

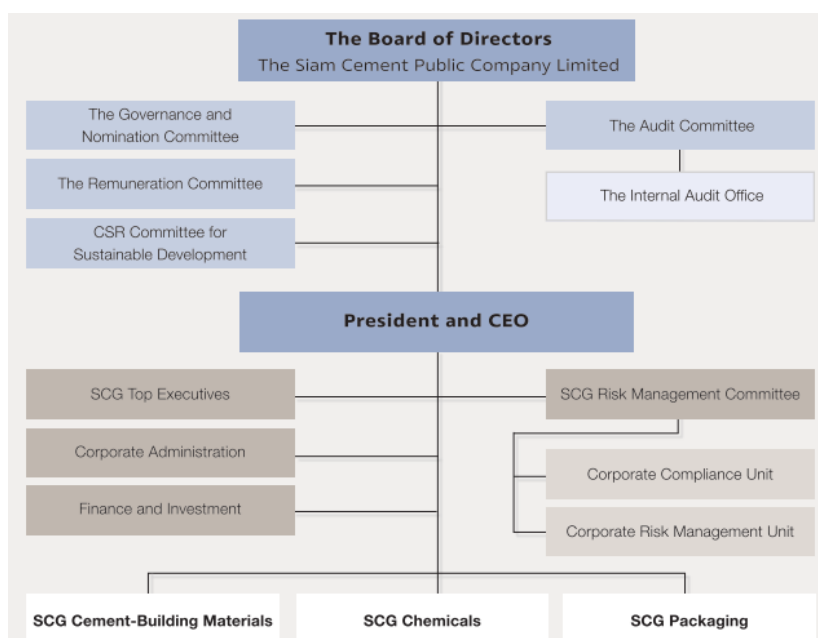
1. Business Policies and Operation

Overview of business and vision

SCG is a leading ASEAN business conglomerate with regional focus, and established commitments towards business conducts that are in line with good corporate governance and sustainable development principles. Established in 1913, following the royal decree of His Majesty King Rama VI, SCG's cement products were the essential materials for the construction of Thailand's infrastructure projects during that period, which have contributed greatly towards the country's modernization. Today, SCG is comprised of three core business units, namely 1) SCG Cement-Building Materials, 2) SCG Chemicals and 3) SCG Packaging. Since its inception, SCG has grown continuously and has earned widespread recognition as a role model for other businesses, both locally and internationally.

Our vision is that, SCG will be a regional market leader with emphasis on innovation and sustainability, contributing to the sustainable progress of ASEAN and the local communities where SCG operates. SCG is the first in Thailand to have been included in the prestigious Dow Jones Sustainability Indices (DJSI) by Robeco Sustainable Asset Management (RobecoSAM) and has been ranked the longest; for 14 consecutive years since 2004. Through SCG's world class business practices, corporate governance principles and uncompromising safety standards, we are committed to creating value for our customers, employees, and all other stakeholders. We will constantly ensure that our operational excellence, technology development and innovation will allow us to provide quality products and services in order to enhance the quality of life for all.

Organization Structure of SCG



Please refer to page 5-14 for shareholding structure of direct and indirect ownership of company, subsidiaries, joint ventures, associates and other companies.

Significant developments during 2015 – 2017 are as followed:

2017

- **SCG Cement – Building Materials**

- 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.
- 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").

- **SCG Chemicals**

- 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.

- **SCG Packaging**

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

2016

- **SCG Cement – Building Materials**

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 M-THB. 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.
- **SCG Chemicals** – the company has completed the tender offer to delist Thai Plastic and Chemicals Public Company Limited (or "TPC") from the Stock Exchange of Thailand.
- **SCG Packaging** – 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.

2015

- **SCG Packaging** – SCG Paper Public Company Limited has registered its name change. Effective June 2, 2015, the official name becomes "SCG Packaging Public Company Limited" while "SCG Packaging" will be the branded business name. This name change reflects the company's strategic focus towards packaging products and applications, with the aim of providing total and sustainable packaging solutions for its customers. Key examples are the continued development of high-quality packaging products and services, which include non-paper based flexible packaging products. The name change is also aligned with the company's drive to expand its packaging business in ASEAN countries. In June 2015, TC Flexible Packaging Company Limited (TCFP), a 52.5:47.5 joint venture between SCG Packaging and Rengo Company Limited (Japan) has expand Flexible packaging line in ASEAN by acquiring an 80% stake in Tin Thanh Packing Joint Stock Company (or "BATICO") from the existing shareholders. BATICO is Vietnam's top-five manufacturer of flexible packaging products, with a capacity of 230 million square meters per year. Furthermore, SCG Packaging has acquired an additional stake in Prepack Thailand Company Limited (or "Prepack") through the share purchase from the existing shareholders. As a result, SCG Packaging's stake in Prepack has been increased to 72%, from 22% on January 2015. Moreover, SCG Packaging proceeded to expand packaging paper line in Vina Kraft Paper Company Limited (or "VKPC"), a subsidiary of SCC in Vietnam, with additional capacity of approximately 243,000 tons per annum to tap Vietnam's rapid demand growth of packaging paper. The new production facility is scheduled to start up in the second quarter of 2017.

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)
SCG Cement-Building Materials 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	Saraburi	66-3624-0000-98	66-3624-0099	Ordinary shares	6	625	100	100
4 The Siam Cement (Ta Luang) Co., Ltd.	Cement	Saraburi	66-3628-8900	66-3628-8909	Ordinary shares	6	575	100	100
5 The Siam Cement (Thung Song) Co., Ltd.	Cement	Nakorn Sri Thammaraj	66-7553-8222	66-7553-8111	Ordinary shares	35	700	100	100
6 The Siam Cement (Lampang) Co., Ltd.	Cement	Lampang	66-5423-7500	66-5423-7501	Ordinary shares	94	589	100	100
7 Khammouane Cement Co., Ltd.	Cement	Lao PDR	(85621) 243-435-6	(85621) 243-437	Ordinary shares	32	11,093	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 Cement 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	66-2728-8800	66-2728-8801	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 Pion Quarry Nusantara	Aggregates	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.001	16	100	100
19 PT SCG Pipe and Precast Indonesia	Concrete products	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	15	466	100	100
20 PT Semen Lebak	Cement	Indonesia	(6221) 798-3751	(6221) 791-80919	Ordinary shares	0.04	1,193	100	100
21 PT SCG Readymix Indonesia	Ready-mixed concrete	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	12	365	100	100
22 PT CPAC Surabaya	Ready-mixed concrete	Indonesia	(6231) 732-1512	(6231) 732-1512	Ordinary shares	1	43	100	100
23 CPAC Lao Co., Ltd.	Ready-mixed concrete	Lao PDR	(85621) 720-385	(85621) 720-224	Ordinary shares	0.05	31	100	100
24 The Concrete Products and Aggregate (Vietnam) Co., Ltd.	Ready-mixed concrete	Vietnam	(84) 83-6027-111	(84) 83-7133-707	**	-	178	100	100
25 Myanmar CPAC Service Co., Ltd.	Ready-mixed concrete	Myanmar	(951) 681-351	(951) 681-351	Ordinary shares	4	148	100	100
26 CPAC Concrete Products (Cambodia) Co., Ltd.	Precast slab	Cambodia	(88523) 990-406	-	Ordinary shares	0.001	17	100	100
27 SCG Cement-Building Materials Vietnam Limited Liability Company	Cement distribution	Vietnam	(84) 93-3558-096	-	**	-	47	100	100

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28 Vietnam Construction Materials Joint Stock Company	Cement	Vietnam	(84) 52-6262-666	(84) 52-6268-666	Ordinary shares	358	5,447	100	100
29 Song Gianh Cement Joint Stock Company	Cement	Vietnam	(84) 232-3535-098	(84) 232-3535-071	Ordinary shares	218	3,180	100	100
30 Mien Trung Cement One Member Company Limited	Cement	Vietnam	(84) 511-2227-803	(84) 511-3784-139	**	-	23	100	100
31 Danang Cement One Member Company Limited	Cement	Vietnam	(84) 511-3481-302	(84) 511-3481-302	**	-	15	100	100
32 Phu Yen Cosevco Cement Company Limited	Cement	Vietnam	(84) 57-3790-178	(84) 57-3790-236	**	-	15	100	100
33 SCG Building Materials Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	149	14,894	100	100
34 Cementsai Gypsum Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	7	193	100	100
35 MRC Roofing Co., Ltd.	Holding company	Bangkok	66-2555-0055	66-2555-0001	Ordinary shares	8	762	100	100
36 Cementsai Ceramics Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	60	6,037	100	100
37 Cementsai Roof Holdings Philippines, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	14	136	100	100
38 Cementsai Ceramics Philippines Holdings, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	174	192	100	100
39 Cementsai Gypsum (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	(65) 6297-9662	Ordinary shares	14	278	100	100
40 The Siam Fibre-Cement Co., Ltd.	Fiber cement roof tiles	Saraburi	66-2586-3333	66-2586-2761	Ordinary shares	110	11,000	100	100
41 The Fibre-Cement Products (Lampang) Co., Ltd.	Fiber cement roof tiles	Lampang	66-5433-7301-5	66-5433-7300	Ordinary shares	2	230	100	100
42 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
43 Siam Fiberglass Co., Ltd.	Insulation and glass wools	Saraburi	66-3637-3441-4	66-3637-3445-6	Ordinary shares	13	422	100	100
44 The CPAC Roof Tile Co., Ltd.	Concrete roof tiles	Nakorn Prathom / Saraburi / Chonburi / Khonkaen / Nakorn Sri Thamaraj / Lamphun / Nakorn Rajchasisima	66-2586-4032-4 66-2586-4037-9	66-2586-4308	Ordinary shares	10	1,030	100	100
45 SCG Concrete Roof (Vietnam) Co., Ltd.	Concrete roof tiles	Vietnam	(84) 650-3767-581-4	(84) 650-3767-686	**	-	235	100	100
46 SCG Roofing Philippines, Inc.	Concrete roof tiles	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	206	153	100	100
47 SCG Concrete Roof (Cambodia) Co., Ltd.	Concrete roof tiles	Cambodia	(85523) 454-388	-	Ordinary shares	0.1	43	100	100
48 Thai Ceramic Roof Tile Co., Ltd.	Ceramic roof tiles	Saraburi	66-2586-5999	66-2586-5017	Ordinary shares	4	400	100	100
49 Thai Ceramic Co., Ltd.	Floor and wall ceramic tiles	Bangkok	66-2586-4094-8	66-2587-8800	Ordinary shares	32	3,160	100	100
50 The Siam Ceramic Group Industries Co., Ltd.	Floor and wall ceramic tiles	Saraburi	66-3637-6400	66-3637-6411	Ordinary shares	96	960	100	100
51 Cementsai Home Services Co., Ltd.	Home-related services	Bangkok	66-2586-4111	66-2586-4017	Ordinary shares	5	115	100	100
52 Gemago Co., Ltd.	Marketing and sales of floor and wall ceramic tiles	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	1	95	100	100
53 PT SCG Lightweight Concrete Indonesia	Light-weight concrete	Indonesia	(6226) 7861-0360	(6226) 7861-0361	Ordinary shares	4	1,253	100	100
54 SCG Distribution Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-5454	Ordinary shares	220	12,150	100	100
55 SCG Cement-Building Materials Company Limited	Holding company / Domestic distribution	Bangkok	66-2586-3333	66-2586-2961	Ordinary shares	976	20,833	100	100
56 SCG Trading Co., Ltd.	International trading	Bangkok	66-2586-2222	66-2587-2159	Ordinary shares	4	400	100	100
57 SCG Trading Australia Pty. Ltd.	International trading	Australia	(612) 9438-1225	(612) 9436-0195	Ordinary shares	0.2	5	100	100
58 SCG Trading Guangzhou Co., Ltd.	International trading	China	(86) 208-365-2559	(86) 208-365-2595	Ordinary shares	0.03	24	100	100
59 SCG Trading Hong Kong Limited	International trading	Hong Kong	(852) 2838-6456	(852) 3549-7219	Ordinary shares	45	220	100	100
60 SCG Trading Philippines Inc.	International trading	Philippines	(632) 501-8634	(632) 501-8635	Ordinary shares	0.5	38	100	100

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61 SCG Singapore Trading Pte. Ltd.	International trading	Singapore	(65) 6295-3455	(65) 6292-5241	Ordinary shares	1	23	100	100
62 SCG Trading USA Inc.	International trading	USA	(1310) 323-2194-106	(1310) 324-9528	Ordinary shares	0.1	36	100	100
63 PT SCG Trading Indonesia	International trading	Indonesia	(6221) 350-9488	(6221) 352-0718	Ordinary shares	0.002	5	100	100
64 SCG Trading Lao Co., Ltd.	International trading	Lao PDR	(85621) 454-596-7	(85621) 454-598	Ordinary shares	0.02	11	100	100
65 SCG Marketing Philippines Inc.	International trading	Philippines	(632) 501-8634 (632) 501-8630	(632) 501-8635	Ordinary shares	1	59	100	100
66 SCGT Malaysia Sdn. Bhd.	International trading	Malaysia	(603) 5632-0168	(603) 5632-0158	Ordinary shares	2	14	100	100
67 SCG Trading (Cambodia) Co., Ltd.	International trading	Cambodia	(85523) 990-401-5	(85523) 990-400	Ordinary shares	0.0001	1	100	100
68 SCG Trading Middle East Dmcc	International trading	UAE	(971) 4-552-0293	(971) 4-552-0294	Ordinary shares	0.001	11	100	100
69 SCG Trading Vietnam Co., Ltd.	Logistics service, international trading and local distribution	Vietnam	(84) 83-5269-001	(84) 83-5269-009	**	-	64	100	100
70 SCG Logistics Management Co., Ltd.	Logistics service	Bangkok	66-2586-3333	66-2586-2158	Ordinary shares	33	3,340	100	100
71 SCG Logistics Lao Co., Ltd.	Logistics service	Lao PDR	(85620) 9591-9650	-	Ordinary shares	0.1	13	100	100
72 SCG Logistics Management (Cambodia) Co., Ltd.	Logistics service	Cambodia	(85523) 966-206	(85523) 966-205	Ordinary shares	0.03	11	100	100
73 SCG Trading Services Co., Ltd.	Business services	Bangkok	66-2586-2222	66-2586-2250	Ordinary shares	0.1	10	100	100
74 Myanmar CBM Services Co., Ltd.	Business services	Myanmar	(951) 966-2014	(951) 966-2014	Ordinary shares	0.02	66	100	100
75 Tip Fibre-Cement Co., Ltd.	Business services	Bangkok	66-2286-7888	66-2286-8951-2	Ordinary shares	1	3	100	100
76 SCG Sourcing Co., Ltd.	Retail	Bangkok	66-2586-3333	66-2586-5625	Ordinary shares	1	100	100	100
77 SCG Experience Co., Ltd.	Exhibition center, services and consultation	Bangkok	66-2101-9922	66-2101-9920	Ordinary shares	5	500	100	100
78 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
79 Prime Group Joint Stock Company	Holding company	Vietnam	(84) 211-3888-987	-	Ordinary shares	101	1,413	100	100
80 Prime Trading, Import and Export One Member Limited Liability Company	Marketing and sales of floor and wall ceramic tiles	Vietnam	(84) 211-3888-986	(84) 211-3898-276	**	-	420	100	100
81 Ceramic research Institution	Research and development	Vietnam	(84) 211-3888-987	-	**	-	7	100	100
82 Prime International Import-Export and Service Trading Company Limited	Marketing and sales of sanitary ware	Vietnam	(84) 243-7877-177	(84) 243-7877-138	**	-	6	100	100
83 Prime Ngoi Viet Joint Stock Company	Clay roof tiles	Vietnam	(84) 211-3597-696	(84) 211-3597-702	Ordinary shares	25	350	100	100
84 Prime Pho Yen Joint Stock Company	Floor ceramic tiles	Vietnam	(84) 280-3866-632	(84) 280-3866-474	Ordinary shares	15	210	100	100
85 Prime Yen Binh Joint Stock Company	Wall ceramic tiles	Vietnam	(84) 211-3866-152	(84) 211-3866-154	Ordinary shares	13	182	100	100
86 Prime Tien Phong Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3888-174	(84) 211-3887-747	Ordinary shares	12	168	100	100
87 Prime Vinh Phuc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3866-637	(84) 211-3887-347	Ordinary shares	25	350	100	100
88 Prime Truong Xuan Joint Stock Company	Water heater and mechanical	Vietnam	(84) 211-3726-552	(84) 211-3721-786	Ordinary shares	6	84	99	99
89 Buu Long Industry and Investment Joint Stock Company	White cement	Vietnam	(84) 61-3965-475	(84) 61-3965-478	Ordinary shares	4	56	99	99
90 PT Semen Jawa	Cement	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	331	10,778	98	98
91 PT KIA Serpih Mas	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	3,143	1,528	97	97
92 PT KIA Keramik Mas	Ceramic roof tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	2,926	2,162	96	96

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93 PT Keramik Indonesia Asosiasi, Tbk.	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	14,929	5,603	96	96
94 Prime Dai An Joint Stock Company	Exploration and processing materials	Vietnam	(84) 211-3728-770	(84) 211-3726-547	Ordinary shares	3	35	95	95
95 Kampot Cement Co., Ltd.	Cement	Cambodia	(85523) 996-839	(85523) 996-849	Ordinary shares	13	4,275	95	95
96 PT Tambang Semen Sukabumi	Limestone quarry	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	3	8	93	93
97 PT Kokoh Inti Arebama Tbk.	Building materials distribution	Indonesia	(6221) 350-6227	(6221) 350-1767	Ordinary shares	981	350	91	91
98 The Siam Sanitary Fittings Co., Ltd.	Faucets and fittings	Bangkok	66-2973-5040-54	66-2529-1608	Ordinary shares	2	200	91	91
99 Sosuco and Group (2008) Co., Ltd.	Marketing and sales of floor and wall ceramic tiles	Bangkok	66-2938-9833	66-2973-3473	Ordinary shares	1	50	90	90
100 Prime Dai Viet Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3845-238	(84) 211-3844-464	Ordinary shares	13	182	90	90
101 Prime Thein Phuc Joint Stock Company	Exploration and processing materials	Vietnam	(84) 54-3626-282	(84) 54-3752-292	Ordinary shares	5	70	90	90
102 Prime Phong Dien Joint Stock Company	Manufacture of materials	Vietnam	(84) 54-3751-222	(84) 54-3751-222	Ordinary shares	3	35	90	90
103 Prime Dai Loc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 510-3761-762	(84) 510-3761-763	Ordinary shares	30	414	90	90
104 CPAC Cambodia Co., Ltd.	Ready-mixed concrete	Cambodia	(85523) 356-677	-	Ordinary shares	0.002	128	90	90
105 Saraburirat Co., Ltd.	Floor and wall concrete tiles	Saraburi	66-2586-3333	66-2586-6800	Ordinary shares	1	96	83	83
106 Mariwasa-Siam Ceramics, Inc.	Floor and wall ceramic tiles	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	600	430	80	83
107 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
108 PT Surya Siam Keramik	Ceramic floor tiles	Indonesia	(6221) 5397-091	(6221) 5397-094	Ordinary shares	0.01	87	80	80
109 Thai-German Ceramic Industry Public Company Limited	Floor and wall ceramic tiles and Industrial Estate	Saraburi	66-2790-9800	66-2790-9890	Ordinary shares	1,698	1,698	75	75
110 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
111 Siam Sanitary Ware Co., Ltd.	Holding company	Bangkok	66-2973-5040-54	66-2551-3512	Ordinary shares	1	60	71	71
112 Siam Sanitary Ware Industry Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-3626-3522	Ordinary shares	2	200	71	71
113 Siam Sanitary Ware Industry (Nongkhai) Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-3637-3664	Ordinary shares	2	160	71	71
114 Mawlamyine Cement Limited	Cement	Myanmar	(959) 796-093-056 (959) 978-757-519	-	Ordinary shares	0.1	1,631	70	70
115 Quality Construction Products Public Company Limited	Light-weight concrete	Phra Nakhon Si Ayutthaya	66-3522-1271	66-3522-1270	Ordinary shares	400	400	68	68
116 Q-Con Eastern Co., Ltd.	Light-weight concrete	Rayong	66-3865-0515	66-3895-6468	Ordinary shares	59	590	68	68
117 SCGT Automobile Co., Ltd.	Dealer	Bangkok	66-2586-1402	66-2586-2203	Ordinary shares	15	146	67	67
118 SCG Yamato Express Co., Ltd.	Logistics service	Bangkok	6689-115-8022	-	Ordinary shares	0.3	260	65	65
119 Prime Dai Quang Joint Stock Company	Packaging	Vietnam	(84) 510-2471-993	(84) 510-3761-444	Ordinary shares	2	28	56	56
120 Guangxi SCG Logistics Co., Ltd.	Logistics service	China	66-2586-1590	-	**	-	34	55	55
121 SCG-Shwe Me Logistics (Myanmar) Co., Ltd.	Logistics service	Myanmar	(959) 961-404-851	-	Ordinary shares	2	58	55	55
122 Panel World Co., Ltd.	Cement-bonded particleboard	Samutsakorn	66-3447-2033-4	66-3447-1404	Ordinary shares	2	245	55	55
123 Jumbo Barges and Tugs Co., Ltd.	Transportation by lighter	Bangkok	66-2872-3014-5	66-2872-3016	Ordinary shares	5	457	55	55

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124 Soso Ceramic Co., Ltd.	Floor and wall ceramic tiles	Saraburi	66-3637-6300	66-3637-6309	Ordinary shares	0.01	800	54	54
125 SCG-Sekisui Sales Co., Ltd.	Construction and sales of modular houses	Bangkok	66-2586-1323	66-2586-1481	Ordinary shares	8	825	51	51
126 Mingalar Motor Co., Ltd.	Dealer	Myanmar	(951) 514-940	-	Ordinary shares	0.004	141	50	50
127 PT Siam-Indo Gypsum Industry	Gypsum boards	Indonesia	(6221) 8832-0028	(6221) 8832-0036	Ordinary shares	0.03	306	50	50
128 PT Siam-Indo Concrete Products	Fiber cement roof tiles	Indonesia	(6226) 743-2140	(6225) 743-2149	Ordinary shares	0.03	446	50	50
129 Prime Hao Phu Joint Stock Company	Exploration and processing materials	Vietnam	(84) 27-3821-118	-	Ordinary shares	3	35	49	49
130 PT SCG Barito Logistics	Logistics service	Indonesia	(6221) 634-5668	(6221) 634-5666	Ordinary shares	4	103	49	49
131 Kampot Land Co., Ltd.	Land investment	Cambodia	(85523) 996-839	(85523) 996-849	Ordinary shares	0.001	0.2	47	47
Associates, Joint Ventures and Other Companies									
132 Global House International Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-5454	Ordinary shares	12	1,190	50	65
133 Global House Franchise (Myanmar) Co., Ltd.	Franchise - retail business	Myanmar	(9599) 7785-0145	-	Ordinary shares	0.01	3	-	65
134 CMPI Land, Inc.	Land rental	Philippines	(632) 908-3720	(632) 750-6650	Ordinary shares	50	49	40	64
					Preferred shares	50	48		
135 SCG Nichirei Logistics Co., Ltd.	Cold Chain	Bangkok	66-2586-6610	66-2586-3136	Ordinary shares	6	570	51	51
136 Thai Prosperity Terminal Co., Ltd.	Shipping port	Samut Prakarn	66-2754-4501-9	66-2754-4513	Ordinary shares	1	63	50	50
137 Sekisui-SCG Industry Co., Ltd.	Manufacture and distribute of home components	Saraburi	66-3637-3478	66-3637-3480	Ordinary shares	23	2,325	49	49
138 Survey Marine Services Co., Ltd.	Land rental	Bangkok	66-2296-1490-2	66-2296-1494	Ordinary shares	0.4	37	48	48
139 Noritake SCG Plaster Co., Ltd.	Manufacture and distribute plaster	Saraburi	66-3637-3578-82	66-3637-3577	Ordinary shares	4	405	40	40
140 Mariwasa Holdings, Inc.	Holding company	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	248	235	40	40
141 Green Siam Resources Corporation	Baling business	Philippines	(632) 501-8631	(632) 501-8631	Ordinary shares	13	95	40	40
142 CMPI Holdings, Inc.	Holding company	Philippines	(632) 813-1666	(632) 813-1704	Ordinary shares	48	55	40	40
143 Siam Global House Public Company Limited	Building materials and home improvement products distribution	Roi Et	66-4351-9597	66-4351-1492	Ordinary shares	3,841	3,841	30	30
144 Anhui Conch-SCG Refractory Co., Ltd.	Refractory	China	(86) 553-839-9857	(86) 553-839-9877	**	-	497	30	30
145 The Siam Gypsum Industry Co., Ltd.	Gypsum boards	Bangkok	66-2555-0055	66-2555-0001	Ordinary shares	2	150	29	29
146 The Siam Gypsum Industry (Saraburi) Co., Ltd.	Gypsum boards	Saraburi	66-3637-3500-9	66-3637-3510	Ordinary shares	5	470	-	29
147 The Siam Gypsum Industry (Songkhla) Co., Ltd.	Gypsum boards	Songkhla	66-7420-6000-5	66-7420-6006	Ordinary shares	1	120	-	29
148 PT MClass Industry	Clay roof tiles	Indonesia	(6202) 6743-6888	(6221) 539-7094	Ordinary shares	34	222	28	28
149 Asia Pacific Logistics and Transportation Joint Stock Company	Logistics service	Vietnam	(84) 43-7738-420	(84) 43-7738-421	Ordinary shares	2	28	25	25
150 SouvannyHome Center Public Company	Building materials and home improvement products distribution	Lao PDR	(85621) 415-645	(85621) 262-984	Ordinary shares	165	1,328	-	22
151 Asia Cement Public Company Limited	Cement	Bangkok	66-2641-5600	-	Ordinary shares	778	4,671	10	10
152 Finfloor S.p.A.	Holding company	Italy	(39) 05-3684-0111	(39) 05-3684-0322	Ordinary shares	11	429	10	10

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SCG Chemicals Subsidiaries									
153 SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-4762	66-2586-5561	Ordinary shares	344	32,277	100	100
154 Thai Polyethylene Co., Ltd.	Polyethylene and polypropylene	Rayong	66-3868-3393-7	66-3868-3398	Ordinary shares	52	5,190	100	100
155 SCG Plastics Co., Ltd.	Trading	Bangkok	66-2586-6161	66-2910-4022	Ordinary shares	0.1	5	100	100
156 SCG Performance Chemicals Co., Ltd.	Trading	Bangkok	66-2586-4115	66-2586-3676	Ordinary shares	0.1	3	100	100
157 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
158 Protech Outsourcing Co., Ltd.	Engineering and plant service	Rayong	66-3868-2632-3	66-3868-2633	Ordinary shares	0.01	1	100	100
159 RIL 1996 Co., Ltd.	Industrial estate	Rayong	66-3868-9471-2	66-3891-1955	Ordinary shares	11	1,100	100	100
160 Texplora Co., Ltd.	Chemical technology services	Rayong	66-2586-6353	66-2586-2086	Ordinary shares	0.01	1	100	100
161 Vina SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-5435	-	Ordinary shares	33	3,313	100	100
162 SCG Chemicals (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	38	804	100	100
163 Tuban Petrochemicals Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	112	2,349	100	100
164 Hexagon International, Inc.	Holding company	USA	66-2586-4444	-	Ordinary shares	2	67	100	100
165 Norner Holding AS	Holding company	Norway	(47) 3557-8000	(47) 3557-8124	Ordinary shares	0.01	3	100	100
166 Norner AS	Research and development	Norway	(47) 3557-8001	(47) 3557-8125	Ordinary shares	0.001	0.1	100	100
167 Norner Research AS	Research Institute	Norway	(47) 3557-8002	(47) 3557-8126	Ordinary shares	0.001	0.1	100	100
168 Norner IP AS	Technology service and licensing	Norway	(47) 3557-8003	(47) 3557-8127	Ordinary shares	0.001	0.1	100	100
169 Norner Verdandi AS	Technology service and licensing	Norway	(47) 3557-8004	(47) 3557-8128	Ordinary shares	0.01	3	100	100
170 CO2 Technologies AS	Holding company	Norway	(47) 3557-8005	(47) 3557-8129	Ordinary shares	0.001	0.5	100	100
171 SMH Co., Ltd.	Research and development and technology service	Bangkok	66-2586-4859	66-2586-6277	Ordinary shares	2	170	100	100
172 PT TPC Indo Plastic and Chemicals	PVC	Indonesia	(6231) 395-2945	(6231) 395-2944	Ordinary shares	0.03	1,020	100	100
173 Thai Plastic and Chemicals Public Company Limited	PVC	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	875	875	100	100
174 TPC Paste Resin Co., Ltd.	PVC paste resins	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	3	333	100	100
175 The Nawaplastic Industries (Saraburi) Co., Ltd.	PVC pipe and fittings	Bangkok	66-2586-3930-5	66-2586-4305	Ordinary shares	4	400	100	100
176 Nawaplastic Industries Co., Ltd.	PVC pipe and PVC products	Bangkok	66-2586-3930-5	66-2586-2444	Ordinary shares	4	426	100	100
177 Nawa Intertech Co., Ltd.	Molding products	Rayong	66-3889-2190	66-3889-2244	Ordinary shares	0.4	40	100	100
178 Chemtech Co., Ltd.	Plastic compound	Vietnam	(84) 650-3784-992	(84) 650-3784-993	**	-	103	100	100
179 Total Plant Service Co., Ltd.	Holding company	Rayong	66-3868-7320-3	66-3892-5299	Ordinary shares	12	1,180	100	100
180 SENFI UK Limited	Research and development	UK	66-2586-4444	-	Ordinary shares	1	45	100	100
181 SENFI Swiss GmbH	Marketing service	Switzerland	66-2586-4444	-	Ordinary shares	0.0003	1	100	100
182 Rayong Pipeline Co., Ltd.	Rights of pipe rack use	Rayong	66-3893-7065	66-3803-5381	Ordinary shares	4	200	92	92
183 SCG Ico Polymers Company Limited	Rotomolding compound	Bangkok	66-2586-2006	-	Ordinary shares	4	380	87	87
184 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
185 Viet-Thai Plastchem Co., Ltd.	PVC compound	Vietnam	(84) 650-3710-993	(84) 650-3740-065	**	-	75	72	72

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186 Long Son Petrochemicals Co., Ltd.	Raw materials for plastic resins	Vietnam	(84) 83-8257-226	(84) 83-8257-268	**	-	4,749	71	71
187 TPC Vina Plastic and Chemicals Corporation Ltd.	PVC	Vietnam	(84) 83-8234-730	(84) 83-8234-725	**	-	1,013	70	70
188 Rayong Olefins Co., Ltd.	Raw materials for plastic resins	Rayong	66-3868-5040-8	66-3868-5036	Ordinary shares	108	10,820	51	68
189 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
190 Alliance Petrochemical Investment (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6221-5318	-	Ordinary shares	46	1,881	65	65
191 Siam Stabilizers and Chemicals Co., Ltd.	Stabilizer	Rayong	66-3868-3451-3	66-3868-3449	Ordinary shares	190	190	60	60
192 Nawaplastic (Cambodia) Co., Ltd.	PVC pipe and fittings	Cambodia	(855) 2388-2072	(855) 2388-5172	Ordinary shares	1	179	60	60
193 Grand Nawaplastic Myanmar Co., Ltd.	PVC pipe and fittings	Myanmar	(959) 863-3988	-	Ordinary shares	1	237	57	57
194 Flowlab & Service Co., Ltd.	Calibration service	Rayong	66-3891-1321-2	66-3891-1381	Ordinary shares	0.02	4	51	51
Associates, Joint Ventures and Other Companies									
195 SCG Plastics (China) Co., Limited	Trading	Hong Kong	(852) 2544-9991	(852) 2544-9992	Ordinary shares	0.1	4	60	60
196 SCG Plastics (Shanghai) Co., Ltd.	Trading	China	(86) 216-888-6091	(86) 216-888-6092	**	-	25	-	60
197 Siam Mitsui PTACo., Ltd.	Raw materials for polyester and PET	Rayong	66-3868-5100	66-3868-7333	Ordinary shares	48	4,800	50	50
198 Siam Styrene Monomer Co., Ltd.	Raw materials for polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	48	4,755	50	50
199 Siam Synthetic Latex Co., Ltd.	Synthetic latex	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	59	5,789	50	50
200 Siam Polyethylene Co., Ltd.	Polyethylene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	45	4,455	49	50
201 Siam Polystyrene Co., Ltd.	Polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	10	995	50	50
202 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		
203 Rayong Terminal Co., Ltd.	Tank and terminal service	Rayong	66-3868-9471-2	66-2586-6220	Ordinary shares	14	1,325	-	50
204 PT Siam Maspiion Terminal	Tank and terminal service	Indonesia	(6231) 395-2945-8	-	Ordinary shares	0.01	327	50	50
205 SD Group Service Co., Ltd.	Holding company	Bangkok	66-2365-7000	66-3868-3991	Ordinary shares	1	78	50	50
206 Bangkok Synthetics Co., Ltd.	Raw materials for synthetic rubber	Bangkok	66-2679-5120	66-2679-5119	Ordinary shares	12	1,173	49	49
207 Thai MMA Co., Ltd.	Raw materials for acrylic	Rayong	66-3868-5040-8	66-2586-5393	Ordinary shares	56	5,590	46	47
208 Grand Siam Composites Co., Ltd.	Polypropylene compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	1	64	46	46
209 Thai MFC Co., Ltd.	Melamine compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	2	200	45	45
210 Siam Tohcello Co., Ltd.	Packaging film	Rayong	66-3801-0500	66-3801-0506	Ordinary shares	1	592	45	45
211 Thai PET Resin Co., Ltd.	PET resins	Rayong	66-3868-5900	66-3868-5999-609	Ordinary shares	9	900	20	40
212 Mehr Petrochemical Company (P.J.S.C.)	Polyethylene	Iran	(9821) 8850-0641	(9821) 8805-0642	Ordinary shares	0.1	1,755	39	39
213 PT Trans-Pacific Polyethylene Indonesia	Polyethylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.2	472	39	39
214 PT Trans-Pacific Polyethylindo	Polyethylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	337	39	39
215 Riken (Thailand) Co., Ltd.	PVC compound	Bangkok	66-2501-1054	66-2501-1198	Ordinary shares	1	120	35	35
216 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
217 PT Styrimdo Mono Indonesia	Raw materials for polystyrene	Indonesia	(6221) 530-8505	(6221) 530-8506	Ordinary shares	0.3	10,093	-	31
218 GTC Technology US, LLC	Chemical technology services	USA	66-2586-4444	-	Ordinary shares	0.2	102	25	25
219 GTC Technology International, LP	Chemical technology services	USA	66-2586-4444	-	Ordinary shares	13	191	25	25

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220 Mitsui Advanced Composites (Zhongshan) Co., Ltd.	Polypropylene compound	China	(86) 760-533-2138	(86) 760-389-8880	Ordinary shares	15	596	20	20
221 Binh Minh Plastics Joint Stock Company	PVC pipe	Vietnam	(84) 83-9690-973	(84) 83-9606-814	Ordinary shares	82	1,228	20	20
222 PT Srithai Maspion Indonesia	Melamine compound	Indonesia	(6231) 891-3630	-	Ordinary shares	0.01	118	10	10
223 PT Trans-Pacific Polypropylene Indonesia	Polypropylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	220	10	10
224 PT Trans-Pacific Styrene Indonesia	Raw materials for polystyrene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	314	10	10
225 PT Trans-Pacific Petrochemical Indotama	Raw materials for aromatics	Indonesia	(6221) 574-5880	-	Ordinary shares	15	8,931	5	5
SCG Packaging Subsidiaries									
226 SCG Packaging Public Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	156	1,563	99	99
227 Siam Kraft Industry Co., Ltd.	Kraft paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	35	3,450	99	99
228 Invenique Co., Ltd.	Asset and intellectual property management service	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	1	70	99	99
229 SCGP Excellence Training Center Co., Ltd.	Training and seminar	Bangkok	66-2586-3876	66-2586-4507	Ordinary shares	1	49	99	99
230 SCG Paper Energy Co., Ltd.	Energy	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	9	890	99	99
231 SCGP Solutions Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.01	1	99	99
232 SCGP-T Plastics Company Limited	Holding company	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.01	1	99	99
233 United Pulp and Paper Co., Inc.	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	141	1,082	98	98
					Preferred shares	840	3,246		
234 Paperlink Inter-Trade Corporation	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	0.1	1	98	98
235 Thai Cane Paper Public Company Limited	Kraft paper	Kanchanaburi	66-3461-5800	66-3461-5899	Ordinary shares	358	3,583	93	93
236 Precision Print Co., Ltd.	Offset-printed cartons	Samutsakorn	66-2105-4477	66-3445-2339	Ordinary shares	3	33	74	74
237 Conimex Co., Ltd.	Rigid plastic packaging	Samut Prakarn	66-2738-0305	66-2738-0318	Ordinary shares	4	420	74	74
238 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
239 Thai Containers Khonkaen Co., Ltd.	Corrugated boxes	Khonkaen	66-2586-3333	66-2586-2164	Ordinary shares	0.2	150	69	69
240 Thai Containers Rayong Co., Ltd.	Corrugated boxes	Rayong	66-2586-3333	66-2586-2164	Ordinary shares	1	650	69	69
241 Vina Kraft Paper Co., Ltd.	Kraft paper	Vietnam	(848) 268-0240-2	(848) 268-0239	**	-	6,069	69	69
242 TCG Rengo (S) Limited	Corrugated boxes	Singapore	(65) 6261-5846	(65) 6265-3144	Ordinary shares	2	56	69	69
243 New Asia Industries Co., Ltd.	Corrugated boxes	Vietnam	(84) 83-7294-160	(84) 83-7293-028	**	-	345	69	69
244 Alcamax Packaging (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 650-3743-031	(84) 65-0378-2816	**	-	607	69	69
245 AP Packaging (Hanoi) Co., Ltd.	Corrugated boxes	Vietnam	(84) 32-0375-3862	(84) 32-0375-2868	**	-	248	69	69
246 Packamex (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 83-7291-030	(84) 83-7291-031	**	-	220	69	69
247 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
					Preferred shares	10	98		
248 Phoenix Utilities Co., Ltd.	Utilities	Khonkaen	66-4343-3104-6	66-4343-3101	Ordinary shares	15	1,500	69	69
249 Thai Paper Co., Ltd.	Printing and writing paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	78	7,770	69	69
250 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

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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)
251 The Siam Forestry Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	2	184	69	69
252 Panas Nimit Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
253 Thai Panason Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
254 Thai Panadorn Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
255 Thai Panaram Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
256 Suanpa Rungsaris Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	69	69
257 Siam Panawes Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
258 Thai Panaboon Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
259 Thai Wanabhum Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	69	69
260 PT Primacorr Mandiri	Corrugated boxes	Indonesia	(6221) 596-2345	(6221) 596-2000	Ordinary shares	0.1	294	62	62
261 PT Indoris Printingdo	Corrugated boxes	Indonesia	(6221) 596-0772-3	(6221) 596-0774 (6221) 596-3076	Ordinary shares	0.02	55	62	62
262 PT Indocorr Packaging Cikarang	Corrugated boxes	Indonesia	(6221) 893-6868	(6221) 893-6565	Ordinary shares	0.4	258	55	55
263 TC Flexible Packaging Co., Ltd.	Holding company	Bangkok	66-2586-5991	66-2586-4723	Ordinary shares	21	2,108	52	52
264 Dyna Packs Co., Ltd.	Corrugated boxes	Samutsakorn	66-2810-9346-7	66-2810-9103	Ordinary shares	1	90	52	52
265 Orient Containers Co., Ltd.	Corrugated boxes	Samutsakorn	66-3488-3422-4	66-3488-3421	Ordinary shares	26	260	52	52
266 D-In Pack Company Limited	Corrugated boxes	Nakhonpathom	66-3498-1401-4	66-3498-1406-7	Ordinary shares	0.01	50	52	52
267 Tawana Container Co., Ltd.	Corrugated boxes	Samut Prakarn	66-2324-0781	66-2324-0079	Ordinary shares	3	300	50	50
268 Tin Thanh Packing Joint Stock Company	Flexible packaging	Vietnam	(84) 72-3779-747	(84) 72-3779-750	Ordinary shares	10	158	47	47
269 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 and Other Companies									
270 Siam Toppan Packaging Co., Ltd.	Offset-printed cartons	Samut Prakarn	66-2709-3110-7	66-2324-0336	Ordinary shares	5	500	48	48
271 P&S Holdings Corporation	Holding company	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	28	263	39	39
272 Siam Nippon Industrial Paper Co., Ltd.	Specialty paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	11	1,100	31	31
273 Thai British Security Printing Public Company Limited	Securities document	Samut Prakarn	66-2754-2650-8	66-2183-2763	Ordinary shares	110	110	18	18
274 Thai British Security Printing Overseas Co., Ltd.	Holding company	Samut Prakarn	66-2380-1320	66-2380-1326-27	Ordinary shares	4	37	-	18
275 Saha Green Forest Co., Ltd.	Energy and utilities	Kamphaengphet	66-5585-8033	66-5585-8031	Ordinary shares	19	190	17	17
276 Thai British DPost Co., Ltd.	Digital printing	Samut Prakarn	66-2709-4201	66-2790-4200	Ordinary shares	3	34	-	9
Other Subsidiaries									
277 Cementhai Holding Co., Ltd.	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	0.01	1	100	100
278 Cementhai Property (2001) Public Company Limited	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	7	72	100	100
279 Property Value Plus Co., Ltd.	Land business and land lease service	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	8	820	100	100
280 SCG Accounting Services Co., Ltd.	Accounting, financial and tax services	Bangkok	66-2586-3333	66-2586-2398	Ordinary shares	1	5	100	100
281 SCG Legal Counsel Limited	Legal consultant	Bangkok	66-2586-5777	66-2586-2976	Ordinary shares	0.2	15	100	100
282 CTO Management Co., Ltd.	Marketable securities investment	Bangkok	66-2586-3333	66-2587-2157	Ordinary shares	25	380	100	100
283 Cementhai Captive Insurance Pte. Ltd.	Insurance	Singapore	66-2586-3333	66-2587-2157	Ordinary shares	0.3	34	100	100

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284 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
285 SCG Learning Excellence Co., Ltd	Training service	Bangkok	66-2586-3333	66-2586-2684	Ordinary shares	0.2	20	100	100
286 SCG Vietnam Co., Ltd.	Management consulting service	Vietnam	(84) 83-526-9011-13	(84) 83-526-9014	**	-	16	100	100
287 PT SCG Indonesia	Management consulting service	Indonesia	(6221) 350-9491	(6221) 352-0718	Ordinary shares	0.1	26	100	100
288 Bangsue Industry Co., Ltd.	Startup firm	Bangkok	66-2586-1920	-	Ordinary shares	4	303	100	100
289 Add Ventures Capital Co., Ltd. (Formerly: Siam Nawaphan Co., Ltd.)	Venture capital	Bangkok	66-2586-3333	-	Ordinary shares	12	305	100	100
290 Add Ventures Capital International Co., Ltd. (Formerly: SCG Management Co., Ltd.)	Overseas venture capital	Bangkok	66-2586-3333	-	Ordinary shares	5	455	100	100
291 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									
292 Siam Kubota Corporation Co., Ltd.	Agricultural machinery	Pathumthani	66-2909-0300-1	66-2909-1698	Ordinary shares	31	2,739	40	40
293 Siam Kubota Metal Technology Co., Ltd.	Cast iron	Chachoengsao	66-3885-5115	66-3885-5110	Ordinary shares	9	900	-	40
294 Siam Kubota Leasing Co., Ltd.	Leasing	Pathumthani	66-2909-0300	66-2909-1697	Ordinary shares	80	2,000	-	40
295 Siam AT Industry Co., Ltd.	Automotive parts	Chonburi	66-3845-4266-8	66-3845-4266	Ordinary shares	2	240	30	30
296 Thai Engineering Products Co., Ltd.	Automotive parts	Pathumthani	66-2529-3518-22	66-2529-1677	Ordinary shares	1	85	29	30
297 The Nawaloha Industry Co., Ltd.	Cast iron	Saraburi	66-3633-6531-4	66-3622-3209	Ordinary shares	3	300	30	30
298 Aisin Takaoka Foundry Bangkok Co., Ltd.	Cast iron	Chonburi	66-3845-4671-7	66-3845-4670	Ordinary shares	5	475	30	30
299 Muang Thong United Co., Ltd.	Football team	Bangkok	66-2508-8100	66-2508-3369	Ordinary shares	3	233	30	30
300 The Siam Nawaloha Foundry Co., Ltd.	Cast iron	Saraburi	66-3628-8300	66-3628-8309	Ordinary shares	3	308	20	25
301 Lysando AG	Research and development	Liechtenstein	(423) 262-5753	(423) 262-5752	Ordinary shares	1	39	20	20
302 IT One Co., Ltd.	Technical services	Bangkok	66-2271-5111	66-2271-5112	Ordinary shares	1	80	20	20
303 Toyota Motor Thailand Co., Ltd.	Automotives	Samut Prakarn	66-2386-1000	66-2386-1883	Ordinary shares	8	7,520	10	10
304 Siam Yamato Steel Co., Ltd.	Structural steel	Rayong	66-3868-3723-30	66-3868-3200	Ordinary shares	30	3,000	10	10
305 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 2017

					(in Million Baht)
	Revenue from sales	Other Income	Total Revenue	Sale breakdown (%)	Equity in Associates *
SCG Cement-Building Materials	175,255	2,476	177,731	35.61	818
SCG Chemicals	206,280	5,698	211,978	45.66	14,826
SCG Packaging	81,455	1,407	82,862	17.85	4
Other	82	3,985	4,067	0.88	2,565
Consolidated SCG	450,921	13,316	464,237	100.00	18,212

Remark: Financial figures are classified according to business unit before intersegment elimination, as disclosed in note 25 to the financial statements pages 221-225 of the Annual Report 2017.

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

Key operations of each business unit

SCG Cement-Building Materials

SCG Cement-Building Materials Co., Ltd, (SCG CBM) business consists of cement, building materials and distribution, 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	- 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 113.8 million Sq. M. per year - Floor and wall ceramic tiles 225 million Sq. M. per year		
Brand	- 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	
	• 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 Building Tech • Solar roof system: SCG Living Tech • Active AIRflow™ system: SCG Living Tech • Prefabricated wall system (S Wall, Fulfill Wall): SCG Building Tech • Prefabricated wall system (Walli-T): Tiger • Unit bathroom: SCG Building Tech • 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	• Major integrated producer of cement and building material products in ASEAN • The 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	• Expand business in ASEAN in order to be the regional leader • Maintain price and market stability as well as enhance its domestic market leadership • Develop high value added products and services (HVA) • 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. Aerated Lightweight Concretes (ALC)
7. Precast concrete system

Building Material Group

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 (such as 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, bathroom, and kitchen

Other products and services

24. Logistics service
25. Import/export service
26. Disposal of industrial waste
27. Other products and services such as insulation, 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, SCG Cement is the only Thai cement company that has its own Research and Development institution that allows SCG Cement to efficiently develop its goods and services to serve the needs of each customer segment. Moreover, SCG Cement can flexibly support the trend changes toward cement industries and consumer's behaviors. For instance, SCG hybrid cement (Eco-friendly), Special tiger cement, SCG Precast Cement, SCG marine cement, Portland composite cement, Tiger crack resistant mortar cement, EZY Tiger Mortar, Ai-Tex, 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 'COTTOCERAMTM' in COTTO sensation serie which makes wash basins look slimmer, Modern design toilet 'Simply Modish', Smart toilet Tunio Laconic serie which combined design and technology combined together, and soft paddle faucet that designed produced with under universal design concept.
- The business has policy to continuously increase production efficiency and implement cost reduction, for example, energy cost reduction, and waste reduction. Furthermore, SCG CBM also has its own technical teams 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.
- ASEAN distribution: for strategic countries, the business provides distribution network and sales campaign and activities which focus on the market situation in each country. For example, PT KOKOH Inti Arebama Tbk in Indonesia as SCG subsidiary, manages distribution network with more than 2,000 dealers throughout the country.
- Distribution in other regions: SCG Trading 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, SCG CBM focuses on increasing efficiencies of SCG 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.
- Retail channel: The business sustainably develops network through SCG Home solution 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 company gains the highest market share in Thailand compared to other domestics 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, SCG CBM 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 225 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. SCG 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 expanding production capacity of Mortar under Tiger Brands to regional areas focusing on Lampang province in order to capture rising demand growth. The business also creates competitive advantage over competitors through Silo & Spraying Service System by increasing capacity of Silo together with service teams and expandings to big cities nationwide in order to provide feature of convenience and solve labour shortage problem.
- 3.) 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.
- 4.) Produce special Mortar for Cast in Place. This Mortar helps the panel work in high rise building or single house faster, more convenient, and stronger.
- 5.) Tiger decor white cement for architectural heritage is a high-porosity plastering cement. Its special feature is innovatively designed to enhance the inner wall's moisture circulating air. As a result, The product's feature will help preserve, and prolong, various heritage buildings which can also facilitate its current working process, to be able to finish each job faster and more standardized.
- 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 a 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 onsite installation where a site location is distant, free-form architectural design such as a curved wall and column or complex precast element such as a stair, textured precast panel and faster installation.
- 9.) Research and develop concrete fabric : after success in product development last year, this year concrete fabric was applied in real construction site, for example reservoir at Baan Sa Phae in Lampang province, check dam at Baan Ta Mode in Pattalung province. Key purposes of this activity are to develop market, educate product knowledge to key influencers and also to prepare the readiness before real product commercialization.
- 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 2017, domestic demand for cement slightly decreased compared to the previous year, largely attributable to government investments. Whereas cement demand from household users and the private sector retracted, exports slightly increased compared to last year.

Domestic demand for building products continued to slow down due to the lack of consumer confidence and declining purchasing power. Nonetheless, SCG CBM 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.

SCG CBM 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 road network. In Myanmar, construction market rose 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
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	~ 2	Long-term contracts with suppliers	100% / 0%	Self-operate from its supply sources and buy from external suppliers
Petroleum Coke	1	Occasional purchase	0% / 100%	Buy from external suppliers
Coal	~ 8	Long-term contracts with suppliers and occasional purchase	0% / 100%	Buy from external suppliers

Type	Number of Sellers	Procurement method	Local / Foreign	Remark
Bunker Oil	2	Occasional purchase	100% / 0%	Buy from external suppliers
Biomass	25	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

Green mining

Operations of cement business are undertaken by utilizing the principles of semi-open cut mining techniques in collaboration with experts from educational institutes, government sectors, and the communities to protect the biodiversity within the mining area to ensure the minimum impact to the environment and the communities. With company's best efforts to limit the impact to the ecosystem and natural resources, we have implemented a business & biodiversity check program in collaboration with the Biodiversity-Based Economy Development Office (Public Organization) (BEDO), Biodiversity-Based Economy Development Foundation (BEDO.FDN), and Global Nature Fund (GNF) to assess business operation's impacts to biodiversity throughout the supply chain. A pilot program was initiated at The Siam Cement (Lam Pang) Co., Ltd. in 2016, which was later expanded to The Siam Cement (Tha Luang) Co., Ltd. in 2017. The objectives of the program are to collect information and suggestions obtained by the assessment to improve and develop our biodiversity-based business operations to ensure sustainable development.

Green Operation plants

- A Program to improve process efficiency and reduce greenhouse gas emission (GHGs)
 - The Siam Cement (Ta Luang) Co., Ltd.
 - Ta Luang Plant initiated a program called Variable Speed of Lignite Mill and Raw Mill which helped automatically adjust the power supply, thus reducing excess energy consumption and allowing for greater efficiency.
 - Khao Wong Plant initiated a program called Maximize % by heat from Biomass Usage which promotes the use of biomass fuels instead of fossil fuels. Another program called Modify Raw Mill's Separator that aims to adjust separator raw mills into proper sizes, thus reducing excess energy consumption and allowing for greater efficiency.
 - The Siam Cement (Lam Pang) Co., Ltd. initiated a program called New Kiln Outlet Seal which enhanced the furnace efficiency by reducing heat loss during cement production process, and a program called Pre-Heater Cyclone Modification which reduced energy consumption by diminishing the loss of pressure in the system.
- Air pollution control system enhancement program

- The Siam Cement (Kaeng Khoi) Co., Ltd. initiated a program called Replace Main Burner KK3 which reduced thermal NOx by at least 33% and a program called Modify Spray Tower KK4 which enhances dust trapping capability of the EP by improving the spray tower system.
- The Siam Cement (Ta Luang) Co., Ltd.
 - Tha Luang Plant initiated a program called Eliminating Dust from VCM which improved the cement conveying system of vertical cement mills, greatly reducing dust from the system.
 - Khao Wong Plant initiated a program called Convert ESP (Electrostatic Precipitator) to bag filter, replacing the main stack's dust trapping ESPs with bag filters, alleviating the volume of dust emitted from the stack.
- Siam Sanitary Ware Industry Co., Ltd. installed dry-filter treatment system at the glazing robots instead of water sprayers or water scrubbers, thus reducing dust emission by 72%.
- Reservoir Improvement Program to collect water for internal use during possible draughts and reserve excess rainwater
 - The Siam Cement (Kaeng Khoi) Co., Ltd. initiated a pilot program to create water footprint data that provide insights on hotspots of water use within the plant. The results found can be analyzed and used to create a more efficiency water management plan in the future. Another program was the Shell Mine Reservoir that expanded the capacity of rainwater basin by 0.8 million m³ thus reducing the use of water from local sources.
 - The Siam Cement (Tha Luang) Co., Ltd. Khao Wong Plant increased the size of its rainwater basin from 0.3 million m³ to 0.9 million m³ thus reducing the use of water from local sources.
- Material Recycling Program
 - Siam Fiberglass Co., Ltd. manufactures of fiber glass insulation with recycled glass. Shattered glass and mirror were purchased to clean and were melted to be used as materials instead of sand. Furthermore, the Company invested in installing dry waste conversion system and wet waste conversion system that recycle up to 95% of the byproducts into the furnace to be used as material for fiber glass manufacturing.

Energy Efficiency

- SCG Cement-Building Materials Co., Ltd. has installed a 10 megawatt solar cells system capable of generating power from the sunlight at the rate of 14,600 megawatt-hour reducing greenhouse gases emission by 8,499 ton carbon dioxide equivalent. The investment was 350 million Baht, cost-saving 50 million Baht per year.

Green product & Solution

- SCG Cement-Building Materials Co., Ltd., a manufacturer of SCG Cement and Tiger Cement, was certified by Thailand Greenhouse Gas Management Organization (Public Organization) with Carbon Footprint Labels on 17 products and Carbon Reduction Labels on 17 products.

- The Siam White Cement Co., Ltd. (SWCC), a manufacturer of white cement was certified by Thailand Greenhouse Gas Management Organization (Public Organization) with Carbon Footprint Labels on 10 products and Carbon Reduction Labels on 3 products.
- Concrete Product and Aggregate Co., Ltd. (CPAC), a manufacturer of ready mix concrete and instant concrete products was certified by Thailand Greenhouse Gas Management Organization (Public Organization) with Carbon Footprint Labels on 10 products and Carbon Reduction Labels on 3 products.
- SCG Portland Cement has become the first and only cement product that is certified with “Green Label” from Thailand Environment Institute (TEI).
- SCG Marine Cement and SCG Chloride and Sulfate Resistant Cement have been registered SCG Eco Value in terms of reducing use of natural materials by 30% and less greenhouse gas emission in manufacturing.
- The Siam Ceramic Group Industries Co., Ltd. (SGI) was certified by Thailand Greenhouse Gas Management Organization (Public Organization) with the Carbon Footprint Reduction Label for its SCG Tiles for floors and walls, as well as the “Carbon Reduction Label” from Thailand Environment Institute (TEI).
- Siam Sanitary Ware Industry Co., Ltd. has been certified by Thailand Environment Institute (TEI) with the “Carbon Reduction Label” for 9 consecutive years as well as the “Green Label” for its COTTO products; 1. One Piece Toilets 2. Two Piece Toilets 3. Bidets and Urinals 4. Water Basins 5. Accessory (Ceramic sanitary ware in Bathroom)
- Siam Sanitary Ware Fittings Co., Ltd. has been certified by Thailand Environment Institute (TEI) with the “Carbon Reduction Label” for 9 consecutive years for its COTTO faucet line of products.

Stakeholder Engagement, CSR & Networking

The Siam Cement (Kaeng Khoi) Co., Ltd. has been promoting good relationships with communities under a program called ‘Our Village’ by having each of our sector participate in the cause of taking care of one community, as well as another program ‘Chang Cement CSR on Tour’ which aims to hold projects benefiting the society.

The Siam Cement (Tha Luang) Co., Ltd. held an activity called ‘SCG Open House’ that hosted visitors interested to take a tour around the eco-friendly cement production plant. Several other programs were intended to promote more incomes to the communities such as Organic Agriculture Learning Center and Instructions on Growing Lime in Cement Pots to encourage sustainable development.

The Siam Cement (Lam Pang) Co., Ltd. held a program called ‘SCG Water Reservation for the Future’ which aimed to help alleviate flooding and draught problems as well as several other programs to study and create jobs to the communities such as ‘Community Enterprise’ and ‘Rice Seed Groups’. We also furthered to improve water management for agriculture under the project ‘Chained Basins’ which reserve water supply on highlands for agricultural purposes during draught seasons.

The Siam Cement (Thung Song) Co., Ltd. granted scholarships to schools within its vicinity and held an activity 'Environment Conservation Camp' to encourage good attitudes towards environment and natural resource conservation by educating people about biodiversity, mining area reformation, as well as proper waste treatment.

CPAC (Ready Mix) Plant was awarded with Corporate Social Responsibility, Department of Industrial Works Award (CSR-DIW Award 2017) for its program called 'CPAC Square' as well as several programs that benefit the society in different ways. This reflects the commitment to expressing our responsibilities to the society and developing sustainable relationships with communities.

Siam Sanitaryware Industry Co., Ltd. in collaboration with Land Development Station of Saraburi, provided clay scrap, byproducts from the factories, as fertilized soil to Village No. 15 Community and Kaeng Khoi Community to create occupations into the communities. Some part of the soil was provided to the Royal Thai Army Cavalry Center, Sara Buri Province, to be used for the campaign Planting Vetiver Ground Covers for Soil and Water Conservation on the Auspicious Occasion of His Majesty the King's 65th Birthday Anniversary on July 27th, 2017, hosted by the Royal Thai Army Cavalry Center in collaboration with the Land Development Station Sara Buri, Region 1 Office. The project has been planned to expand further to collaborate with other government sections in Sara Buri Province in the future.

2.4 Undelivered Projects or High-Valued Purchase Agreements

None

SCG Chemicals

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 Mix-C4, Benzene and Toluene. Main products are mainly consumed within the business's or SCG Chemicals' downstream plants.

- **Polyolefins**

Polyolefins are the business's main products. The business has total polyolefins 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.

- **Polyvinyl Chloride (PVC) and PVC finished 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, etc.

- **Jetty & Tank Terminal**

The business provides its affiliates with pipe transportation as well as jetty and tank terminal for storage of petrochemical gases and liquids such as Naphtha, Olefins, Benzene, Paraxylene, Butadiene, MMA, and etc. At present, the business owns four jetties with deadweight tonnage of 100,000, 80,000, 20,000 and 10,000 tons.

2.2 Market and Competition

A) Policy and Market Features of Main Products and Services

- Policy and Market Features

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

1) Competitive Strategy

- **High Value-Added Products**

The company 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 invested in the enhancement of research and development capability and efficiency. At present, sales of high value-added products accounts for 30% of total sales of downstream products from subsidiaries. High value-added products are namely:

- 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 fiber optic cable
 - Formulation: medical equipment, kayak boat, and components of agricultural machinery
- Automotive business: automotive parts, and battery
- Electrical appliances business
- Food and beverage business
- General purpose business: film, injection molding, monofilament & yarn, blow molding, etc.
- Industrial furnace coating: coating in high temperature industrial applications such as fired heaters and furnaces in refinery, petrochemical and steel industries.

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**

Business focuses on value creation for customers, business partners, and stakeholders, including technology development and innovation creation. As both domestic and export prices of Polyolefins 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) to achieve best-in-class efficiency and customer satisfaction. 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. In addition, the business also gives great importance to occupational health and safety management systems. 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.

The business has adopted Total Quality Management (TQM), which emphasizes on customer and quality, and was awarded with the Deming Application Prize.

- **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 and formulation 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 2017, the business's domestic and export sales of polyolefins are accounted for 44% and 56%, respectively.

- **Domestic**

Domestic customers can be categorized in 2 groups; customers who convert and sell in domestic market represent 94% of the total domestic sales, whereas those who convert and export (re-export customers) represent 6%. Within the former group, 67% of transactions are made through direct sales by the business, while the remaining 33% are made through agents who also help business absorb the financial risks and distribute the products to polyolefin converters. For re-export customers, goods are sold mostly through direct sales. In addition, the business has developed ReadyPlastic, a new online ordering platform for non-prime resins. The platform was well accepted and successfully tapped into the customer.

- **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. At present, the business has 4 representative companies internationally which are located in Myanmar, Vietnam, and China (Shanghai and Guangzhou). The proportion for the export market is 44% in East Asia, 30% in Southeast Asia, 7% in South Asia, and 19% in other regions.

The business exports around 1.2 million tons of polyolefins this year. 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.

In 2017, domestic and export sales of PVC through Thai Plastic and Chemicals Public Company Limited are 53% and 47%, respectively.

- **Competition and Capacity**

1) Domestic

Thailand has Polyolefins capacity of approximately 5.8 million tons per year while the country's demand in 2017 was approximately 2.9 million tons. Moreover, Thailand export Polyolefins around 48% of total production. However, when comparing with local producers, the business has around 34% 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 2017, Polyolefins demand in Asia equaled 84 million tons, with China as the largest importer. Major exporters are producers in the Middle East, USA, and South Korea. For PVC, demand in 2017 was 26 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 crackers, 9 Polyolefins plants, 6 PVC plants located in Map Ta Phut Industrial Estate, Rayong Province. The business also has 1 PVC plant in Indonesia, and 2 PVC plants in Vietnam. 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	
Thai Plastics and Chemicals	PVC Resin	530,000	1971	100
	PVC Compound	63,500		
Nawaplastic Industries (Saraburi)	PVC Pipe and Fittings	227,810	1970	100
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

Company	Product / Service	Capacity (Ton / Year)	Year First Operated	% Shareholding
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 20% of total naphtha from local producers, and 80% 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 Polyolefins 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

The business has always placed importance on the environment and communities, conducting business with policies that support sustainable development between industry, environment, and communities. SCG Chemicals is the first company in Thailand to achieve Eco Factory certification on 100% of its production facilities. Besides, RIL Industrial Estate, a subsidiary of SCG Chemicals has also certified as the first and only eco industrial estate at the level of Eco-Excellence. The business has also supported the communities 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.

Moreover, SCG Chemicals has initiated Fish Home project, an eco-innovation project of adding value to waste product, utilizing leftover PE pipes from product testing to be a fish home to serve as marine nursery areas. To make it sustain, SCG Chemicals also collaborated with local fishery groups and concerned government agencies to set up "protection zone". By 2017, over 1,100 fish homes have been placed in 29 fishery groups in Rayong and Chonburi. In addition, SCG Chemicals aims to expand the project to other local

fishery groups along the eastern coastal area of Thailand including Rayong, Chonburi, Chanthaburi and Trad provinces.

2.4 Undelivered Projects on High-Valued Purchase Agreements

None

SCG Packaging

SCG Packaging PLC. was established in 1980 by The Siam Cement PLC. and Siam Kraft Co., Ltd. to engage in manufacturing and sale of pulp. Its initial registered capital was Baht 100 million under the name of The Siam Pulp and Paper Co., Ltd. The Company was later converted into a public company in 1994 and raised its capital to Baht 1,400 million. Currently, the registered capital is amounted to Baht 1,563 million. The Company was delisted from the Stock Exchange of Thailand in 2003 and was thereafter renamed to SCG Paper PLC. in April 2007. In 2015, The Company has registered its name change. Effective June 2nd, 2015, the official name becomes “SCG Packaging Public Company Limited”. This name change reflects the company’s strategic focus towards packaging products and applications, with the aim of providing total and sustainable packaging solutions for its customers.

The SCG Packaging PLC. and subsidiaries is the country’s only integrated producer of high quality pulp, paper, and containers. Their main business chain are Packaging chain and Fibrous chain.

Key Information	
Capacity	Packaging Chain • Packaging paper 2,549,000 tons per year • Containers - Corrugated containers 1,010,000 tons per year - Flexible packaging 590,000,000 square meter per year
Capacity	Fibrous Chain • 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	Packaging Chain • Kraft paper, duplex board, corrugated containers, flexible packaging, Rigid plastic packaging Fibrous Chain • Pulp dissolving pulp, printing & writing paper
Brand	• Packaging : Green Carton, Inspired Studio • Printing and writing paper - Idea Green, Idea Work, Idea Max, Supreme, Delight, Spring

Key Information	
	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	● 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	● Maintain domestic market leadership ● 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
Business Development Policy	● 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

SCG Packaging is the country’s leading manufacturer of paper and corrugated containers. The business is the only integrated producer in Thailand with production process starting from pulp production to manufacturing the printing and writing paper, packaging paper, corrugated containers, flexible packaging and rigid plastic packaging. Being in such position allows it to appropriately allocate the production capacity, efficiently control the costs, make it relatively less vulnerable to external changes, and add value to its products. There are two major business chains as follows:

- **Packaging Chain**

The major 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, merchandising display, and total packaging design solutions.

- **Fibrous Chain**

The main products are eucalyptus pulp, dissolving pulp and printing & writing paper. It also provides specialty paper, and paper & packaging for food and beverage.

Eucalyptus pulp is used as raw material 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.

In addition, eucalyptus pulp is also used as raw material for molded fiber for food packaging, rayon fibers, melamine compound resin as well as construction materials.

2.2 Market and Competition

A) Policy and Market Features of Main Products and Services

- Policy and Market Features

1) Marketing strategy

SCG Packaging focuses on continuous development of products and services to satisfy customers' needs. "Innovation" is the key strategy to increase our sustainable competitiveness in high competitive market. For Packaging Paper Business, SCG Packaging has developed new packaging paper called "Hi-Strength" paper, lower basis weight with the same strength comparing with the relative basis weight paper. It saves production cost and environmental resources.

Moreover, SCG Packaging continuously improves and develops environmentally friendly products. Our products are awarded for promotion of raw material reduction and reuse by the Green Label, the national environmental certification awarded to specific products which have less detrimental impact on the environment in comparison with other products serving the same function. Additionally, SCG also has its own environmentally friendly certification, called 'SCG eco value'. For example, 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 competitors' in the market.

Furthermore, SCG Packaging encourages their production and sales of various packaging paper products with the FSC-CoC (Chain of Custody) certification, this internationally recognized certification is granted for products that come from FSC-certified forest and processes. The FSC or the Forest Stewardship Council has taken into account the raw material selection, raw material handling and storage, product quantity control, sales and delivery of products to ensure the non contamination. SCG Packaging products, e.g. containerboard, sack kraft paper, coreboard, gypsum linerboard and coated duplex board, have received several types of the FSC-CoC certification (FSC Recycled 100%, FSC Mix 100%, and FSC Mix 70%), ensuring that the products are environmentally friendly and commit to social responsibility.

The packaging business has aimed at being a total packaging solutions provider who offers such wide range of packaging as corrugated containers, flexible packaging, rigid plastic packaging, logistics materials, and merchandising display that could respond to all the customers' packaging requirements. Corrugated containers packaging business has developed and expanded production capacity especially the printing technologies including 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. Focus is specially put on the flexographic preprint since its capacity expansion is aimed to serve mainly footwear industry and food & beverage industry.

In recent years, the company had further expanded the Flexible Packaging business in Samutsakorn province considering impressive growth in Flexible Packaging industry and trends of consumer's behavior changed towards convenience and haste. Other than the capacity expansion, the company has also developed more innovative products such as retort pouch.

Furthermore, as for packaging design services, the company has continued focusing on the development of designer team for more proactive work and a better skill set of integrated design, including the design of logo, brand, merchandising display, exhibition, and other printing materials. The design experts, together with the plants with well-equipped facilities across the country and the region, can certainly increase customer confidence on our premium quality products and services.

For printing and writing paper business, the company expanded its photocopy paper's customer base domestically and internationally. The marketing promotion was continuously implemented for domestic market. Meanwhile, for international market, it increased marketing activities, focusing on neighboring countries and others in Asia as well as the America.

With regard to paper and packaging for food & beverages, "FEST", a brand for food packaging products made of food grade paper, continuously expanded its sales to modern trade and traditional trade as well as SMEs to take an opportunity from a strong growth in domestic and international markets. It offers various food packaging products made of molded pulp and paper, including lunch box, plate, bowl, and other related products. Furthermore, to serve customer needs, it provides a wide range of services associated with design solutions.

2) Customer Features and Channel of Distribution

Packaging Chain

Packaging Paper

Channel: directly sold to affiliated firms under SCG Packaging 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

Channel: Packaging business (Corrugated Containers) offers direct sales by sales representatives, account executives and now had established E-commerce section who work closely with the customers both of offline and online platform; Packaging business now has 24 corrugated containers plants, 4 flexible packaging plants and 1 Rigid plastic packaging plant. All the plants' location are both nationwide and ASEAN-wide including Thailand, Vietnam, Indonesia, and Singapore.

Fibrous Chain

Pulp

Channel: directly sold to affiliates in the paper business and external customers and sold through agents for export markets.

Printing & Writing Paper

Channel: 70% of total sales served domestic market by different channels, including printing house, industry uses, agents, converter, modern trade and stationeries 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 sold to industrial customers or converters and agents for export markets.

Paper & Packaging for food and beverage

Channel: sold through converters, food packaging stores, modern trade and agents for export market.

- Industry, Competition, and Trend

1) Packaging Chain

Demand of packaging paper in Thailand grew 2.5% y-o-y. For ASEAN, demand for packaging paper increased 5% y-o-y. In 2018, Demand of packaging paper in Thailand expects to increase by 3% y-o-y, as a result of higher domestic consumption. For ASEAN market, demand of packaging paper expects to grow 5% attributed to economic growth and production for export. However, other packaging paper producers in Asean plan to increase additional capacity upto 1 million tons per year in 2018.

Thailand's demand of corrugated containers in 2017 grew 2.5% y-o-y, a number which is in line with Thailand's GDP. In 2017, overall domestic consumption had experienced the uptick due to the rise in agricultural prices including rice, cassavas and rubbers. However, domestic consumption had been threatened by household debts. This situation invoked prudent spendings among households. Exporting sectors still maintained growth from better economic condition of trading partners, for instance, USA, China, European Unions, and Japan. This outcome leads to an increasing demand to export of corrugated cartons when compared to the previous year.

Over the past year, food & beverage and consumer goods had seen a solid growth with several driving forces including marketing campaigns, new product launches, and the expansion of E-commerce business.

Similarly, ASEAN market in 2017 had seen considerable growth, especially in Vietnam where demand of corrugated cartons grew up by 6-7% y-o-y mainly stemming from electrical and electronics products. As a global hub of manufacturing base, Vietnam footwear and garment industries have been continuous developed. As well as in Indonesia, the corrugated carton industry has experienced a slight growth over the past year, a number stood at approximately 4-5%. Food & Beverage and Shoes industries were the brightest industries

among others. Electronic appliances sector, on the other hand, had been pressured by World Economic downturn, leading to insignificant growth of corrugated cartons.

In 2018, growth rate for packaging industry is estimated to grow 3%; which fuels by growths in food, beverage, and consumer products. Vietnam's corrugated cartons market in 2018 is projected to grow in a range of 6-7%, which the driving segments are electronics products, footwear and garment. Indonesia market trend is forecasted to grow by 4-5%, a greater growth than that of 2017. However, price pressure remains the major challenge for packaging industry since packaging producers aim to expand their business continuously. Production efficiency and cost reduction will turn to be the key success factors, which not only increases competitive advantage but also allows the organization to sustain profitable.

2) Fibrous Chain

Bleached chemical long and short fiber pulp

In 2017, World bleached chemical long and short fiber pulp demands had been increased by 2.9% y-o-y. Global economic recovery and tissue sectors were the key growth drivers for pulp market. Meanwhile, the average pulp prices had surged from the delay of startup the new capacity expansion together with maintenance breakdown of key major pulp producers. Those resulted in the supply shortage of bleached chemical pulp.

In 2018, world bleached chemical long and short fiber pulp demand are expected to be increased by 2.1% y-o-y. But the average pulp prices will be pressured by the new capacity expansion, mainly short fiber, from Asia and Latin America which started to ramp up in the second half of 2017. The new volume is expected to be added around 2 million tons in 2018.

Dissolving pulp

In 2017, the growth of dissolving pulp consumption grew by 6% y-o-y, driven by the increasing demand of viscose market in China which resulted from the expansion of textile industry. Furthermore, dissolving pulp price increased due to higher demand from viscose producers and limited cotton linter in the first of the year in China.

In 2018, global dissolving pulp demand is projected to grow 8% y-o-y from viscose segment. Dissolving pulp demand growth is expected to be strongest in China as the result of new viscose capacities. However, dissolving pulp price is expected to be lower than previous year because of the ramping up of dissolving pulp capacity in China and Latin America.

Printing and writing paper

In 2017, The growth in demand for Printing and Writing Paper industry in Thailand still decreased by 13% from last year mainly from the substitution of digital media, especially in promotional materials and magazine segments. Copy paper remained high competition affected to severe price competition from China and Indonesia players.

In 2018, Printing and Writing Paper demand is projected to drop further by 10% y-o-y due to continuously decreasing of demand in promotional materials and magazine segments. Also, the increasing use of electronic devices in banking sector and government policy on 'Thailand 4.0' have been driven the decrease 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 SCG Packaging and Plastic resin from SCG Chemicals 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
- Wastepaper 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

SCG Packaging conduct business with the concern of 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:

- A project designed to reduce energy consumption in the manufacturing process by recapturing waste heat for reuse
- A project dedicated to improving the efficiency of steam traps
- A project designed to replace fluorescent tubes with LEDs
- A project designed to generate biomass gases from eucalyptus chips, waste from the pulp production process, for use in lieu of fuel oil in lime kilns

Streamlined the manufacturing process to minimize water consumption through balancing water consumption in production process and installing new equipment to recycle waster water. Furthermore, SCG Packaging focuses on environmental treatment systems such as high efficiency water treatment, 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

SCG believes that effective Enterprise Risk Management contributes to the achievement of business goals, ensures the organization's ability to cope with uncertainties and the various risk aspects becoming increasingly complex and severe. SCG has also continuously raised risk management awareness throughout the organization and aims for better risk management efficiency of strategic formulation, operation, and decisions regarding new investment to add value to the organization and stakeholders which will contribute to SCG's sustainable growth.

SCG Enterprise Risk Management Framework

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

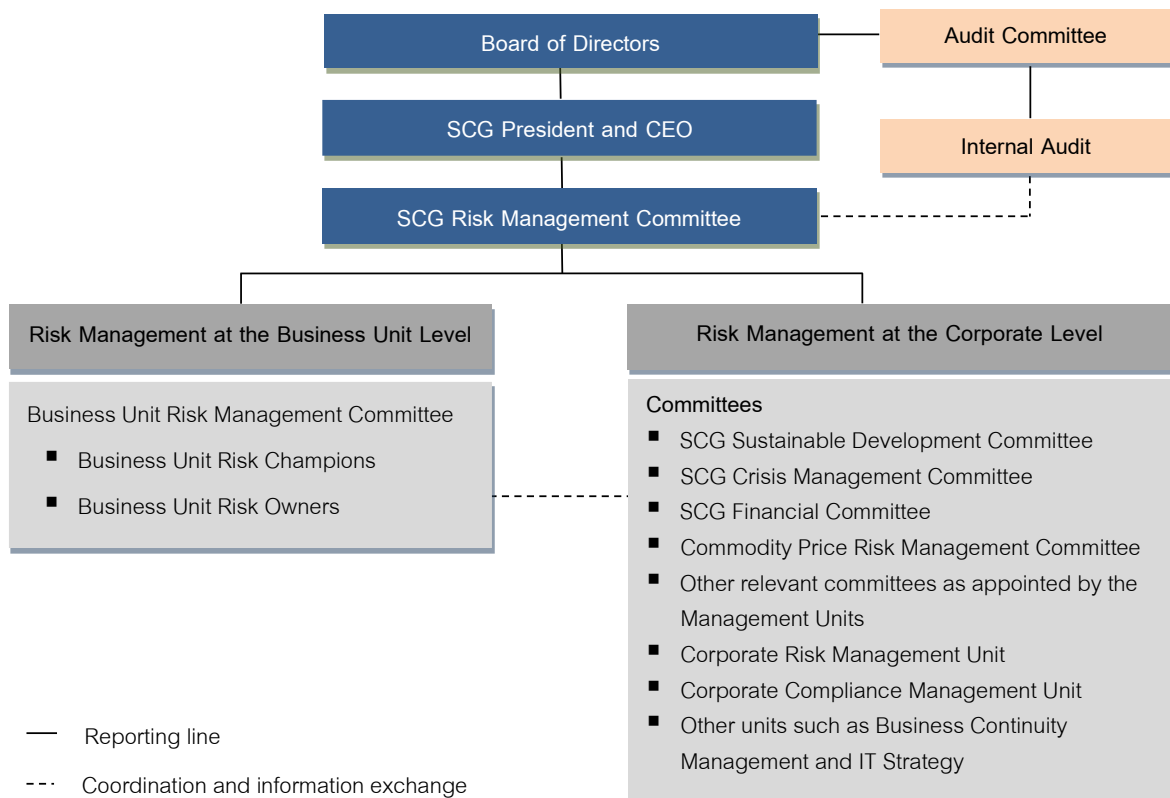
1. Strategy Establishment

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 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

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 also reports the audit outcomes to the Audit Committee. Additionally, the Unit provides consultation and communicates 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. 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 (includes 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. Apart from that, risk management was designated as a component 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 lesson learned. In addition, learning materials in digital format was recently developed to increase risk awareness and

coverage for SCG staff from the commencement of employment. Over past years, SCG has defined integrated GRC definition and communicated the objectives and benefits of integrated GRC. In 2017, Corporate Governance Unit, Risk Management Unit, and Compliance Management Unit have coordinated to increase communication coverage, understanding of GRC concepts and their importance to all SCG staff.

Key Risks, Opportunities and Management Strategies

In 2017, SCG has assessed and mitigated the significant risks in alignment with material sustainability issues as illustrated below.

Safety, Health, and Environment Risk

1. Safety and Health Risks

Overseas operations in countries where environment, safety and health are substandard can pose risks.

- Implemented various safety & health standards such as Occupational Health and Safety standard (OHSAS 18001) and Safety Performance Assessment Program (SPAP) in overseas companies and disseminated the application of safety management principles to its trading partners to extend the practice to the wider society.
- In 2017, SCG has enforced “9 Life Saving Rules” to all employees and business partners to operate safely in the workplaces and on the roads. In addition, safety awareness is constantly promoted and punishment is applied for noncompliant in supporting behavioral change and safety culture.

SCG believes that safety and a healthy workplace environment allow operations to run efficiently and smoothly, reduce unnecessary production cost and create trust among customers, business partners and stakeholders.

2. Climate Change and Environmental Risk

Climate change, global warming, water crisis and exposure to environmental risk may affect the continuity of business operations, organization’s reputation, or cost.

- Increase the use of alternative energy, for example, the use of solar power and the experiment of planting and using energy crops to produce electricity to lower greenhouse gas emissions. In addition, various projects are conducted to reduce greenhouse gas emission, for example, power generation from waste heat and combustion production efficiency improvement in ceramic plants.
- Developed environmentally-friendly products and services, for example, Stay Cool, an insulation that keeps out heat 7 times better than normal insulation and preserves an air conditioner’s power usage. Another example is Emisspro[®], a coating substance for energy-saving burners, which was developed out of an attempt to reduce energy use and greenhouse gas emission.

- For the manufacturing process, SCG strictly adheres to the application of the 3R concept (Reduce, Reuse/Recycle, and Replenish) and collaborates with related government organizations in order to support water shortage prevention projects.
- SCG has continued various corporate social responsibility (CSR) projects, for example, building 70,000 check dams according to the Royal initiatives and promoting “Satanee Rak Nam”, a community learning center for water conservation. In addition, activities and projects’ assessment regarding social, environmental and economic aspects are conducted to ensure SCG’s operations and the surrounding communities living together sustainably.

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.

- Set 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. Builds networking with government and the private sectors in domestic and overseas operations to increase the efficiency in monitoring law and regulation changes.
- Monitor Base Erosion and Profit Shifting (BEPS) measures introduced by the Organization for Economic Co-operation and Development (OECD) to prevent future tax risk that could incur reputational risk and the lost of license to operate.
- Constantly updates SCG Code of Conduct according to changes in laws and regulations. This includes conducting “Ethics e-testing” focusing on SCG Philosophy, anti-corruption and human right policies.
- Communicates good 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. In the event that SCG becomes the topic of negative news coverage on social media, its outstretch nature may cause serious impact on the brand and reputation of the organization.

- Established a Brand Committee which oversees the monitoring of online risk events, and the preparation of countermeasures and a communication system, which includes a crisis management drill.

- Applied digital technology to analyze voice of customers and stakeholders regarding SCG's products, services and businesses using information from social media to proactively assess market movements, stakeholders' satisfaction and expectations.

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. This includes organizing IP training for SCG employees to raise awareness and promote practice.

After years of IP strategy and IP management implementation, SCG received "Asia IP Elite 2017" award for the fourth consecutive years at the IP Business Congress Asia 2017 Conference hosted by Intellectual Asset Management (IAM). This award has truly represented SCG's achievement in IP management and IP system which cover IP creation, IP protection and IP commercialization. This system is implemented at the beginning of research and development until new products and services launched into the markets.

Hazard Risk

6. Geopolitical Risk

A more severe geopolitical conflicts, resulting in economic instability and higher risk exposure from doing business internationally, could impact SCG operations and its business continuity.

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

Input Risk

7. Labor Shortage and Rising Wages Risk

As the world including Thailand is entering an era of aging society, problems from labor market imbalance in ASEAN countries has caused competition for labor and rapid wage hikes in some countries.

- Continuously build relationship with universities and other institutions in ASEAN.
- Continue the Pracha Rat (people's state) project called "Role Model Institute" to advance the status of vocational students with the aim to supply skilled laborers to the market. Under this project, vocational students will benefit from real life working experience, English skills improvement and safety culture knowledge in the workplace.

- Implementation of automatic machines and robots to enhance production efficiency and to prepare for labor shortage situation, for example, PVC manufacturing robots to increase production capacity and reduce defective products, and an inspection robot to deliver inspection and repair services in hazardous areas both in-house and to large industrial customers outside SCG.

8. Fluctuation in Energy and Major Raw Material Prices Risk

The rising trend of global crude oil price due to the possibility of oil production cut by the Organization of the Petroleum Exporting Countries (OPEC) and Non-OPEC countries has resulted in the upward trend of energy and commodity prices such as naphtha and fuel oil. In addition, the price of coal, one of the main energy sources for SCG Cement-Building Materials and SCG Packaging, has shown signs of soaring due to Chinese coal mining restriction policy and its effect on decreased coal supply.

- Commodity Price Risk Management Committee has adjusted the risk management strategy to response to the changing circumstances. For example, a hedging instrument is applied to reduce the risks from commodity price fluctuation and maintain competitive cost in the global market.
- Increases the proportion of alternative energy usage, for example, solar energy, industrial waste, and biomass to reduce the risk from energy price increases.
- Develops HVA products such as plastic for medical equipment and plastic parts for the automotive industry, with the aim to increase revenues and profits and to reduce the risk from raw materials price volatility.

Process Risk

9. Supply Chain Risks

SCG considers all risk factors throughout the supply chain, starting from raw material procurement, materials and equipment used in the production and transportation, to sales and delivery of products and services, to prevent any misalignment that may affect the confidence of consumers and other stakeholders as well as the impact on SCG's operations.

- Developed the "SCG Supplier Code of Conduct" for all suppliers to adhere to in order to help enhance operating standards for the mutual benefits of SCG and the suppliers.
- Conducts "Spend Analysis" to assess risks and impact on SCG's operations in various dimensions covering economic, environment and society. Results from the analyses are applied to classify suppliers, and develop strategies and plan to develop these suppliers, for example, the "Greening the Supply Chain" project to ensure the sustainability of suppliers' businesses.
- Conducts suppliers' assessment using onsite and offsite audit considering products and services quality, economic, social, environment and governance performance.

10. 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 its human resources management to be better aligned with its business strategies.

- Communicated human rights policies and practices to SCG employees, business partners and related parties to create understanding, fair and equitable business practices.
- In 2017, SCG assessed human rights risk and completed a mitigation plan for all Business units.
- Established a learning and coaching culture using the 70-20-10 approach. This method emphasizes on on-the-job training and learning from mistakes with support from supervisors. Furthermore, an employee at each level will be given an opportunity to develop their business knowledge, as well as leadership and teamwork skills.
- Applied competency development program to all SCG staff to improve job-related, business and management knowledges. SCG employee development programs are properly and continually conducted to ensure long term business competitive advantage.

Having constantly placed importance on equal treatment of all employee, staff competency development and employee engagement, in 2017, results from JobsDB Thailand survey showed that SCG is one of the most attractive employers in Thailand. This has resulted in SCG's ability to better recruit talents to work with the Company.

Business Environment Risk

11. Foreign Exchange Rates Fluctuation Risk

In 2017, the Thai Baht has appreciated against the US dollar compared to past years. Still, in 2018, it is expected that the Thai Baht could be volatile due to various uncertainties such as the impact from powerful countries' international policies, the US Fed's interest rate trends and US economic stimulus measures.

- 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 agreement with trading partners using local currency, and considering foreign exchange hedge for investment projects at an appropriate level.
- SCG has leveraged cross-currency competitiveness and focused on export to countries within and outside ASEAN where appropriate.

12. Risks to ASEAN Economic Growth and Competition

In 2017, the global economy has recovered due to fundamental factors such as stronger labor market and continued global trade expansion. However, the world's economy will continue to face uncertainties pending powerful countries' economic and political policies, for example, political uncertainties in Europe, monetary policy tightening in the US and Europe, non-performing loans and slowdown in the Chinese economy, directions on foreign trade from the US president and growing geopolitical risk in North Korea and the Middle East which could trigger a war. All these

factors will likely affect ASEAN economy directly or indirectly. Moreover, market entries of new players, both large and small, in countries where SCG has presence will intensify competition for SCG.

- Established 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, Scenario Planning and Sensitivity Analysis are conducted to assess potential consequences from such risks.
- Continue to develop HVA products and services to serve niche markets, increase sales from export, and accelerate sales from export to ASEAN and non-ASEAN countries to compensate for domestic slowdown and intense competition as well as explore future investment opportunities.

Emerging Risks

1. Risk from digital technology transformation

Digital technology has and will play a crucial role in daily lives and businesses, for example, the adoption of digital technology in delivery service, marketing and sales through online channels. In the long term, such development may impact SCG business model and traditional distribution channels, which threatens SCG's competitive advantage. On the other hand, such a trend could create new business opportunities. For this reason, SCG has dedicated effort to monitoring and analyzing trends and changes in digital technology and adopt them to prevent disruption risks and capture new opportunities. Examples include the adoption of Big Data to investigate customers' needs and behavior in introducing products and services, the development of marketing strategy focusing on Omni channel that allows customers to access products and services through physical stores and websites, and the adoption of new technologies, automatic machineries and robotics in the production process. In 2017, SCG found AddVenture, a venture capital aiming to invest in domestic, regional and global start-ups, to explore solutions that response to market requirements and improve SCG's operation efficiency from utilizing digital technology. AddVenture focuses on collaborating with start-ups in various key areas, including industrial, robotics, energy-saving, e-commerce, and logistics.

2. 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 make businesses exposed to cyber risk. For example, stolen research and development data, trade secret and employee data could result in large amounts of monetary impact and adverse effects on the company's brand and reputation. SCG has therefore, set out e-Policy 2017 and cyber security roadmap implemented in domestic and overseas operations. The policy and roadmap include data classification and management, social network usage guideline and the procedures for human resource staff involved with personal data of SCG

employees. SCG has also 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.

3. Risk from higher cost of energy in Thailand

Various sources have forecasted that major sources of energy supply in Thailand are diminishing while demand for energy is on a rising trend, which will likely lead to an increase in energy and electricity prices impacting SCG's energy costs. Therefore, emphasis has been placed on reducing energy risk. SCG established Energy Committee which is responsible for setting out and monitoring the organization's energy policy to increase energy utilization efficiency. Additionally, the organization appointed a taskforce responsible for the exploration of both the main and alternative sources of energy that are also environmentally-friendly. Moreover, the organization has encouraged the use of technology that allows for the utilization of low-cost, but not commonly used energy, the production of electricity from process waste, along with the development of products that requires lower production cost per unit or reduces energy consumption when in use.

4. Risk from climate change, natural disaster and greenhouse gas emission control

Climate change from greenhouse gas accumulation, more severe and frequent natural disasters and regulatory development for emission control have become a vital risk that have caught the world's attention and could pose risks to corporate reputation. In 2015, Thailand signed the Paris Agreement, according to the UN Framework Convention on Climate Change, to keep the global temperature rise below 2 degrees Celsius. SCG has therefore established measures to reduce greenhouse gas emissions, for example, increasing the proportion of alternative energy, conducting experiments on planting and using energy crops, generating power from waste heat, developing products and improving production processes to reduce greenhouse gas emission such as rooftop solar power generation system and power generation from solar panels for SCG's operations in Thailand and overseas countries. In addition, SCG has considered setting up a working committee to study the financial impact resulting from climate change and continued raising awareness among staff on the importance of energy conservation and the use of a clean and environmental friendly energy.

4. Assets Used in Operations

Total Assets

Total assets of The SCG as at 31 December 2017 were Baht 573,412 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>2017</u>	<u>2016</u>	
SCG Cement-Building Materials	213,134	203,068	Million Baht
SCG Chemicals	193,183	193,465	Million Baht
SCG Packaging	91,312	85,369	Million Baht
Other	307,272	289,326	Million Baht

From the consolidated financial statements as at 31 December 2017, SCG's property, plant and equipment have carrying values of Baht 248,847 million, which are 43 percent of total assets.

Property, Plant and Equipment - Net

(in million Baht)

Business Unit	Land		Building		Machinery and others		Total	
	31 Dec 17	31 Dec 16	31 Dec 17	31 Dec 16	31 Dec 17	31 Dec 16	31 Dec 17	31 Dec 16
SCG Cement-Building Materials	17,073	16,297	26,117	18,241	71,266	76,722	114,456	111,260
SCG Chemicals	2,740	2,791	5,060	4,878	67,143	67,934	74,943	75,603
SCG Packaging	3,048	2,675	8,125	7,043	45,970	46,299	57,143	56,017
Other	317	436	1,830	1,776	1,109	1,083	3,256	3,295
Consolidated SCG	22,248	21,272	40,900	31,690	185,699	192,221	248,847	245,183

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

Intangible Assets

- Patent

At the end of 2017, SCG has 528 valid patents comprising 120 invention patents, 114 petty patents and 294 design patents. The number of patents owned by the Siam Cement PLC., SCG Chemicals, SCG Packaging, SCG Cement-Building Materials and SCG Chemicals and SCG Cement-Building Materials are 1 patents, 110 patents, 47 patents, 354 patents, and 16 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, 2020
SCG Chemicals								
2	37715	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000374	Feb 4, 2011	-	Container for plant growing	Feb 3, 2021
3	37716	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000373	Feb 4, 2011	-	Container for plant growing	Feb 3, 2021
4	47452	Dec 17, 2015	SCG Chemicals Co., Ltd.	1102002684	Sep 6, 2011	-	Shelter	Sep 5, 2021
5	48910	Mar 28, 2016	SCG Chemicals Co., Ltd.	1102000372	Feb 4, 2011	-	Holder for plant growing	Feb 3, 2021
6	51321	Sep 16, 2016	SCG Chemicals Co., Ltd.	1202003037	Nov 20, 2012	-	Container	Nov 19, 2022
7	58763	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003702	Oct 27, 2015	-	Polycast	Oct 27, 2025
8	58764	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003704	Oct 27, 2015	-	Polycast	Oct 27, 2025
9	58765	Nov 3, 2017	SCG Chemicals Co., Ltd.	1502003706	Oct 27, 2015	-	Polycast	Oct 27, 2025
10	58926	Nov 14, 2017	SCG Chemicals Co., Ltd.	1502003705	Oct 27, 2015	-	Polycast	Oct 27, 2025
11	Petty Patent 7762	Jan 16, 2013	SCG Chemicals Co., Ltd.	1103000619	Jun 21, 2011	Water container	-	Jun 20, 2021

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
12	Petty Patent 11924	Sep 9, 2016	SCG Chemicals Co., Ltd.	1403001033	Sep 5, 2014	Product comprising natural materials	-	Sep 4, 2024
13	Petty Patent 11942	Sep 16, 2016	SCG Chemicals Co., Ltd.	1503001818	Oct 27, 2015	Flexible ready-made splint	-	Oct 26, 2025
14	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)
15	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 2, 2034
16	102712853B (China)	Dec 24, 2014	SCG Chemicals Co., Ltd.	200980163165.8	Jun 25, 2012	Process for reducing the bromine index of a hydrocarbon	-	Dec 24, 2029
17	2816051B1 (Germany)	Nov 4, 2015	SCG Chemicals Co., Ltd.	602013003718.3	Jun 19, 2013	Catalyst for olefin polymerization, method for its preparation and use	-	Jun 19, 2033
18	2799485 (Germany)	Mar 23, 2016	SCG Chemicals Co., Ltd.	602013005635.8	Apr 30, 2013	Polymer composition and cable spacer comprising the polymer composition	-	Apr 30, 2033
19	2799485 (France)	Mar 23, 2016	SCG Chemicals Co., Ltd.	13165931.0	Apr 30, 2013	Polymer composition and cable spacer comprising the polymer composition	-	Apr 30, 2033
20	60 2014 002 301.0 (Germany)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 30, 2034

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
21	2939814 (France)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 30, 2034
22	2939814 (Italy)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 30, 2034
23	2939814 (Austria)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 30, 2034
24	2939814 (Belgium)	Jun 15, 2016	SCG Chemicals Co., Ltd.	14166673.5	Apr 30, 2014	Polymer composition for a container closure	-	Apr 30, 2034
25	9382123 (USA)	Jul 5, 2016	SCG Chemicals Co., Ltd.	14/367,437	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 18, 2032 (PCT filing date Dec 18, 2012)
26	20122800702770 (China)	Sep 14, 2016	SCG Chemicals Co., Ltd.	2012800702770	Jun 20, 2014	Modification of layered double hydroxides	-	Dec 18, 2032 (PCT filing date Dec 18, 2012)
27	60 2013 014 937.2 (Germany)	Dec 7, 2016	SCG Chemicals Co., Ltd.	13162080.9	Apr 3, 2013	Process for converting paraffin to olefin and catalyst for use therein	-	Apr 3, 2033
28	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 3, 2033
29	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 3, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
30	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 3, 2033
31	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 28, 2035
32	11201500990X (Singapore)	Mar 20, 2017	SCG Chemicals Co., Ltd.	11201500990X	Feb 9, 2015	Catalyst systems	-	Feb 9, 2035
33	104661744B (China)	Jun 9, 2017	SCG Chemicals Co., Ltd.	2013800494359	Mar 23, 2015	Catalyst systems	-	Mar 23, 2035
34	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 22, 2032
35	Petty Patent 9803	Apr 22, 2015	SCG Chemicals Co., Ltd. Thammasat University	1403000748	Jul 9, 2014	DIY spacer	-	Jul 8, 2024
36	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
37	55644	Jun 30, 2017	Thai Plastic and Chemicals PLC.	0801002803	Jun 4, 2008	Hot set tester	-	Jun 3, 2028
38	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

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
39	60106 (Iran)	Jul 22, 2009	Thai Polyethylene Co., Ltd.	387091337	Dec 20, 2008	Method for preparing a catalyst component for ethylene	-	Dec 19, 2027
40	272518 (India)	Apr 5, 2016	Thai Polyethylene Co., Ltd.	2658/MUM/2008	Dec 22, 2008	Method for preparing a catalyst component for ethylene	-	Dec 22, 2028
41	54433	Mar 27, 2017	Nawaplastic Industries Co., Ltd.	1402001181	May 15, 2014	-	Adaptor clip	May15, 2024
42	54675	Apr 19, 2017	Nawaplastic Industries Co., Ltd.	1402001180	May 15, 2014	-	Common clip	May14, 2024
43	55522	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000277	Jan 30, 2015	-	15°Elbow square	Jan 29, 2025
44	55523	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000278	Jan 30, 2015	-	30°Elbow square	Jan 29, 2025
45	55524	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000279	Jan 30, 2015	-	90°Elbow square	Jan 29, 2025
46	55525	Jun 20, 2017	Nawaplastic Industries Co., Ltd.	1502000280	Jan 30, 2015	-	Connect square	Jan 29, 2025
47	56361	Aug 2, 2017	Nawaplastic Industries Co., Ltd.	1302001099	Apr 30, 2013	-	Wall cladding	Apr 30, 2023
48	57200	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000197	Jan 31, 2014	-	Casement frame	Jan 30, 2024
49	57201	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000198	Jan 31, 2014	-	Sliding frame	Jan 31, 2024
50	57202	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000199	Jan 31, 2014	-	Casement frame and interior trim	Jan 30, 2024
51	57203	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000200	Jan 31, 2014	-	Casement frame with extension adaptor and interior trim	Jan 30, 2024
52	57204	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000201	Jan 31, 2014	-	Sliding frame with interior trim	Jan 30, 2024
53	57205	Sep 5, 2017	Nawaplastic Industries Co., Ltd.	1402000202	Jan 31, 2014	-	Sliding frame with extension adapter and interior trim	Jan 30, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
54	58762	Nov 3, 2017	Nawaplastic Industries Co., Ltd.	1402001179	May 15, 2014	-	Joist	May15, 2024
55	59102	Sep 21, 2017	Nawaplastic Industries Co., Ltd.	1502000281	Jan 30, 2015	-	Adaptor for downspout	Jan 30, 2025
56	Petty Patent 9305	Nov 10, 2014	Nawaplastic Industries Co., Ltd.	1303000468	Apr 30, 2013	Decoration element	-	Apr 29, 2023
57	Petty Patent 9500	Jan 5, 2015	Nawaplastic Industries Co., Ltd.	1403000069	Jan 31, 2014	Frame for fast installation	-	Jan 30, 2024
58	Petty Patent 10535	Oct 9, 2015	Nawaplastic Industries Co., Ltd.	1403000468	May 15, 2014	Deck structure	-	May 14, 2024
59	Petty Patent 10795	Nov 26, 2015	Nawaplastic Industries Co., Ltd.	1403001034	Sep 5, 2014	Lathing system	-	Sep 4, 2024
60	Petty Patent 11343	Apr 4, 2016	Nawaplastic Industries Co., Ltd.	1503000102	Jan 30, 2015	Rain gutter system	-	Jan 29, 2025
61	Petty Patent 11417	Apr 25, 2016	Nawaplastic Industries Co., Ltd.	1403000501	May 23, 2014	PVC composition	-	May 22, 2024
62	Petty Patent 11978	Sep 29, 2016	Nawaplastic Industries Co., Ltd.	1503001613	Sep 29, 2015	Flashing socket	-	Sep 28, 2025
63	Petty Patent 8293 (Philippines)	Jul 15, 2016	Nawaplastic Industries Co., Ltd.	22015000036	Jan 29, 2014	Frame for fast installation	-	Jan 29, 2021
64	54709	Apr 21, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	1401006089	Oct 8, 2014	Rain gutter system	-	Oct 8, 2024
65	57195	Sep 5, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	142000203	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
66	57196	Sep 5, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	142000204	31 Jan, 2014	-	Rain gutter	Jan 30, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
67	57197	Sep 5, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	1402000206	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
68	57198	Sep 5, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	1402000207	31 Jan, 2014	-	Rain gutter	Jan 30, 2024
69	54709	Apr 21, 2017	Nawaplastic Industries (Saraburi) Co., Ltd.	1401006089	Oct 8, 2014	Rain gutter system	-	Oct 7, 2034
70	52998	Dec 22, 2016	Nawaplastic Industries (Saraburi) Co., Ltd.	1402002979	Oct 8, 2014	Smart 30° hanger set	-	Oct 7, 2024
71	52999	Dec 22, 2016	Nawaplastic Industries (Saraburi) Co., Ltd.	1402002980	Oct 8, 2014	Smart 90° hanger set	-	Oct 7, 2024
72	53000	Dec 22, 2016	Nawaplastic Industries (Saraburi) Co., Ltd.	1402002981	Oct 8, 2014	Smart shim plate	-	Oct 7, 2024
73	49700	Jun 3, 2016	SCG Performance Chemicals Co., Ltd.	1402003238	Oct 22, 2014	-	MOBIKE structure frame	Oct 21, 2024
74	49701	Jun 3, 2016	SCG Performance Chemicals Co., Ltd.	1402003240	Oct 22, 2014	-	Mo-Bike	Oct 21, 2024
75	49778	Jun 8, 2016	SCG Performance Chemicals Co., Ltd.	1402003239	Oct 22, 2014	-	Mo-Bike	Oct 21, 2024
76	50654	Aug 4, 2016	SCG Performance Chemicals Co., Ltd.	1402002322	Aug 20, 2014	-	Play ground	Aug 19, 2024
77	53596	Feb 1, 2017	SCG Performance Chemicals Co., Ltd.	1402002321	Aug 20, 2014	-	Play ground	Aug 19, 2024
78	57199	Sep 5, 2017	SCG Performance Chemicals Co., Ltd.	1402003241	Oct 22, 2014	-	Front Holder for bicycle	Oct 22, 2044

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
79	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 15, 2036
80	Petty Patent 11586	Jun 8, 2016	Rayong Engineering & Plant Service Co., Ltd.	1503001900	Nov 6, 2015	Corrosion inspection detector	-	Nov 5, 2025
81	2809717 (Romania)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
82	2809717 (Portugal)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
83	2809717 (Poland)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
84	2809717 (Italy)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
85	2809717 (Hungary)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
86	2809717 (France)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
87	2809717 (Spain)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
88	2809717 (Germany)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
89	2809717 (Belgium)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
90	2809717 (Austria)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
91	2809717 (Turkey)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
92	2809717 (Great Britain)	Jul 13, 2016	Norner AS	EP13702439.4	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 31, 2033
93	ZL201380017952.8 (China)	Oct 12, 2016	Norner AS	201380017952.8	Jan 31, 2013	Multimodal polyethylene polymers and processes preparing said polymer (NTT)	-	Jan 3, 2033
94	2930205 (Austria)	May 10, 2017	Norner AS	0892284	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
95	2930205 (Belgium)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
96	2930205 (Germany)	May 10, 2017	Norner AS	60213021133.7	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
97	2930205 (Spain)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
98	2930205 (France)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
99	2930205 (Great Britain)	May 10, 2017	Norner AS	15164618.9	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
100	2930205 (Hungary)	May 10, 2017	Norner AS	1725873	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
101	2930205 (Poland)	May 10, 2017	Norner AS	2939212	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
102	2930205 (Portugal)	May 10, 2017	Norner AS	2939212	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
103	2930205 (Romania)	May 10, 2017	Norner AS	01736/2017	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
104	2930205 (Turkey)	May 10, 2017	Norner AS	2017/11428	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
105	2930205 (Italy)	May 10, 2017	Norner AS	502017000088591	Jan 31, 2013	Multimodal polyethylene polymers and process preparing said polymer (Divisional application)	-	Jan 31, 2033
106	9340646 (USA)	May 17, 2016	Norner IP AS	US14/232250	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032
107	2731981 (France)	Aug 31, 2016	Norner IP AS	EP12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
108	2731981 (Spain)	Aug 31, 2016	Norner IP AS	EP12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032
109	2731981 (Netherland)	Aug 31, 2016	Norner IP AS	EP12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032
110	2731981 (Germany)	Aug 31, 2016	Norner IP AS	EP12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032
111	2731981 (Great Britain)	Aug 31, 2016	Norner IP AS	EP12733739.2	Jul 11, 2012	Process for purifying poly (alkylene carbonate)	-	Jul 11, 2032

SCG Packaging

112	35489	Apr 10, 2013	SCG Packaging PLC.	0802003034	Oct 3, 2008	-	Container blank	Oct 2, 2018
113	35918	Jun 18, 2013	SCG Packaging PLC.	0802003033	Oct 3, 2008	-	Container blank	Oct 2, 2018
114	36654	Aug 19, 2013	SCG Packaging PLC.	0902000310	Feb 11, 2009	-	Folding chair	Feb 10, 2019
115	37375	Oct 4, 2013	SCG Packaging PLC.	0902003323	Oct 29, 2009	-	Container	Oct 28, 2019
116	37766	Oct 29, 2013	SCG Packaging PLC.	0902001102	Oct 14, 2009	-	Seat	Oct 13, 2019
117	38819	Jan 17, 2014	SCG Packaging PLC.	0902001873	Jun 23, 2009	-	Table	Jun 22, 2019
118	39942	May 6, 2014	SCG Packaging PLC.	1002003047	Oct 20, 2010	-	Display	Oct 19, 2020
119	40389	Jun 11, 2014	SCG Packaging PLC.	1102003701	Dec 28, 2011	-	Carton blank	Dec 27, 2021
120	40434	Jun 16, 2014	SCG Packaging PLC.	1102003702	Dec 28, 2011	-	Carton blank	Dec 27, 2021
121	45914	Sep 15, 2015	SCG Packaging PLC.	0902001103	Oct 14, 2009	-	Seat blank	Oct 13, 2019
122	45915	Sep 15, 2015	SCG Packaging PLC.	0902001874	Jun 23, 2009	-	Seat	Jun 22, 2019
123	45916	Sep 15, 2015	SCG Packaging PLC.	0902001908	Jun 23, 2009	-	Table	Jun 22, 2019
124	45917	Sep 15, 2015	SCG Packaging PLC.	0902000311	Feb 11, 2009	-	Folding chair blank	Feb 10, 2019
125	46617	Oct 26, 2015	SCG Packaging PLC.	1202002433	Sep 14, 2012	-	Container blank	Sep 13, 2022
126	46752	Oct 30, 2015	SCG Packaging PLC.	1002003046	Oct 20, 2010	-	Stand blank	Oct 19, 2020



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127	49032	Apr 4, 2016	SCG Packaging PLC.	1102003704	Dec 28, 2011	-	Container blank	Dec 27, 2021
128	50419	Jul 14, 2016	SCG Packaging PLC.	1102001273	May 3, 2011	-	Paper splint	May 2, 2021
129	Petty Patent 6859	Jan 13, 2012	SCG Packaging PLC.	0903001383	Nov 25, 2009	Mobile pressure testing equipment	-	Nov 24, 2019
130	Petty Patent 7328	Jul 20, 2012	SCG Packaging PLC.	1003000688	Jul 30, 2010	Pallet	-	Jul 29, 2020
131	Petty Patent 8877	May 23, 2014	SCG Packaging PLC.	0803001134	Sep 15, 2008	Bolt	-	Sep 14, 2018
132	Petty Patent 11664	Jun 28, 2016	SCG Packaging PLC.	1503001838	Oct 29, 2015	Investigated method of macro sticky in paper pulp	-	Oct 28, 2025
133	Petty Patent 12725	Jun 7, 2017	SCG Packaging PLC.	1503001837	Otc 29, 2015	Multi floors truck	-	Otc 28, 2025
134	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, 2018
135	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
136	53597	Feb 1, 2017	Siam Kraft Industry Co., Ltd.	1402003369	Nov 3, 2014	-	Display	Nov 3, 2024
137	Petty Patent 10041	July 2, 2015	Siam Kraft Industry Co., Ltd.	1403000945	Aug 22, 2014	Wireless hygrometer	-	Aug 21, 2024



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
138	Petty Patent 12351	Jan 24, 2017	Siam Kraft Industry Co., Ltd.	1403001694	Dec 12, 2014	Portable, scoring device	-	Dec 11, 2024
139	Petty Patent 4714	Jan 28, 2009	Thai Containers Group Co., Ltd.	0803000764	Jun 12, 2008	Box partition	-	Jun 11, 2018
140	Petty Patent 9838	Apr 28, 2015	Thai Containers Group Co., Ltd.	1403000528	May 30, 2014	Water-proof sheath for pallet leg	-	May 29, 2024
141	49033	Apr 4, 2016	Thai Containers Group Co., Ltd.	1202002432	Sep 14, 2012	-	Container	Sep 13, 2022
142	49034	Apr 4, 2016	Thai Containers Group Co., Ltd.	1202002431	Sep 14, 2012	-	Container	Sep 13, 2022
143	49890	Jun 17, 2016	Thai Containers Group Co., Ltd.	1202002393	Sep 11, 2012	-	Paper pallet axis	Sep 10, 2022
144	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
145	54710	Apr 21, 2017	SCG Packaging PLC.	1002003323	Nov 24, 2010	-	Container blank	Nov 23, 2020
146	54311	Mar 21, 2017	SCG Packaging PLC.	1102003703	Dec 28, 2011	-	Container	Dec 27, 2021
147	53172	Jan 5, 2017	Thai Containers Group Co., Ltd.	1202002392	Sep 11, 2012	-	Pallet	Sep 10, 2022
148	55526	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002351	Aug 22, 2014	-	Container	Aug 21, 2024
149	55527	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002352	Aug 22, 2014	-	Container blank	Aug 21, 2024
150	55528	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002353	Aug 22, 2014	-	Container blank	Aug 21, 2024
151	55529	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002354	Aug 22, 2014	-	Container blank	Aug 21, 2024
152	55530	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002355	Aug 22, 2014	-	Container blank	Aug 21, 2024
153	55531	Jun 20, 2017	Thai Paper Co.,Ltd.	1402002356	Aug 22, 2014	-	Container blank	Aug 21, 2024
154	58757	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004293	Dec 17, 2015	-	Container	Dec 16, 2025
155	58758	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004294	Dec 17, 2015	-	Container	Dec 16, 2025
156	58759	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004295	Dec 17, 2015	-	Container blank	Dec 16, 2025
157	58760	Nov 3, 2017	Thai Paper Co.,Ltd.	1502004296	Dec 17, 2015	-	Container blank	Dec 16, 2025

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
158	Petty Patent 12796	Jun 23, 2017	Thai Paper Co.,Ltd.	1603001729	Sep 9, 2016	Food container	-	Sep 8, 2026
SCG Cement-Building Materials								
159	19083	Nov 7, 2005	The Concrete Products and Aggregate Co., Ltd.	0201004833	Dec 24, 2002	The rotatable concrete or mortar (mixed cement and sand) mixer system, powered by the engine of the compact truck for installing on the 4 and 6 wheel truck	-	Dec 23, 2022
160	27668	Mar 17, 2010	The Concrete Products and Aggregate Co., Ltd.	0701002440	May 17, 2007	Air brake system for motor	-	Mar 17, 2026
161	33783	Sep13, 2012	The Concrete Products and Aggregate Co., Ltd.	0802001402	Apr 23, 2008	-	Concrete cube	Apr 22, 2018
162	40409	Jun 13, 2014	SCG Cement Co., Ltd.	0902001875	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
163	40433	Jun 16, 2014	SCG Cement Co., Ltd.	0902001876	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
164	40467	Jun 18, 2014	SCG Cement Co., Ltd.	0902001877	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
165	40468	Jun 18, 2014	SCG Cement Co., Ltd.	0902001878	Jun 23, 2009	-	Mortar injection tip	Jun 22, 2019
166	47306	Dec 8, 2015	SCG Cement Co., Ltd.	1102000780	Mar 21, 2011	-	Refractory supporting unit	Mar 20, 2021
167	51912	Oct 18, 2016	SCG Cement Co., Ltd.	1202003207	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
168	51913	Oct 18, 2016	SCG Cement Co., Ltd.	1202003208	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
169	51914	Oct 18, 2016	SCG Cement Co., Ltd.	1202003209	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022
170	51915	Oct 18, 2016	SCG Cement Co., Ltd.	1202003210	Dec 7, 2012	-	Mold for stampcrete	Dec 6, 2022



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171	51916	Oct 18, 2016	SCG Cement Co., Ltd.	1102000781	Mar 21, 2011	-	Refractory	Mar 20, 2021
172	52081	Oct 26, 2016	SCG Cement Co., Ltd.	1102000783	Mar 21, 2011	-	Refractory	Mar 20, 2021
173	53667	8 Feb, 2017	SCG Cement Co., Ltd.	0601000434	Feb 2, 2006	Hybrid-type biomass drier	-	Feb 1, 2026
174	54694	Apr 20, 2017	SCG Cement Co., Ltd.	1402003424	Nov 6, 2014	-	Shoveling device	Nov 5, 2024
175	Petty Patent 4831	Apr 20, 2009	SCG Cement Co., Ltd.	0803001101	Jul 14, 2008	Round column surface polishing Equipment	-	Jul 13, 2018
176	Petty Patent 6227	May 23, 2011	SCG Cement Co., Ltd.	0803000151	Jan 21, 2008	Equipment for use in cutting or extraction of construction materials.	-	Jan 21, 2018
177	Petty Patent 7048	Mar 23, 2012	SCG Cement Co., Ltd.	0903000048	Jan 21, 2008	Method and testing kit for the closed packaging.	-	Jan 20, 2018
178	Petty Patent 7049	Mar 23, 2012	SCG Cement Co., Ltd.	0803000884	Jul 14, 2008	Dust-free by water-curtain	-	Jul 14, 2018
179	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 29, 2019
180	Petty Patent 9087	Aug 29, 2014	SCG Cement Co., Ltd.	1203000312	Sep 30, 2008	Cement formulation	-	Sep 29, 2018
181	Petty Patent 1303001469	Oct 27, 2014	SCG Cement Co., Ltd.	1303001469	Nov 21, 2013	Mortar plaster reology testing apparatus	-	Nov 20, 2023
182	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
183	Petty Patent 9755	Apr 7, 2015	SCG Cement Co., Ltd.	0903000943	Aug 31, 2009	Nature imitating plastering method and its product	-	Aug 30, 2019



No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
184	Petty Patent 10831	Dec 2, 2015	SCG Cement Co., Ltd.	1003000814	Sep 3, 2010	Easy to clean mortar	-	Sep 2, 2020
185	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
186	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
187	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
188	Petty Patent 12372	Feb 1, 2017	SCG Cement Co., Ltd.	1303000848	Jul 31, 2013	Cement formulation	-	Jul 30, 2023
189	Petty Patent 12528	Mar 21, 2017	SCG Cement Co., Ltd.	1603000176	Sep 2, 2016	Textured concrete element	-	Feb 1, 2026
190	Petty Patent 12794	Jun 23, 2017	SCG Cement Co., Ltd.	1603001632	Sep 2, 2016	Big bag transporting device	-	Sep 1, 2026
191	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
192	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

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193	US8864903 (USA)	Oct 21, 2014	SCG Cement Co., Ltd.	US13/717,054	Oct 29, 2012	Composite plaster including an organic additive	-	Oct 28, 2032
194	AU2012275037 (Australia)	Dec 24, 2014	SCG Cement Co., Ltd.	AU2012275037	Dec 24, 2012	Composite plaster including an organic additive	-	Oct 28, 2032
195	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
196	25337	Jan 23, 2009	The Siam Refractory Industry Co., Ltd.	0301003133	Aug 22, 2003	Spraying or mortar Refractory	-	Aug 21, 2023
197	49089	Apr 8, 2016	SCG Cement Co., Ltd.	1102000784	Mar 21, 2011	-	Mortar refractory	Mar 20, 2021
198	49090	Apr 8, 2016	SCG Cement Co., Ltd.	1102000782	Mar 21, 2011	-	Mortar refractory	Mar 20, 2021
199	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
200	49317	May 4, 2016	The Siam Fibre-Cement Co., Ltd.	1202002474	Sep 17, 2012	-	Building material element	Sep 16, 2022
201	49596	May 30, 2016	The Siam Fibre-Cement Co., Ltd.	1402000487	Mar 14, 2014	-	Patterned tile	Mar 13, 2024
202	49595	May 30, 2016	The Siam Fibre-Cement Co., Ltd.	1202002887	Nov 2, 2012	-	Seat	Nov 1, 2022
203	51075	Sep 6, 2016	The Siam Fibre-Cement Co., Ltd.	1302000153	Jan 24, 2013	-	Shelter	Jan 23, 2023
204	53439	Jan 20, 2017	The Siam Fibre-Cement Co., Ltd.	1302002661	Sep 24, 2013	-	Bracked element	Sep 23, 2023
205	53440	Jan 20, 2017	The Siam Fibre-Cement Co., Ltd.	1302002660	Sep 24, 2013	-	Bracked element	Sep 23, 2023
206	53971	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1302003915	Dec 19, 2014	-	Patterned floor	Dec 18, 2024
207	53972	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1402003916	Dec 19, 2014	-	Patterned floor	Dec 18, 2024
208	53973	Feb 24, 2017	The Siam Fibre-Cement Co., Ltd.	1402003917	Dec 19, 2014	-	Patterned floor	Dec 18, 2024



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209	58152	Oct 11, 2017	The Siam Fibre-Cement Co., Ltd.	1502000029	Jan 6, 2015	-	Patterned floor	Jan 5, 2025
210	58153	Oct 11, 2017	The Siam Fibre-Cement Co., Ltd.	1402000734	Mar 28, 2014	-	Building material element	Mar 27, 2024
211	Petty Patent 8721	Mar 17, 2014	The Siam Fibre-Cement Co., Ltd.	1303001128	Sep 24, 2013	Installation of plaques	-	Sep 23, 2023
212	Petty Patent 11004	Jan 11, 2016	The Siam Fibre-Cement Co., Ltd.	1503000960	Jun 25, 2015	Eave	-	Jun 24, 2025
213	Petty Patent 11738	Jul 15, 2016	The Siam Fibre-Cement Co., Ltd.	1503001907	Nov 9, 2015	Ventilating ceiling	-	Nov 8, 2025
214	Petty Patent 12461	Mar 2, 2017	The Siam Fibre-Cement Co., Ltd.	1503001397	Sep 4, 2015	Roofing materials	-	Sep 3, 2025
215	44686	Jun 16, 2015	The Concrete Products and Aggregate Co., Ltd.	0902002255	July 30, 2009	-	Floatable concrete mixing plant	Jul 29, 2019
216	33744	Sep 11, 2012	SCG Building Materials Co., Ltd.	0802000804	Mar 12, 2008	-	Construction material	Mar 11, 2018
217	34903	Jan 28, 2013	SCG Building Materials Co., Ltd.	0802000825	Mar 13, 2008	-	Washbasin	Mar 12, 2018
218	35904	Jun 14, 2013	SCG Building Materials Co., Ltd.	0802000826	Mar 13, 2008	-	Roof tile	Mar 12, 2018
219	35921	Jun 18, 2013	SCG Building Materials Co., Ltd.	0802001447	Apr 25, 2008	-	Growing unit	Apr 24, 2018
220	35966	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000805	Mar 12, 2008	-	Block	Mar 11, 2018
221	35970	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000823	Mar 13, 2008	-	Bidet	Mar 12, 2018
222	35971	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000824	Mar 13, 2008	-	Sanitary ware	Mar 12, 2018
223	36132	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000057	Jan 16, 2009	-	Roof tile	Jan 15, 2019
224	36133	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000506	Feb 25, 2009	-	Roof tile	Feb 24, 2019
225	36134	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000507	Feb 25, 2009	-	Roof tile	Feb 24, 2019
226	36367	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000056	Jan 16, 2009	-	Roof tile	Jan 15, 2019
227	36369	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000505	Feb 25, 2009	-	Roof tile	Feb 24, 2019

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228	36779	Aug 28, 2013	SCG Building Materials Co., Ltd.	0902000164	Jan 28, 2009	-	Fixing device	Jan 27, 2019
229	36780	Aug 28, 2013	SCG Building Materials Co., Ltd.	0902000165	Jan 28, 2009	-	Fixing device	Jan 27, 2019
230	38254	Nov 28, 2013	SCG Building Materials Co., Ltd.	0902000163	Jan 28, 2009	-	Fixing device	Jan 27, 2019
231	38303	Nov 29, 2013	SCG Building Materials Co., Ltd.	0802000827	Mar 13, 2008	-	Wall tile	Mar 12, 2018
232	38775	Jan 10, 2014	SCG Building Materials Co., Ltd.	1002002068	Aug 6, 2010	-	Packaging design	Aug 5, 2020
233	41212	Aug 25, 2014	SCG Building Materials Co., Ltd.	1202001561	Jun 18, 2012	-	Markings on the packaging box	Jun 17, 2022
234	41306	Sep 1, 2014	SCG Building Materials Co., Ltd.	0802002772	Sep 15, 2008	-	Floor tile	Sep 14, 2018
235	41307	Sep 1, 2014	SCG Building Materials Co., Ltd.	0802002053	July 1, 2008	-	Parts of the building	Jun 30, 2018
236	41309	Sep 1, 2014	SCG Building Materials Co., Ltd.	0802002773	Sep 15, 2008	-	Floor tile	Sep 14, 2018
237	41310	Sep 1, 2014	SCG Building Materials Co., Ltd.	0802002052	July 1, 2008	-	Parts of the building	Jun 30, 2018
238	41311	Sep 1, 2014	SCG Building Materials Co., Ltd.	0802002931	Sep 26, 2008	-	Patterned floor	Sep 25, 2018
239	41363	Sep 4, 2014	SCG Building Materials Co., Ltd.	0802000800	Mar 12, 2008	-	Patterned floor	Mar 11, 2018
240	41365	Sep 4, 2014	SCG Building Materials Co., Ltd.	0802000801-2	Mar 12, 2008	-	Patterned floor	Mar 11, 2018
241	41413	Sep 8, 2014	SCG Building Materials Co., Ltd.	0802000407	Feb 1, 2008	-	Patterned floor	Jan 31, 2018
242	41414	Sep 8, 2014	SCG Building Materials Co., Ltd.	0802000408	Feb 1, 2008	-	Patterned floor	Jan 31, 2018
243	41415	Sep 8, 2014	SCG Building Materials Co., Ltd.	0802000409	Feb 1, 2008	-	Patterned floor	Jan 31, 2018
244	41519	Sep 17, 2014	SCG Building Materials Co., Ltd.	0802000948	Mar 20, 2008	-	Patterned floor	Mar 19, 2018
245	41520	Sep 17, 2014	SCG Building Materials Co., Ltd.	0802000949	Mar 20, 2008	-	Patterned floor	Mar 19, 2018
246	41595	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902001210	Apr 24, 2009	-	Patterned floor	Apr 23, 2019
247	41596	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003082	Oct 14, 2009	-	Patterned floor	Oct 13, 2019
248	41601	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003084	Oct 14, 2009	-	Patterned floor	Oct 13, 2019
249	41604	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003085	Oct 14, 2009	-	Floor tile	Oct 13, 2019
250	41605	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902001213	Apr 24, 2009	-	Wall tile	Apr 23, 2019



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251	41606	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003083	Oct 14, 2009	-	Floor tile	Oct 13, 2019
252	41608	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902001212	Apr 24, 2009	-	Wall tile	Apr 23, 2019
253	41609	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003079	Oct 14, 2009	-	Floor tile	Oct 13, 2019
254	41610	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003077	Oct 14, 2009	-	Floor tile	Oct 13, 2019
255	41611	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902001211	Apr 24, 2009	-	Wall tile	Apr 23, 2019
256	41612	Sep 24, 2014	SCG Building Materials Co., Ltd.	0902003081	Oct 14, 2009	-	Floor tile	Oct 13, 2019
257	42796	Feb 6, 2015	SCG Building Materials Co., Ltd.	0802002774	Sep 15, 2008	-	Building material element	Sep 15, 2018
258	42797	Feb 6, 2015	SCG Building Materials Co., Ltd.	0802002775	Sep 15, 2008	-	Building material element	Sep 15, 2018
259	43851	Apr 21, 2015	SCG Building Materials Co., Ltd.	0802001446	Apr 25, 2008	-	Plant pot	Apr 25, 2018
260	43999	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000058	Jan 16, 2009	-	Roof tile	Jan 16, 2019
261	44000	Apr 30, 2015	SCG Building Materials Co., Ltd.	1002001832	Jul 16, 2010	-	Bracked element	Jul 16, 2020
262	44001	Apr 30, 2015	SCG Building Materials Co., Ltd.	1102000953	Mar 31, 2011	-	Floor tile	Mar 31, 2021
263	44004	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000162	Jan 28, 2009	-	Building material element	Jan 28, 2019
264	44005	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000160	Jan 28, 2009	-	Building material element	Jan 28, 2019
265	44006	Apr 30, 2015	SCG Building Materials Co., Ltd.	0902000055	Jan 16, 2009	-	Roof tile hook	Jan 16, 2019
266	44103	May 6, 2015	SCG Building Materials Co., Ltd.	1002003320	Nov 24, 2010	-	Bracked element	Nov 24, 2020
267	44449	May 29, 2015	SCG Building Materials Co., Ltd.	0902002806	Sep 14, 2009	-	Building material element	Sep 14, 2019
268	44640	Jun 12, 2015	SCG Building Materials Co., Ltd.	1002001831	Jul 16, 2010	-	Bracked element	Jul 16, 2020
269	44641	Jun 12, 2015	SCG Building Materials Co., Ltd.	1202001166	May 3, 2012	-	Bracked element	May 3, 2022
270	44678	Jun 16, 2015	SCG Building Materials Co., Ltd.	1002003319	Nov 24, 2010	-	Bracked element	Nov 24, 2020



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271	44679	Jun 16, 2015	SCG Building Materials Co., Ltd.	1002003321	Nov 24, 2010	-	Bracked element	Nov 24, 2020
272	44791	Jun 25, 2015	SCG Building Materials Co., Ltd.	1102002691	Sep 6, 2011	-	Roof bracked element	Sep 6, 2021
273	45721	Aug 31, 2015	SCG Building Materials Co., Ltd.	0902003078	Oct 14, 2009	-	Floor tile	Oct 14, 2019
274	45722	Aug 31, 2015	SCG Building Materials Co., Ltd.	1002003127	Oct 29, 2010	-	Roof tile	Oct 29, 2020
275	46635	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002675	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
276	46636	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002679	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
277	46637	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002678	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
278	46638	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002676	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
279	46639	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000945	Apr 5, 2010	-	Roof tile	Apr 5, 2020
280	46640	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000944	Apr 5, 2010	-	Solar roof tile	Apr 5, 2020
281	46641	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000943	Apr 5, 2010	-	Concrete block	Apr 5, 2020
282	46642	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002000725	Mar 15, 2010	-	Roof tile	Mar 15, 2020
283	46644	Oct 27, 2015	SCG Building Materials Co., Ltd.	1002002069	Aug 6, 2010	-	Building material element	Aug 6, 2020
284	46880	Nov 9, 2015	SCG Building Materials Co., Ltd.	0902000060	Jan 16, 2009	-	Movement element	Jan 16, 2019
285	46881	Nov 9, 2015	SCG Building Materials Co., Ltd.	0902000061	Jan 16, 2009	-	Movement element	Jan 16, 2019
286	46882	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002672	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
287	46883	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002673	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
288	46884	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002674	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
289	46885	Nov 9, 2015	SCG Building Materials Co., Ltd.	1002002677	Sep 24, 2010	-	Cover roof tile	Sep 24, 2020
290	47525	Dec 24, 2015	SCG Building Materials Co., Ltd.	1102002425	Aug 11, 2011	-	Fence materials	Aug 10, 2021
291	47825	Jan 29, 2016	SCG Building Materials Co., Ltd.	0701002104	Apr 27, 2007	Roof tile and process making thereof	-	Apr 26, 2027

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292	47772	Feb 25, 2016	SCG Building Materials Co., Ltd.	1002002070	Aug 6, 2010	-	Attaching device	Aug 5, 2020
293	48365	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001140	Apr 12, 2011	-	Floor tile	Apr 11, 2021
294	48366	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001137	Apr 12, 2011	-	Floor tile	Apr 11, 2021
295	48367	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001138	Apr 12, 2011	-	Floor tile	Apr 11, 2021
296	48368	Mar 1, 2016	SCG Building Materials Co., Ltd.	1102001139	Apr 12, 2011	-	Floor tile	Apr 11, 2021
297	48471	Mar 7, 2016	SCG Building Materials Co., Ltd.	1202001165	May 3, 2012	-	Attaching device	May 2, 2022
298	48472	Mar 7, 2016	SCG Building Materials Co., Ltd.	1302002137	Jul 31, 2013	-	Ventilators	Jul 30, 2023
299	49318	May 4, 2016	SCG Building Materials Co., Ltd.	1202001042	Apr 24, 2012	-	Patterned tile	Apr 23, 2022
300	49319	May 4, 2016	SCG Building Materials Co., Ltd.	1202001043	Apr 24, 2012	-	Patterned tile	Apr 23, 2022
301	49320	Mar 4, 2016	SCG Building Materials Co., Ltd.	1202001044	Apr 24, 2012	-	Patterned tile	Apr 23, 2022
302	49321	Mar 4, 2016	SCG Building Materials Co., Ltd.	1202000189	Jan 26, 2012	-	Wall	Jan 25, 2022
303	50449	Jul 15, 2016	SCG Building Materials Co., Ltd.	1202001046	Apr 24, 2012	-	Patterned tile	Apr 23, 2022
304	50450	Jul 15, 2016	SCG Building Materials Co., Ltd.	1202001045	Apr 24, 2012	-	Patterned tile	Apr 23, 2022
305	51074	Sep 6, 2016	SCG Building Materials Co., Ltd.	1102000098	Jan 11, 2011	-	Fastener	Jan 10, 2021
306	52230	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002995	Oct 18, 2013	-	Fastener	Oct 17, 2023
307	52231	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002994	Oct 18, 2013	-	Fastener	Oct 17, 2023
308	52232	Nov 4, 2016	SCG Building Materials Co., Ltd.	1402000099	Jan 17, 2014	-	Fastener	Jan 16, 2024
309	52233	Nov 4, 2016	SCG Building Materials Co., Ltd.	1402000100	Jan 17, 2014	-	Fastener	Jan 16, 2024
310	52234	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302002996	Oct 18, 2013	-	Fastener	Oct 17, 2023
311	52235	Nov 4, 2016	SCG Building Materials Co., Ltd.	1302003588	Dec 6, 2013	-	Fastener	Dec 5, 2023
312	54434	Mar 27, 2017	SCG Building Materials Co., Ltd.	0701004624	Sep 13, 2007	Roofing materials	-	Sep 12, 2027
313	54435	Mar 27, 2017	SCG Building Materials Co., Ltd.	0701004625	Sep 13, 2007	Bracked element	-	Sep 12, 2027
314	56127	Jul 21, 2017	SCG Building Materials Co., Ltd.	0701004623	Sep 13, 2007	Installation of roofing materials	-	Sep 12, 2027

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315	56256	Jul 27, 2017	SCG Building Materials Co., Ltd.	0901001969	May 4, 2009	Apparatus and method for forming powder materials	-	May 3, 2029
316	55456	Jun 14, 2017	SCG Building Materials Co., Ltd.	1402000983	Apr 25, 2014	-	cabinet	Apr 24, 2024
317	55457	Jun 14, 2017	SCG Building Materials Co., Ltd.	1402000981	Apr 25, 2014	-	cabinet	Apr 24, 2024
318	55460	Jun 14, 2017	SCG Building Materials Co., Ltd.	1402000985	Apr 25, 2014	-	cabinet	Apr 24, 2024
319	55988	Jul 14, 2017	SCG Building Materials Co., Ltd.	1102000097	Jan 11, 2011	-	Roof tile	Jan 10, 2021
320	55987	Jul 14, 2017	SCG Building Materials Co., Ltd.	1502000543	Feb 27, 2015	-	Bracked element	Feb 26, 2025
321	55989	Jul 14, 2017	SCG Building Materials Co., Ltd.	1502000544	Feb 27, 2015	-	Bracked element	Feb 26, 2025
322	56896	Aug 22, 2017	SCG Building Materials Co., Ltd.	1302001029	Apr 24, 2013	Wall	-	Apr 23, 2023
323	56897	Aug 22, 2017	SCG Building Materials Co., Ltd.	1302001030	Apr 24, 2013	Wall	-	Apr 23, 2023
324	56898	Aug 22, 2017	SCG Building Materials Co., Ltd.	1402000375	Feb 28, 2014	Growing unit	-	Feb 27, 2024
325	58157	Oct 11, 2017	SCG Building Materials Co., Ltd.	1302003804	Dec 27, 2013	Concrete block dividing unit	-	Dec 26, 2023
326	Petty Patent 5259	Mar 5, 2010	SCG Building Materials Co., Ltd.	0803000408	Mar 12, 2008	Transmission Equipment	-	Mar 4, 2018
327	Petty Patent 5366	May 6, 2010	SCG Building Materials Co., Ltd.	0803000800	Jun 20, 2008	Equipment for handling or moving	-	Jun 19, 2018
328	Petty Patent 5610	Sep 3, 2010	SCG Building Materials Co., Ltd.	0803000922	Jul 25, 2008	Insulation Installation in roof	-	Jul 24, 2018
329	Petty Patent 5898	Jan 11, 2011	SCG Building Materials Co., Ltd.	1003000350	Apr 26, 2010	Ventilated cabinet	-	Apr 25, 2020
330	Petty Patent 6099	Mar 25, 2011	SCG Building Materials Co., Ltd.	0903000394	Apr 24, 2009	Connector for waste water in water closet	-	Apr 23, 2018
331	Petty Patent 6218	May 12, 2011	SCG Building Materials Co., Ltd.	1003000629	Jul 16, 2010	Isostatic punch	-	Jul 15, 2020



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332	Petty Patent 6326	Jun 24, 2011	SCG Building Materials Co., Ltd.	1103000369	Apr 12, 2011	Apparatus for installation roofing	-	Apr 11, 2021
333	Petty Patent 6440	Aug 1, 2011	SCG Building Materials Co., Ltd.	0803000801	Jun 20, 2008	Molded ceramic tile	-	Jun 19, 2018
334	Petty Patent 6471	Aug 11, 2011	SCG Building Materials Co., Ltd.	1103000368	Apr 12, 2011	Cementitious floors	-	Apr 11, 2021
335	Petty Patent 6648	Oct 5, 2011	SCG Building Materials Co., Ltd.	0803000600	Apr 29, 2008	Wall tile	-	Apr 28, 2018
336	Petty Patent 6888	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000083	Jan 28, 2011	Concrete counter	-	Jan 27, 2021
337	Petty Patent 6889	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000303	Mar 25, 2011	Lath installation system	-	Mar 24, 2021
338	Petty Patent 7091	Apr 12, 2012	SCG Building Materials Co., Ltd.	1003001134	Nov 2, 2010	Glass mosaic	-	Nov 1, 2020
339	Petty Patent 7794	Jan 24, 2013	SCG Building Materials Co., Ltd.	1103001300	Dec 6, 2011	Rain filter	-	Dec 5, 2021
340	Petty Patent 7898	Mar 4, 2013	SCG Building Materials Co., Ltd.	1203000406	Apr 24, 2012	Foundation system	-	Apr 23, 2018
341	Petty Patent 8043	May 23, 2013	SCG Building Materials Co., Ltd.	0803001305	Oct 31, 2008	Cement for fiber cement board	-	Oct 30, 2018
342	Petty Patent 8269	Sep 4, 2013	SCG Building Materials Co., Ltd.	0803000588	Apr 25, 2008	Water block	-	Apr 24, 2018
343	Petty Patent 8297	Sep 16, 2013	SCG Building Materials Co., Ltd.	1003000717	Aug 6, 2010	Tile reverse device	-	Aug 5, 2020

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344	Petty Patent 8327	Sep 24, 2013	SCG Building Materials Co., Ltd.	1303000079	Jan 24, 2013	Heat trapping device	-	Jan 23, 2019
345	Petty Patent 8328	Sep 24, 2013	SCG Building Materials Co., Ltd.	0903000393	Apr 24, 2009	Wall plate mounting systems and assemblies	-	Apr 23, 2019
346	Petty Patent 8637	Feb 12, 2014	SCG Building Materials Co., Ltd.	1303000336	Mar 27, 2013	Parts for installation frame	-	Mar 26, 2023
347	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
348	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
349	Petty Patent 8940	Jun 23, 2014	SCG Building Materials Co., Ltd.	0903000195	Mar 6, 2009	Planting material	-	Mar 5, 2019
350	Petty Patent 9162	Sep 24, 2014	SCG Building Materials Co., Ltd.	1303001541	Dec 6, 2013	Set adjustable fan	-	Dec 5, 2023
351	Petty Patent 9215	Oct 13, 2014	SCG Building Materials Co., Ltd.	1403000092	Feb 12, 2014	System of growing plants vertically	-	Feb 11, 2024
352	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
353	Petty Patent 9217	Oct 13, 2014	SCG Building Materials Co., Ltd.	1303001325	Oct 18, 2013	Set for roof ventilation	-	Oct 17, 2023
354	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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355	Petty Patent 9306	Nov 10, 2014	SCG Building Materials Co., Ltd.	1203000444	May 3, 2012	Installation slabs	-	May 2, 2022
356	Petty Patent 9591	Feb 27, 2015	SCG Building Materials Co., Ltd.	1403000041	Jan 10, 2014	Instanted wall panel system for reduce heat transfer	-	Jan 10, 2024
357	Petty Patent 9592	Feb 27, 2015	SCG Building Materials Co., Ltd.	1403000991	Sep 1, 2014	Instance concrete bathroom floor panel	-	Sep 1, 2024
358	Petty Patent 10187	Aug 7, 2015	SCG Building Materials Co., Ltd.	1403000775	Jul 17, 2014	Process of cover gable setting	-	Jul 17, 2024
359	Petty Patent 10188	Aug 7, 2015	SCG Building Materials Co., Ltd.	1503000012	Jan 6, 2015	Roof air flow set	-	Jan 6, 2025
360	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 17, 2024
361	Petty Patent 10440	Sep 28, 2015	SCG Building Materials Co., Ltd.	1403001403	Oct 30, 2014	Cover roof end tools and process of that	-	Oct 30, 2024
362	Petty Patent 10441	Sep 28, 2015	SCG Building Materials Co., Ltd.	1303001502	Nov 28, 2013	Process of fuel cell electric production for building	-	Nov 28, 2023
363	Petty Patent 10857	Dec 4, 2015	SCG Building Materials Co., Ltd.	1403001721	Dec 19, 2014	Plant pot on water surface	-	Dec19, 2024
364	Petty Patent 11005	Jan 11, 2016	SCG Building Materials Co., Ltd.	1503000330	Mar 16, 2015	Ventilation system	-	Mar 15, 2025
365	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

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366	Petty Patent 11636	Jun 17, 2016	SCG Building Materials Co., Ltd.	1403000091	Feb 12, 2014	Receptacle	-	Feb 11, 2024
367	Petty Patent 12333	Jan 20, 2017	SCG Building Materials Co., Ltd.	1503001396	Sep 4, 2015	Apparatus for reducing thermal bridge and vibration	-	Sep 3, 2025
368	Petty Patent 12334	Jan 20, 2017	SCG Building Materials Co., Ltd.	1603000755	May 4, 2016	Bathtub Set	-	May 3, 2026
369	Petty Patent 12648	May 15, 2017	SCG Building Materials Co., Ltd.	1603000339	Mar 1, 2016	Apparatus and method for frame installation	-	Feb 28, 2026
370	Petty Patent 12857	Jul 21, 2017	SCG Building Materials Co., Ltd.	1503001858	Oct 30, 2015	Lighting control system	-	Oct 29, 2025
371	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
372	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
373	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

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
374	US8333916B2 (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
375	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
376	TW1401146 (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
377	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
378	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
379	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

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
380	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
381	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
382	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
383	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
384	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
385	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 thickness	-	Sep 16, 2027

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
386	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 thickness	-	Sep 16, 2027
387	1-2007-000379 (Philippine)	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 thickness	-	Sep 19, 2027
388	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 thickness	-	Sep 19, 2027
389	602007035323.8 (Germany)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Apr 26, 2027
390	2065150 (Italy)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Apr 26, 2027
391	2065150 (Spain)	Mar 5, 2014	SCG Building Materials Co., Ltd.	07450217.0	Apr 27, 2007	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Apr 26, 2027

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
392	2015249111 (Australia)	Jun 15, 2017	SCG Building Materials Co., Ltd.	2015249111	Oct 28, 2015	Weatherproof roof fixing system	-	Oct 27, 2035
393	40567	Jun 24, 2014	Thai Ceramic Co., Ltd.	0401002211	Apr 28, 2004	Apparatus and method for forming a pattern in ceramic tile or slab with prescribed thickness	-	Apr 27, 2024
394	50454	Jul 15, 2016	Thai Ceramic Co., Ltd.	1302000201	Feb 1, 2013	-	Floor tile	Jan 31, 2023
395	57297	Sep 7, 2017	Thai Ceramic Co., Ltd.	1402000979	Apr 25, 2014	-	Material sheets	Apr 24, 2024
396	57298	Sep 7, 2017	Thai Ceramic Co., Ltd.	1402000980	Apr 25, 2014	-	Floor and wall tile	Apr 24, 2024
397	57299	Sep 7, 2017	Thai Ceramic Co., Ltd.	1402000976	Apr 25, 2014	-	Patterned floor	Apr 24, 2024
398	57300	Sep 7, 2017	Thai Ceramic Co., Ltd.	1402000978	Apr 25, 2014	-	Patterned material sheets	Apr 24, 2024
399	58156	Oct 11, 2017	Thai Ceramic Co., Ltd.	1402002486	Sep 1, 2014	-	wall tile	Aug 31, 2024
400	Petty Patent 10185	Aug 7, 2015	Thai Ceramic Co., Ltd.	1403000391	Apr 25, 2014	Material sheets	-	Apr 25, 2024
401	Petty Patent 10186	Aug 7, 2015	Thai Ceramic Co., Ltd.	1503000634	Apr 30, 2015	Adjust surfact and setting trowel	-	Apr 30, 2025
402	Petty Patent 10439	Sep 28, 2015	Thai Ceramic Co., Ltd.	1503000635	Apr 30, 2015	Setting trowel	-	Apr 30, 2025
403	Petty Patent 10859	Dec 4, 2015	Thai Ceramic Co., Ltd.	1203001320	Nov 16, 2012	Process of sodium silicate produced by biomass	-	Nov16, 2022
404	Petty Patent 11301	Mar 23, 2016	Thai Ceramic Co., Ltd.	1403000392	Apr 25, 2014	Tile	-	Apr 24, 2024

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
405	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
406	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
407	5450074 (Spain)	Nov 2, 2006	Thai Ceramic Co., Ltd.	05450074.9	Apr 25, 2005	A Device for Making Continuous Veining of Desired Patterns	-	Apr 24, 2025
408	58994	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001137	Apr 10, 2015	-	Hanging shower	Apr 9, 2025
409	58995	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001138	Apr 10, 2015	-	Hanging shower	Apr 9, 2025
410	58996	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001140	Apr 10, 2015	-	Shower	Apr 9, 2025
411	58998	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001142	Apr 10, 2015	-	Toilet seat	Apr 9, 2025
412	58999	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001146	Apr 10, 2015	-	Sink	Apr 9, 2025
413	59000	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001153	Apr 10, 2015	-	Tap	Apr 9, 2025
414	59001	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001147	Apr 10, 2015	-	Shower	Apr 9, 2025
415	59002	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001148	Apr 10, 2015	-	Tap	Apr 9, 2025
416	59003	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001149	Apr 10, 2015	-	Tap	Apr 9, 2025
417	59004	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001150	Apr 10, 2015	-	Tap	Apr 9, 2025

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418	59005	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001151	Apr 10, 2015	-	Tap	Apr 9, 2025
419	59006	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001152	Apr 10, 2015	-	Tap	Apr 9, 2025
420	59007	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001154	Apr 10, 2015	-	Sink	Apr 9, 2025
421	59008	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001155	Apr 10, 2015	-	Sink	Apr 9, 2025
422	59009	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001156	Apr 10, 2015	-	Sink	Apr 9, 2025
423	59010	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001157	Apr 10, 2015	-	Sink	Apr 9, 2025
424	59011	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001158	Apr 10, 2015	-	Tap	Apr 9, 2025
425	59012	Nov 17, 2017	Cement Thai Ceramics Co. Ltd.	1502001159	Apr 10, 2015	-	Tap	Apr 9, 2025
426	Petty Patent 7615	Nov 16, 2012	Cement Thai Home Service Co.,Ltd.	1203000798	Jul 31, 2012	High-level display unit	-	Jul 30, 2018
427	Petty Patent 7656	Dec 4, 2012	Cement Thai Home Service Co.,Ltd.	1203000799	Jul 31, 2012	Lifting device	-	Jul 30, 2018
428	40369	Jun 9, 2014	SCG Landscape Co.,Ltd.	1102003513	Dec 6, 2011	-	Package	Dec 5, 2021
429	44002	Apr 30, 2015	SCG Landscape Co.,Ltd.	1102003514	Dec 6, 2011	-	Floor and wall tile	Dec 6, 2021
430	44003	Apr 30, 2015	SCG Landscape Co.,Ltd.	1102003515	Dec 6, 2011	-	Concrete block dividing unit	Dec 6, 2021
431	46643	Oct 27, 2015	SCG Landscape Co.,Ltd.	1102003516	Dec 6, 2011	-	Seat	Dec 6, 2021
432	58154	Oct 11, 2017	SCG Landscape Co.,Ltd.	1402000975	Apr 25, 2014	-	Floor and wall tile	Apr 24, 2024
433	58155	Oct 11, 2017	SCG Landscape Co.,Ltd.	1402000974	Apr 25, 2014	-	Floor and wall tile	Apr 24, 2024
434	51465	Sep 22, 2016	The CPAC Roof Tile Co., Ltd.	0201001929	May 24, 2002	Apparatus for attaching roof element	-	May 23, 2022
435	Petty Patent 8719	Mar 14, 2014	The CPAC Roof Tile Co., Ltd.	1203001424	Jun 1, 2012	Roof tiles	-	May 31, 2022
436	Petty Patent 9981	Jun 12, 2015	The CPAC Roof Tile Co., Ltd.	1403000688	Jun 30, 2014	Roof tiles	-	Jun 30, 2024



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437	35965	Jun 21, 2013	SCG Distribution Co., Ltd.	0802000673	Feb 27, 2008	-	Breath alcohol tester	Feb 26, 2018
438	Petty Patent 5155	Dec 4, 2009	SCG Distribution Co., Ltd.	0803001512	Dec 22, 2008	Canvas tester	-	Dec 21, 2018
439	Petty Patent 6310	Jun 17, 2011	SCG Distribution Co., Ltd.	0903001006	Sep 11, 2009	Multi wall system	-	Sep 10, 2019
440	37767	Oct 29, 2013	SCG Experience Co., Ltd.	0902001826	Jun 19, 2009	-	Packaging design	Jun 17, 2019
441	Petty Patent 9002	Jul 23, 2014	SCG Trading Co., Ltd.	1103000443	May 3, 2011	Liquid coal fuel	-	May 2, 2021
442	39035	Feb 11, 2014	Siam Sanitary Ware Co.,Ltd.	0902001105	Apr 20, 2009	-	Sink	Apr 19, 2019
443	40572	Jun 25, 2014	Siam Sanitary Ware Co.,Ltd.	1102001262	Apr 29, 2011	-	Tap	Apr 28, 2021
444	41048	Aug 6, 2014	Siam Sanitary Ware Co.,Ltd.	1102001263	Apr 29, 2011	-	Sink	Apr 28, 2021
445	41049	Aug 6, 2014	Siam Sanitary Ware Co.,Ltd.	1102001261	Apr 29, 2011	-	Sink	Apr 28, 2021
446	41695	Oct 1, 2014	Siam Sanitary Ware Co.,Ltd.	1102003640	Dec 20, 2011	-	Toilet	Dec 19, 2021
447	42053	Nov 11, 2014	Siam Sanitary Ware Co.,Ltd.	1102001259	Apr 29, 2011	-	Sink	Apr 28, 2021
448	42054	Nov 11, 2014	Siam Sanitary Ware Co.,Ltd.	1102001260	Apr 29, 2011	-	Sink	Apr 28, 2021
449	43147	Mar 9, 2015	Siam Sanitary Ware Co.,Ltd.	1202001026	Apr 23, 2012	-	Water tank	Apr 23, 2022
450	45844	Sep 11, 2015	Siam Sanitary Ware Co.,Ltd.	0901000651	Feb 16, 2009	Water supply to the front of the toilet	-	Feb 15, 2019
451	51555	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001680	Jun 19, 2013	-	Water tank	Jun 18, 2023
452	51556	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001681	Jun 19, 2013	-	Water tank	Jun 18, 2023
453	51557	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001682	Jun 19, 2013	-	Water tank	Jun 18, 2023
454	51558	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001683	Jun 19, 2013	-	Water tank	Jun 18, 2023
455	51559	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001684	Jun 19, 2013	-	Water tank	Jun 18, 2023
456	51560	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302001685	Jun 19, 2013	-	Water tank	Jun 18, 2023
457	51562	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002772	Oct 7, 2013	-	Toilet	Oct 6, 2023



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458	51563	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002773	Oct 7, 2013	-	Toilet	Oct 6, 2023
459	51564	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002775	Oct 7, 2013	-	Toilet	Oct 6, 2023
460	51565	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002776	Oct 7, 2013	-	Sink	Oct 6, 2023
461	51566	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002777	Oct 7, 2013	-	Sink	Oct 6, 2023
462	51567	Sep 27, 2016	Siam Sanitary Ware Co.,Ltd.	1302002778	Oct 7, 2013	-	Sink	Oct 6, 2023
463	51940	Oct 18, 2016	Siam Sanitary Ware Co.,Ltd.	1302002774	Oct 7, 2013	-	Toilet	Oct 6, 2023
464	54269	Mar 16, 2017	Siam Sanitary Ware Co.,Ltd.	1402002184	Aug 6, 2014	-	Sink	Aug 5, 2024
465	35992	Jun 26, 2013	Siam Sanitary Fitting Co.,Ltd.	0802003514	Nov 25, 2008	-	Building material element	Nov 24, 2018
466	36598	Aug 16, 2013	Siam Sanitary Fitting Co.,Ltd.	0902003718	Dec 9, 2009	-	Tap	Dec 8, 2019
467	37119	Sep 20, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002820	Oct 5, 2010	-	Tap	Oct 4, 2020
468	37121	Sep 20, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002822	Oct 5, 2010	-	Tap	Oct 4, 2020
469	37122	Sep 20, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002825	Oct 5, 2010	-	Tap	Oct 4, 2020
470	37123	Sep 20, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002834	Oct 5, 2010	-	Tap	Oct 4, 2020
471	37931	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000448	Feb 8, 2008	-	Water heater	Feb 7, 2018
472	37932	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000449	Feb 8, 2008	-	Shower head	Feb 7, 2018
473	37933	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000451	Feb 8, 2008	-	Valve	Feb 7, 2018
474	37934	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000452	Feb 8, 2008	-	Valve	Feb 7, 2018
475	37935	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000956	Mar 21, 2008	-	Shower	Mar 20, 2018
476	37936	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000957	Mar 21, 2008	-	Shower	Mar 20, 2018
477	37937	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	0802000958	Mar 21, 2008	-	Shower	Mar 20, 2018
478	37938	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002824	Oct 5, 2010	-	Tap	Oct 4, 2020
479	37939	Nov 7, 2013	Siam Sanitary Fitting Co.,Ltd.	1002002828	Oct 5, 2010	-	Tap	Oct 4, 2020
480	39258	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902000927	Mar 23, 2009	-	Shower	Mar 22, 2019

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481	39259	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003719	Dec 9, 2009	-	Shower	Dec 8, 2019
482	39260	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003720	Dec 9, 2009	-	Tap	Dec 8, 2019
483	39261	Mar 15, 2014	Siam Sanitary Fitting Co.,Ltd.	0902003721	Dec 9, 2009	-	Tap	Dec 8, 2019
484	40130	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001700	Jul 2, 2010	-	Tap	Jul 1, 2020
485	40131	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001702	Jul 2, 2010	-	Tap	Jul 1, 2020
486	40132	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001703	Jul 2, 2010	-	Tap	Jul 1, 2020
487	40133	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001704	Jul 2, 2010	-	Tap	Jul 1, 2020
488	40134	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002819	Oct 5, 2010	-	Tap	Oct 4, 2020
489	40135	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002823	Oct 5, 2010	-	Tap	Oct 4, 2020
490	40136	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002826	Oct 5, 2010	-	Tap	Oct 4, 2020
491	40137	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002827	Oct 5, 2010	-	Tap	Oct 4, 2020
492	40138	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002829	Oct 5, 2010	-	Tap	Oct 4, 2020
493	40139	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002830	Oct 5, 2010	-	Tap	Oct 4, 2020
494	40140	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002831	Oct 5, 2010	-	Valve	Oct 4, 2020
495	40141	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002832	Oct 5, 2010	-	Valve	Oct 4, 2020
496	40142	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002833	Oct 5, 2010	-	Tap	Oct 4, 2020
497	40143	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002002835	Oct 5, 2010	-	Tap	Oct 4, 2020
498	40144	May 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1102001189	Apr 21, 2011	-	Tap	Apr 20, 2021
499	40145	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	0902000926	Mar 23, 2009	-	Tap	Mar 22, 2019
500	40146	Apr 23, 2014	Siam Sanitary Fitting Co.,Ltd.	1002001701	Jul 2, 2010	-	Tap	Jul 1, 2020
501	43270	Mar 23, 2014	Siam Sanitary Fitting Co.,Ltd.	0802002629	Sep 3, 2008	-	Tile cutter	Sep 2, 2018
502	49197	Apr 21, 2016	Siam Sanitary Fitting Co.,Ltd.	1202001997	Jul 30, 2012	-	Valve	Jul 29, 2022
503	52149	Oct 31, 2016	Siam Sanitary Fitting Co.,Ltd.	1302003260	Nov 15, 2013	-	Water dispenser	Nov 14, 2023
504	53070	Dec 27, 2016	Siam Sanitary Fitting Co.,Ltd.	1302002471	Sep 5, 2013	-	Tap button faucet	Sep 4, 2023

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505	54455	Mar 28, 2017	Siam Sanitary Fitting Co.,Ltd.	1402000964	Apr 24, 2014	-	Tap	Apr 23, 2024
506	55511	Jun 19, 2017	Siam Sanitary Fitting Co.,Ltd.	1402000963	Apr 24, 2014	-	Tap	Apr 23, 2024
507	55512	Jun 19, 2017	Siam Sanitary Fitting Co.,Ltd.	1302000836	Apr 1, 2013	-	Furniture	Mar 31, 2023
508	55513	Jun 19, 2017	Siam Sanitary Fitting Co.,Ltd.	1302000837	Apr 1, 2013	-	Furniture	Mar 31, 2023
509	Petty Patent 9302	Nov 7, 2014	Siam Sanitary Fitting Co.,Ltd.	1403000383	Apr 24, 2014	Tap	-	Apr 23, 2024
510	Petty Patent 9417	Jan 6, 2015	SCG Cement-Building Materials Co., Ltd.	1403000992	Sep 1, 2014	Tile support on roof structure	-	Sep 1, 2024
511	Petty Patent 11253	Mar 7, 2016	SCG Cement-Building Materials Co., Ltd.	1503000803	May 29, 2015	Apparatus for extending pathway	-	May 28, 2025
512	Petty Patent 12995	Aug 22, 2017	SCG Cement-Building Materials Co., Ltd.	1703000308	Feb 24, 2017	Apparatus for testing wall	-	Feb 23, 2027
SCG Chemicals and SCG Cement-Building Materials								
513	Petty Patent 10316	Aug 31, 2015	SCG Performance Chemicals Co., Ltd. and Ceramic Cement Thai Co., Ltd.	1403000301	Mar 28, 2014	Tile for a blind	-	Mar 27, 2024
514	Petty Patent 10860	Dec 4, 2015	SCG Performance Chemicals Co., Ltd. and Ceramic Cement Thai Co., Ltd.	1403000302	Mar 28, 2014	Tile	-	Mar 27, 2024
515	I500721 (Taiwan)	Jul 29, 2015	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	20130107293	Mar 1, 2013	High emissivity coating compositions and manufacturing processes therefore	-	Feb 28, 2033

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516	2012371687B2 (Australia)	Jun 16, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	2012371687	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 29, 2032
517	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 29, 2032
518	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 29, 2032
519	5982502 (Japan)	Aug 31, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	2014-559867	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 29, 2032
520	2605880 (Russia)	Dec 6, 2016	SCG Chemicals Co., Ltd. and Siam Refractory Industry Co., Ltd.	2014131465	Feb 29, 2012	High emissivity coating compositions and manufacturing processes therefore	-	Feb 29, 2032
521	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 29, 2032 (PCT filing date Feb 29, 2012)

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
522	502017000048554 (Italy)	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 29, 2032
523	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 29, 2032
524	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 29, 2032
525	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 29, 2032
526	2820364 (Belgium)	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 29, 2032
527	2820364 (Spain)	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 29, 2032

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
528	2820364 (Great Britain)	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 29, 2032

- **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 under SCG Cement-Building Materials 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	3,012	19	2036
		Pyrophyllite	1	RFD	95	11	2028
			2	RFD	183	15	2032
	Nakorn Sawan	Gypsum	1	RFD	298	14	2031
			1	RFD	278	8	2025
SCG Cement Co., Ltd.	Lampang	Lignite, ball clay	1	RFD	209	15	2032
The Siam Cement (Lampang) Co., Ltd.	Lampang	Limestone for cement industry	17	RFD	4,987	25	2042
		Shale for cement industry	5	RFD	1,442	22	2039
		Industrial clay for cement industry	1	Owned by the company	51	12	2029
			1	Owned by the company	280	18	2035
The Siam Cement (Kaeng Khoi) Co., Ltd.	Saraburi	Limestone for cement industry	10	RFD	2,575	10	2027
		Shale for cement industry	3	Owned by the company	874	10	2027
	Lopburi	Industrial clay for cement industry	1	Owned by the company	218	21	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	20	2037
	Nakhon Ratchasima	Industrial clay for cement industry	4	Owned by the company	996	25	2042
The Siam Cement (Ta Luang) Co., Ltd.	Saraburi	Limestone for cement industry	5	RFD	954	13	2030
			13	RFD	3,683	25	2042
		Industrial clay for cement industry	1	Owned by the company	279	9	2026
			3	Owned by the company	840	21	2038
			1	Owned by the company	86	7	2024
			1	Owned by the company	207	24	2041
The Siam Cement (Thung Song) Co., Ltd.	Nakorn Sri Thammarat	Limestone for cement industry	19	RFD	4,973	18	2035
		Industrial clay for cement industry	1	Owned by the company	117	24	2041
			1	Owned by the company	64	16	2033
	Krabi	Industrial clay for cement industry	2	Owned by the company	372	21	2038
	Suratthani	Gypsum	1	Owned by the company	39	9	2026
Silasanon Co., Ltd.	Saraburi	Limestone for cement industry, Limestone for white cement and limestone for building industry	1	RFD	257	17	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	3	2020
Khammouane Cement Co., Ltd.	Laos	Limestone for cement industry	1	RFD	21,500 (3,440 ha)	30	2047
		Laterite for cement industry			5,300 (848 ha)	30	2047
		Clay			4,675 (748 ha)	30	2047
Kampot Cement Co.,Ltd.	Cambodia	Limestone for cement industry	1	Ministry of industry, Mines and Energy	6,133	49	2066
PT Tambang Semen Sukabumi (For PT.Semen Jawa)	Indonesia	Limestone for cement industry (Mt. Guha)	1	Ministry of forestry	3,006	21	2038
		Limestone for cement industry (Mt. Batu)	1	Owned by resident	741	22	2039
		Shale for cement industry	1	Ministry of forestry	743	21	2038
Mawlamyine Cement Limited	Myanmar	Limestone for cement industry	1	Ministry of forestry	800 (320 Acre)	19	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.

- **SCG Chemicals**

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 (SSC) - New Process / new product for Plastic industry	May 29, 2012	13 years from the date of first revenue received
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 technology for Petrochemicals industry's waste treatment	May 7, 2014	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

Project	Date Acquired	Expiry of Tax Incentives
Industrial zone	Dec 4, 1997	Mar, 2018
Human resources development	Dec 16, 2011	Jan, 2027
Mould	Nov 25, 2010	Nov, 2023

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	May 19, 2004	Jul, 2017
	Nov 25, 2004	Jan, 2018
	Dec 12, 2007	Apr, 2023
	Aug 14, 2009	Sep, 2023
	Mar 5, 2010	May, 2024
	Jun 26, 2012	Nov, 2025
	Aug 4, 2014	Mar, 2028
Olefins (MOC)	Dec 25, 2006	Dec, 2022
PE compound	Nov 1, 2013	Feb, 2017
	Nov 1, 2013	Mar, 2018
	Nov 1, 2013	Feb, 2020
	Nov 1, 2013	Nov, 2019
	Nov 1, 2013	Jul, 2020
	Nov 1, 2013	Mar, 2021
	Jan 5, 2015	Mar, 2026
	Jan 5, 2015	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
Non lead PVC stabilizer	Mar 14, 2014	13 years from the date of first revenue received
Waste water treatment, plant industrial waste and toxic chemicals management	Mar 20, 2008	Apr, 2023
PVC resin	Aug 5, 2005	Jul, 2020

Project	Date Acquired	Expiry of Tax Incentives
Profile, pipe, fitting	Dec 26, 2002	Jan, 2017
	Dec 26, 2003	Feb, 2017
	Apr 23, 2004	Jan, 2018
	Dec 16, 2004	Mar, 2018
	Dec 16, 2004	Jan, 2018
	Oct 4, 2005	Oct, 2018
	Sep 18, 2006	Jul, 2019
	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, 2015	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

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) - Technology for super radiant coil	Nov 3, 2015	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	Dec 15, 2009	Feb, 2017
	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

Project	Date Acquired	Expiry of Tax Incentives
Pipe, fitting	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 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	May 31, 2013	May, 2021
	Aug 15, 2014	Aug, 2022
	Nov 7, 2014	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)	18 Aug, 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

○ SCG Packaging

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

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	Dec, 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

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
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	Aug 16, 2013	Oct, 2017
	Jun 23, 2015	Sep, 2018
	Jul 21, 2015	May, 2018
Corrugated container	Sep 27, 2013	Mar, 2017
Plastic inserted paper for industry	Nov 3, 2015	3 years from the date of first revenue received
Corrugated sheet	Jul 28, 2016	3 years from the date of first revenue received
	Jul 28, 2016	3 years from the date of first revenue received
Products from hygienic paper	Mar 15, 2017	Nov, 2019
	Dec 18, 2017	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 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
Corrugated container	Apr 12, 2017	Apr, 2020
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 8 years from the date of first revenue received

○ SCG Cement-Building Materials

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 percent 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	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
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 Apr 5, 2016	Sep, 2023 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	Nov 15, 2016 May 4, 2017	Feb, 2025 Oct, 2025
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

○ Corporate & Investment

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 540 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 SCG Cement-Building Materials, SCG Chemicals and SCG Packaging. And SCG Investment 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 5-14 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. The Company is in the preparation process of filing a civil lawsuit against all relevant persons for recourse.

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 SCG Chemicals 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	The Crown Property Bureau Group holds approximately 31.4% of shares while the remaining shares are held by other institutional and individual shareholders
Contacts	Corporate Headquarters Tel. 66-2586-3333, 66-2586-4444 Fax 66-2586-2974 e-mail: info@scg.com Corporate Secretary Office Tel. 66-2586-6098 Fax 66-2586-3007 e-mail: corporate@scg.com Investor Relations Department Tel. 66-2586-3309 Fax 66-2586-3307 e-mail: invest@scg.com Enterprise Brand Management Office Tel. 66-2586-3770 Fax 66-2586-2974 e-mail: ebmo@scg.com

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 5-14.

3. References

Registrars Thailand Securities Depository Company Limited

Address The Stock Exchange of Thailand Building
1st Floor, 93 Ratchadapisek Road, Dindaeng,
Bangkok 10400

Tel. 66-2009-9999

Fax 66-2009-9991

e-mail SETContactCenter@set.or.th

Website www.set.or.th/tsd

Auditors KPMG Phoomchai Audit Ltd.

Mr. Winid Silamongkol (Certificated Public Accountant

Registration No. 3378) or

Mr. Viroj Jindamaneepitak (Certificated Public Accountant

Registration No. 3565) or

Ms. Pornthip Rimdusit (Certificated Public Accountant

Registration No. 5565) or

Ms. Thanyalux Keadkeaw (Certificated Public Accountant

Registration No. 8179)

Address 1 Empire Tower 50th – 51st Floors,
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Tel. 66-2677-2000

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Legal Advisors SCG Legal Counsel Limited

Address 1 Siam Cement Road, Bangsue, Bangkok 10800

Tel. 66-2586-5777 or 66-2586-5888

Fax 66-2586-2976

Trustee of Debenture Holders	TMB Bank Public Company Limited (Only for debenture SCC184A, SCC180A, SCC184B and SCC194A)
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
Tel.	66-2626-7508
Fax	66-2657-3390
Website	www.cimbthai.com