is in line with Thailand's GDP. In 2018, overall domestic consumption has experienced an uptick, however, domestic consumption growth is limited by high household debts. This debt situation, to an extent, causes households to be more frugal and limit their purchase. On the other hand, export sector has seen a growth expansion because of economic growth in trading partners' countries, for instance, USA, China, EU, and Japan. This outcome leads to an increase in exporting demand for corrugated cartons.

Over the past year, industries relying mainly on export such as electrical appliance has seen a solid growth due to economic growth of trading partners such as USA, EU, Japan and ASEAN, which leads to demand growth for corrugated containers. Food industry continued to grow, supported by higher domestic consumption and export. Consumer industry has seen a solid growth from several driving forces including marketing campaigns, new product launches, and the expansion of E-Commerce business.

Meanwhile, ASEAN market in 2018 has seen considerable growth, especially in Vietnam and Indonesia, where demand for corrugated cartons grew by 5-6% y-o-y. For Vietnam market, healthy demand was mainly from the electronics and electrical appliances sector. Key players in this sector have continuously developed new products and innovations, a situation which stimulated demand usage of corrugated cartons. As a global hub of manufacturing base, Vietnam footwear and garment industries have also seen continuous growth. For Indonesia market, the corrugated carton industry has experienced continuing growth over the past year, driven by food, beverage and shoe industries, which were the brightest industries among others due to the large manufacturing base.

In 2019, growth rate for packaging industry in Thailand is estimated to be similar to Thailand's estimated GDP growth of about 3%, fueled by growths in food, beverage and consumer products. Vietnam's corrugated cartons market in 2019 is projected to grow in a range of 6-7%, which are driven by the electronics and electrical appliances products, footwear and garment sectors. Indonesia market trend is forecasted to grow by 5-6%. On the supply side, corrugated container producers continued to expand capacity. However, maintaining the selling price remains a major challenge for the packaging industry since packaging producers aim to expand their business continuously. Production efficiency and cost reduction will be key success factors, which not only increase competitive advantage but also allow the organization to be sustainably profitable.

2) Fibrous Chain

Bleached chemical long and short fiber pulp

In 2018, world bleached chemical long and short fiber pulp demands increased 2.1% y-o-y. Global economic recovery and tissue sectors were the key growth drivers for pulp market. Meanwhile, the average pulp prices surged due to the supply shortage of bleached chemical pulp, resulted from maintenance breakdown of key major pulp producers, a nationwide trucking strike in Brazil, and a surge in storms in many areas in the America continent.

In 2019, world bleached chemical long and short fiber pulp demand is expected to increased 1.8% y-o-y. Meanwhile, the average pulp prices are expected to stay at the high level on the back of lacking new capacity expansion and market consolidation from the announcements of many merger and acquisition deals.

Dissolving pulp

In 2018, dissolving pulp consumption grew by 5% y-o-y, driven by increasing demand from the viscose market in China. Furthermore, dissolving pulp price increased mainly due to strong bleached pulp market and an increase of China's imported cotton price.

In 2019, global dissolving pulp demand is projected to grow 6% y-o-y, from increasing demand of viscose following to new viscose staple fiber capacity expansion, such demand is mainly from China. For dissolving pulp price, it is expected to be maintain.

Printing and writing paper

In 2018, demand for printing and writing paper industry in Thailand continued its downtrend, decreasing by 6% y-o-y mainly from the substitution by digital media, especially in promotional materials and magazine segments. Demand of copy paper was stable compared to 2017. While import volume decreased 10% y-o-y, especially coated paper and copy paper. For selling price, global producers announced price increase on printing and writing paper due to higher raw material costs especially from high pulp price.

In 2019, printing and writing paper demand is projected to drop further by 6% y-o-y due to continuously decreasing demand from promotional materials and magazine segments.

Moreover, the increasing use of electronic devices in banking sector and government policy on 'Thailand 4.0' are likely to cause a drop in paper demand.

2.3 Product or Service Procurement

A) Product Procurement Feature

- Raw Material and Suppliers

Packaging Chain

Packaging Paper

Raw Material Type: Wastepaper, bleached and unbleached short fiber pulp, bleached and unbleached long fiber pulp, and chemicals.

Source:

- Wastepaper: 65% from local vendors and 35% from import
- Bleached and unbleached short fiber pulp: 60% from local vendors and 40% from import
- Bleached and unbleached long fiber pulp: All from import
- Main chemicals such as starch, sizing agent, color, and others: from local vendors and import

Obstacles: Bleached and unbleached short fiber pulps are imported. Unbleached long fiber pulp is entirely imported from a few suppliers within 30-45 days lead-time. The domestic supply of wastepaper is also limited, leading to requiring imported wastepaper, which has higher price than domestic wastepaper.

Packaging

Raw Material Type: Kraft paper for corrugated carton and plastic resin for flexible packaging and rigid plastic packaging.

Source: Kraft paper from Siam Kraft Industry Co., Ltd., a subsidiary of packaging business and Plastic resin from chemicals business and other producers.

Obstacles: raw materials are efficiently secured due to adequate supplies and consistent quality control. Selling price is set by referring to current market price to optimize fair and competitive cost.

Fibrous Chain

Pulp

Raw Material Type: Eucalyptus logs and chips.

Source: Eucalyptus logs and chips are bought mainly from open market and contract farming.

Printing & writing paper and non-printing & writing paper such as specialty paper for industrial uses and paper & packaging for food and beverage

Raw Material Type: Bleached long fiber pulp, bleached short fiber pulp, and chemicals.

Source:

- Bleached long fiber pulp from import
- Bleached short fiber pulp from local and import
- Chemicals, synthetic latex, kaolin powder, calcium carbonate, and others from local and import

Obstacles: Bleached long and short fiber pulps are entirely imported with 30-45 days lead-time.

B) Environmental Impact

Packaging business conducts business with awareness on the importance of enhancing energy efficiency through various means. Examples included using alternative energy, investing in energy-saving projects, and raising awareness about energy conservation among employees. The projects are as follows:

- The installation of boilers, turbines, generators and systems related to waste management process. Waste Reject is to be converted into fuel for the boiler and electricity in the production process.
- Coal efficiency improvement projects by installing boilers to improve combustion efficiency. The system also minimizes the risk of machine downtime. Furthermore, the systems were also designed for particle dust extraction to reduce the problem of controlling the amount of dust.
- Close loop condensate improvement project to bring back steam into boiler resulting in energy cost reduction.

Streamlined the manufacturing process to minimize water consumption through balancing water consumption in production process and installing new equipment to collect waste water for reuse. Furthermore, packaging business focuses on environmental treatment systems such as high efficiency water treatment and anaerobic water treatment to promote a better life quality of the community around the factory.

Reduced and reused waste materials by installing a lime kiln to reduce lime mud, waste material from pulp production, resulting in calcium carbonate which can be used as raw material in pulp production.

2.4 Undelivered Projects on High-Valued Purchase Agreements

None

3. Risk Management

Risk Management

Under business challenges and rapid change of customers' needs, SCG believes that effective Enterprise Risk Management contributes to the achievement of business goals and ensures the organization to actively manage increasingly complex and severe uncertainties. SCG also continuously promotes risk management awareness throughout the organization and aims for better risk management efficiency of strategic formulation, operation, and decisions regarding new investments to add value to the organization and stakeholders in accordance with SCG's "PASSION FOR BETTER" promise.

SCG Enterprise Risk Management Framework

SCG has implemented the Enterprise Risk Management Framework in alignment with international standards. The framework consists of:

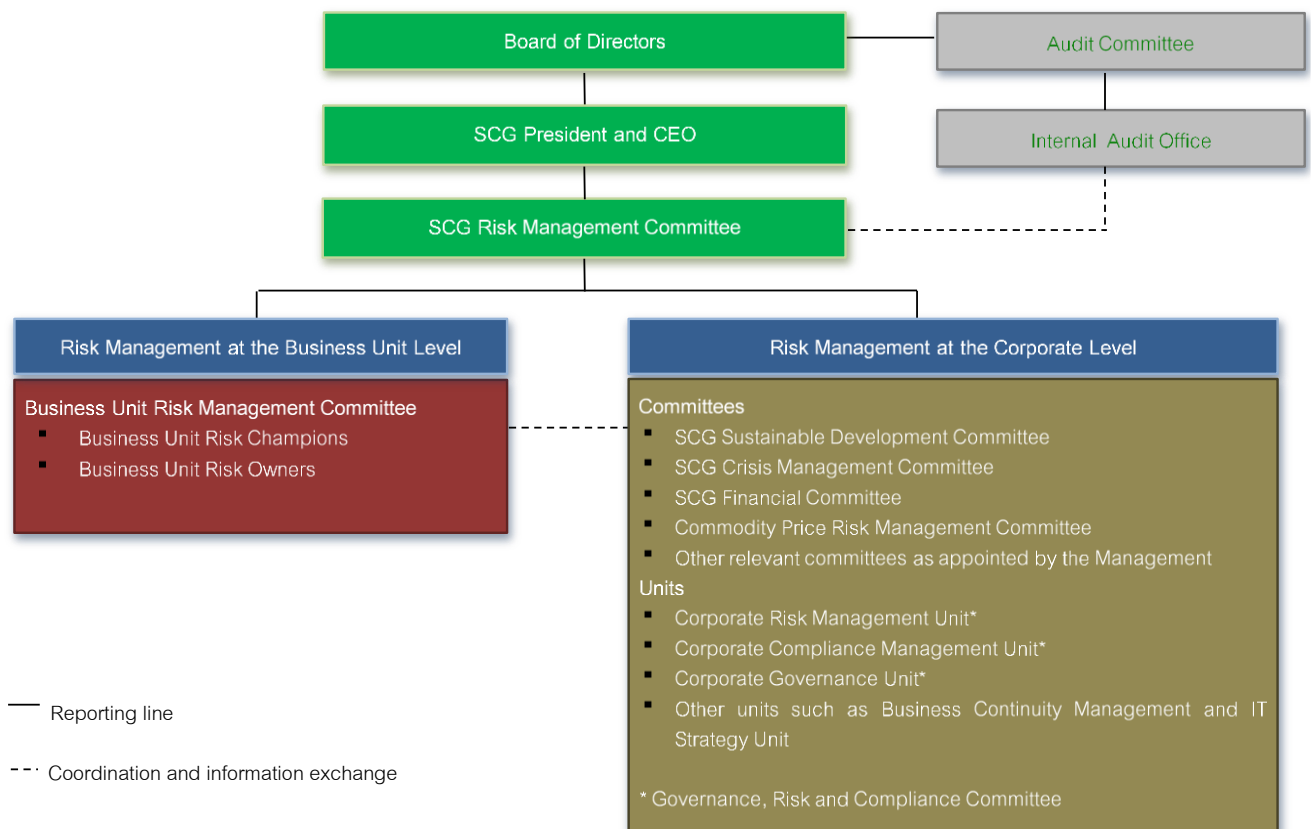
1. Strategy Establishment

SCG has established explicit objectives and risk appetite in managing risks to ensure consistent risk management practice across the organization.

2. SCG Risk Management Structure and Responsibilities

The organization structure of SCG's risk management is illustrated below:

Enterprise Risk Management Organizational Structure



The Board of Directors and the Audit Committee

The Audit Committee, on behalf of the Board of Directors, establishes risk management policies and oversees the risk management process and practice of SCG. The Audit Committee also evaluates the risk management system to ensure efficiency, effectiveness and compliance with established guidelines.

Internal Audit Office

SCG Internal Audit's role is to conduct an audit of the first line (Operating Unit) and the second line (management level, risk management and compliance, and other supporting functions) to provide assurance on the efficiency and effectiveness of risk management. The Internal Audit Office also reports the audit outcomes to the Audit Committee, as well as provides consultation and communicates the Audit Committee's opinions to the first line and functions that are being audited for improvements.

The SCG Risk Management Committee

The SCG Risk Management Committee consists of the President and Vice President of each business unit, and The SCG President and CEO serves as the Committee Chairman. The SCG Risk Management Committee has the following core responsibilities:

1. Determine risk management structure and assign accountabilities for risk management.
2. Consider and approve risk management policies, strategies, framework, and plans.
3. Review and monitor the SCG risk profile.

3. Risk Management Process

The SCG risk management framework is applied in three primary areas: medium and long-term strategic risk management, investment project risk management and operational risk management. The risk management process, documented in the "SCG Risk Management Manual" for the above areas, comprises 1) Risk / Opportunity Identification, 2) Risk Assessment, 3) Risk Response (including defining the Key Risk Indicators and Key Performance Indicators which are the leading and lagging indicators in order to anticipate risk events and to manage risks to be in line with the targets), 4) Risk Reporting to the Business Unit Risk Management Committee and SCG Risk Management Committee, respectively. Then, the reports are presented to the Audit Committee on a quarterly basis.

4. Building a Corporate Risk Culture

SCG recognizes that risk culture is a critical component of risk management. SCG has, therefore, assigned top executives to communicate the significance of risk management (tone at the top) and be role models in risk management. This includes establishing practical guidelines on the common risk language, risk appetite, common risk assessment system, and accountability of each risk owner. Moreover, SCG has encouraged employees to include risk management as part of the agenda in major meetings at each company. Moreover, risk management is included as one of the components of training and development programs for directors, top executives and SCG staff. SCG has also encouraged experience sharing across departments and companies to improve risk management practices through lessons learned. In addition, learning materials in digital format was developed to

increase risk awareness and coverage for SCG staff from the commencement of employment. SCG has also continuously communicated the objectives and benefits of GRC, with the cooperation of the Corporate Governance Unit, Risk Management Unit, and Compliance Management Unit, to increase understanding of GRC concepts and their importance to all SCG staff.

Key Risks, Opportunities and Management Strategies

In 2018, SCG assessed and mitigated the significant risks in alignment with material sustainability issues as described below.

Safety, Health, and Environment Risk

1. Safety and Health Risks

Overseas operations in developing countries where environment, safety and health are not the major concerns and the domestic and foreign expansion of logistic and transportation business may incur risks related to workplace and road safety.

- Implemented various safety & health standards such as Occupational Health and Safety standards (OHSAS 18001) and Safety Performance Assessment Program (SPAP) in overseas companies and disseminated the application of safety management principles to SCG trading partners to extend the practice to the wider society.
- Enforced “9 Life Saving Rules” to all employees and contractors to operate safely in the workplace and on the road. In addition, safety awareness is constantly promoted and disciplinary actions are taken for noncompliance to support behavioral change and safety culture. In addition, Cement-Building Materials Business has enforced a restriction “Do Not Park on the Shoulder Lane” to mitigate risks and elevate safety and health standard.
- Established the transport Safety Committee dedicated to prescribing the safety standards for passenger transport and the provision of transport service as well as promoting safe driving behaviors among employees, contractors on an ongoing basis in compliance with international standards.

SCG believes that a safe and healthy workplace environment allows operations to run efficiently and smoothly, reduce unnecessary production costs and create trust among customers, contractors and stakeholders, resulting in a positive image for the organization together with its products and services.

2. Climate Change and Environmental Risk

Climate change and global warming has resulted in a number of challenges in SCG’s business operations. This includes risk of intensifying droughts and flooding and more vigilant requirements from stakeholders on SCG to undertake efforts to combat climate change. The requirements, as part of the Paris Agreement, involves disclosure of greenhouse gas emissions and long-term goals in reducing the emissions. Additionally, as evident by the initiatives from Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD), companies are increasingly expected to provide climate-related financial disclosures for greater transparency. These challenges may

affect the continuity of business operations, organization's reputation, as well as unnecessary costs and compensatory damages.

- Strictly adheres to water management policies (3R) by reducing, reusing/recycling and replenishing the water for various processes in the manufacturing cycle. Additionally, SCG also collaborates with state agencies to support activities related to drought prevention initiatives and develops policies, goals and strategies related to water management with the aim to secure less water from outside parties by 23% per unit of production by 2025, (compared to based year 2014).
- Continuously commits to initiating socially responsible activities such as carrying out the Conserving Water from Mountain to the Mighty river Project in alignment with the royal initiatives, with a focus on engaging communities to locally manage water suitable in each area.
- Participated in the Global Cement and Concrete Association (GCCA) and established targets to reduce greenhouse gas emissions by 23% from the based year 2017 by 2030. This is in line with the level of decarbonization required to keep global temperature increase below 2 °C (2 degree scenarios) for the cement industry.
- Increased the use of alternative fuels and renewable energy such as solar energy, and experimented on growing and using energy crops to reduce greenhouse gas emissions along with the Waste Heat Power Generation Project, and the project dedicated to reducing specific thermal and electrical energy consumption per unit of production.

Compliance Risk

3. Compliance Risks from Changes in Laws & Regulations

Risks from noncompliance or partial compliance caused by constant changes in laws & regulations could negatively affect the organization's reputation and result in significant penalties and fines or loss of business opportunities.

- Sets out SCG compliance policy and communicate to all SCG employees.
- Closely monitors changes from government policies as well as laws and regulations in the countries where SCG operates. Added to this is the enhancement of networks with government and the private sector in domestic and overseas operations to increase the efficiency in monitoring law and regulation changes.
- Appointed the SCG Personal Data Protection Committee and working team with a goal to establish policies, procedures and management system for greater security of personal data. This is in line with international standards and both foreign and domestic laws and regulations.
- Follows on the promulgation of the Weapon of Mass Destruction law and provision of necessary trainings to employees related to the Dual – Use Items measure to prepare organization to tackle future challenges and mitigate any potential consequences.

- Monitors Base Erosion and Profit Shifting (BEPS) measures introduced by the Organization for Economic Co-operation and Development (OECD) to prevent future tax risks that could incur reputational risk and the loss of license to operate by society and communities in the country.
- Regularly revises SCG Code of Conduct to align with the updated laws and regulations and launched “Ethics e-Testing” based on SCG 4 Core Values, Anti-Corruption Policy, Human Right Policy, Compliance Policy, Anti-Trust Policy, Insider Trading Policy, and Information Disclosure Policy.
- Communicates effective risk management and control practices in accordance with the “Three Lines of Defense” concept to SCG staff at all levels to prevent non-compliance.

Reputation and Intellectual Property Risk

4. Reputation Risk from Social Media

Social media has been widely used as a channel to communicate and exchange opinions on products, services, and organizations. Being in headlines for negative news on social media may cause serious impact on the brand and reputation of the organization.

- Established a Brand Committee overseeing the monitoring of online risk events, and the preparation of countermeasures and a communication system, both in normal and crisis situations.
- Developed communication guidelines for crisis that risk the organization’s reputation and image on social media. The guideline provide explanation to relevant internal business units, along with drilling practices to prepare organization’s readiness when a crisis strikes.
- Set up knowledge sharing sessions about risk management related to business reputation and corporate image on online social media for relevant internal business units.
- Expanded monitoring scope of corporate reputation and image on social media to include neighboring countries where SCG operates.
- Applied digital technology to analyze the voices of customers and stakeholders regarding SCG’s products, services and businesses using information from social media to proactively assess market movements, satisfaction, and expectations of customers and stakeholders.

5. Intellectual Property Risks

SCG has continuously supported the development of High Value Added products and services (HVA) to increase competitive advantage and elevate industry performance. Therefore, Intellectual Property (IP) management plays a crucial role in risk mitigation to prevent SCG’s trademarks and innovations from being infringed.

- Established IP division and IP management system at corporate and business unit levels to prevent SCG from infringing others or being infringed. On top of this was organizing IP training to equip SCG employees with knowledge and understanding about IP guidelines.

With its commitment to implementing IP management as a strategy in business operations for more than 10 years, SCG was awarded the 2018 IP Champion Award which honored large organizations with extraordinary IP management system by Department of Intellectual Property, Ministry of Commerce in 2018. Moreover, SCG also prized the 2019 Asia IP Elite Award under the Industrials Team of the Year Category, organized by Intellectual Asset Management Magazine.

Hazard Risk

6. Geopolitical Risk

The past several years have seen more severe political risks and geopolitical conflicts, resulting in economic instability and higher risk exposure from doing business internationally, which could impact SCG operations and its business continuity.

- Closely monitors the situations and builds a network of geopolitical experts locally and overseas to obtain up-to-date information for risk mitigations and business continuity plans.
- Conducts scenario analysis of the most likely situation that could impact SCG's operations and prepares business continuity plans to handle crisis events accordingly.
- Entrusts Business Continuity Management (BCM) Unit at corporate and business unit levels to lead the efforts to manage the situation to minimize impact.

Input Risk

7. Labor Shortage and Rising Wages Risk

Problems from labor market imbalance in ASEAN countries and the shift towards aging society in Thailand and other nations, have caused competition for labor and rapid wage hikes in some countries.

- Continuously builds relationships with universities and other institutions in ASEAN to recruit talented and ethical students for internship and work.
- Implements automation and robots to enhance production efficiency and to prepare for the labor shortage situation, for example, an inspection robot to deliver inspection and repair services in hazardous areas and a robotic drone for surveying petrochemicals facilities. The robot can be further developed to provide service for large industrial customers outside SCG.
- Adopted digital technology to enhance employee recruitment process. The activity starts from the job application via Chatbot, applicant pre-screening through Automated Video Screening before entering the test and the interview by the Recruitment Committee. In addition, recruitment software is being developed to increase the efficiency of recruitment process.
- Held "SCG Open House" under the theme, "Discover Our Passion, Discover Your Passion" to welcome university students and young generation in 2018 to explore SCG's innovation stories and the company's readiness to move businesses towards digital era to attract talents to work with SCG.

8. Fluctuation in Energy and Major Raw Material Prices Risk

The volatility of global crude oil price from Iran sanctions, the US interest rate hikes and the impact of the US-China trade war have resulted in the instability of energy and commodity prices such as naphtha and fuel oil. In addition, coal, one of the main energy sources for SCG Cement-Building Materials and SCG Packaging, continues to show price volatility due to the Chinese coal import restriction measure and the coal export quota set by Indonesian government.

- Adjusted the risk management strategy in response to the changing circumstances, including a hedging instrument to reduce the risks from commodity price fluctuation to maintain competitive cost in the global market, implementation of inventory reduction strategy, and management of coal portfolio through diversifying country sources.
- Applies Integrated Business Excellence (IBE) system to increase production efficiency and integration of working plan along the value chain.
- Developed HVA products with the aim to increase revenues and profits and to reduce volatility risk of raw materials price.
- Adopted technology to improve efficiency and increase proportion of alternative energy usage, such as, solar energy, industrial waste, and biomass, to reduce the risk from energy price increases.

Process Risk

9. Human Resources Management and Capability Risks

In preparation for human resources readiness and capability to accommodate future business expansion in Thailand and ASEAN countries, SCG has consistently improved human resources management to be better aligned with business strategies.

- Communicated human rights policies and practices to SCG employees, business partners and related parties. In addition, the assessment and mitigation plans of human rights risk were put in place for all business units.
- Established a learning and coaching culture using the 70-20-10 approach emphasizing on the on-the-job training and learning from mistakes with support from supervisors. Furthermore, employees at each level are given opportunities to develop their business knowledge as well as leadership and teamwork skills.
- Applied technology and various tools to improve staff learning efficiency in alignment with business trends. Examples include easy to access “Micro-Learning” for specific lessons and the development of iPMS platform to manage individual performance with a comprehensive and fairer approach. The platform also supports regular dialogue between staff and supervisors.

Business Environment Risk

10. Foreign Exchange Rates Fluctuation Risk

In 2018, the volatility of Thai Baht remained high. Early in the year, the baht strengthened, sparked by the country's strong economy. Nevertheless, in the second half of the year, the impact of the ongoing US-China trade dispute spilled over to the Thai and global economies, prompting the Southeast Asian currencies including the Thai baht, to lose value compared to the first half of the year. However, with Thailand's more solid monetary stability, the Baht retreated less rapidly than other regional currencies. For 2019, the Baht's volatility is expected to increase compared to the previous year, triggered by various uncertainties, both locally and internationally, for example, the US-China trade conflict, the Thai and global economic slowdown, and the monetary policies of economic behemoths.

- SCG's Financial Committee considers using financial instruments to hedge foreign exchange rate exposure when appropriate. This includes matching revenue and expense in foreign currency (Natural Hedge), making agreements with trading partners using local currencies, and considering foreign exchange hedging for investment projects at an appropriate level.

11. Risks from trade war, global economic slowdown and rising competition among ASEAN countries

It is expected that the US-China trade dispute will continue, causing broader impact to all involved parties. Not only this, Chinese economic slowdown might pose directly and indirectly risks to the ASEAN and world economies. Apart from the impact from trade war on global economic slowdown, the trade dispute may create a shift in global supply chains. The trade war could positively and adversely affect SCG. On the plus side, SCG could supply particular products to the Chinese market that were previously satisfied by goods from the US or vice versa. On the negative side, competition in ASEAN market will increase as a result of Chinese good flooding into the region. Moreover, the shift in supply chains and the relocation of production base could affect demand forecast, production plan as well as production cost of SCG.

- Established the Country Business Support Office (CBSO) to evaluate and monitor risks in the countries where SCG has invested. Besides, reports on significant risk events in each strategic country are presented quarterly to the Audit Committee and top management for country risk management and portfolio management. In addition, the scenario analyses are conducted to assess potential consequences from such risks.
- Increases sales from export in line with global market trend, with a focus on exporting to the US, as well as expand logistic business in China and develop cross border transportation system between China and ASEAN countries as the total supply chain solution in South China area.
- Focuses on cost reduction through reducing energy cost, promoting the use of renewable energy in the factory, increasing production efficiency and reducing operating expenditure using digital technology, such as, applying the blockchain technology as a platform for procurement activities.

- Develops HVA products and services as well as continues to innovate to better serve customers' demand. For example, in 2018, SCG cooperate with Chinese Academy of Sciences Innovation Cooperation Center (Bangkok) to enhance SCG's capability in developing innovative goods and services.

Emerging Risks

12. Risk from cyber threat

Changes of business operating models and working processes that are becoming more dependent on digital technology, automation in productions and factories and the connection of plant equipment with the internet expose businesses to cyber risks. For example, critical infrastructure cyber-attack and stolen of research and development data, trade secrets and employee data could result in large amounts of monetary impact and adverse effects on the company's brand and reputation.

- Set out e-Policy 2017 and the cyber security roadmap for both domestic and overseas operations. The policy and roadmap include data classification and management, social network usage guidelines and the procedures for human resource staff involved with the personal data of SCG employees.
- Raised awareness among staff through training and various activities to create the right understanding when using digital technology and to ensure that cyber threats are being prevented.
- Assessed cyber-related risks involved with critical production activities and implemented measures to avoid such risk.

13. Risk from digital technology transformation

The rapid technological transformation has played a vital role in people's everyday life and business operations. For example, consumers' easy access to information through digital media, digital marketing, doing online business, and logistics could pose risks and have impact on market conditions, consumer behavior in making buying decisions for products and services, as well as higher business competition. The transformation could also lead to a change in business models and operations costs. Risk from digital technology transformation may affect SCG business as follows.

- Impact on productions, business model, and SCG's conventional distribution channels. For instance, instead of buying building and construction materials from traditional distributor outlets, more customers are turning to purchasing from modern building and construction stores or via online channels.
- More competitors driven by digital technology from other industries due to less entry barriers such as owners of online building and construction distribution channels.

Digital technology, however, opens up opportunities to create new value-added business for organization. Therefore, SCG closely monitors and analyze the trends in digital technology transformation to collect information for use in developing work processes and streamlining business strategy to enhance competitiveness. The efforts encompass the following:

- Adopted the Omni-channel retailing or O2O (Offline to Online) to provide home building customers with a unified experience across online and offline channels. In Thailand, franchising is used to increase the number of branches to offer products and services on design, installation, and logistics. At the same time, SCG has also invested in the retail building material business in Indonesia, enabling SCG to expand business into Indonesia, which is a fast-emerging large market. In addition, Home Buddy and SCG Online Store applications were developed to connect data between storefronts and online channels, allowing for provision of products and services that meet the needs of customers in a timely and accurate manner. The data can also be used for Big Data Analytics to improve the delivery of new products and services for customers.
- Differentiated the logistics business through order fulfillment, which is defined as the steps involved in inventory management, packaging, and delivering orders to end customers to allow online sellers to have more time to focus on marketing activities to increase sales. SCG also entered into a joint venture deal with JUSDA, a logistics subsidiary of Foxconn to offer a cross-border logistics service, starting in China.
- Prepared employees to be able to cope with the changing technology and new business approaches. For example, the establishment of a startup within the organization through the “Hatch-Walk-Fly” project has not only helped develop employees’ skills as a startup entrepreneur, but the concept can also be expanded to build new business for SCG.
- Invested in technology startups through AddVentures by SCG in 2018. Examples include investment in BUILK, a leader in construction cost management software and online construction business management platform to develop B2B commerce and strengthen the local construction industry and expand the platform into 10 other ASEAN countries. AddVentures has also invested in GIZTIX, a logistics marketplace startup, and integrated online real estate platform Baania.
- Employed automation technology and robots in the production processes to create production cost advantage and enhance efficiency in business operations.

14. Risk from consumers’ behavior change due to circular economy trend

Impacts from human exploitation of natural resources, global warming, and mounting amount of wastes are increasingly seen as a serious environmental and economic issues by businesses, governments, and international organizations as their consequences could result in long lasting damages such as environmental pollutions and depletion and economic scarcity of resources.

Accordingly, consumers are becoming more mindful and may start shirking their behaviors in the next 3 – 5 years to consume products/services that promote optimal resource utilization and that are environmentally friendly. Both public and private sectors are also stepping up efforts from linear to circular economy, which will present significant opportunities and disrupt existing business models. These challenges may lead to a decrease in revenues of existing products, such as single-use plastics, as well as increases in production costs and expenditures on research and development activities.

To address these issues, SCG has begun adopting the circular economy principles in our business transitions by shifting from the “Take-Make-Dispose” linear supply chains that produce disposable products to the “Make-Use-Return” circular supply chains that produce ongoing services. The key goals of this transition are to protect environment, societies and communities for future generations, as well as to sustainably increase our competitiveness and growth in a long run. Examples of key collective efforts are as follows:

- Established plans to curb the amount of single-use plastic sold and produced in 2025 to 20% from the current level of 36% of total sales and production by Chemicals Business, as well as to increase production allocation of recyclable plastic packaging from 35% to 100% by 2025 for Packaging Business.
- Decreased the use of resources in manufacturing processes such as reducing raw materials of the Green Carton production while still maintaining its durability. Customers can also save their transportation cost for this new initiative.
- Developed innovative materials and products that promote optimal resource utilization to replace existing ones and reduce the use of raw materials and increase product recyclability such as development of Polyethylene, a thermoplastic polymer, with greater strength and recyclability and less use of raw materials. Moreover, the development of hybrid cement helps reduce resources used in the production process.
- Increased recyclability of products such as initiating more collection of paper wastes by waste paper bailing stations, using recycled glass bottles as sand replacement for thermal insulation production, improving properties of Polyethylene that upgrade the recyclability of products, and building fish habitats from plastic trash to preserve ocean ecosystems.
- Formed partnerships with trading partners and alliances to create value and advance a circular economy such as collaborating with Tesco Lotus to produce recyclable paper bags from recycled old corrugated cartons, as well as signing an agreement with Amata Corporation Public Company Limited and Dow Thailand Group to turn plastics waste into asphalt roads, which will be the first recycled plastic roads in Amata City. The project aims to tackle waste management issues in the industrial estate.

4. Assets Used in Operations

Total Assets

Total assets of The SCG as at 31 December 2018 were Baht 589,787 million of which 30 percent of them are current assets, comprising of cash and cash equivalents, short-term investment, trade and other current receivables, and inventories. The rest (70 percent) are investments, property, plant and equipment.

Most assets shown in the financial statements of the Company and its subsidiaries were belonged to the Company and its subsidiaries. SCG has no policy to place any assets as collateral.

Total assets can be classified according to main business units as follows:

	<u>2018</u>	<u>2017</u>	
Cement-Building Materials Business	218,316	213,134	Million Baht
Chemicals Business	213,263	193,183	Million Baht
Packaging Business	93,246	91,312	Million Baht
Other	312,828	307,272	Million Baht

From the consolidated financial statements as at 31 December 2018, SCG's property, plant and equipment have carrying values of Baht 247,466 million, which are 42 percent of total assets.

Property, Plant and Equipment - Net

(in million Baht)

Business Unit	Land		Building		Machinery and others		Total	
	31 Dec 18	31 Dec 17	31 Dec 18	31 Dec 17	31 Dec 18	31 Dec 17	31 Dec 18	31 Dec 17
Cement-Building Materials Bussiness	16,868	17,073	25,010	26,117	67,707	71,266	109,585	114,456
Chemicals Bussiness	2,689	2,740	5,585	5,060	69,181	67,143	77,455	74,943
Packaging Bussiness	3,132	3,048	8,352	8,125	46,895	45,970	58,379	57,143
Other	195	317	1,720	1,830	1,031	1,109	2,946	3,256
Consolidated SCG	21,970	22,248	40,448	40,900	185,048	185,699	247,466	248,847

Remark: Figures in financial statements are classified according to Business Groups before elimination of inter-business transactions.

Intangible Assets

- Patent

At the end of 2018, SCG has 562 valid patents comprising 156 invention patents, 108 petty patents and 298 design patents. The number of patents owned by the Siam Cement PLC., Chemicals Business, Packaging Business, Cement-Building Materials Business and Chemicals Business and Cement-Building Materials Business are 6 patents, 180 patents, 55 patents, 310 patents, and 11 patents consecutively. List of valid patents owned by companies and subsidiaries are listed below:

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
The Siam Cement PLC.								
1	Petty Patent 11748	Jul 22, 2016	The Siam Cement PLC.	1403000254	Mar 21, 2014	A process for preparing activated sludge by hydrothermal treatment	-	Mar 20, 2024
2	ES2690073 (Spain)	Jul 25, 2018	The Siam Cement PLC.	15001396.9	Apr 8, 2015	Catalyst for 1,3-Butadiene Production from Ethanol	-	Apr 7, 2035
3	DE602015013848.1 (Germany)	Jul 25, 2018	The Siam Cement PLC.	15001396.9	Apr 8, 2015	Catalyst for 1,3-Butadiene Production from Ethanol	-	Apr 7, 2035
4	3090801 (Great Britain)	Jul 25, 2018	The Siam Cement PLC.	15001396.9	Apr 8, 2015	Catalyst for 1,3-Butadiene Production from Ethanol	-	Apr 7, 2035
5	3090801 (Italy)	Jul 25, 2018	The Siam Cement PLC.	15001396.9	Apr 8, 2015	Catalyst for 1,3-Butadiene Production from Ethanol	-	Apr 7, 2035

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
6	3090801 (France)	Jul 25, 2018	The Siam Cement PLC.	15001396.9	Apr 8, 2015	Catalyst for 1,3-Butadiene Production from Ethanol	-	Apr 7, 2035
Chemicals Business								
7	37715	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000374	Feb 4, 2011	-	Container for plant growing	Feb 3, 2021
8	37716	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000373	Feb 4, 2011	-	Container for plant growing	Feb 3, 2021
9	47452	Dec 17, 2015	SCG Chemicals Co., Ltd.	1102002684	Sep 6, 2011	-	Shelter	Sep 5, 2021
10	51321	Sep 16, 2016	SCG Chemicals Co., Ltd.	1202003037	Nov 20, 2012	-	Container	Nov 19, 2022
11	58763	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003702	Oct 27, 2015	-	Polycast	Oct 26, 2025
12	58764	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003704	Oct 27, 2015	-	Polycast	Oct 26, 2025
13	58765	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003706	Oct 27, 2015	-	Polycast	Oct 26, 2025
14	58926	Nov 14, 2017	SCG Chemicals Co., Ltd.	1502003705	Oct 27, 2015	-	Polycast	Oct 26, 2025
15	59804	Jan 5, 2018	SCG Chemicals Co., Ltd.	1502003703	Oct 27, 2015	-	Polycast	Oct 26, 2025
16	Petty Patent 7762	Jan 16, 2013	SCG Chemicals Co., Ltd.	1103000619	Jun 21, 2011	Water container	-	Jun 20, 2021
17	Petty Patent 11924	Sep 9, 2016	SCG Chemicals Co., Ltd.	1403001033	Sep 5, 2014	Product comprising natural materials	-	Sep 4, 2024
18	Petty Patent 11942	Sep 16, 2016	SCG Chemicals Co., Ltd.	1503001818	Oct 27, 2015	Flexible ready-made splint	-	Oct 26, 2025

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
19	60106 (Iran)	Jul 22, 2009	SCG Chemicals Co., Ltd.	387091337	Dec 20, 2008	Method for preparing a catalyst component for ethylene	-	Dec 19, 2028
20	11201403491T (Singapore)	Jul 9, 2015	SCG Chemicals Co., Ltd.	11201403491T	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 18, 2032 (PCT filing date Dec 18, 2012)
21	4/13336/2014 (Myanmar)	Sep 2, 2014	SCG Chemicals Co., Ltd.	4/13336/2014	Sep 2, 2014	Polymer composition and cable spacer comprising the polymer composition	-	Sep 1, 2034
22	102712853B (China)	Dec 24, 2014	SCG Chemicals Co., Ltd.	200980163165.8	Jun 25, 2012	Process for reducing the bromine index of a hydrocarbon	-	Jun 24, 2032
23	2816051B1 (Germany)	Nov 4, 2015	SCG Chemicals Co., Ltd.	13172833.9	Jun 19, 2013	Catalyst for olefin polymerization, method for its preparation and use	-	Jun 18, 2033
24	2799485 (Germany)	Mar 23, 2016	SCG Chemicals Co., Ltd.	602013005635.8	Apr 30, 2013	Polymer composition and cable spacer comprising the polymer composition	-	Apr 29, 2033
25	2799485 (France)	Mar 23, 2016	SCG Chemicals Co., Ltd.	13165931.0	Apr 30, 2013	Polymer composition and cable spacer comprising the polymer composition	-	Apr 29, 2033
26	602014002301.0 (Germany)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 29, 2034
27	2939814 (France)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 29, 2034



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
28	502016000090465 (Italy)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 29, 2034
29	2939814 (Austria)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 29, 2034
30	2939814 (Belgium)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 29, 2034
31	9382123 (USA)	Jul 5, 2016	SCG Chemicals Co., Ltd.	14/367,437	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 17, 2032 (PCT filing date Dec 18, 2012)
32	20122800702770 (China)	Sep 14, 2016	SCG Chemicals Co., Ltd.	2012800702770	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 17, 2032 (PCT filing date Dec 18, 2012)
33	6034399B2 (Japan)	Nov 4, 2016	SCG Chemicals Co., Ltd.	2014-548249	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 17, 2032 (PCT filing date Dec 18, 2012)
34	2786978 (Germany)	Dec 7, 2016	SCG Chemicals Co., Ltd.	602013014937.2	Apr 3, 2013	Process for converting paraffin to olefin and catalyst for use therein	-	Apr 2, 2033
35	2786978 (France)	Dec 7, 2016	SCG Chemicals Co., Ltd.	13162080.9	Apr 3, 2013	Process for converting paraffin to olefin and catalyst for use therein	-	Apr 2, 2033
36	2786978 (Great Britain)	Dec 7, 2016	SCG Chemicals Co., Ltd.	13162080.9	Apr 3, 2013	Process for converting paraffin to olefin and catalyst for use therein	-	Apr 2, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
37	2786978 (Netherland)	Dec 7, 2016	SCG Chemicals Co., Ltd.	13162080.9	Apr 3, 2013	Process for converting paraffin to olefin and catalyst for use therein	-	Apr 2, 2033
38	272518 (India)	Apr 5, 2016	SCG Chemicals Co., Ltd.	2658/MUM/2008	Dec 22, 2008	Method for preparing a catalyst component for ethylene	-	Dec 21, 2028
39	11201508020X (Singapore)	Feb 27, 2017	SCG Chemicals Co., Ltd.	11201508020X	Sep 28, 2015	Process for converting paraffin to olefin and catalyst for use therein	-	Sep 27, 2035
40	11201500990X (Singapore)	Mar 20, 2017	SCG Chemicals Co., Ltd.	11201500990X	Feb 9, 2015	Catalyst systems	-	Feb 8, 2035
41	104661744B (China)	Jun 9, 2017	SCG Chemicals Co., Ltd.	2013800494359	Mar 23, 2015	Catalyst systems	-	Mar 22, 2035
42	9,765,264B2 (USA)	Sep 19, 2017	SCG Chemicals Co., Ltd.	13/518,751	Jun 22, 2012	Process for reducing the bromine index of a hydrocarbon	-	Jun 21, 2032
43	I620709 (Taiwan)	Apr 11, 2018	SCG Chemicals Co., Ltd.	102134589	Sep 25, 2013	Modification of layered double hydroxides	-	Sep 26, 2033 (PCT filing date Sep 27, 2013)
44	11201500993U (Singapore)	Jun 6, 2018	SCG Chemicals Co., Ltd.	11201500993U	Feb 9, 2015	Modification of layered double hydroxides	-	Sep 26, 2033 (PCT filing date Sep 27, 2013)
45	10,065,172 (USA)	Sep 4, 2018	SCG Chemicals Co., Ltd.	14/432,019	Mar 27, 2015	Modification of layered double hydroxides	-	Sep 26, 2033 (PCT filing date Sep 27, 2013)



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
46	6360832 (Japan)	Jun 29, 2018	SCG Chemicals Co., Ltd.	2015-534439	Mar 27, 2015	Modification of layered double hydroxides	-	Sep 26, 2033 (PCT filing date Sep 27, 2013)
47	I639468 (Taiwan)	Nov 1, 2018	SCG Chemicals Co., Ltd.	104125214	Aug 4, 2015	Stabilized rhenium-based heterogeneous catalyst and use thereof	-	Aug 3, 2035
48	2014800186210 (China)	Mar 16, 2018	SCG Chemicals Co., Ltd.	2014800186210	Sep 25, 2015	Process for converting paraffin to olefin and catalyst for use therein	-	Sep 24, 2035
49	6289607 (Japan)	Feb 16, 2018	SCG Chemicals Co., Ltd.	2016-506299	Oct 2, 2015	Process for converting paraffin to olefin and catalyst for use therein	-	Oct 1, 2035
50	6353527 (Japan)	Jun 15, 2018	SCG Chemicals Co., Ltd.	2016-520342	Dec 4, 2015	Catalyst for olefin polymerization, method for its preparation and use thereof	-	Dec 3, 2035
51	10,040,695B2 (USA)	Aug 7, 2018	SCG Chemicals Co., Ltd.	15/129,137	Sep 26, 2016	Ultra high surface area layered double hydroxides	-	Sep 25, 2036
52	2015243328 (Australia)	Nov 8, 2018	SCG Chemicals Co., Ltd.	2015243328	Sep 29, 2016	Lactide polymerisation	-	Sep 28, 2036
53	9,884,793 (USA)	Feb 6, 2018	SCG Chemicals Co., Ltd.	15/310,812	Nov 14, 2016	Oligomerisation of ethylene	-	Nov 13, 2036

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
54	9,879,100 (USA)	Jan 30, 2018	SCG Chemicals Co., Ltd.	15/310,814	Nov 14, 2016	Catalyst system for the polymerisation and/or oligomerisation of olefins and process utilizing the catalyst system	-	Nov 13, 2036
55	3152218 (Great Britain)	Dec 26, 2018	SCG Chemicals Co., Ltd.	15725660.3	Dec 31, 2016	Process for Synthesis of Indenes	-	Dec 30, 2036
56	2993163 (Germany)	Feb 21, 2018	SCG Chemicals Co., Ltd.	602014021085.6	Sep 5, 2014	Process for the separation of ethylbenzene	-	Sep 4, 2034
57	2993163 (France)	Feb 21, 2018	SCG Chemicals Co., Ltd.	14003073.5	Sep 5, 2014	Process for the separation of ethylbenzene	-	Sep 4, 2034
58	2993163 (Netherlands)	Feb 21, 2018	SCG Chemicals Co., Ltd.	14003073.5	Sep 5, 2014	Process for the separation of ethylbenzene	-	Sep 4, 2034
59	2993163 (Italy)	Feb 21, 2018	SCG Chemicals Co., Ltd.	502018000014208	Sep 5, 2014	Process for the separation of ethylbenzene	-	Sep 4, 2034
60	3144348B1 (Germany)	Jul 25, 2018	SCG Chemicals Co., Ltd.	15185465.0	Sep 16, 2015	Non-cryogenic grindable polypropylene based compounds for rotomolding applications	-	Sep 15, 2035
61	3129389 (Germany)	Jun 6, 2018	SCG Chemicals Co., Ltd.	15717122.4	Sep 28, 2016	Lactide polymerisation	-	Sep 27, 2036



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
62	3129389 (France)	Jun 6, 2018	SCG Chemicals Co., Ltd.	15717122.4	Sep 28, 2016	Lactide polymerisation	-	Sep 27, 2036
63	3129389 (Netherland)	Jun 6, 2018	SCG Chemicals Co., Ltd.	15717122.4	Sep 28, 2016	Lactide polymerisation	-	Sep 27, 2036
64	3129389 (Norway)	Jun 6, 2018	SCG Chemicals Co., Ltd.	15717122.4	Sep 28, 2016	Lactide polymerisation	-	Sep 27, 2036
65	48910	Mar 28, 2016	SCG Chemicals Co., Ltd. and Kasetsart University	1102000372	Feb 4, 2011	-	Holder for plant growing	Feb 3, 2021
66	Petty Patent 10718	Nov 11, 2015	SCG Chemicals Co., Ltd. and RIL 1996 Co., Ltd.	1403000584	Jun 11, 2014	Process for the sludge management using earthworms	-	Jun 10, 2024
67	Petty Patent 14173	Jul 18, 2018	SCG Chemicals Co., Ltd. and Khon Kaen University and Chiang Mai University and Prince of Songkla University	1703001899	Sep 26, 2017	Camera Drape	-	Sep 25, 2027
68	104609450B (China)	Apr 20, 2016	SCG Chemicals Co., Ltd. and Beijing University of Chemical Technology and Tech Layer Co. Ltd. and University of Oxford	2014105284565	Oct 9, 2014	Process and complete industrial installation for producing highly dispersed magnalium hydrotalcite powder bodies	-	Oct 8, 2034

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
69	I609904 (Taiwan)	Jan 1, 2018	SCG Chemicals Co., Ltd. and Thai Plastic and Chemicals PCL.	105120175	Jun 27, 2016	Plasticizer composition	-	Jun 26, 2036
70	3272821B1 (Belgium)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
71	3272821B1 (Spain)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
72	3272821B1 (Portugal)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
73	3272821B1 (Turkey)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
74	3272821B1 (France)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
75	3272821B1 (Great Britain)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
76	3272821B1 (Germany)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036
77	3272821B1 (Italy)	Aug 29, 2018	SCG Chemicals Co., Ltd. and Thai Polyethylene Co., Ltd.	16180302.8	Jul 20, 2016	Emulsion and use thereof for coating a textile	-	Jul 19, 2036

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
78	2670962 (Russia)	Oct 26, 2018	SCG Chemicals Co., Ltd. and GTC Technology US, LLC	2017111206	Apr 4, 2017	Separation process for C8 aromatics mixture	-	Apr 3, 2037
79	2670963 (Russia)	Oct 26, 2018	SCG Chemicals Co., Ltd. and GTC Technology US, LLC	2017111207	Apr 4, 2017	Separation process for C8 aromatics mixture	-	Apr 3, 2037
80	28126	Jun 30, 2010	Thai Polyethylene Co., Ltd.	0101003359	Aug 21, 2001	Titanium catalyst composition for ethylene polymerization and process using thereof	-	Aug 20, 2021
81	54433	Mar 27, 2017	Nawaplastic Industries Co., Ltd.	1402001181	May 15, 2014	-	Adaptor clip	May14, 2024
82	54675	Apr 19, 2017	Nawaplastic Industries Co., Ltd.	1402001180	May 15, 2014	-	Common clip	May14, 2024
83	55522	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000277	Jan 30, 2015	-	15°Elbow square	Jan 29, 2025
84	55523	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000278	Jan 30, 2015	-	30°Elbow square	Jan 29, 2025
85	55524	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000279	Jan 30, 2015	-	90°Elbow square	Jan 29, 2025
86	55525	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000280	Jan 30, 2015	-	Connect square	Jan 29, 2025
87	57200	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000197	Jan 31, 2014	-	Casement frame	Jan 30, 2024
88	57201	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000198	Jan 31, 2014	-	Sliding frame	Jan 30, 2024
89	57202	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000199	Jan 31, 2014	-	Casement frame and interior trim	Jan 30, 2024
90	57203	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000200	Jan 31, 2014	-	Casement frame with extension adaptor and interior trim	Jan 30, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
91	57204	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000201	Jan 31, 2014	-	Sliding frame with interior trim	Jan 30, 2024
92	57205	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000202	Jan 31, 2014	-	Sliding frame with extension adapter and interior trim	Jan 30, 2024
93	58762	Nov 3, 2017	Nawaplastic Industries Co., Ltd.	1402001179	May 15, 2014	-	Joist	May14, 2024
94	59102	Sep 21, 2017	Nawaplastic Industries Co., Ltd.	1502000281	Jan 30, 2015	-	Adaptor for downspout	Jan 29, 2025
95	62069	Apr 20, 2018	Nawaplastic Industries Co., Ltd.	1402002514	Sep 5, 2014	-	End Cap for shading	Sep 4, 2024
96	59861	Jan 8, 2018	Nawaplastic Industries Co., Ltd.	1402002516	Sep 5, 2014	-	Shading system	Sep 4, 2024
97	59862	Jan 8, 2018	Nawaplastic Industries Co., Ltd.	1402002517	Sep 5, 2014	-	Shading Clip Line	Sep 4, 2024
98	62938	Jun 12, 2018	Nawaplastic Industries Co., Ltd.	1502000282	Jan 30, 2015	-	Hidden clip	Jan 29, 2025
99	65636	Oct 17, 2018	Nawaplastic Industries Co., Ltd.	1502002935	Aug 27, 2015	-	Corner Square Tooling	Aug 26, 2025
100	60359	Jan 30, 2018	Nawaplastic Industries Co., Ltd.	1502002937	Aug 27, 2015	-	Smart Frame with installation clip	Aug 26, 2025
101	60360	Jan 30, 2018	Nawaplastic Industries Co., Ltd.	1502002936	Aug 27, 2015	-	Smart Frame with installation clip	Aug 26, 2025
102	60356	Jan 30, 2018	Nawaplastic Industries Co., Ltd.	1502002939	Aug 27, 2015	-	Threshold System	Aug 26, 2025
103	60357	Jan 30, 2018	Nawaplastic Industries Co., Ltd.	1502002940	Aug 27, 2015	-	Threshold System	Aug 26, 2025

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
104	60358	Jan 30, 2018	Nawaplastic Industries Co., Ltd.	1502002938	Aug 27, 2015	-	Insect Screen with Security grill	Aug 26, 2025
105	64153	Aug 10, 2018	Nawaplastic Industries Co., Ltd.	1502003693	Oct 26, 2015	-	Door Z Lock	Oct 25, 2025
106	64154	Aug 10, 2018	Nawaplastic Industries Co., Ltd.	1502003694	Oct 26, 2015	-	Window Z Lock	Oct 25, 2025
107	64155	Aug 10, 2018	Nawaplastic Industries Co., Ltd.	1502003695	Oct 26, 2015	-	Window Z Lock	Oct 25, 2025
108	64156	Aug 10, 2018	Nawaplastic Industries Co., Ltd.	1502003696	Oct 26, 2015	-	Door Z Lock	Oct 25, 2025
109	65040	Sep 20, 2018	Nawaplastic Industries Co., Ltd.	1502002941	Aug 27, 2015	-	Threshold System	Aug 26 2025
110	Petty Patent 9305	Nov 10, 2014	Nawaplastic Industries Co., Ltd.	1303000468	Apr 30, 2013	Decoration element	-	Apr 29, 2023
111	Petty Patent 9500	Jan 5, 2015	Nawaplastic Industries Co., Ltd.	1403000069	Jan 31, 2014	Frame for fast installation	-	Jan 30, 2024
112	Petty Patent 10535	Oct 9, 2015	Nawaplastic Industries Co., Ltd.	1403000468	May 15, 2014	Deck structure	-	May 14, 2024
113	Petty Patent 10795	Nov 26, 2015	Nawaplastic Industries Co., Ltd.	1403001034	Sep 5, 2014	Lathing system	-	Sep 4, 2024
114	Petty Patent 11343	Apr 4, 2016	Nawaplastic Industries Co., Ltd.	1503000102	Jan 30, 2015	Rain gutter system	-	Jan 29, 2025
115	Petty Patent 11417	Apr 25, 2016	Nawaplastic Industries Co., Ltd.	1403000501	May 23, 2014	PVC composition	-	May 22, 2024
116	Petty Patent 22015000036 (Philippines)	Jul 15, 2016	Nawaplastic Industries Co., Ltd.	22015000036	Jan 29, 2014	Frame for fast installation	-	Jan 29, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
117	Petty Patent 13423	Jan 5, 2018	Nawaplastic Industries Co., Ltd.	1603001707	Sep 8, 2016	Frame assembly and method of installing the same	-	Sep 7, 2026
118	Petty Patent 13891	May 28, 2018	Nawaplastic Industries Co., Ltd.	1703002412	Dec 1, 2017	PVC-Brass Fitting	-	Nov 30, 2027
119	Petty Patent KH/GUM/00003 (Cambodia)	Dec 28, 2018	Nawaplastic Industries Co., Ltd.	KH/UM/2016/00014	Sep 13, 2016	Frame assembly and method of installing the same	-	Sep 12, 2026
120	63007	Jun 15, 2018	Nawaplastic Industries Co., Ltd.	1401002667	May 15, 2014	Joist for Decking	-	May 14, 2034
121	63006	Jun 15, 2018	Nawaplastic Industries Co., Ltd.	1401002668	May 15, 2014	Decking system	-	May 14, 2034
122	61035	Feb 27, 2018	Nawaplastic Industries Co., Ltd. and The Nawaplastic Industries (Saraburi) Co., Ltd.	1602002942	Aug 5, 2016	-	Precast electrical box	Aug 4, 2026
123	61036	Feb 27, 2018	Nawaplastic Industries Co., Ltd. and The Nawaplastic Industries (Saraburi) Co., Ltd.	1602002943	Aug 5, 2016	-	Precast electrical box	Aug 4, 2026

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
124	61034	Feb 27, 2018	Nawaplastic Industries Co., Ltd. and The Nawaplastic Industries (Saraburi) Co., Ltd.	1602002944	Aug 5, 2016	-	Precast electrical box	Aug 4, 2026
125	61033	Feb 27, 2018	Nawaplastic Industries Co., Ltd. and The Nawaplastic Industries (Saraburi) Co., Ltd.	1602002945	Aug 5, 2016	-	Precast electrical box	Aug 4, 2026
126	52998	Dec 22, 2016	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002979	Oct 8, 2014	-	Smart 30° hanger set	Oct 7, 2024
127	52999	Dec 22, 2016	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002980	Oct 8, 2014	-	Smart 90° hanger set	Oct 7, 2024
128	53000	Dec 22, 2016	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002981	Oct 8, 2014	-	Smart shim plate	Oct 7, 2024
129	57195	Sep 5, 2017	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402000203	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
130	57196	Sep 5, 2017	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402000204	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
131	57197	Sep 5, 2017	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402000206	31 Jan, 2014	-	Rain gutter	Jan 30, 2024

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132	57198	Sep 5, 2017	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402000207	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
133	59898	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002977	Oct 8, 2014	-	Rain gutter	Oct 7, 2024
134	59899	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002978	Oct 8, 2014	-	End cap for rain gutter	Oct 7, 2024
135	59900	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002982	Oct 8, 2014	-	Inside corner	Oct 7, 2024
136	59901	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002983	Oct 8, 2014	-	Outside corner	Oct 7, 2024
137	59902	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002984	Oct 8, 2014	-	Drop outlet	Oct 7, 2024
138	59903	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002985	Oct 8, 2014	-	Joiner	Oct 7, 2024
139	59904	Jan 9, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1402002986	Oct 8, 2014	-	Connector	Oct 7, 2024
140	62421	May 11, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1502003340	Sep 29, 2015	-	Flashing socket	Sep 28, 2025

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141	62423	May 11, 2018	The Nawaplastic Industries (Saraburi) Co., Ltd.	1502003341	Sep 29, 2015	-	Flashing socket	Sep 28, 2025
142	Petty Patent 11978	Sep 29, 2016	The Nawaplastic Industries (Saraburi) Co., Ltd.	1503001613	Sep 29, 2015	Flashing socket	-	Sep 28, 2025
143	54709	Apr 21, 2017	The Nawaplastic Industries (Saraburi) Co., Ltd.	1401006089	Oct 8, 2014	Rain gutter system	-	Oct 7, 2034
144	49700	Jun 3, 2016	SCG Performance Chemicals Co., Ltd.	1402003238	Oct 22, 2014	-	MOBIKE structure frame	Oct 21, 2024
145	49701	Jun 3, 2016	SCG Performance Chemicals Co., Ltd.	1402003240	Oct 22, 2014	-	Mo-Bike	Oct 21, 2024
146	49778	Jun 8, 2016	SCG Performance Chemicals Co., Ltd.	1402003239	Oct 22, 2014	-	Mo-Bike	Oct 21, 2024
147	57199	Sep 5, 2017	SCG Performance Chemicals Co., Ltd.	1402003241	Oct 22, 2014	-	Front Holder for bicycle	Oct 21, 2024
148	Petty Patent 13153	Oct 3, 2017	SCG Performance Chemicals Co., Ltd.	1603002548	Dec 14, 2016	A solar energy board float	-	Dec 13, 2026
149	63344	Jun 29, 2018	Rayong Engineering & Plant Service Co., Ltd.	1502003862	Nov 6, 2015	-	Corrosion under Insulation detector	Nov 5, 2025
150	30201805823Q (Singapore)	Nov 1, 2018	Rayong Engineering & Plant Service Co., Ltd.	30201805823Q	Nov 1, 2018	-	A device for detecting corrosion	Oct 31, 2038

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151	30201805824T (Singapore)	Nov 1, 2018	Rayong Engineering & Plant Service Co., Ltd.	30201805824T	Nov 1, 2018	-	A device for detecting corrosion	Oct 31, 2038
152	2016102 (Netherland)	Aug 2, 2017	Rayong Engineering & Plant Service Co., Ltd.	2016102	Jan 15, 2016	Movable detector and methods for inspecting elongated tube-like objects in equipment	-	Jan 14, 2036
153	Petty Patent 11586	Jun 8, 2016	Rayong Engineering & Plant Service Co., Ltd.	1503001900	Nov 6, 2015	Corrosion inspection detector	-	Nov 5, 2025
154	Petty Patent 13217	Oct 27, 2017	Rayong Engineering and Plant Service Co., Ltd. and King Mongkut's University of Technology North Bangkok	1703000653	Apr 19, 2017	Movable detector	-	Apr 18, 2027
155	2809717 (Romania)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
156	2809717 (Portugal)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
157	2809717 (Poland)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033

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158	2809717 (Italy)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
159	2809717 (Hungary)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
160	2809717 (France)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
161	2809717 (Spain)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
162	2809717 (Germany)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
163	2809717 (Belgium)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
164	2809717 (Austria)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
165	2809717 (Turkey)	Jul 13, 2016	Norner AS	13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033

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166	2809717 (Great Britain)	Jul 13, 2016	Norner AS	1201578.0	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
167	ZL201380017952.8 (China)	Oct 12, 2016	Norner AS	201380017952.8	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 30, 2033
168	2930205 (Austria)	May 10, 2017	Norner AS	0892284	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
169	2930205 (Belgium)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
170	2930205 (Germany)	May 10, 2017	Norner AS	60213201133.7	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
171	2930205 (Spain)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
172	2930205 (France)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
173	2930205 (Great Britain)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
174	2930205 (Hungary)	May 10, 2017	Norner AS	1725873	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
175	2930205 (Poland)	May 10, 2017	Norner AS	2930212	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
176	2930205 (Portugal)	May 10, 2017	Norner AS	2930212	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
177	2930205 (Romania)	May 10, 2017	Norner AS	01736/2017	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033

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178	2930205 (Turkey)	May 10, 2017	Norner AS	2017/11428	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
179	2930205 (Italy)	May 10, 2017	Norner AS	502017000088591	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 30, 2033
180	9340646 (USA)	May 17, 2016	Norner IP AS	14/232,250	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
181	2731981 (France)	Aug 31, 2016	Norner IP AS	12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
182	2731981 (Spain)	Aug 31, 2016	Norner IP AS	12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
183	2731981 (Netherland)	Aug 31, 2016	Norner IP AS	12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
184	2731981 (Germany)	Aug 31, 2016	Norner IP AS	12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
185	2731981 (Great Britain)	Aug 31, 2016	Norner IP AS	1111928.6	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032
186	103842406 (China)	Nov 2, 2016	Norner IP AS	201280044028.4	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 10, 2032

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Packaging Business								
187	36654	Aug 19, 2013	SCG Packaging PLC.	0902000310	Feb 11, 2009	-	Folding chair	Feb 10, 2019
188	37375	Oct 4, 2013	SCG Packaging PLC.	0902003323	Oct 29, 2009	-	Container	Oct 28, 2019
189	39942	May 6, 2014	SCG Packaging PLC.	1002003047	Oct 20, 2010	-	Display	Oct 19, 2020
190	40389	Jun 11, 2014	SCG Packaging PLC.	1102003701	Dec 28, 2011	-	Carton blank	Dec 27, 2021
191	40434	Jun 16, 2014	SCG Packaging PLC.	1102003702	Dec 28, 2011	-	Carton blank	Dec 27, 2021
192	45914	Sep 15, 2015	SCG Packaging PLC.	0902001103	Apr 20, 2009	-	Seat blank	Apr 19, 2019
193	45917	Sep 15, 2015	SCG Packaging PLC.	0902000311	Feb 11, 2009	-	Folding chair blank	Feb 10, 2019
194	46752	Oct 30, 2015	SCG Packaging PLC.	1002003046	Oct 20, 2010	-	Stand blank	Oct 19, 2020
195	49032	Apr 4, 2016	SCG Packaging PLC.	1102003704	Dec 28, 2011	-	Container blank	Dec 27, 2021
196	50419	Jul 14, 2016	SCG Packaging PLC.	1102001273	May 3, 2011	-	Paper splint	May 2, 2021
197	54311	Mar 21, 2017	SCG Packaging PLC.	1102003703	Dec 28, 2011	-	Container	Dec 27, 2021
198	54710	Apr 21, 2017	SCG Packaging PLC.	1002003323	Nov 24, 2010	-	Container blank	Nov 23, 2020
199	Petty Patent 6859	Jan 13, 2012	SCG Packaging PLC.	0903001383	Nov 25, 2009	Mobile pressure testing equipment	-	Nov 24, 2019
200	Petty Patent 11664	Jun 28, 2016	SCG Packaging PLC.	1503001838	Oct 29, 2015	Investigated method of macro sticky in paper pulp	-	Oct 28, 2025
201	Petty Patent 12725	Jun 7, 2017	SCG Packaging PLC.	1503001837	Oct 29, 2015	Multi floors truck	-	Oct 28, 2025
202	Petty Patent 9259	Oct 24, 2014	SCG Packaging PLC. and Khon Kaen University Thailand Research Fund	1203000685	Jun 29, 2012	Geopolymer from fly ash and biomass ash which obtained from fluidized bed reactor mixing with fly ash from coal and gypsum combustion	-	Jun 28, 2022



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203	Petty Patent 10340	Sep 4, 2015	SCG Packaging PLC. and The National Science and Technology Development Agency	1103000736	Jul 28, 2011	Method of pulp treatment with enzyme in refining step for papermaking process	-	Jul 27, 2021
204	Petty Patent 10041	July 2, 2015	Siam Kraft Industry Co., Ltd.	1403000945	Aug 22, 2014	Wireless hygrometer	-	Aug 21, 2024
205	Petty Patent 12351	Jan 24, 2017	Siam Kraft Industry Co., Ltd.	1403001694	Dec 12, 2014	Portable, scoring device	-	Dec 11, 2024
206	19467 (Vietnam)	Jun 13, 2018	Siam Kraft Industry Co., Ltd.	1-2015-04170	Mar 28, 2014	Sheets with organic filler	-	Mar 27, 2034
207	46617	Oct 26, 2015	Thai Containers Group Co., Ltd.	1202002433	Sep 14, 2012	-	Container blank	Sep 13, 2022
208	49033	Apr 4, 2016	Thai Containers Group Co., Ltd.	1202002432	Sep 14, 2012	-	Container	Sep 13, 2022
209	49034	Apr 4, 2016	Thai Containers Group Co., Ltd.	1202002431	Sep 14, 2012	-	Container	Sep 13, 2022
210	49890	Jun 17, 2016	Thai Containers Group Co., Ltd.	1202002393	Sep 11, 2012	-	Paper pallet axis	Sep 10, 2022
211	50030	Jun 22, 2016	Thai Containers Group Co., Ltd.	0701005182	Oct 15, 2007	Chair	-	Oct 14, 2027
212	53597	Feb 1, 2017	Thai Containers Group Co., Ltd.	1402003369	Nov 3, 2014	-	Display	Nov 2, 2024
213	53172	Jan 5, 2017	Thai Containers Group Co., Ltd.	1202002392	Sep 11, 2012	-	Pallet	Sep 10, 2022
214	58761	Nov 3, 2017	Thai Containers Group Co., Ltd.	1402003368	Nov 3, 2014	-	Display	Nov 2, 2024
215	63990	Aug 3, 2018	Thai Containers Group Co., Ltd.	0701005183	Oct 15, 2007	Chair	-	Oct 14, 2027
216	66067	Nov 6, 2018	Thai Containers Group Co., Ltd.	1502003764	Oct 29, 2015	-	Folding chair	Oct 28, 2025
217	66068	Nov 6, 2018	Thai Containers Group Co., Ltd.	1502003765	Oct 29, 2015	-	Folding chair blank	Oct 28, 2025

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218	66433	Nov 19, 2018	Thai Containers Group Co., Ltd.	0701006255	Dec 7, 2007	Chair	-	Dec 6, 2027
219	66472	Nov 21, 2018	Thai Containers Group Co., Ltd.	1302001479	Jun 4, 2013	-	Container	Jun 3, 2023
220	66471	Nov 22, 2018	Thai Containers Group Co., Ltd.	1302001480	Jun 4, 2013	-	Container blank	Jun 3, 2023
221	Petty Patent 9838	Apr 28, 2015	Thai Containers Group Co., Ltd.	1403000528	May 30, 2014	Water-proof sheath for pallet leg	-	May 29, 2024
222	Petty Patent 11075	Jan 26, 2016	Thai Containers Group Co., Ltd.	1503000291	Mar 9, 2015	Box with a creaser line and production thereof	-	Mar 8, 2025
223	55526	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002351	Aug 22, 2014	-	Container	Aug 21, 2024
224	55527	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002352	Aug 22, 2014	-	Container blank	Aug 21, 2024
225	55528	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002353	Aug 22, 2014	-	Container blank	Aug 21, 2024
226	55529	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002354	Aug 22, 2014	-	Container blank	Aug 21, 2024
227	55530	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002355	Aug 22, 2014	-	Container blank	Aug 21, 2024
228	55531	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002356	Aug 22, 2014	-	Container blank	Aug 21, 2024
229	58757	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004293	Dec 17, 2015	-	Container	Dec 16, 2025
230	58758	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004294	Dec 17, 2015	-	Container	Dec 16, 2025
231	58759	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004295	Dec 17, 2015	-	Container blank	Dec 16, 2025
232	58760	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004296	Dec 17, 2015	-	Container blank	Dec 16, 2025
233	61702	Mar 30, 2018	Thai Paper Co.,Ltd.	1502003338	Sep 29, 2015	-	Container	Sep 28, 2025
234	61703	Mar 30, 2018	Thai Paper Co.,Ltd.	1502004005	Nov 24, 2015	-	Container	Nov 23, 2025
235	61704	Mar 30, 2018	Thai Paper Co.,Ltd.	1502004006	Nov 24, 2015	-	Container blank	Nov 23, 2025
236	61705	Mar 30, 2018	Thai Paper Co.,Ltd.	1502004007	Nov 24, 2015	-	Container blank	Nov 23, 2025
237	63510	Jul 5, 2018	Thai Paper Co.,Ltd.	1602001211	Mar 31, 2016	-	Container	Mar 30, 2026

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238	66313	Nov13, 2018	Thai Paper Co.,Ltd.	1702002966	Aug 4, 2017	-	Lid	Aug 3, 2027
239	66314	Nov13, 2018	Thai Paper Co.,Ltd.	1502003339	Sep 29, 2015	-	Container blank	Sep 28, 2025
240	Petty Patent 12796	Jun 23, 2017	Thai Paper Co.,Ltd.	1603001729	Sep 9, 2016	Food container	-	Sep 8, 2026
241	Petty Patent 13983	Jun 15, 2018	Thai Paper Co.,Ltd.	1603000174	Feb 1, 2016	Packaging having separated containers	-	Jan 31, 2026
Cement-Building Materials Business								
242	27668	Mar 17, 2010	The Concrete Products and Aggregate Co., Ltd.	0701002440	May 17, 2007	Air brake system for motor	-	Mar 17, 2026
243	40409	Jun 13, 2014	SCG Cement Co., Ltd.	0902001875	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
244	40433	Jun 16, 2014	SCG Cement Co., Ltd.	0902001876	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
245	40467	Jun 18, 2014	SCG Cement Co., Ltd.	0902001877	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
246	40468	Jun 18, 2014	SCG Cement Co., Ltd.	0902001878	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
247	47306	Dec 8, 2015	SCG Cement Co., Ltd.	1102000780	Mar 21, 2011	-	Refractory supporting unit	Mar 20, 2021
248	49089	Apr 8, 2016	SCG Cement Co., Ltd.	1102000784	Mar 21, 2011	-	Mortar refractory	Mar 20, 2021
249	49090	Apr 8, 2016	SCG Cement Co., Ltd.	1102000782	Mar 21, 2011	-	Mortar refractory	Mar 20, 2021
250	51912	Oct 18, 2016	SCG Cement Co., Ltd.	1202003207	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
251	51913	Oct 18, 2016	SCG Cement Co., Ltd.	1202003208	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
252	51914	Oct 18, 2016	SCG Cement Co., Ltd.	1202003209	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
253	51915	Oct 18, 2016	SCG Cement Co., Ltd.	1202003210	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
254	51916	Oct 18, 2016	SCG Cement Co., Ltd.	1102000781	Mar 21, 2011	-	Refractory	Mar 20, 2021
255	52081	Oct 26, 2016	SCG Cement Co., Ltd.	1102000783	Mar 21, 2011	-	Refractory	Mar 20, 2021



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256	53667	Feb 8, 2017	SCG Cement Co., Ltd.	0601000434	Feb 2, 2006	Hybrid-type biomass drier	-	Feb 1, 2026
257	54694	Apr 20, 2017	SCG Cement Co., Ltd.	1402003424	Nov 6, 2014	-	Shoveling device	Nov 5, 2024
258	Petty Patent 8391	Oct 4, 2013	SCG Cement Co., Ltd.	1303000220	Mar 1, 2013	Equipment used to test the strength of the concrete blocks	-	Feb 28, 2023
259	Petty Patent 1303001469	Oct 27, 2014	SCG Cement Co., Ltd.	1303001469	Nov 21, 2013	Mortar plaster reology testing apparatus	-	Nov 20, 2023
260	Petty Patent 9756	Apr 4, 2015	SCG Cement Co., Ltd.	1103000179	Feb 23, 2011	Method for manufacturing lightweight aggregate from biomass and its product	-	Feb 22, 2021
261	Petty Patent 9755	Apr 7, 2015	SCG Cement Co., Ltd.	0903000943	Aug 31, 2009	Nature imitating plastering method and its product	-	Aug 30, 2019
262	Petty Patent 10831	Dec 2, 2015	SCG Cement Co., Ltd.	1003000814	Sep 3, 2010	Easy to clean mortar	-	Sep 2, 2020
263	Petty Patent 11797	Aug 4, 2016	SCG Cement Co., Ltd.	1303000793	Jul 19, 2013	Color changing mortar activated by ultraviolet ray or sunlight	-	Jul 18, 2023
264	Petty Patent 11798	Aug 4, 2016	SCG Cement Co., Ltd.	1203001476	Dec 7, 2012	Pozzolanic material made from high ferrous clay and manufacturing method thereof	-	Dec 6, 2022
265	Petty Patent 12107	Nov 7, 2016	SCG Cement Co., Ltd.	1103001337	Dec 23, 2011	Method for manufacturing sodium silicate made from biomass	-	Dec 22, 2021

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266	Petty Patent 12372	Feb 1, 2017	SCG Cement Co., Ltd.	1303000848	Jul 31, 2013	Cement formulation	-	Jul 30, 2023
267	Petty Patent 12528	Mar 21, 2017	SCG Cement Co., Ltd.	1603000176	Sep 2, 2016	Textured concrete element	-	Feb 1, 2026
268	Petty Patent 12794	Jun 23, 2017	SCG Cement Co., Ltd.	1603001632	Sep 2, 2016	Big bag transporting device	-	Sep 1, 2026
269	Petty Patent 13228	Nov 3, 2017	SCG Cement Co., Ltd.	1603001194	Jun 6, 2016	Fast drying mixed cement for masonry or plastering application	-	Jun 5, 2026
270	Petty Patent 13229	Nov 3, 2017	SCG Cement Co., Ltd.	1603001193	Jun 6, 2016	Pigment for cementitious material and manufacturing method thereof	-	Jun 5, 2026
271	Petty Patent 13535	Feb 7, 2018	SCG Cement Co., Ltd.	1603000177	Feb 2, 2016	Repairing Cement	-	Feb 1, 2026
272	Petty Patent 13614	Feb 28, 2018	SCG Cement Co., Ltd.	1603000645	Apr 20, 2016	Flexible mortar for construction joint sealing	-	Apr 19, 2026
273	Petty Patent 13745	Apr 11, 2018	SCG Cement Co., Ltd.	1703001856	Sep 22, 2017	Shim installing apparatus for refractory brick	-	Sep 21, 2027
274	US8864903 (USA)	Oct 21, 2014	SCG Cement Co., Ltd.	US13/717,054	Oct 29, 2012	Composite plaster including an organic additive	-	Oct 28, 2032

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275	AU2012275037 (Australia)	Dec 24, 2014	SCG Cement Co., Ltd.	AU2012275037	Dec 24, 2012	Composite plaster including an organic additive	-	Oct 28, 2032
276	20285	Jul 28, 2006	The Siam Refractory Industry Co., Ltd.	0301003134 (084687)	Aug 22, 2003	Procedure for packaging basic brick to improve ventilation system	-	Aug 21, 2023
277	25337	Jan 23, 2009	The Siam Refractory Industry Co., Ltd.	0301003133	Aug 22, 2003	Spraying or mortar Refractory	-	Aug 21, 2023
278	Petty Patent 8528	Dec 11, 2013	SCI Eco Services Co., Ltd.	1203000839	Aug 10, 2012	Solid fuel product that is made from waste	-	Aug 9, 2022
279	49317	May 4, 2016	The Siam Fibre-Cement Co., Ltd.	1202002474	Sep 17, 2012	-	Building material element	Sep 16, 2022
280	49596	May 30, 2016	The Siam Fibre-Cement Co., Ltd.	1402000487	Mar 14, 2014	-	Patterned tile	Mar 13, 2024
281	49595	May 30, 2016	The Siam Fibre-Cement Co., Ltd.	1202002887	Nov 2, 2012	-	Seat	Nov 1, 2022
282	51075	Sep 6, 2016	The Siam Fibre-Cement Co., Ltd.	1302000153	Jan 24, 2013	-	Shelter	Jan 23, 2023
283	53439	Jan 20, 2017	The Siam Fibre-Cement Co., Ltd.	1302002661	Sep 24, 2013	-	Bracked element	Sep 23, 2023
284	53440	Jan 20, 2017	The Siam Fibre-Cement Co., Ltd.	1302002660	Sep 24, 2013	-	Bracked element	Sep 23, 2023
285	53971	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1402003915	Dec 19, 2014	-	Patterned floor	Dec 18, 2024
286	53972	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1402003916	Dec 19, 2014	-	Patterned floor	Dec 18, 2024
287	53973	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1402003917	Dec 19, 2014	-	Patterned floor	Dec 18, 2024
288	58152	Oct 11, 2017	The Siam Fibre-Cement Co., Ltd.	1502000029	Jan 6, 2015	-	Patterned floor	Jan 5, 2025
289	58153	Oct 11, 2017	The Siam Fibre-Cement Co., Ltd.	1402000734	Mar 28, 2014	-	Building material element	Mar 27, 2024
290	60014	Jan 12, 2018	The Siam Fibre-Cement Co., Ltd.	1502001733	May 29, 2015	-	Patterned floor	May 28, 2025

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291	60804	Feb 16, 2018	The Siam Fibre-Cement Co., Ltd.	1502001416	April 30, 2015	-	Patterned floor	April 29,2025
292	60805	Feb 16, 2018	The Siam Fibre-Cement Co., Ltd.	1502001741	May 29, 2015	-	Building material element	May 28,2025
293	61919	Apr 11, 2018	The Siam Fibre-Cement Co., Ltd.	1502001738	May 29, 2015	-	Building material element	May 28,2025
294	62386	Apr 30, 2018	The Siam Fibre-Cement Co., Ltd.	1502004404	Dec 24, 2015	-	Patterned ceiling	Dec 23, 2025
295	62387	Apr 30, 2018	The Siam Fibre-Cement Co., Ltd.	1502004405	Dec 24, 2015	-	Patterned ceiling	Dec 23, 2025
296	62388	Apr 30, 2018	The Siam Fibre-Cement Co., Ltd.	1502004406	Dec 24, 2015	-	Patterned ceiling	Dec 23, 2025
297	63420	Jul 3, 2018	The Siam Fibre-Cement Co., Ltd.	1602002718	Jul 15, 2016	-	Patterned ceiling	Jul 14, 2026
298	63421	Jul 3, 2018	The Siam Fibre-Cement Co., Ltd.	1602002720	Jul 15, 2016	-	Patterned ceiling	Jul 14, 2026
299	63425	Jul 3, 2018	The Siam Fibre-Cement Co., Ltd.	1602002719	Jul 15, 2016	-	Patterned ceiling	Jul 14, 2026
300	65195	Sep 28, 2018	The Siam Fibre-Cement Co., Ltd.	1502001136	Apr 10, 2015	-	Patterned floor	Apr 9, 2025
301	65826	Oct 25, 2018	The Siam Fibre-Cement Co., Ltd.	1402001287	May 14, 2014	-	Wall and floor tile	May13, 2024
302	Petty Patent 8721	Mar 17, 2014	The Siam Fibre-Cement Co., Ltd.	1303001128	Sep 24, 2013	Installation of plaques	-	Sep 23, 2023
303	Petty Patent 11004	Jan 11, 2016	The Siam Fibre-Cement Co., Ltd.	1503000960	Jun 25, 2015	Eave	-	Jun 24, 2025
304	Petty Patent 11738	Jul 15, 2016	The Siam Fibre-Cement Co., Ltd.	1503001907	Nov 9, 2015	Ventilating ceiling	-	Nov 8, 2025

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305	Petty Patent 12461	Mar 2, 2017	The Siam Fibre-Cement Co., Ltd.	1503001397	Sep 4, 2015	Roofing materials	-	Sep 3, 2025
306	Petty Patent 13560	Feb 16, 2018	The Siam Fibre-Cement Co., Ltd.	1603001100	Jun 24, 2016	Digital printing for fiber cement material	-	Jun 23, 2026
307	Petty Patent 14047	Jul 3, 2018	The Siam Fibre-Cement Co., Ltd.	1603000590	Apr 8, 2016	Screw	-	Apr 7, 2026
308	Petty Patent 14707	Dec 13, 2018	The Siam Fibre-Cement Co., Ltd.	1703000595	Apr 7, 2017	Ventilation and installation system	-	Apr 6, 2027
309	Petty Patent 14708	Dec 13, 2018	The Siam Fibre-Cement Co., Ltd.	1703000915	May 29, 2017	Eaves	-	May 28, 2027
310	44686	Jun 16, 2015	The Concrete Products and Aggregate Co., Ltd.	0902002255	July 30, 2009	-	Floatable concrete mixing plant	Jul 29, 2019
311	36132	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000057	Jan 16, 2009	-	Roof tile	Jan 15, 2019
312	36133	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000506	Feb 25, 2009	-	Roof tile	Feb 24, 2019
313	36134	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000507	Feb 25, 2009	-	Roof tile	Feb 24, 2019
314	36367	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000056	Jan 16, 2009	-	Roof tile	Jan 15, 2019
315	36369	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000505	Feb 25, 2009	-	Roof tile	Feb 24, 2019
316	41609	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003079	Oct 14, 2009	-	Floor tile	Oct 13, 2019
317	43999	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000058	Jan 16, 2009	-	Roof tile	Jan 15, 2019
318	44000	Apr 30, 2015	SCG Building Materials Co., Ltd.	1002001832	Jul 16, 2010	-	Bracked element	Jul 15, 2020
319	44001	Apr 30, 2015	SCG Building Materials Co., Ltd.	1102000953	Mar 31, 2011	-	Floor tile	Mar 30, 2021
320	44006	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000055	Jan 16, 2009	-	Roof tile hook	Jan 15, 2019
321	44103	May 6, 2015	SCG Building Materials Co., Ltd.	1002003320	Nov 24, 2010	-	Bracked element	Nov 23, 2020

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322	44449	May 29, 2015	SCG Building Materials Co., Ltd.	0902002806	Sep 14, 2009	-	Building material element	Sep 13, 2019
323	44640	Jun 12, 2015	SCG Building Materials Co., Ltd.	1002001831	Jul 16, 2010	-	Bracked element	Jul 15, 2020
324	44641	Jun 12, 2015	SCG Building Materials Co., Ltd.	1202001166	May 3, 2012	-	Bracked element	May 2, 2022
325	44678	Jun 16, 2015	SCG Building Materials Co., Ltd.	1002003319	Nov 24, 2010	-	Bracked element	Nov 23, 2020
326	44679	Jun 16, 2015	SCG Building Materials Co., Ltd.	1002003321	Nov 24, 2010	-	Bracked element	Nov 23, 2020
327	44791	Jun 25, 2015	SCG Building Materials Co., Ltd.	1102002691	Sep 6, 2011	-	Roof bracked element	Sep 5, 2021
328	45722	Aug 31, 2015	SCG Building Materials Co., Ltd.	1002003127	Oct 29, 2010	-	Roof tile	Oct 28, 2020
329	46635	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002675	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
330	46636	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002679	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
331	46637	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002678	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
332	46638	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002676	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
333	46639	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000945	Apr 5, 2010	-	Roof tile	Apr 4, 2020
334	46640	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000944	Apr 5, 2010	-	Solar roof tile	Apr 4, 2020
335	46641	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000943	Apr 5, 2010	-	Concrete block	Apr 4, 2020
336	46642	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000725	Mar 15, 2010	-	Roof tile	Mar 14, 2020
337	46644	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002069	Aug 6, 2010	-	Building material element	Aug 5, 2020
338	46882	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002672	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
339	46883	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002673	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
340	46884	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002674	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
341	46885	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002677	Sep 24, 2010	-	Cover roof tile	Sep 23, 2020
342	47525	Dec 24, 2015	SCG Building Materials Co., Ltd.	1102002425	Aug 11, 2011	-	Fence materials	Aug 10, 2021

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343	47825	Jan 29, 2016	SCG Building Materials Co., Ltd.	0701002104	Apr 27, 2007	Roof tile and process making thereof	-	Apr 26, 2027
344	47772	Feb 25, 2016	SCG Building Materials Co., Ltd.	1002002070	Aug 6, 2010	-	Attaching device	Aug 5, 2020
345	48365	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001140	Apr 12, 2011	-	Floor tile	Apr 11, 2021
346	48366	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001137	Apr 12, 2011	-	Floor tile	Apr 11, 2021
347	48367	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001138	Apr 12, 2011	-	Floor tile	Apr 11, 2021
348	48368	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001139	Apr 12, 2011	-	Floor tile	Apr 11, 2021
349	48471	Mar 7, 2016	SCG Building Materials Co., Ltd.	1202001165	May 3, 2012	-	Attaching device	May 2, 2022
350	48472	Mar 7, 2016	SCG Building Materials Co., Ltd.	1302002137	Jul 31, 2013	-	Ventilators	Jul 30, 2023
351	49321	Mar 4, 2016	SCG Building Materials Co., Ltd.	1202000189	Jan 26, 2012	-	Wall	Jan 25, 2022
352	51074	Sep 6, 2016	SCG Building Materials Co., Ltd.	1102000098	Jan 11, 2011	-	Fastener	Jan 10, 2021
353	52230	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002995	Oct 18, 2013	-	Fastener	Oct 17, 2023
354	52231	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002994	Oct 18, 2013	-	Fastener	Oct 17, 2023
355	52232	Nov 4, 2016	SCG Building Materials Co., Ltd.	1402000099	Jan 17, 2014	-	Fastener	Jan 16, 2024
356	52233	Nov 4, 2016	SCG Building Materials Co., Ltd.	1402000100	Jan 17, 2014	-	Fastener	Jan 16, 2024
357	52234	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002996	Oct 18, 2013	-	Fastener	Oct 17, 2023
358	52235	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302003588	Dec 6, 2013	-	Fastener	Dec 5, 2023
359	54434	Mar 27, 2017	SCG Building Materials Co., Ltd.	0701004624	Sep 13, 2007	Roofing materials	-	Sep 12, 2027
360	54435	Mar 27, 2017	SCG Building Materials Co., Ltd.	0701004625	Sep 13, 2007	Bracked element	-	Sep 12, 2027
361	56127	Jul 21, 2017	SCG Building Materials Co., Ltd.	0701004623	Sep 13, 2007	Installation of roofing materials	-	Sep 12, 2027
362	56256	Jul 27, 2017	SCG Building Materials Co., Ltd.	0901001969	May 4, 2009	Apparatus and method for forming powder materials	-	May 3, 2029
363	55988	Jul 14, 2017	SCG Building Materials Co., Ltd.	1102000097	Jan 11, 2011	-	Roof tile	Jan 10, 2021

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364	55987	Jul 14, 2017	SCG Building Materials Co., Ltd.	1502000543	Feb 27, 2015	-	Bracked element	Feb 26, 2025
365	55989	Jul 14, 2017	SCG Building Materials Co., Ltd.	1502000544	Feb 27, 2015	-	Bracked element	Feb 26, 2025
366	56898	Aug 22, 2017	SCG Building Materials Co., Ltd.	1402000375	Feb 28, 2014	-	Growing unit	Feb 27, 2024
367	58157	Oct 11, 2017	SCG Building Materials Co., Ltd.	1302003804	Dec 27, 2013	-	Concrete block dividing unit	Dec 26, 2023
368	60016	Jan 12, 2018	SCG Building Materials Co., Ltd.	1402001810	Jul 17, 2014	-	Building material element	Jul 16, 2024
369	60801	Feb 16, 2018	SCG Building Materials Co., Ltd.	0902000656	Mar 6, 2009	-	Building material element	Mar 5, 2019
370	60803	Feb 16, 2018	SCG Building Materials Co., Ltd.	1502000028	Jan 6, 2015	-	Ventilation system	Jan 5, 2025
371	60813	Feb 16, 2018	SCG Building Materials Co., Ltd.	1502001743	May 29, 2015	-	Heat shield	May28, 2025
372	60816	Feb 16, 2018	SCG Building Materials Co., Ltd.	1602001695	May 4, 2016	-	Basin	May 3, 2026
373	61072	Feb 28, 2018	SCG Building Materials Co., Ltd.	1402000291	Feb 12, 2014	-	Patterned floor	Feb 11, 2024
374	61073	Feb 28, 2018	SCG Building Materials Co., Ltd.	1502003708	Oct 27, 2015	-	Wall and floor tile	Oct 26, 2025
375	61924	Apr 11, 2018	SCG Building Materials Co., Ltd.	1602000691	Mar 1, 2016	-	Building material element	Oct 28, 2026
376	65194	Sep 28, 2018	SCG Building Materials Co., Ltd.	1602004273	Nov 4, 2016	-	Wall and floor tile	Nov 3, 2026
377	66881	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004282	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
378	66882	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004281	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
379	66883	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004280	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
380	66884	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004279	Nov 4, 2016	-	Wall Panel	Nov 3, 2026



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381	66885	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004278	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
382	66886	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004277	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
383	66887	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004276	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
384	66888	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004275	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
385	66889	Dec 13, 2018	SCG Building Materials Co., Ltd.	1602004274	Nov 4, 2016	-	Wall Panel	Nov 3, 2026
386	Petty Patent 6099	Mar 25, 2011	SCG Building Materials Co., Ltd.	0903000394	Apr 24, 2009	Apparatus for wastewater of toilet		Apr 23, 2019
387	Petty Patent 6326	Jun 24, 2011	SCG Building Materials Co., Ltd.	1103000369	Apr 12, 2011	Apparatus for installation roofing	-	Apr 11, 2021
388	Petty Patent 6471	Aug 11, 2011	SCG Building Materials Co., Ltd.	1103000368	Apr 12, 2011	Cementitious floors	-	Apr 11, 2021
389	Petty Patent 6888	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000083	Jan 28, 2011	Concrete counter	-	Jan 27, 2021
390	Petty Patent 6889	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000303	Mar 25, 2011	Lath installation system	-	Mar 24, 2021
391	Petty Patent 7794	Jan 24, 2013	SCG Building Materials Co., Ltd.	1103001300	Dec 6, 2011	Rain filter	-	Dec 5, 2021
392	Petty Patent 7898	Mar 4, 2013	SCG Building Materials Co., Ltd.	1203000406	Apr 24, 2012	Foundation system	-	Apr 23, 2022
393	Petty Patent 8140	Jul 15, 2013	SCG Building Materials Co., Ltd.	1103001301	Dec 6, 2011	Rain filtration	-	Dec 5, 2021

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394	Petty Patent 8327	Sep 24, 2013	SCG Building Materials Co., Ltd.	1303000079	Jan 24, 2013	Heat trapping device	-	Jan 23, 2023
395	Petty Patent 8328	Sep 24, 2013	SCG Building Materials Co., Ltd.	0903000393	Apr 24, 2009	Wall plate mounting systems and assemblies	-	Apr 23, 2019
396	Petty Patent 8637	Feb 12, 2014	SCG Building Materials Co., Ltd.	1303000336	Mar 27, 2013	Parts for installation frame	-	Mar 26, 2023
397	Petty Patent 8916	Jun 9, 2014	SCG Building Materials Co., Ltd.	1303000299	Mar 20, 2013	Power management unit in a building with electricity reserves in itself	-	Mar 19, 2023
398	Petty Patent 8917	Jun 9, 2014	SCG Building Materials Co., Ltd.	1303001089	Sep 16, 2013	Cropping systems help the particular weather conditions	-	Sep 15, 2023
399	Petty Patent 8940	Jun 23, 2014	SCG Building Materials Co., Ltd.	0903000195	Mar 6, 2009	Planting material	-	Mar 5, 2019
400	Petty Patent 9162	Sep 24, 2014	SCG Building Materials Co., Ltd.	1303001541	Dec 6, 2013	Set adjustable fan	-	Dec 5, 2023
401	Petty Patent 9215	Oct 13, 2014	SCG Building Materials Co., Ltd.	1403000092	Feb 12, 2014	System of growing plants vertically	-	Feb 11, 2024
402	Petty Patent 9216	Oct 13, 2014	SCG Building Materials Co., Ltd.	1403000050	Jan 17, 2014	System for the installation of the roof	-	Jan 16, 2024
403	Petty Patent 9217	Oct 13, 2014	SCG Building Materials Co., Ltd.	1303001325	Oct 18, 2013	Set for roof ventilation	-	Oct 17, 2023
404	Petty Patent 9218	Oct 13, 2014	SCG Building Materials Co., Ltd.	1303001540	Dec 6, 2013	Equipment for the installation of the roof	-	Dec 5, 2023

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405	Petty Patent 9306	Nov 10, 2014	SCG Building Materials Co., Ltd.	1203000444	May 3, 2012	Installation slabs	-	May 2, 2022
406	Petty Patent 9592	Feb 27, 2015	SCG Building Materials Co., Ltd.	1403000991	Sep 1, 2014	Instance concrete bathroom floor panel	-	Aug 31, 2024
407	Petty Patent 10187	Aug 7, 2015	SCG Building Materials Co., Ltd.	1403000775	Jul 17, 2014	Process of cover gable setting	-	Jul 16, 2024
408	Petty Patent 10188	Aug 7, 2015	SCG Building Materials Co., Ltd.	1503000012	Jan 6, 2015	Roof air flow set	-	Jan 5, 2025
409	Petty Patent 10438	Sep 28, 2015	SCG Building Materials Co., Ltd.	1403000776	Jul 17, 2014	Facial setting, eaves setting tools and process of that	-	Jul 16, 2024
410	Petty Patent 10440	Sep 28, 2015	SCG Building Materials Co., Ltd.	1403001403	Oct 30, 2014	Cover roof end tools and process of that	-	Oct 29, 2024
411	Petty Patent 10441	Sep 28, 2015	SCG Building Materials Co., Ltd.	1303001502	Nov 28, 2013	Process of fuel cell electric production for building	-	Nov 27, 2023
412	Petty Patent 10857	Dec 4, 2015	SCG Building Materials Co., Ltd.	1403001721	Dec 19, 2014	Plant pot on water surface	-	Dec18, 2024
413	Petty Patent 11005	Jan 11, 2016	SCG Building Materials Co., Ltd.	1503000330	Mar 16, 2015	Ventilation system	-	Mar 15, 2025
414	Petty Patent 11006	Jan 11, 2016	SCG Building Materials Co., Ltd.	1503000815	May 29, 2015	Apparatus for reducing thermal bridge and vibration	-	May 28, 2025
415	Petty Patent 11636	Jun 17, 2016	SCG Building Materials Co., Ltd.	1403000091	Feb 12, 2014	Receptacle	-	Feb 11, 2024
416	Petty Patent 12333	Jan 20, 2017	SCG Building Materials Co., Ltd.	1503001396	Sep 4, 2015	Apparatus for reducing thermal bridge	-	Sep 3, 2025

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417	Petty Patent 12334	Jan 20, 2017	SCG Building Materials Co., Ltd.	1603000755	May 4, 2016	Bathtub Set	-	May 3, 2026
418	Petty Patent 12648	May 15, 2017	SCG Building Materials Co., Ltd.	1603000339	Mar 1, 2016	Apparatus and method for frame installation	-	Feb 28, 2026
419	Petty Patent 12857	Jul 14, 2017	SCG Building Materials Co., Ltd.	1503001858	Oct 30, 2015	Lighting control system	-	Oct 29, 2025
420	48370 (Iran)	May 21, 2008	SCG Building Materials Co., Ltd.	38606893	Sep 19, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 18, 2027
421	Petty Patent 13813	May 3, 2018	SCG Building Materials Co., Ltd.	1603002401	Nov 21, 2016	Wall installation system	-	Nov 20, 2026
422	Petty Patent 13862	May 17, 2018	SCG Building Materials Co., Ltd.	1703000917	Mar 31, 2017	Ventilation system	-	Mar 30, 2027
423	Petty Patent 13861	May 17, 2018	SCG Building Materials Co., Ltd.	1703000916	Mar 31, 2017	Ventilation system	-	Mar 30, 2027
424	Petty Patent 14048	Jul 3, 2018	SCG Building Materials Co., Ltd.	1603000655	Apr 22, 2016	Air grill	-	Apr 21, 2026
425	Petty Patent 14706	Dec 13, 2018	SCG Building Materials Co., Ltd.	1703001857	Sep 22, 2017	Apparatus for cutting heat insulation and vibration damping	-	Sep 21, 2027
426	ZL200710305114.7 (China)	Aug 7, 2011	SCG Building Materials Co., Ltd.	ZL200710305114.7	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027



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427	RU2443551 (Russia)	Feb 27, 2012	SCG Building Materials Co., Ltd.	2007135042	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027
428	US8333916 B2 (USA)	Dec 18, 2012	SCG Building Materials Co., Ltd.	11/859684	Sep 21, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 20, 2027
429	11310 (Vietnam)	Apr 16, 2013	SCG Building Materials Co., Ltd.	1-2007-01913	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027
430	TW1401146B (Taiwan)	Jul 11, 2013	SCG Building Materials Co., Ltd.	96135120	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027
431	MX316352B1 (Mexico)	Dec 11, 2013	SCG Building Materials Co., Ltd.	MX/a/2007/011554	Sep 19, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 18, 2027
432	IDP000035162 (Indonesia)	Dec 13, 2013	SCG Building Materials Co., Ltd.	P00 2007 00506	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027

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433	JP5435851 (Japan)	Dec 20, 2013	SCG Building Materials Co., Ltd.	2007-243497	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027
434	EP2036694B1 (Italy)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 16, 2027
435	EP2036694 (Spain)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 16, 2027
436	EP2036694 (England)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 16, 2027
437	602007035323.8 (Germany)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 16, 2027
438	TR201406264T4 (Turkey)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 16, 2027

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439	EP2036694 (Portugal)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thicknes	-	Sep 16, 2027
440	EP2036694 (Poland)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07116535.1	Sep 17, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thicknes	-	Sep 16, 2027
441	1-2007-000379 (Philiphine)	Jan 13, 2015	SCG Building Materials Co., Ltd.	1-2007-000379	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thicknes	-	Sep 19, 2027
442	MY-154412-A (Malaysia)	Jun 15, 2015	SCG Building Materials Co., Ltd.	PI20071579	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thicknes	-	Sep 19, 2027
443	602007035323.8 (Germany)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	A device for making continuous veining of desired patterns extending through the entire thickness of a product, a process of making thereof	-	Apr 26, 2027

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
444	2065150 (Italy)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	A device for making continuous veining of desired patterns extending through the entire thickness of a product, a process of making thereof	-	Apr 26, 2027
445	2065150 (Spain)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	A device for making continuous veining of desired patterns extending through the entire thickness of a product, a process of making thereof	-	Apr 26, 2027
446	2015249111 (Australia)	Jun 15, 2017	SCG Building Materials Co., Ltd.	2015249111	Oct 28, 2015	Weatherproof roof fixing system	-	Oct 27, 2035
447	299630 (India)	Oct 31, 2018	SCG Building Materials Co., Ltd.	1310/KOL/2007	Sep 20, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 19, 2027
448	ZL2017303396490 (China)	Jan 5, 2018	SCG Building Materials Co., Ltd.	2017303396490	Jul 28, 2017	-	Roof tile	Jul 27, 2027
449	ZL2017303393539 (China)	Jan 30, 2018	SCG Building Materials Co., Ltd.	2017303393539	Jul 28, 2017	-	Roof tile	Jul 27, 2027

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
450	40567	Jun 24, 2014	SCG Ceramics Public	0401002211	Apr 28, 2004	A device for making continuous veining of desired patterns extending through the entire thickness of a product, a process of making thereof	-	Apr 27, 2024
451	50454	Jul 15, 2016	SCG Ceramics Public	1302000201	Feb 1, 2013	-	Floor tile	Jan 31, 2023
452	57300	Sep 7, 2017	SCG Ceramics Public	1402000978	Apr 25, 2014	-	Patterned material sheets	Apr 24, 2024
453	61920	Apr 11, 2018	SCG Ceramics Public	1602000240	Jan 29, 2016	-	Floor and wall tile	Jan 28, 2026
454	61921	Apr 11, 2018	SCG Ceramics Public	1602000241	Jan 29, 2016	-	Floor and wall tile	Jan 28, 2026
455	61922	Apr 11, 2018	SCG Ceramics Public	1602000242	Jan 29, 2016	-	Floor and wall tile	Jan 28, 2026
456	61923	Apr 11, 2018	SCG Ceramics Public	1602000243	Jan 29, 2016	-	Floor and wall tile	Jan 28, 2026
457	61925	Apr 11, 2018	SCG Ceramics Public	1602000693	Mar 1, 2016	-	Floor and wall tile	Feb 28, 2026
458	64258	Aug 16, 2018	SCG Ceramics Public	1602001442	Apr 22, 2016	-	Floor and wall tile	Apr 21, 2026
459	64259	Aug 16, 2018	SCG Ceramics Public	1602001443	Apr 22, 2016	-	Floor and wall tile	Apr 21, 2026
460	Petty Patent 10185	Aug 7, 2015	SCG Ceramics Public	1403000391	Apr 25, 2014	Material sheets	-	Apr 25, 2024
461	Petty Patent 10186	Aug 7, 2015	SCG Ceramics Public	1503000634	Apr 30, 2015	Adjust surfact and setting trowel	-	Apr 29, 2025
462	Petty Patent 10439	Sep 28, 2015	SCG Ceramics Public	1503000635	Apr 30, 2015	Setting trowel	-	Apr 29, 2025

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
463	ZL200510083761.9 (China)	Jun 16, 2010	Thai Ceramic Co., Ltd.	200510083761.9	Apr 25, 2005	A device for making continuous veining of desired patterns extending through the entire thickness of a product and a process of making thereof	-	Apr 24, 2025
464	602005013647.9 (Germany)	Nov 2, 2006	Thai Ceramic Co., Ltd.	05450074.9	Apr 25, 2005	A device for making continuous veining of desired patterns extending through the entire thickness of a product and a process of making thereof	-	Apr 24, 2025
465	5450074 (Spain)	Nov 2, 2006	Thai Ceramic Co., Ltd.	05450074.9	Apr 25, 2005	A device for making continuous veining of desired patterns extending through the entire thickness of a product and a process of making thereof	-	Apr 24, 2025
466	502009901745936 (Italy)	Nov 2, 2006	Thai Ceramic Co., Ltd.	05450074.9	Apr 25, 2005	A device for making continuous veining of desired patterns extending through the entire thickness of a product and a process of making thereof	-	Apr 24, 2025
467	61574	Mar 23, 2018	Cement Thai Ceramics Co., Ltd.	1602000688	Mar 1, 2016	-	Basin	28 Feb, 2026

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
468	64260	Aug 16, 2018	Cement Thai Ceramics Co.,Ltd.	1602000685	Mar 1, 2016	-	Drawer	28 Feb, 2026
469	64261	Aug 16, 2018	Cement Thai Ceramics Co.,Ltd.	1602000686	Mar 1, 2016	-	Drawer	28 Feb, 2026
470	64262	Aug 16, 2018	Cement Thai Ceramics Co.,Ltd.	1602000687	Mar 1, 2016	-	Drawer	28 Feb, 2026
471	61573	Mar 23, 2018	Thai Ceramic Roof Tile Co.,Ltd.	1602000766	Mar 7, 2016	-	Roof tiles	Mar 6, 2026
472	Petty Patent 14513	Oct 25, 2018	Thai Ceramic Roof Tile Co.,Ltd.	1703002027	Oct 11, 2017	Eaves	-	Oct 10, 2027
473	64005	Aug 3, 2018	SCG Building Materials Co., Ltd. and SCG Ceramics Public	0701004776	Sep 21, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Sep 20, 2027
474	40369	Jun 9, 2014	SCG Landscape Co.,Ltd.	1102003513	Dec 6, 2011	-	Package	Dec 5, 2021
475	44002	Apr 30, 2015	SCG Landscape Co.,Ltd.	1102003514	Dec 6, 2011	-	Floor and wall tile	Dec 6, 2021
476	44003	Apr 30, 2015	SCG Landscape Co.,Ltd.	1102003515	Dec 6, 2011	-	Concrete block dividing unit	Dec 6, 2021
477	46643	Oct 27, 2015	SCG Landscape Co.,Ltd.	1102003516	Dec 6, 2011	-	Seat	Dec 6, 2021
478	58154	Oct 11, 2017	SCG Landscape Co.,Ltd.	1402000975	Apr 25, 2014	-	Floor and wall tile	Apr 24, 2024
479	58155	Oct 11, 2017	SCG Landscape Co.,Ltd.	1402000974	Apr 25, 2014	-	Floor and wall tile	Apr 24, 2024
480	60015	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402001809	Jul 17, 2014	-	Floor block	Jul 16, 2024
481	60009	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402003353	Oct 30, 2014	-	Floor tile	Oct 29, 2024
482	60010	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402003352	Oct 30, 2014	-	Floor tile	Oct 29, 2024
483	60011	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402003351	Oct 30, 2014	-	Floor tile	Oct 29, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
484	60012	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402003350	Oct 30, 2014	-	Floor tile	Oct 29, 2024
485	60013	Jan 12, 2018	SCG Landscape Co.,Ltd.	1402003349	Oct 30, 2014	-	Floor tile	Oct 29, 2024
486	60806	Feb 16, 2018	SCG Landscape Co.,Ltd.	1502001857	Jun 12, 2015	-	Brick	Jun 11, 2025
487	60807	Feb 16, 2018	SCG Landscape Co.,Ltd.	1502001858	Jun 12, 2015	-	Brick	Jun 11, 2025
488	60814	Feb 16, 2018	SCG Landscape Co.,Ltd.	1502001859	Jun 12, 2015	-	Brick	Jun 11, 2025
489	60815	Feb 16, 2018	SCG Landscape Co.,Ltd.	1502001860	Jun 12, 2015	-	Brick	Jun 11, 2025
490	61074	Apr 4, 2018	SCG Landscape Co.,Ltd.	1502003710	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
491	61795	Apr 4, 2018	SCG Landscape Co.,Ltd.	1502001376	Apr 27, 2015	-	Flowerpot	Apr 26, 2025
492	62040	Apr 9, 2018	SCG Landscape Co.,Ltd.	1502003712	Oct 27, 2015	-	Floor block	Oct 26, 2025
493	62041	Apr 9, 2018	SCG Landscape Co.,Ltd.	1502003713	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
494	62042	Apr 9, 2018	SCG Landscape Co.,Ltd.	1502003714	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
495	62043	Apr 9, 2018	SCG Landscape Co.,Ltd.	1502003715	Oct 27, 2015	-	Floor block	Oct 26, 2025
496	62044	Apr 9, 2018	SCG Landscape Co.,Ltd.	1502003716	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
497	62039	Apr 19, 2018	SCG Landscape Co.,Ltd.	1502003711	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
498	62509	May 17, 2018	SCG Landscape Co.,Ltd.	1502003709	Oct 27, 2015	-	Floor and wall tile	Oct 26, 2025
499	51465	Sep 22, 2016	The CPAC Roof Tile Co., Ltd.	0201001929	May 24, 2002	Apparatus for attaching roof element	-	May 23, 2022
500	Petty Patent 8719	Mar 14, 2014	The CPAC Roof Tile Co., Ltd.	1203001424	Jun 1, 2012	Roof tiles	-	May 31, 2022

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
501	Petty Patent 9981	Jun 12, 2015	The CPAC Roof Tile Co., Ltd.	1403000688	Jun 30, 2014	Roof tiles	-	Jun 29, 2024
502	Petty Patent 6310	Jun 17, 2011	SCG Distribution Co., Ltd.	0903001006	Sep 11, 2009	Multi wall system	-	Sep 10, 2019
503	37767	Oct 29, 2013	SCG Experience Co., Ltd.	0902001826	Jun 19, 2009	-	Packaging design	Jun 17, 2019
504	Petty Patent 9002	Jul 23, 2014	SCG Trading Co., Ltd.	1103000443	May 3, 2011	Liquid coal fuel	-	May 2, 2021
505	39035	Feb 11, 2014	Siam Sanitary Ware Co.,Ltd.	0902001105	Apr 20, 2009	-	Sink	Apr 19, 2019
506	40572	Jun 25, 2014	Siam Sanitary Ware Co.,Ltd.	1102001262	Apr 29, 2011	-	Tap	Apr 28, 2021
507	41048	Aug 6, 2014	Siam Sanitary Ware Co.,Ltd.	1102001263	Apr 29, 2011	-	Sink	Apr 28, 2021
508	41049	Aug 6, 2014	Siam Sanitary Ware Co.,Ltd.	1102001261	Apr 29, 2011	-	Sink	Apr 28, 2021
509	41695	Oct 1, 2014	Siam Sanitary Ware Co.,Ltd.	1102003640	Dec 20, 2011	-	Toilet	Dec 19, 2021
510	42053	Nov 11, 2014	Siam Sanitary Ware Co.,Ltd.	1102001259	Apr 29, 2011	-	Sink	Apr 28, 2021
511	42054	Nov 11, 2014	Siam Sanitary Ware Co.,Ltd.	1102001260	Apr 29, 2011	-	Sink	Apr 28, 2021
512	43147	Mar 9, 2015	Siam Sanitary Ware Co.,Ltd.	1202001026	Apr 23, 2012	-	Water tank	Apr 23, 2022
513	45844	Sep 11, 2015	Siam Sanitary Ware Co.,Ltd.	0901000651	Feb 16, 2009	Water supply to the front of the toilet	-	Feb 15, 2019
514	51555	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001680	Jun 19, 2013	-	Water tank	Jun 18, 2023
515	51556	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001681	Jun 19, 2013	-	Water tank	Jun 18, 2023
516	51557	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001682	Jun 19, 2013	-	Water tank	Jun 18, 2023
517	51558	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001683	Jun 19, 2013	-	Water tank	Jun 18, 2023
518	51559	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001684	Jun 19, 2013	-	Water tank	Jun 18, 2023
519	51560	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001685	Jun 19, 2013	-	Water tank	Jun 18, 2023
520	51562	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002772	Oct 7, 2013	-	Toilet	Oct 6, 2023
521	51563	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002773	Oct 7, 2013	-	Toilet	Oct 6, 2023



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
522	51564	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002775	Oct 7, 2013	-	Toilet	Oct 6, 2023
523	51565	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002776	Oct 7, 2013	-	Sink	Oct 6, 2023
524	51566	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002777	Oct 7, 2013	-	Sink	Oct 6, 2023
525	51567	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002778	Oct 7, 2013	-	Sink	Oct 6, 2023
526	51940	Oct 18, 2016	Siam Sanitary Ware Co.,Ltd.	1302002774	Oct 7, 2013	-	Toilet	Oct 6, 2023
527	54269	Mar 16, 2017	Siam Sanitary Ware Co.,Ltd.	1402002184	Aug 6, 2014	-	Sink	Aug 5, 2024
528	36598	Aug 16, 2013	Siam Sanitary Fitting Co.,Ltd.	0902003718	Dec 9, 2009	-	Tap	Dec 8, 2019
529	39258	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902000927	Mar 23, 2009	-	Shower	Mar 22, 2019
530	39259	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003719	Dec 9, 2009	-	Shower	Dec 8, 2019
531	39260	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003720	Dec 9, 2009	-	Tap	Dec 8, 2019
532	39261	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003721	Dec 9, 2009	-	Tap	Dec 8, 2019
533	40130	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001700	Jul 2, 2010	-	Tap	Jul 1, 2020
534	40131	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001702	Jul 2, 2010	-	Tap	Jul 1, 2020
535	40132	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001703	Jul 2, 2010	-	Tap	Jul 1, 2020
536	40133	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001704	Jul 2, 2010	-	Tap	Jul 1, 2020
537	40144	May 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1102001189	Apr 21, 2011	-	Tap	Apr 20, 2021
538	40146	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001701	Jul 2, 2010	-	Tap	Jul 1, 2020
539	49197	Apr 21, 2016	Siam Sanitary Fitting Co.,Ltd.	1202001997	Jul 30, 2012	-	Valve	Jul 29, 2022
540	54455	Mar 28, 2017	Siam Sanitary Fitting Co.,Ltd.	1402000964	Apr 24, 2014	-	Tap	Apr 23, 2024
541	55511	Jun 19, 2017	Siam Sanitary Fitting Co.,Ltd.	1402000963	Apr 24, 2014	-	Tap	Apr 23, 2024
542	61965	Apr 17, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001432	Apr 21, 2016	-	Handrail for toilet	Apr 20, 2026
543	61966	Apr 17, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001860	May 18, 2016	-	Handrail	May17, 2026
544	61967	Apr 17, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001861	May 18, 2016	-	Handrail	May17, 2026

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
545	61968	Apr 17, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001862	May 18, 2016	-	Handrail	May17, 2026
546	62930	Jun 12, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001431	Apr 21, 2016	-	Tap	Apr 20, 2026
547	66002	Nov 2, 2018	Siam Sanitary Fitting Co.,Ltd.	1602001430	Apr 21, 2016	-	Tap	Apr 20, 2026
548	Petty Patent 9302	Nov 7, 2014	Siam Sanitary Fitting Co.,Ltd.	1403000383	Apr 24, 2014	Tap	-	Apr 23, 2024
549	Petty Patent 9417	Jan 6, 2015	SCG Cement-Building Materials Co., Ltd.	1403000992	Sep 1, 2014	Tile support on roof structure	-	Sep 1, 2024
550	Petty Patent 11253	Mar 7, 2016	SCG Cement-Building Materials Co., Ltd.	1503000803	May 29, 2015	Apparatus for extending pathway	-	May 28, 2025
551	Petty Patent 12995	Aug 22, 2017	SCG Cement-Building Materials Co., Ltd.	1703000308	Feb 24, 2017	Apparatus for testing wall	-	Feb 23, 2027
Chemicals Business and Cement-Building Materials Business								
552	Petty Patent 10316	Aug 31, 2015	SCG Performance Chemicals Co., Ltd. and Cemen Thai Ceramics Co., Ltd.	1403000301	Mar 28, 2014	Tile for a blind	-	Mar 27, 2024
553	Petty Patent 10860	Dec 4, 2015	SCG Performance Chemicals Co., Ltd. and Cemen Thai Ceramics Co., Ltd.	1403000302	Mar 28, 2014	Tile	-	Mar 27, 2024
554	I500721 (Taiwan)	Jul 29, 2015	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	102107293	Mar 1, 2013	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
555	11201402718T (Singapore)	Jun 22, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	11201402718T	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2032
556	2.863.294 (Canada)	Aug 16, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	2.863.294	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2032
557	5982502 (Japan)	Aug 31, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	2014-559867	Apr 2, 2014	High emissivity coating compositions and manufacturing processes therefore	-	Apr 1, 2034
558	9,587,120B2 (USA)	Mar 7, 2017	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd	14/240,550	Feb 24, 2014	High emissivity coating compositions and manufacturing processes therefore	-	Feb 23, 2034
559	2820364 (France)	Mar 22, 2017	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd	12869694.5	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2032
560	602012030318.2 (Germany)	Mar 22, 2017	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd	12869694.5	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2032

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
561	2820364 (Netherland)	Mar 22, 2017	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd	12869694.5	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2032
562	1908000 (Republic of Korea)	Oct 8, 2018	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd	2014-7018583	Jul 4, 2014	High emissivity coating compositions and manufacturing processes therefore	-	Jul 3, 2034

- **Concession**

Concessions in limestone and gypsum mines are long-lived. Their maturities have been continuously extended because cement is a fundamental product for construction and infrastructure related to the country's economy.

Details of utilized concessions of The Siam Cement Public Company Limited and Companies Cement-Building Materials Business are shown in below table

Concessionaire	Location	Type of Mineral	Number of Concession (Copies)	Type of Area	Area (Rai)	Remaining Years of Concession	Expiry Year
The Siam Cement PLC.	Saraburi	Limestone for cement industry	15	RFD	3,312	18	2036
		Pyrophyllite	1	RFD	96	10	2028
			2	RFD	139	14	2032
	Nakorn Sawan	Gypsum	1	RFD	298	13	2031
			1	RFD	278	7	2025
SCG Cement Co., Ltd.	Lampang	Lignite, ball clay	1	RFD	210	14	2032
The Siam Cement (Lampang) Co., Ltd.	Lampang	Limestone for cement industry	17	RFD	4,977	24	2042
		Shale for cement industry	2	RFD	596	21	2039
			3	RFD	846	24	2042
		Industrial clay for cement industry	1	Owned by the company	51	11	2029
			1	Owned by the company	280	17	2035
The Siam Cement (Kaeng Khoi) Co., Ltd.	Saraburi	Limestone for cement industry	10	RFD	2,571	9	2027
		Shale for cement industry	3	Owned by the company	874	9	2027
	Lopburi	Industrial clay for cement industry	1	Owned by the company	218	20	2038

Concessionaire	Location	Type of Mineral	Number of Concession (Copies)	Type of Area	Area (Rai)	Remaining Years of Concession	Expiry Year
The Siam Cement (Kaeng Khoi) Co., Ltd.	Prachinburi	Industrial clay for cement industry	2	Owned by the company	507	19	2037
	Nakhon Ratchasima	Industrial clay for cement industry	4	Owned by the company	997	24	2042
The Siam Cement (Ta Luang) Co., Ltd.	Saraburi	Limestone for cement industry	5	RFD	956	12	2030
			13	RFD	3,877	24	2042
		Industrial clay for cement industry	1	Owned by the company	280	8	2026
			3	Owned by the company	840	20	2038
			1	Owned by the company	86	6	2024
			1	Owned by the company	208	23	2041
The Siam Cement (Thung Song) Co., Ltd.	Nakorn Sri Thammarat	Limestone for cement industry	19	RFD	4,971	17	2035
		Industrial clay for cement industry	1	Owned by the company	118	23	2041
			1	Owned by the company	65	15	2033
	Krabi	Industrial clay for cement industry	2	Owned by the company	372	20	2038
	Suratthani	Gypsum	1	Owned by the company	39	8	2026
Silasanon Co., Ltd.	Saraburi	Limestone for cement industry, Limestone for white cement and limestone for building industry	1	RFD	257	16	2034

Concessionaire	Location	Type of Mineral	Number of Concession (Copies)	Type of Area	Area (Rai)	Remaining Years of Concession	Expiry Year
Silathai Sanguan (2540) Co., Ltd.	Khonkaen	Limestone for construction industry	1	Owned by the company	167	2	2020
Khammouane Cement Co., Ltd.	Laos	Limestone for cement industry	1	RFD	21,500 (3,440 ha)	29	2047
		Laterite for cement industry			5,300 (848 ha)	29	2047
		Clay			4,675 (748 ha)	29	2047
Kampot Cement Co.,Ltd.	Cambodia	Limestone for cement industry	1	Ministry of industry, Mines and Energy	6,133	48	2066
PT Tambang Semen Sukabumi (For PT.Semen Jawa)	Indonesia	Limestone for cement industry (Mt. Guha)	1	Ministry of forestry	3,006	20	2038
		Limestone for cement industry (Mt. Batu)	1	Owned by resident	741	21	2039
		Shale for cement industry	1	Ministry of forestry	743	20	2038
Mawlamyine Cement Limited	Myanmar	Limestone for cement industry	1	Ministry of forestry	800 (320 Acre)	18	2036

- **BOI Certificates**

SCG adheres to the policy to apply for the BOI's privileges in every business it is eligible for. The Group believes that it can fully operate under all BOI's rules and regulations due to its transparent operation based on good corporate governance.

- **Chemicals Business**

The Business acquired BOI tax incentives such as machinery import duty exemption, corporate tax exemption for 8 years from the date of first revenue received, and 50 percent reduction of corporate income tax for 5 years after the exemption period. Details are shown below:



Project	Date Acquired	Expiry of Tax Incentives
R&D (SCG Chem) - New process/ process improvement for Polyethylene	May 6, 2011	Oct, 2026
R&D (SCG Chem) - New product / new process for Petrochemicals	May 27, 2011	13 years from the date of first revenue received
R&D (SCG Chem) - New product / new technology in Petrochemicals	Nov 10, 2011	Dec, 2024
R&D (SCG Chem) - New coating material / new coating process for Industrial use	Nov 22, 2013	13 years from the date of first revenue received
R&D (SCG Chem) - New process for aromatic extraction in Petrochemicals industry	Jul 24, 2014	13 years from the date of first revenue received
R&D (SCG Chem) - New process for olefins extraction in Petrochemicals industry	Jul 24, 2014	13 years from the date of first revenue received
R&D (SCG Chem) - New technology for VOCs reduction	Aug 18, 2014	13 years from the date of first revenue received
R&D (SCG Chem) - Additive / new process for polymer product improvements	Sep 4, 2014	13 years from the date of first revenue received
R&D (SCG Chem) - Synthesis of new chemicals products for industrial use	Sep 9, 2015	13 years from the date of first revenue received
R&D (TPE-ZN Cat)	Apr 25, 2016	13 years from the date of first revenue received
R&D (SCG Chem) - Catalyst	Nov 2, 2016	13 years from the date of first revenue received
Calibration	Jun 30, 2003 Nov 21, 2003 May 22, 2012 May 22, 2014	May, 2019 Jun, 2018 Nov, 2025 Feb, 2030
Scientific testing services (CI BOT)	Feb 16, 2016	Nov, 2030
Scientific testing services (Oval BOT)	Feb 16, 2016	13 years from the date of first revenue received
Industrial zone	Dec 4, 1997	Mar, 2018
Human resources development	Dec 16, 2011	Jan, 2027
Mould	Nov 25, 2010	Nov, 2023
Automation System Integration Machine	Oct 25, 2018	13 years from the date of first revenue received

The Business acquired BOI tax incentives such as machinery import duty exemption, corporate tax exemption for 8 years in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received, and 50 percent reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
PP 3	Nov 1, 2013	Mar, 2023
HDPE 4	Nov 1, 2013	Feb, 2023
Jetty and terminal	Nov 25, 2004 Dec 12, 2007 Aug 14, 2009 Mar 5, 2010 Jun 26, 2012 Aug 4, 2014	Jan, 2018 Apr, 2023 Sep, 2023 May, 2024 Dec, 2025 Mar, 2028
Olefins (MOC)	Dec 25, 2006	Dec, 2022
Styrene Monomer	April 19, 2018	13 years from the date of first revenue received
Ethylene (Side Cracker)	April 23, 2018	13 years from the date of first revenue received
PE compound	Nov 1, 2013 Nov 1, 2013 Nov 1, 2013 Nov 1, 2013 Nov 1, 2013 Jan 5, 2015 Jan 5, 2015	Mar, 2018 Nov, 2019 Feb, 2020 Jul, 2020 Mar, 2021 Mar, 2026 Feb, 2028
Steam	Nov 1, 2013	Apr, 2024
Catalyst	Nov 1, 2013	13 years from the date of first revenue received
Industrial wax	Nov 1, 2013	Nov, 2026
LDPE (DPEX)	Nov 22, 2013	Apr, 2030
Waste water treatment, plant industrial waste and toxic chemicals management	Mar 20, 2008	Apr, 2023
PVC resin	Aug 5, 2005	Jul, 2020
Profile, pipe, fitting	Apr 23, 2004 Dec 16, 2004 Dec 16, 2004 Oct 4, 2005 Sep 18, 2006	Jan, 2018 Jan, 2018 Mar, 2018 Oct, 2018 Jul, 2019

Project	Date Acquired	Expiry of Tax Incentives
Profile, pipe, fitting	Sep 18, 2006	Mar, 2020
	Dec 29, 2010	Jan, 2024
	Mar 11, 2011	May, 2024
	May 14, 2012	Mar, 2025
	Jul 11, 2012	Jul, 2025
	Sep 25, 2012	Oct, 2025
	Mar 22, 2013	Sep, 2026
	Jul 23, 2014	Oct, 2027
	Jul 17, 2015	Feb, 2029
	Oct 8, 2015	Sep, 2029
	Jan 23, 2017	13 years from the date of first revenue received
	Jan 23, 2017	13 years from the date of first revenue received
Recycling and reuse of unwanted material	Oct 16, 2013	Sep, 2030
	Mar 15, 2017	13 years from the date of first revenue received
Manufacture of biological fertilizers, organic fertilizers or soil conditioner	Apr 21, 2015	May, 2030
Floating solar farm	Aug 22, 2017	13 years from the date of first revenue received
Solar farm	Mar 29, 2018	13 years from the date of first revenue received
Jigs and Metal Parts	Dec 27, 2017	13 years from the date of first revenue received
	Dec 27, 2017	13 years from the date of first revenue received
	Dec 27, 2017	13 years from the date of first revenue received

The project which receives corporate tax exemption for 8 years from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
R&D (SCG Chem) - Process for removing impurity of aromatic in Petrochemicals	Aug 27, 2009	8 years from the date of first revenue received
R&D (SCG Chem) - New catalyst for Petrochemicals	Oct 20, 2011	8 years from the date of first revenue received

Project	Date Acquired	Expiry of Tax Incentives
R&D (SCG Chem) - Process for removing impurity of Olefins in Petrochemicals	Feb 10, 2012	8 years from the date of first revenue received
R&D (SCG Chem) - Additives for polymer products	Jul 21, 2016	8 years from the date of first revenue received
Scientific Testing Services (CPP)	Jun 9, 2017	8 years from the date of first revenue received
R&D (TPE) New technology for polymer product (SMX)	Apr 20, 2016	8 years from the date of first revenue received
R&D (TPE-PP pilot plant)	Apr 21, 2016	8 years from the date of first revenue received

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
R&D (PVC compound)	Jun 30, 2003	8 years from the date of first revenue received
R&D (PVC) additive for Petrochemicals industry	Sep 6, 2017	8 years from the date of first revenue received
R&D (PVC) chemicals products for industry	Oct 11, 2017	8 years from the date of first revenue received

The project which receives 7 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Pipe, fitting	May 6, 2011	Jul, 2018
	Jul 11, 2012	Mar, 2020
	Jan 21, 2014	Feb, 2022
	Jul 17, 2015	Jan, 2023
	Jul 17, 2015	Nov, 2023
	Oct 8, 2015	Jul, 2023
	Apr 27, 2017	7 years from the date of first revenue received
	Apr 27, 2017	7 years from the date of first revenue received

The project which receives corporate tax exemption for 6 years from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Enterprise software and digital content	Sep 13, 2016	Nov, 2022

The project which receives 3 years of corporate tax exemption in an amount equivalent to 100% of an investment amount of modification project with measure to increase production efficiency excluding cost of land and working capital for the projects from the first date of revenue generated. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
ASRS (Modification to increase production efficiency)	Aug 23, 2018	3 years from the date of first revenue received

The project which receives 3 years of corporate tax exemption in an amount equivalent to 50% of an investment amount of modification project excluding cost of land and working capital for the projects from the first date of revenue generated. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
PP1 (Modification)	Feb 11, 2014	Mar, 2018

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects with measures to reduce environmental impact. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
PP1	Nov 1, 2013	Feb, 2019
Jetty and terminal	Oct 10, 2012	Oct, 2020
PVC resin	Aug 15, 2014 Nov 7, 2014	Aug, 2022 Nov, 2022
PVC paste resin	Oct 16, 2014	Oct, 2022

The project which receives corporate tax exemption on net profit not exceeding 50% of an investment amount excluding cost of land and working capital of modification project for 3 years from the first date of revenue generated. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Olefins (ROC – Debottleneck)	Aug 18, 2016	Aug, 2019
HDPE3	Dec 21, 2016	Dec, 2019
LLDPE, MDPE	May 5, 2017	May, 2020

The project which receives 3 years of corporate tax exemption in an amount equivalent to 50% of an investment amount excluding cost of land and working capital for the projects with measures to reduce environmental impact. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Jetty and terminal	Jun 21, 2017	Jun, 2020

The project which receives 6 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the first date revenue received, and 50% reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Raw Water Plant	Jan 15, 2018	Aug 2029

○ Packaging Business

The Business acquired BOI tax incentives such as machinery import duty exemption, corporate tax exemption for 8 years from the date of first revenue received, and 50% reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Corrugated sheet and container	Jul 24, 2007	Jan, 2022
Energy service company (ESCO)	Oct 3, 2018	Oct, 2030

The project which receives corporate tax exemption for 8 years from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Eucalyptus forest	Feb 6, 2013	Jun, 2021
Production of electricity from waste or refuse-derived fuel	Jul 26, 2017	8 years from the date of first revenue received

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Printing	Oct 12, 2015	Oct, 2023
Co-generation plant	Apr 5, 2010 Dec 11, 2014	Mar, 2019 8 years from the date of first revenue received
Corrugated container	Apr 1, 2013	Oct, 2019
Solar Rooftop	Oct 26, 2018 Oct 26, 2018	8 years from the date of first revenue received 8 years from the date of first revenue received

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects with measures to reduce environmental impact. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Kraft paper	Feb 14, 2013	Mar, 2019
	Feb 14, 2013	Sep, 2019
	Feb 14, 2013	Dec, 2020
	May 20, 2013	May, 2021
	Feb 20, 2014	Feb, 2022

The project which receives 6 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Hygienic plastic coated paper	Jul 12, 2012	Jul, 2018
	Mar 7, 2013	Jun, 2020

The project which receives 5 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Printing	Aug 26, 2015	Mar, 2021
	Oct 19, 2017	5 years from the date of first revenue received
Specialty pulp or specialty paper (Glassine paper)	Oct 18, 2017	Apr, 2022

The project which receives 3 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Pulp	Feb 6, 2015	Feb, 2018
	Feb 10, 2016	Feb, 2019
Kraft paper	Jul 21, 2015	May, 2018
	Apr 19, 2018	3 years from the date of first revenue received
	Jun 12, 2018	3 years from the date of first revenue received

Project	Date Acquired	Expiry of Tax Incentives
Industrial bag	Jun 23, 2015 Jan 5, 2018	Sep, 2018 3 years from the date of first revenue received
Plastic inserted paper for industry	Nov 3, 2015	3 years from the date of first revenue received
Corrugated sheet	Jul 28, 2016 Jul 28, 2016	3 years from the date of first revenue received 3 years from the date of first revenue received
Products from hygienic paper	Mar 15, 2017 Dec 18, 2017 Feb 2, 2018	Nov, 2019 Feb, 2021 Mar, 2021

The project which receives 3 years of corporate tax exemption in an amount equivalent to 50% of an investment amount excluding cost of land and working capital for the projects with measures to reduce environmental impact. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Pulp	Jul 21, 2017	Jul, 2020

The project which receives 8 years of corporate tax exemption in an amount equivalent to 150% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Corrugated container	Apr 1, 2013 May 14, 2013	Sep, 2020 May, 2025

The project which receives 3 years of corporate tax exemption in an amount equivalent to 50% of an investment amount excluding cost of land and working capital for the projects with alternative energy utilization. So that the project receives the corporate tax exemption on its revenue from existing operation. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Corrugated container	Apr 12, 2017 Sep 3, 2018 Sep 3, 2018	Apr, 2020 3 years from the date of first revenue received 3 years from the date of first revenue received

○ Cement-Building Materials Business

The Business acquired BOI tax incentives such as machinery import duty exemption, corporate tax exemption for 8 years from the date of first revenue received, and 50% reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Environmental laboratory	Jun 29, 2012	May, 2027
Refuse Derived Fuel (RDF)	Jan 8, 2014	Jul, 2027

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the date of first revenue received, and 50% reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Production of bathroom or kitchen fittings	Oct 31, 2012	Feb, 2027

The project which receives corporate tax exemption for 8 years from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Waste heat power generator (WHG)	Dec 15, 2008	Jan, 2018
Solid waste pre-treatment plant	May 31, 2010	Dec, 2018
Refuse Derived Fuel (RDF)	Jun 22, 2015	Sep, 2023
	Apr 5, 2016	Feb, 2024
Co-generation power plant	Dec 2, 2014	Jan, 2024

The project which receives 8 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Solar	May 4, 2017	Oct, 2025
	Jun 21, 2017	8 years from the date of first revenue received
	Sep 6, 2017	8 years from the date of first revenue received
	Sep 22, 2017	8 years from the date of first revenue received
	Jun 13, 2018	8 years from the date of first revenue received
	Jun 13, 2018	8 years from the date of first revenue received

Project	Date Acquired	Expiry of Tax Incentives
Solar Floating	Nov 15, 2016 Jun 13, 2018	Feb, 2025 8 years from the date of first revenue received
Solar Rooftop	Mar 21, 2018 Oct 4, 2018	8 years from the date of first revenue received 8 years from the date of first revenue received
Refuse Derived Fuel (RDF)	Aug 18, 2016	May, 2025
Export service center	Mar 2, 2010	Mar, 2018
Port operations for loading vessels (Wat Ban Dai)	Aug 20, 2013	Dec, 2022

The project which receives 7 years of corporate tax exemption in an amount equivalent to 100% of an investment amount excluding cost of land and working capital for the projects from the first date revenue received but doesn't receive corporate tax reduction. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Production line of ceramic roof tiles LINE 3	May 25, 2005	May, 2018
Production line of ceramic roof tiles LINE 4	Dec 4, 2012	Nov, 2020
Production line of ceramic roof tiles LINE 5	Aug 13, 2013	7 years from the date of first revenue received
Fiberglass insulation	Nov 9, 2010	Feb, 2020
Production of ceramic tile	Jul 7, 2014	Mar, 2023
Production of ceramic tile (Phase 2)	Oct 19, 2017	7 years from the date of first revenue received
Production of sanitary ware and accessories	Feb 23, 2016	7 years from the date of first revenue received

The project which receives 3 years of corporate tax exemption in an amount equivalent to 50% of an investment amount of modification project with measure to increase production efficiency excluding cost of land and working capital for the projects from the first date of revenue generated. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Refractory brick and Monolithic	Mar 21, 2018	3 years from the date of first revenue received

○ Corporate & Investments

The Business acquired BOI tax incentives such as machinery import duty exemption, corporate tax exemption for 8 years from the date of first revenue received, and 50% reduction of corporate income tax for 5 years after the exemption period. Details are shown below:

Project	Date Acquired	Expiry of Tax Incentives
Solar roof	Mar 20, 2014	Feb, 2022

Trademarks

The key trademarks of The Siam Cement Public Company Limited and its subsidiaries comprise of “Elephant Device in Hexagon”, “Elephant Device in Circle”, “Erawan Device in Circle”, “Tiger Device in Circle” and “Elephant Device in Hexagon and SCG” etc. There are approximately 528 trademarks, which are registered at The Department of Intellectual Property, Ministry of Commerce.



Investment policy in subsidiaries and associate companies

The Siam Cement Public Company Limited is the holding company. Therefore, to ensure clarity in business management and effective resource management to strengthen the organization management according to the long term strategy and corporate governance. SCG has diversified into three core businesses, namely Cement-Building Materials Business, Chemicals Business and Packaging Business. And Investments was established to manage investment in jointly invest with leading companies in other businesses, such as agricultural machinery business, automotive business, automotive accessories and equipments business, and steel business. The returns are in term of dividend and management fee.

Please refer to page 7-16 for shareholding structure of direct and indirect ownership of company, subsidiaries, joint ventures, associates and other companies.

5. Legal Disputes

The Case of the Theft of Company Property (Form of Ordinary Share Certificates) and Fraud to the Company's Shareholder by an ex-employee.

In the first quarter of 2009, the Company lodged a complaint in criminal case against an ex-employee for theft (form of ordinary share certificate) and the forgery of 672,000 Company's ordinary share certificates. In the second quarter of 2009, the Company was notified by the Civil Court that the heirs and the estate administrator of the shareholder whose shares were forged ("Plaintiff") filed a civil lawsuit against the Company and relevant individuals and juristic persons for compensation. At present, the case has reached the final judgment. The summary of judgments rendered by each court is as below.

In the fourth quarter of 2011, the Civil Court had the judgment that the ex-employee committed a tort against the Plaintiff and ordered him to return the shares or pay the shares prices with interest until the payment is fully made, together with the dividend which the Plaintiff should have received. In addition, the court also decided that the Company, as the employer, shall be jointly liable to the Plaintiff. The Company and the Plaintiff have appealed the judgment of the Civil Court to the Appeal Court.

On 29 April 2014, the Appeal Court has made a decision on the case, ordering (i) the ex-employee who committed a tort to return shares of the Company to the Plaintiff or to pay the Plaintiff the share price at the last trading price of the Company's shares on the date of payment, which shall not be less than Baht 314.38 per share, together with dividends and an interest until the date of payment, and (ii) the Company, as employer, Thailand Securities Depository Co., Ltd., and relevant persons to be jointly responsible with the ex-employee. On 23 July 2014, the Company has appealed the judgment of the Appeal Court to the Supreme Court and lodged amendment of the Plaintiff's appellate motion to the Supreme Court on 30 September 2014. Consequently on 22 December 2015, the Supreme Court has upheld the judgment of the Appeal Court. Therefore, the Company has recorded the provision for compensation for the amount which the Company is expected to be liable, in the statement of financial position as at 31 December 2015 of Baht 201 million (31 December 2014: Baht 349 million).

On 21 January 2016, the Company has fully made compensation to the Plaintiff by returning the shares with the ordinary share certificates and making payment of dividends both from the shares prior to the commencement of a civil lawsuit with interest thereon and from the commencement date of a civil lawsuit including any costs and expenses paid for court procedure, accounting for Baht 319 million in total. Later on, Thailand Securities Depository Co., Ltd., the co-defendant, has filed a petition to the Supreme Court for an interpretation on the judgment. On 21 November 2017, the Supreme Court has already ordered the mentioned petition to be dismissed. In December 2018, the Company has filed a civil lawsuit against all relevant persons for resource.

Risk Reduction of Map Ta Phut Projects

Due to the Central Administrative Court ordered governments authorities to order the temporary suspension of the projects representing a total of 18 projects of Chemicals Business in the Map Ta Phut Industrial Estate and vicinity of Rayong Province. On 2 September 2010, the Central Administrative Court delivered its judgement to revoke permits of the projects, for which such permits were issued after the

Constitution B.E. 2550 came into force, and fall within the list of 11 types of serious impact projects issued on August 31, 2010 by the Ministry of Natural Resources and Environment. As a result of the judgement, almost all projects of the Group which were considered as non-serious impact projects were able to continue their operations, except for 1 project of the Group namely the Capacity Expansion of Vinyl Chloride Monomer Project of Thai Plastic and Chemicals Public Company Limited; which fall within the list. Around the end of 2012, such project had complied with the paragraph 2 of Article 67 of the Constitution B.E. 2550. The Industrial Estate Authority of Thailand (IEAT) were of the opinion that the project has fulfilled the requirements and accordingly, IEAT had submitted the issue to the prosecutor, requesting the prosecutor to request the Supreme Administrative Court to revoke the temporary suspension order in order to allow the project to resume construction. On April 1, 2013, the prosecutor had filed the petition to the Supreme Administrative Court. Later, in July 2014, the Supreme Administrative Court had revoked the temporary suspension of the project. In October 2014, the Group obtained a permit from IEAT and the project was able to operate as normal.

As for the ongoing lawsuit filed by the Stop Global Warming Association, the plaintiffs and defendants have appealed with the Supreme Administrative Court. Despite not being a party to the lawsuit, SCG has kept close track of the pending case. However, there has been no progress on the case so far.

6. Other Related Information

1. Company Information

Name	The Siam Cement Public Company Limited
Stock code	SCC (Listed on the Stock Exchange of Thailand - SET)
Registration No	0107537000114
Type of Business	Holding Company
Website	www.scg.com
Year of Establishment	1913
First Trade Date	April 30, 1975
Headquarter Address	1 Siam Cement Road, Bangsue, Bangkok 10800
Registered capital	1,600 Million Baht
Paid-up capital	1,200 Million Baht
	Comprised of 1,200 Million Ordinary shares
Par value	1 Baht par value
Preferred Share	None
Fiscal Year	January 1 – December 31 of each year
Shareholders	His Majesty King Maha Vajiralongkorn Bodindradebayavarangkun and CPB Equity Co., Ltd. hold approximately 33.3% of shares while the remaining shares are held by other institutional and individual shareholders.
Contacts	<p>Corporate Headquarters</p> <p>Tel. 66-2586-3333, 66-2586-4444</p> <p>Fax 66-2586-2974</p> <p>e-mail: info@scg.com</p> <p>Corporate Secretary Office</p> <p>Tel. 66-2586-6098</p> <p>Fax 66-2586-3007</p> <p>e-mail: corporate@scg.com</p> <p>Investor Relations Department</p> <p>Tel. 66-2586-3309</p> <p>Fax 66-2586-3307</p> <p>e-mail: invest@scg.com</p> <p>Enterprise Brand Management Office</p> <p>Tel. 66-2586-3770</p> <p>Fax 66-2586-2974</p> <p>e-mail: ebmo@scg.com</p>

Independent Directors as Minority Shareholders'

Representative

Fax 66-2586-3007

e-mail: ind_dir@scg.com

2. Investment in subsidiaries, joint ventures, associates and other companies of which their operations are significant are disclosed in page 7-16.

3. References

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Website www.set.or.th/tsd

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Mr. Vairoj Jindamaneevitak (Certificated Public Accountant
Registration No. 3565) or

Ms. Pornthip Rimdusit (Certificated Public Accountant
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Address	3000 Phahonyothin Road, Chomphon, Chatuchak, Bangkok 10900
Tel.	66-2299-1111
Fax	66-2990-6010
Website	www.tmbbank.com
Trustee of Debenture Holders	CIMB Thai Bank Public Company Limited (Only for debenture SCC19NA, SCC204A, SCC20NA, SCC214A and SCC210A)
Address	Capital Financial Markets and Payments Operations Department Agency Service and Compliance Unit, 15 th Floor, 44 Langsuan Road, Lumpini, Pathum Wan, Bangkok 10330
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Fax	66-2657-3390
Website	www.cimbthai.com
Trustee of Debenture Holders	Bank of Ayudhya Public Company Limited (Only for debenture SCC220A and SCC234A)
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Tel.	66-2296-4776
Fax	66-2683-1298
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