

1. Business Policies and Operation

Overview of business and vision

Siam Cement Public Company Limited (or “SCG”) was established in 1913 by the great vision of King Rama VI to manufacture cement, key construction materials for country and has expanded since then to the businesses of construction material, ceramic, paper and chemicals.

In 2013, SCG has reorganized by combining three businesses, i.e., Cement, Building Materials, and Distribution into SCG Cement – Building Materials to streamline its business, promote innovative products and services that will effectively serve customers demand and support long-term sustainable business growth. Now, SCG conducted three main businesses which are SCG Cement- Building Materials, SCG Chemicals, and SCG Paper.

SCG has vision to be sustainable ASEAN market leader that promote that prosperity of ASEAN and the community SCG operate in, create value to customers, employees and all stakeholders under the global management practice, corporate governance, safety standard, and improve the quality of people's life through products and services from excellent operation, technology development, and innovation

To achieve the vision of sustainable ASEAN market leader in 2015, SCG has laid out two key strategies – expansion in ASEAN and High Value added products and services.

Organization chart of SCG



Please refer to page 4-14 for shareholding structure of direct and indirect ownership of company, associate, subsidiaries, and joint ventures.

Significant developments during 2011 – 2013 are as followed:

2013

- **SCG Cement – Building Materials** – the company has announced the Greenfield investment for 1.8 Mt/year cement plant in Myanmar which is expected to start up in 2nd quarter of 2016. In addition, SCG Building Materials, a subsidiary of SCG Cement – Building Materials, acquired 85% of Prime Group Joint Stock Company, a leading ceramic tile producer in Vietnam. Furthermore, Cementhai Ceramics Company Limited, a subsidiary of SCG Cement – Building Materials, has increased stake in sanitary ware of Siam Sanitary ware Company Limited and Siam Sanitary Fittings Company Limited from 35.7% and 44.8% to 71.4% and 90.6% respectively. Moreover, SCG Logistics Management Company Limited, subsidiary of SCG Cement – Building Materials, has signed 51:49 joint venture agreement with Nichirei Logistics (Japan) Company Limited to provide temperature-controlled logistics which is expected to be fully operational by 3rd quarter of 2014.
- **SCG Chemicals** – founded SCG Eco Polymer Company, a 87%:13% Joint Venture between SCG Chemicals and A.Schulman, Inc. to manufacture Rotational Molding Compound. In addition, SCG Chemicals acquired 100% shares of NSL Chemicals (Thailand) Pte Ltd. Singapore, a shareholder of Bangkok Synthetics – the producer of synthetic rubber. This deal resulted in the SCG Chemicals' share of Bangkok Synthetics increase from 26.01% to 48.84%
- **SCG Paper** – as a 86.3% stake shareholder of Thai Cane Paper Public company Limited (TCP), the company did the tender offering for all remaining shares to take TCP private. In addition, Thai Container Group (TCG), a 70:30 joint venture between SCG Paper and Rengo Company Limited (Japan), acquired 90% ordinary shares of PT Primacorr Mandiri, a manufacturer and distributor of corrugated container in Indonesia and 75% ordinary shares of Dynapacks Company Limited and Orient Container Company Limited, a manufacturer and distributor of corrugated container in Thailand. In addition, SCG Paper has signed a Memorandum of Understanding with Nippon Paper Industries Company Limited (NPI), which will inject equity for 30% stake in SCG Paper's Fibrous Chain to form a joint venture to enhance the competitiveness.

2012

- **SCG Cement – Building Materials** – SCG Cement, a subsidiary of SCG Cement – Building Materials, acquired 100% of the ordinary shares of SCG Concrete Indonesia Group, the construction materials

business in Indonesia, and also acquired the net assets of ready-mixed business in Thailand. As a result of shareholders' restructuring in Mariwasa-Siam Ceramics, Inc. (MSC), the manufacture and distribution of ceramic tiles in the Philippines, the Group's ownerships (direct and indirect) increasing from 46% to 83%. SCG Distribution, a subsidiary of SCG Cement – Building Materials, invested in a 31.25% stake in Siam Global House Public Company Limited which is the retail trade business of building material products operated in a warehouse store.

- **SCG Chemicals** – acquired 45.02% additional interest in Thai Plastic and Chemicals Public Company Limited (TPC) and Nawa Plastic Industries Co., Ltd., a subsidiary of TPC, acquired a 20.40% and 22.67% stake in Binh Minh Plastics Joint Stock Company and Tien Phong Joint Stock Company, respectively. Both are major PVC pipe manufacturers in Vietnam. On the other side, SCG Chemicals sold 25% stake in Long Son Petrochemicals Co., Ltd. To QPI Vietnam.
- **SCG Paper** - Thai Container Group (TCG), a subsidiary (70:30 joint venture between SCG Paper and Rengo Company Limited), acquired 72% of the ordinary shares of Tawana Container Co., Ltd. which is a producer and distributor of corrugated containers in Thailand.

2011

- **SCG Cement – Building Materials** – SCG Cement, a subsidiary of SCG Cement – Building Materials, acquired 99.20% of the ordinary shares of Buu Long Industry & Investment Joint Stock Company (Buu Long), a manufacturer and distributor of white cement in Vietnam. In addition, SCG Building Materials, subsidiary of SCG Cement – Building Materials, acquired 93.47% of the ordinary shares of PT Keramika Indonesia Assosiasi Tbk (KIA), a manufacturer and distributor of ceramic tiles in Indonesia. Moreover, SCG Distribution, a subsidiary of SCG Cement – Building Materials, acquired 99.09% of the ordinary shares of PT Kokoh Inti Arebama Tbk (KOKOH), a distributor specializes in building materials in Indonesia.
- **SCG Chemicals** – acquired a 30% stake in PT Chandra Asri Petrochemical Tbk, Indonesia's leading petrochemical company.
- **SCG Paper** – Thai Container Group (TCG), a 70:30 joint venture between SCG Paper and Rengo Company Limited, acquired 100% of the ordinary shares of Alcamax Packaging (Vietnam) Co., Ltd. (Alcamax) is a manufacturer and distributor of corrugated containers in Vietnam.

Furthermore, SCG has sold its entire 5% of Siam United Steel (1995) Co., Ltd. to Nippon Steel Corporation.

Supplementary Information

Investment in subsidiaries, associates, jointly-controlled entity and other companies of which their operations are significant.

			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)
Name	Principal Business / Products									
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 and ready-mixed concrete	Bangkok	66-2555-5000	66-2555-5003	Ordinary shares	91	9,140	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 Thamaraj	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	Siam Mortar Co., Ltd.	Dry mortar	Saraburi	66-3624-0000-98	66-3624-0083	Ordinary shares	4	443	100	100
8	The Siam White Cement Co., Ltd.	White cement	Saraburi	66-3621-8400	66-3635-1219	Ordinary shares	2	200	100	100
9	The Siam Refractory Industry Co., Ltd.	Refractory	Bangkok	66-2586-3230	66-2586-2982	Ordinary shares	3	300	100	100
10	Cementhai Energy Conservation Co., Ltd.	Energy service	Bangkok	66-2586-2410	66-2586-3098	Ordinary shares	13	1,310	100	100
11	Eco Plant Services Co., Ltd.	Technical services and plant installation	Saraburi	66-3628-9103	66-3628-1212	Ordinary shares	1	50	100	100
12	Siam Research and Innovation Co., Ltd.	Research and development	Saraburi	66-3627-3152-63	66-3627-3151	Ordinary shares	1	100	100	100
13	SCI Eco Services Co., Ltd.	Industrial waste disposal	Nonthaburi	66-2962-7295-7	66-2962-7298	Ordinary shares	1	50	100	100
14	PT Pion Quarry Nusantara	Quarry	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.001	16	100	100
15	PT SCG Pipe and Precast Indonesia	Concrete products	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.3	287	100	100
16	PT Semen Lebak	Cement	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.03	1,012	100	100
17	PT SCG Readymix Indonesia	Ready-mixed concrete	Indonesia	(6221) 797-1190	(6221) 797-1090	Ordinary shares	0.002	4	100	100
18	PT CPAC Surabaya	Ready-mixed concrete	Indonesia	(6231) 732-1512	(6231) 732-1512	Ordinary shares	1	43	100	100
19	Q Mix Supply Co., Ltd.	Ready-mixed concrete	Bangkok	66-2728-8800	66-2728-8801	Ordinary shares	8	800	100	100
20	CPAC Lao Co., Ltd.	Ready-mixed concrete	Laos	(85621) 720-385	(85621) 720-224	Ordinary shares	0.05	31	100	100
21	CPAC Concrete Products (Cambodia) Co., Ltd.	Precasted slab	Cambodia	(88523) 990-406	-	Ordinary shares	0.001	17	100	100
22	Cementhai Building Materials (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6534-9661	(65) 6534-9662	Ordinary shares	0.6	14	100	100
23	SCG Building Materials Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	190	19,009	100	100

* Directly and indirectly holding through the Company, subsidiaries, associates, jointly-controlled entity and other companies.



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24 The Siam Fibre-Cement Co., Ltd.	Fiber cement roof	Saraburi	66-2586-3333	66-2586-2761	Ordinary shares	110	11,000	100	100
25 The Fibre-Cement Products (Lampang) Co., Ltd.	Fiber cement roof	Lampang	66-5433-7301-5	66-5433-7300	Ordinary shares	5	530	100	100
26 Tip Fibre-Cement Co., Ltd.	Fiber cement roof	Bangkok	66-2286-7888	66-2286-8951-2	Ordinary shares	0.3	25	100	100
27 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
28 Siam Fiberglass Co., Ltd.	Insulation and glass wools	Saraburi	66-3637-3441-4	66-3637-3445-6	Ordinary shares	13	422	100	100
29 Cemen Thai Gypsum Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	7	242	100	100
30 Cemen Thai Ceramics Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	60	6,037	100	100
31 Thai Ceramic Co., Ltd.	Floor and wall ceramic tiles	Bangkok	66-2586-4094-8	66-2587-8800	Ordinary shares	27	2,650	100	100
32 The Siam Ceramic Group Industries Co., Ltd.	Floor and wall ceramic tiles	Saraburi	66-3637-6400	66-3637-6422	Ordinary shares	96	960	100	100
33 Cemen Thai Home Services Co., Ltd.	Home related services	Bangkok	66-2586-4111	66-2586-4017	Ordinary shares	5	115	100	100
34 Gemago Co., Ltd.	Electricity plant	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	0.5	45	100	100
35 Cemen Thai Gypsum (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	(65) 6297-9662	Ordinary shares	21	411	100	100
36 Cemen Thai Roof Holdings Philippines, Inc.	Holding company	Philippines	(632) 813-1666	(632) 813-1704	Ordinary shares	14	136	100	100
37 Cemen Thai Ceramic (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	(65) 6297-9662	Ordinary shares	39	1,342	100	100
38 Cemen Thai Ceramics Philippines Holdings, Inc.	Holding company	Philippines	(632) 813-1666	(632) 813-1704	Ordinary shares	174	192	100	100
39 PT SCG Lightweight Concrete Indonesia	Light-weight concrete	Indonesia	(6226) 7861-0360	(6226) 7861-0361	Ordinary shares	4	1,253	100	100
40 SCG Distribution Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-5454	Ordinary shares	220	12,150	100	100
41 SCG Trading Co., Ltd.	International trading	Bangkok	66-2586-3333	66-2586-2251	Ordinary shares	4	400	100	100
42 SCG Cement-Building Materials Company Limited (Formerly : SCG Network Management Co., Ltd.)	Domestic distribution	Bangkok	66-2586-3333	66-2586-2961	Ordinary shares	21	524	100	100
43 SCG Logistics Management Co., Ltd.	Logistics service	Bangkok	66-2586-3333	66-2586-2158	Ordinary shares	3	300	100	100
44 SCG Trading Services Co., Ltd.	Business services	Bangkok	66-2586-3333	66-2586-4445	Ordinary shares	0.1	10	100	100
45 SCG Sourcing Co., Ltd.	Retail	Bangkok	66-2586-3333	66-2586-5625	Ordinary shares	1	100	100	100
46 SCG Experience Co., Ltd.	Exhibition center services and consultation	Bangkok	66-2101-9922	66-2101-9920	Ordinary shares	5	500	100	100
47 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
48 Keating Capital Partners Pte. Ltd.	Holding company	Singapore	(65) 6338 1888	(65) 6337 5100	Ordinary shares	14	400	100	100
49 Kitchener Limited	Holding company	Hong Kong	(852) 2846 1888	(852) 2845 0476	Ordinary shares	16	452	100	100
50 SCG Trading Australia Pty. Ltd.	International trading	Australia	(612) 9438-1225	(612) 9436-0195	Ordinary shares	0.2	5	100	100

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51 SCG Trading Guangzhou Co., Ltd.	International trading	China	(86) 208-365-2559	(86) 208-365-2595	Ordinary shares	0.03	24	100	100
52 SCG Trading Hong Kong Limited	International trading	Hong Kong	(852) 2838-6456	(852) 3009-8360	Ordinary shares	45	220	100	100
53 SCG Trading Philippines Inc.	International trading	Philippines	(632) 501-8634 (632) 501-8630	(632) 501-8635	Ordinary shares	0.1	8	100	100
54 SCG Singapore Trading Pte. Ltd.	International trading	Singapore	(65) 6295-3455	(65) 6292-5241	Ordinary shares	1	23	100	100
55 SCG Trading USA Inc.	International trading	USA	(1310) 323-2194 (1310) 323-2438 (1310) 323-2528	(1310) 324-9528	Ordinary shares	0.02	36	100	100
56 PT SCG Trading Indonesia	International trading	Indonesia	(6221) 351-8890	(6221) 352-0718	Ordinary shares	0.002	5	100	100
57 SCG Trading Vietnam Co., Ltd.	Logistics service, international trading and local distribution	Vietnam	(848) 352-69001-08 (84) 903-449-633	(848) 352-69009-10	**	-	64	100	100
58 SCG Trading Lao Co., Ltd.	International trading	Laos	(85621) 243-435-6	(85621) 243-437	Ordinary shares	0.01	7	100	100
59 SCG Marketing Philippines Inc.	International trading	Philippines	(632) 912-3454	(632) 621-3060	Ordinary shares	0.1	23	100	100
60 The CPAC Roof Tile Co., Ltd.	Concrete roof tiles	Nakorn Prathom/ Saraburi / Lamphun / Nakorn Sri Thamaraj / Chonburi / Khonkaen / Nakorn rajchasrma	66-2586-4032-4 66-2586-4037-9	66-2586-4308	Ordinary shares	2	211	100	100
61 Thai Ceramic Roof Tile Co., Ltd.	Ceramic roof tiles	Saraburi	66-2586-5999	66-2586-5017	Ordinary shares	2	200	100	100
62 Thai Ceramic Holding Co., Ltd.	Holding company	Bangkok	66-2586-3333	66-2586-2761	Ordinary shares	2	200	100	100
63 SCG Concrete Roof (Vietnam) Co., Ltd. (Formerly : CPAC Monier Vietnam Co., Ltd.)	Concrete roof tiles	Vietnam	(84650) 767-581-4	(84650) 767-580	**	-	235	100	100
64 SCGT Malaysia Sdn. Bhd.	International trading	Malaysia	(603) 5632-0168	(603) 5632-0158	Ordinary shares	0.4	4	100	100
65 CPAC Monier Philippines, Inc.	Concrete roof tiles	Philippines	(632) 717-6924	(632) 836-2254	Ordinary shares	206	205	100	100
66 Monier Roofing Co., Ltd.	Clay roof tiles	Rayong	66-2555-0055	66-2555-0001	Ordinary shares	9	950	100	100
67 Buu Long Industry & Investment Joint Stock Company	White cement	Vietnam	(8461) 396-5475	(8461) 396-5478	Ordinary shares	4	56	99	99
68 PT KIA Serpih Mas	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	3,143	1,528	97	97
69 PT KIA Keramik Mas	Ceramic roof tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	2,926	2,162	96	96
70 PT Keramik Indonesia Assosiasi, Tbk.	Floor and wall ceramic tiles	Indonesia	(6221) 386-2322	(6221) 386-2253	Ordinary shares	14,929	5,603	96	96
71 PT Semen Jawa	Cement	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	0.09	301	95	95
72 Kampot Cement Co., Ltd.	Cement	Cambodia	(85523) 996-839	(85523) 996-849	Ordinary shares	4	1,551	94	94

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

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73 PT Kokoh Inti Arebama Tbk.	Building materials distribution	Indonesia	(6221) 350-6227	(6221) 350-1767	Ordinary shares	981	350	91	91
74 The Siam Sanitary Fittings Co., Ltd.	Faucets and fittings	Bangkok	66-2973-5101-7	66-2973-5108-9	Ordinary shares	2	200	91	91
75 PT Tambang Semen Sukabumi	Limestone Quarry	Indonesia	(6221) 350-9491	(6221) 350-9704	Ordinary shares	3	8	90	90
76 Sosuco and Group (2008) Co., Ltd.	Marketing and sales of floor and wall ceramic tiles	Bangkok	66-2938-9833	66-2938-9839	Ordinary shares	1	50	90	90
77 The Concrete Products and Aggregate (Vietnam) Co.,	Ready-mixed concrete	Vietnam	(8483) 602-7111	(8483) 713-3707	**	-	112	88	88
78 Prime Group Joint Stock Company	Holding company	Vietnam	(84) 211-3888-987	(84) 211-3888-986	Ordinary shares	101	1,413	85	85
79 Prime Trading, Import and Export One Member Limited Liability Company	Marketing and sales of floor and wall ceramic tiles	Vietnam	(84) 211-3888-987	(84) 211-3898-276	**	-	420	85	85
80 Prime Materials Company Limited	Exploration and processing material	Vietnam	(84) 211-3888-987	(84) 211-3898-276	**	-	0.02	85	85
81 Ceramic Research Institution	Research and development new technology, materials and products	Vietnam	(84) 211-3582-345	(84) 211-3898-275	**	-	7	85	85
82 Prime International Im-Ex & Servicing Trading Co.,Ltd.	Marketing and sales of machine and sparepart	Vietnam	(84) 43-7877 -139	(84) 43-7877-138	**	-	6	85	85
83 Prime Ngoi Viet Joint Stock Company	Clay roof tiles	Vietnam	(84) 211-3597-696	(84) 211-3597-702	Ordinary shares	25	350	85	85
84 Prime Pho Yen Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 280-3866-632	(84) 280-3866-474	Ordinary shares	15	210	85	85
85 Prime Yen Binh Joint Stock Company	Wall ceramic tiles	Vietnam	(84) 211-3866-152	(84) 211-3866-154	Ordinary shares	13	182	85	85
86 Prime Truong Xuan Joint Stock Company	Water heater; mechanical	Vietnam	(84) 211-3726-552	(84) 211-3721-786	Ordinary shares	6	84	85	85
87 Prime Mineral Joint Stock Company	Exploration and processing material	Vietnam	(84) 211-3888-987	(84) 211-3726-547	Ordinary shares	0.4	6	85	85
88 Saraburirat Co., Ltd.	Concrete floor and wall tiles	Saraburi	66-2586-3333	66-2586-6800	Ordinary shares	1	96	83	83
89 Mariwasa-Siam Ceramics, Inc.	Floor and wall ceramic tiles	Philippines	(632) 717-6901	(6343) 778-2934	Ordinary shares	600	430	80	83
90 PT Surya Siam Keramik	Ceramic floor tiles	Indonesia	(6221) 5696-2458	(6221) 5696-1635	Ordinary shares	0.01	87	80	80
91 Myanmar CPAC Service Co., Ltd.	Ready-mixed concrete	Myanmar	(951) 681-351	(951) 681-351	Ordinary shares	4	153	80	80
92 Prime Dai Viet Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3845-238	(84) 211-3844-464	Ordinary shares	13	182	77	77
93 Prime Thein Phuc Joint Stock Company	Exploration and processing material	Vietnam	(84) 54-3626-282	(84) 54-3752-292	Ordinary shares	5	70	77	77
94 Prime Phong Dien Joint Stock Company	Real Estate Business	Vietnam	(84) 211-3888-987	(84) 211-3888-986	Ordinary shares	3	35	77	77
95 Prime Dai Thinh Joint Stock Company	Processing material	Vietnam	(84) 54-3751-222	(84) 54-3751-222	Ordinary shares	0.01	0.2	77	77
96 Prime Dai Loc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 510-3761-762	(84) 510-3761-763	Ordinary shares	30	414	76	76

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97 CPAC Monier (Cambodia) Co., Ltd.	Concrete roof tiles	Cambodia	(85523) 990-407	(85523) 990-408	Ordinary shares	0.1	43	75	75
98 SCG Trading (Cambodia) Co., Ltd.	International trading	Cambodia	(85523) 990-401-5	(85523) 990-400	Ordinary shares	0.0001	1	75	75
99 Thai-German Ceramic Industry Public Company Lim	Floor and wall ceramic tiles	Saraburi	66-2790-9800	66-2790-9890	Ordinary shares	1,698	1,698	75	75
100 Prime Dai An Joint Stock Company	Exploration and processing material	Vietnam	(84) 211-3728-770	(84) 211-3726-547	Ordinary shares	3	35	75	75
101 Prime Hop Thinh Joint Stock Company	Industrial Park Development	Vietnam	(84) 211-3888-987	(84) 211-3888-986	Ordinary shares	0.001	0.01	72	72
102 Siam Sanitary Ware Co., Ltd.	Sanitary ware	Bangkok	66-2973-5040-54	66-2973-3470	Ordinary shares	1	60	71	71
103 Siam Sanitary Ware Industry Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-2973-3470	Ordinary shares	2	200	71	71
104 Siam Sanitary Ware Industry (Nongkhai) Co., Ltd.	Sanitary ware	Saraburi	66-2973-5040-54	66-2973-3470	Ordinary shares	2	160	71	71
105 Prime Tien Phong Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3888-174	(84) 211-3887-747	Ordinary shares	12	168	71	71
106 Mawlamyine Cement Limited	Cement	Myanmar	(951) 225-812	(951) 222-132	Ordinary shares	0.2	5	70	70
107 CPAC Cambodia Co., Ltd.	Ready-mixed concrete	Cambodia	(85523) 990-406	-	Ordinary shares	0.2	5	69	69
108 Quality Construction Products Public Company Limit	Light-weight concrete	Phra Nakhon Si Ayutthaya	66-3522-1271	66-3522-1270	Ordinary shares	400	400	68	68
109 Q-Con Eastern Co., Ltd.	Light-weight concrete	Rayong	66-3865-0515	66-3895-6468	Ordinary shares	59	590	68	68
110 Prime Hoa Cuong Joint Stock Company	Engineered Steel Buildings	Vietnam	(84) 211-3888-987	(84) 211-3898-275	Ordinary shares	12	168	65	65
111 Prime Industrial Joint Stock Company	Industrial Park Development	Vietnam	(84) 211-3888-987	(84) 211-3888-986	Ordinary shares	0.1	1	65	65
112 Prime Vinh Phuc Joint Stock Company	Floor and wall ceramic tiles	Vietnam	(84) 211-3866-637	(84) 211-3887-347	Ordinary shares	25	350	65	65
113 Siam Cement Myanmar Trading Ltd.	International trading	Myanmar	(959) 873-0462	(951) 548-058	Ordinary shares	0.0002	3	60	60
114 Guangxi SCG Logistics Co., Ltd.	Logistics service	China	66-2586-1590	-	Ordinary shares	-	34	55	55
115 Sosooco Ceramic Co., Ltd.	Floor and wall ceramic tiles	Saraburi	66-3637-6300	66-3637-6309	Ordinary shares	0.008	800	54	54
116 SCG-Sekisui Sales Co., Ltd.	Construction & Sales of modular houses manufactured	Bangkok	66-2586-1323	66-2586-1481	Ordinary shares	8	825	51	51
117 PT Siam-Indo Gypsum Industry	Gypsum boards	Indonesia	(6221) 8832-0028	(6221) 8832-0036	Ordinary shares	0.03	306	50	50
118 PT Siam-Indo Concrete Products	Natural-fibre roofing sheets	Indonesia	(6226) 743-2140	(6225) 743-2149	Ordinary shares	0.03	446	50	50
119 SCG Trading Emirates L.L.C.	International trading	United Arab	(9714) 321-7663	(9714) 321-7669	Ordinary shares	0.0003	3	49	49
120 Kampot Land Co., Ltd.	Land investment	Cambodia	(85523) 996-839	(85523) 996-849	Ordinary shares	0.001	0.2	48	48
121 Prime Dai Quang Joint Stock Company	Packaging	Vietnam	(84) 510-2471-993	(84) 510-3761-444	Ordinary shares	2	28	48	48
122 Prime Hao Phu Joint Stock Company	Exploration and processing material	Vietnam	(84) 27-3821-118	(84) 27-3821-118	Ordinary shares	3	35	43	43

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Associates, Jointly-controlled entity and Other Companies									
123	CMPI Land, Inc.	Land rental	Philippines	(632) 908-3720	(632) 750 6650	Ordinary shares	100	97	64
						Preferred shares	100		64
124	SCG Nichirei Logistics Co., Ltd.	Cold Chain	Bangkok	66-2586-6610	66-2586-3136	Ordinary shares	6	342	51
125	Thai Prosperity Terminal Co., Ltd.	Shipping port	Samut Prakarn	66-2754-4501-9	66-2754-4513	Ordinary shares	1	63	50
126	CPAC Monier (Laos) Co., Ltd.	Concrete roof tiles	Laos	(85621) 243-440	(85621) 242-179	Ordinary shares	0.2	21	50
127	Sekisui-SCG Industry Co., Ltd.	Manufacture and distribute of home components	Saraburi	66-3637-3478	66-3637-3480	Ordinary shares	23	2,325	49
128	Survey Marine Services Co., Ltd.	Land rental	Bangkok	66-2296-1490-2	66-2296-1494	Ordinary shares	0.4	37	48
129	Jumbo Barges and Tugs Co., Ltd.	Transportation by lighter	Bangkok	66-2872-3014-5	66-2872-3016	Ordinary shares	4	399	45
130	Noritake SCG Plaster Co., Ltd.	Manufacture and distribute plaster	Saraburi	66-3637-3578-82	66-3637-3577	Ordinary shares	4	405	40
131	Mariwasa Holdings, Inc.	Holding company	Philippines	(6343) 778-2935-36	(6343) 778-2934	Ordinary shares	248	267	40
132	Green Siam Resources Corporation	Bailing business	Philippines	(632) 501-8631	(632) 501-8631	Ordinary shares	13	95	40
133	CMPI Holdings, Inc.	Holding company	Philippines	(632) 813-1666	(632) 813-1704	Ordinary shares	48	55	40
134	Siam Global House Public Company Limited	Building materials and home improvement products distribution	Roi Et	66-4351-9597	66-4351-1492	Ordinary shares	2,613	2,613	30
135	Anhui Conch-SCG Refractory Co., Ltd.	Refractory	China	(86) 553-839-9857	(86) 553-839-9877	**	-	497	30
136	The Siam Gypsum Industry Co., Ltd.	Gypsum boards	Bangkok	66-2555-0055	66-2555-0001	Ordinary shares	2	150	29
137	The Siam Gypsum Industry (Saraburi) Co., Ltd.	Gypsum boards	Saraburi	66-3637-3500-9	66-3637-3510	Ordinary shares	5	470	-
138	The Siam Gypsum Industry (Songkhla) Co., Ltd.	Gypsum boards	Songkhla	66-7420-6000-5	66-7420-6006	Ordinary shares	1	120	-
139	PT M Class Industry	Clay roof tiles	Indonesia	(6202) 6743-6888	(6221) 539-7094	Ordinary shares	34	222	28
140	Pacific Asian Logistic Joint Stock Company	Logistic	Vietnam	(84) 43-7738-420	(84) 43-7738-421	Ordinary shares	2	28	21
141	Asia Cement Public Company Limited	Cement	Bangkok	66-2641-5600	-	Ordinary shares	778	4,671	10
142	Holcim Cement (Bangladesh) Limited	Cement	Bangladesh	(8802) 988-1002-3	-	Ordinary shares	0.1	123	10
SCG Chemicals									
Subsidiaries									
143	SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-4762	66-2586-5561	Ordinary shares	344	32,277	100
144	Thai Polyethylene Co., Ltd.	Polyethylene	Rayong	66-3868-3393-7	66-3868-3398	Ordinary shares	52	5,190	100
145	SCG Plastics Co., Ltd.	Trading	Bangkok	66-2586-6161	66-2910-4022	Ordinary shares	0.1	5	100

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146 SCG Performance Chemicals Co., Ltd.	Trading	Bangkok	66-2586-4115	66-2586-3676	Ordinary shares	0.05	3	100	100
147 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
148 Protech Outsourcing Co., Ltd.	Engineering and plant service	Rayong	66-3868-2632-3	66-3868-2633	Ordinary shares	0.01	1	100	100
149 RIL 1996 Co., Ltd.	Industrial estate	Rayong	66-3868-9471-2	66-3891-1955	Ordinary shares	11	1,100	100	100
150 Texplore Co., Ltd.	Chemical technology licensing	Rayong	66-2586-6353	66-2586-2086	Ordinary shares	0.01	1	100	100
151 Vina SCG Chemicals Co., Ltd.	Holding company	Bangkok	66-2586-5435	-	Ordinary shares	3	883	100	100
152 SCG Chemicals (Singapore) Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	38	804	100	100
153 Tuban Petrochemicals Pte. Ltd.	Holding company	Singapore	(65) 6297-9661	-	Ordinary shares	112	2,349	100	100
154 Hexagon International, Inc.	Holding company	USA	66-2586-4444	-	Ordinary shares	2	67	100	100
155 C4 Holding Pte. Ltd.	Raw materials for synthetic rubber	Singapore	66-2586-1972	-	Ordinary shares	7	185	100	100
156 PT TPC Indo Plastic & Chemicals	PVC	Indonesia	(6231) 395-2945	(6231) 395-2944	Ordinary shares	0.03	1,020	96	96
157 Rayong Pipeline Co., Ltd.	Rights of way, and use	Rayong	66-3893-7065	66-3803-5381	Ordinary shares	4	200	92	92
158 Thai Plastic and Chemicals Public Company Limited	PVC	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	875	875	91	91
159 TPC Paste Resin Co., Ltd.	PVC paste resins	Bangkok	66-2827-7272	66-2827-7273	Ordinary shares	3	333	91	91
160 The Nawaplastic Industries (Saraburi) Co., Ltd.	PVC pipe and fittings	Bangkok	66-2586-3930-5	66-2586-4305	Ordinary shares	4	400	91	91
161 Nawa Plastic Industries Co., Ltd.	PVC pipe and PVC products	Bangkok	66-2586-3930-5	66-2586-2444	Ordinary shares	4	426	91	91
162 Nawa Intertech Co., Ltd.	Molding products	Rayong	66-3889-2190	66-3889-2244	Ordinary shares	0.4	40	91	91
163 Chemtech Co., Ltd.	Plastic compound	Vietnam	(84650) 3784-992	(84650) 3784-993	**	-	103	91	91
164 Total Plant Service Co., Ltd.	Holding company	Rayong	66-3868-7320-3	66-3892-5299	Ordinary shares	12	1,180	91	91
165 SCG ICO POLYMERS COMPANY LIMITED	Plastic resins	Bangkok	66-2586-2006	-	Ordinary shares	1	26	87	87
166 Map Ta Phut Tank Terminal Co., Ltd.	Warehouse and transportation service	Rayong	66-3868-9471-2	66-3891-1955	Ordinary shares	7	700	82	82
167 Minh Thai House Component Co., Ltd.	PVC doors and windows	Vietnam	(848) 3754-2989	(848) 3844-6073	**	-	36	73	73
168 Map Ta Phut Olefins Co., Ltd.	Raw materials for plastic resins	Rayong	66-3893-7000	66-3891-5310	Ordinary shares	395	39,520	55	67
169 Rayong Olefins Co., Ltd.	Raw materials for plastic resins	Rayong	66-3868-5040-8	66-3868-5036	Ordinary shares	153	15,320	50	67
170 Rayong Olefins (Singapore) Pte. Ltd.	Raw materials procurement	Singapore	(65) 6297-9661	-	Ordinary shares	0.02	0.5	67	67
171 Viet-Thai Plastchem Co., Ltd.	PVC compound	Vietnam	(84650) 3710-993	(84650) 3740-065	**	-	75	66	66
172 Alliance Petrochemical Investment (Singapore) Pte.	Holding company	Singapore	(65) 6221-5318	-	Ordinary shares	46	1,881	65	65
173 TPC Vina Plastic and Chemicals Corporation Ltd.	PVC	Vietnam	(848) 3823-4730	(848) 3823-4725	**	-	1,013	63	63
174 Siam Stabilizers and Chemicals Co., Ltd.	Stabizer	Rayong	66-3868-3451-3	66-3868-3449	Ordinary shares	190	190	54	54

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175 Flowlab & Service Co., Ltd.	Calibration service	Rayong	66-3891-1321-2	66-3891-1381	Ordinary shares	0.02	4	51	51
Associates, Jointly-controlled entity and Other Companies									
176 SCG Plastics (China) Co., Limited	Trading	Hong Kong	(852) 2544-9991	(852) 2544-9992	Ordinary shares	0.1	4	58	58
177 Siam Mitsui PTA Co., Ltd.	Raw materials for polyester and PET	Rayong	66-3868-5100	66-3868-7333	Ordinary shares	48	4,800	49	50
178 SMH Co., Ltd.	Holding company	Rayong	66-3868-5100	-	Ordinary shares	1	60	50	50
179 Siam Styrene Monomer Co., Ltd.	Raw materials for polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	48	4,755	50	50
180 Siam Synthetic Latex Co., Ltd.	Synthetic latex	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	59	5,789	50	50
181 Siam Polyethylene Co., Ltd.	Polyethylene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	45	4,455	49	50
182 Siam Polystyrene Co., Ltd.	Polystyrene	Rayong	66-3868-3215-6	66-3868-3991	Ordinary shares	10	995	50	50
183 Rayong Terminal Co., Ltd.	Tank and terminal service	Rayong	66-3868-9471-2	66-2586-6220	Ordinary shares	14	1,325	-	50
184 PT Siam Maspion Terminal	Terminal service	Indonesia	(6231) 395-2945-8	-	Ordinary shares	0.01	327	50	50
185 SD Group Service Co., Ltd.	Holding company	Bangkok	66-2365-7000	66-3868-3991	Ordinary shares	0.8	78	50	50
186 Bangkok Synthetics Co., Ltd.	Raw materials for synthetic rubber	Bangkok	66-2679-5120	66-2679-5119	Ordinary shares	12	1,173	49	49
187 Thai MMA Co., Ltd.	Raw materials for acrylic	Rayong	66-3868-5040-8	66-2586-5393	Ordinary shares	56	5,590	46	47
188 Grand Siam Composites Co., Ltd.	Polypropylene compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	0.6	64	46	46
189 Thai MFC Co., Ltd.	Melamine compound	Rayong	66-3868-4241	66-3868-4255	Ordinary shares	2	200	45	45
190 Siam Tohcello Co., Ltd.	Raw materials for packaging film	Rayong	66-3801-0500	66-3801-0506	Ordinary shares	0.6	592	45	45
191 Long Son Petrochemicals Co., Ltd.	Raw materials for plastic resins Polyethylene and polypropylene	Vietnam	(848) 3825-7226	(848) 3825-7268	**	-	1,646	44	44
192 Mehr Petrochemical Company (P.J.S.C.)	Polyethylene (HDPE)	Iran	(9821) 8850-0641	(9821) 8805-0642	Ordinary shares	0.03	1,335	39	39
193 PT Trans-Pacific Polyethylene Indonesia	Polyethylene (LDPE)	Indonesia	(6221) 574-5880	-	Ordinary shares	0.2	472	39	39
194 PT Trans-Pacific Polyethylindo	Polyethylene (HDPE)	Indonesia	(6221) 574-5880	-	Ordinary shares	0.07	337	39	39
195 Nawacam Co., Ltd.	PVC pipe and fittings	Cambodia	(85523) 882-072	(85523) 885-172	Ordinary shares	0.02	7	36	36
196 Riken (Thailand) Co., Ltd.	PVC compound	Bangkok	66-2501-1054	66-2501-1198	Ordinary shares	1	120	32	32
197 PT Chandra Asri Petrochemical Tbk.	Raw materials for plastic resins Polyethylene and polypropylene	Indonesia	(6221) 530-7950	(6221) 530-8930	Ordinary shares	3,066	14,690	30	30
198 GTC Technology US, LLC	Chemical technology licensing	USA	66-2586-4444	-	Ordinary shares	0.2	102	25	25
199 GTC Technology International, LP	Chemical technology licensing	USA	66-2586-4444	-	Ordinary shares	13	191	25	25

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200 Tien Phong Plastics Joint Stock Company	PVC pipe	Vietnam	(843) 1385-2073	(843) 1364-0133	Ordinary shares	43	652	22	22
201 PT Trans-Pacific Petrochemical Indotama	Raw materials for aromatics	Indonesia	(6221) 574-5880	-	Ordinary shares	4	9,815	20	20
202 Thai PET Resin Co., Ltd.	PET resins	Rayong	66-3868-5900	66-3868-5999-609	Ordinary shares	9	900	20	20
203 Mitsui Advanced Composites (Zhongshan) Co., Ltd.	Polypropylene compound	China	(86) 760-533-2138	(86) 760-389-8880	Ordinary shares	15	596	20	20
204 Binh Minh Plastics Joint Stock Company	PVC pipe	Vietnam	(848) 3969-0973	(848) 3960-6814	Ordinary shares	45	682	19	19
205 PT Srithai Maspion Indonesia	Melamine compound	Indonesia	(6231) 891-3630	-	Ordinary shares	0.01	118	10	10
206 PT Trans-Pacific Polypropylene Indonesia	Polypropylene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.07	220	10	10
207 PT Trans-Pacific Styrene Indonesia	Raw materials for polystyrene	Indonesia	(6221) 574-5880	-	Ordinary shares	0.1	314	10	10
SCG Paper Subsidiaries									
208 SCG Paper Public Company Limited	Holding company and bleached pulp	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	156	1,563	98	98
209 Thai Paper Co., Ltd.	Printing and writing paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	17	1,700	98	98
210 Thai Union Paper Public Company Limited	Printing and writing paper	Samut Prakarn	66-2754-2100-10	66-2754-2118	Ordinary shares	43	430	98	98
211 Siam Kraft Industry Co., Ltd.	Kraft paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	35	3,450	98	98
212 United Pulp & Paper Co., Inc.	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Preferred shares	840	4,328	98	98
					Ordinary shares	141			
213 Paperlink Inter-Trade Corporation	Kraft paper	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	0.1	1	98	98
214 Siam Cellulose Co., Ltd.	Bleached pulp	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	3	300	98	98
215 InfoZafe Co., Ltd.	Shredding business	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	1	70	98	98
216 The Siam Forestry Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	1	147	98	98
217 Panas Nimit Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	98	98
218 Thai Panason Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	98	98
219 Thai Panadorn Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	98	98
220 Thai Panaram Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	98	98
221 Suanpa Rungsaris Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.02	2	98	98
222 Siam Panawes Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	98	98
223 Thai Panaboon Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	98	98
224 Thai Wanabhum Co., Ltd.	Forestry	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.03	3	98	98
225 Phoenix Pulp & Paper Public Company Limited	Bleached pulp	Khonkaen	66-2586-3333	66-2586-2164	Ordinary shares	110	1,200	98	98
	Printing and writing paper				Preferred shares	10			

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226 Phoenix Utilities Co., Ltd.	Utilities	Khonkaen	66-2586-3333	66-2586-2164	Ordinary shares	15	1,500	98	98
227 SCGP Excellence Training Center Co., Ltd.	Training and Seminar	Bangkok	66-2586-3876	66-2586-4507	Ordinary shares	0.05	5	98	98
228 SCG Paper Energy Co., Ltd.	Energy	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	0.01	1	98	98
229 Thai Cane Paper Public Company Limited	Kraft paper	Bangkok	66-2440-0707	66-2440-0717	Ordinary shares	358	3,583	85	85
230 Thai Containers Group Co., Ltd.	Corrugated boxes	Bangkok / Pathumthani / Samut Prakarn / Ratchaburi	66-2586-5991	66-2586-4723	Ordinary shares	14	1,384	69	69
231 Thai Containers Khonkaen Co., Ltd.	Corrugated boxes	Khonkaen	66-2586-3333	66-2586-2164	Ordinary shares	0.2	150	69	69
232 Thai Containers Rayong Co., Ltd.	Corrugated boxes	Rayong	66-2586-3333	66-2586-2164	Ordinary shares	1	650	69	69
233 Vina Kraft Paper Co., Ltd.	Kraft paper	Vietnam	(848) 268-0240-2	(848) 268-0239	**	-	6,069	69	69
234 TCG Rengo (S) Limited	Corrugated boxes	Singapore	(65) 6661-7325	(65) 6265-3144	Ordinary shares	2	56	69	69
235 New Asia Industries Co., Ltd.	Corrugated boxes	Vietnam	(848) 3729-4160	(848) 3729-3028	**	-	345	69	69
236 Alcamax Packaging (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 650-3743031	(84) 650-782816	**	-	429	69	69
237 AP Packaging (Hanoi) Co., Ltd.	Corrugated boxes	Vietnam	(84) 320-3753862	(84) 320-752868	**	-	248	69	69
238 Packamex (Vietnam) Co., Ltd.	Corrugated boxes	Vietnam	(84) 8-7291030	(84) 8-7291031	**	-	8	69	69
239 PT Primacorr Mandiri	Corrugated boxes	Indonesia	(6221) 596 2345	(6221) 596 2000	Ordinary shares	0.06	183	62	62
240 Dyna Packs Co., Ltd.	Corrugated boxes	Samutsakorn	66-2810-9346-7	66-2810-9103	Ordinary shares	1	90	52	52
241 Orient Containers Co., Ltd.	Corrugated boxes	Samutsakorn	66-3488-3422-4	66-3488-3421	Ordinary shares	26	260	52	52
242 Tawana Container Co., Ltd.	Corrugated boxes	Samut Prakarn	66-2324-0781	66-2324-0079	Ordinary shares	3	300	50	50
243 Thai British Security Printing Public Company Limited	Securities document	Samut Prakarn	66-2754-2650-8	66-2384-0917	Ordinary shares	11	110	49	49
244 Thai British DPost Co., Ltd.	Digital printing	Samut Prakarn	66-2661-5215	66-2661-9580	Ordinary shares	3	34	25	25
Associates and Other Companies									
245 Siam Toppan Packaging Co., Ltd.	Offset-printed cartons	Samut Prakarn	66-2709-3110-7	66-2324-0336	Ordinary shares	5	500	48	48
246 Siam Nippon Industry Paper Co., Ltd.	Specialty paper	Bangkok	66-2586-3333	66-2586-2164	Ordinary shares	11	1,100	44	44
247 P&S Holdings Corporation	Holding company	Philippines	(632) 870-0100	(632) 870-0409	Ordinary shares	28	263	39	39
248 TCG Rengo Subang (M) Sdn. Bhd.	Corrugated boxes	Malaysia	(603) 5636-3610	(603) 5636-3621	Ordinary shares	15	804	17	17
Other Subsidiaries									
249 Cementhai Holding Co., Ltd.	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	0.01	1	100	100
250 Cementhai Property (2001) Public Company Limited	Holding company	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	7	72	100	100

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Associates and Other Companies									
251	Property Value Plus Co., Ltd.	and business and land lease service	Bangkok	66-2586-2104	66-2586-2008	Ordinary shares	8	820	100
252	SCG Accounting Services Co., Ltd.	ccounting, financial and tax services	Bangkok	66-2586-3333	66-2586-2398	Ordinary shares	0.5	5	100
253	SCG Legal Counsel Limited	Legal consultant	Bangkok	66-2586-5777	66-2586-2976	Ordinary shares	0.2	15	100
254	CTO Management Co., Ltd.	Maketable securities investment	Bangkok	66-2586-3333	66-2587-2157	Ordinary shares	25	380	100
255	Cementhai Captive Insurance Pte. Ltd.	Insurance	Singapore	66-2586-3333	66-2587-2157	Ordinary shares	1	34	100
256	SCG Learning Excellence Co.,Ltd	Training service	Bangkok	66-2586-3333	66-2586-2684	Ordinary shares	0.2	20	100
257	PT SCG Indonesia	Management consulting service	Indonesia	(6221) 350-9491	(6221) 352-0718	Ordinary shares	0.1	26	100
258	Siam GNE Solar Energy Co.,Ltd	Electricity	Bangkok	66-2586-5684	66-2586-6284	Ordinary shares	0.2	16	50
259	Siam Kubota Corporation Co., Ltd.	Agricultural machinery	Pathumthani	66-2909-0300-1	66-2909-1698	Ordinary shares	31	2,739	40
260	Siam Kubota Metal Technology Co., Ltd.	Cast iron	Chachoengsao	66-3885-5115	66-3885-5110	Ordinary shares	9	900	-
261	Siam Kubota Leasing Co., Ltd.	Leasing	Pathumthani	66-2909-0300	66-2909-1697	Ordinary shares	55	2,000	-
262	Siam Lemmerz Co., Ltd.	Aluminium alloy wheels	Saraburi	66-3637-3309-21	66-3637-3312-3	Ordinary shares	0.1	110	30
263	Siam AT Industry Co., Ltd.	Automotive parts	Chonburi	66-3845-4266-8	66-3845-4266	Ordinary shares	2	240	30
264	Thai Engineering Products Co., Ltd.	Automotive parts	Pathumthani	66-2529-3518-22	66-2529-1677	Ordinary shares	0.9	85	29
265	The Nawaloha Industry Co., Ltd.	Cast iron	Saraburi	66-3633-6531-4	66-3622-3209	Ordinary shares	3	300	30
266	Aisin Takaoka Foundry Bangpakong Co., Ltd.	Cast iron	Chonburi	66-3845-4671-7	66-3845-4670	Ordinary shares	5	475	30
267	Muang Thong United Co., Ltd.	Football team	Bangkok	66-2508-8100	66-2508-3369	Ordinary shares	1	120	30
268	The Siam Nawaloha Foundry Co., Ltd.	Cast iron	Saraburi	66-3628-8300	66-3628-8309	Ordinary shares	3	308	20
269	Musashi Auto Parts Co., Ltd.	Motorcycle transmission parts	Pathumthani	66-2529-1753-6	66-2529-4554	Ordinary shares	0.2	200	21
270	IT One Co., Ltd.	Technical services	Bangkok	66-2271-5111	66-2271-5112	Ordinary shares	0.8	80	20
271	Toyota Motor Thailand Co., Ltd.	Automotives	Samut Prakarn	66-2386-1000	66-2386-1883	Ordinary shares	8	7,520	10
272	Siam Yamato Steel Co., Ltd.	Structural steel	Rayong	66-3868-3723-30	66-3868-3200	Ordinary shares	30	3,000	10
273	Michelin Siam Group Co., Ltd.	Holding company in tyre business	Bangkok	66-2619-3000-19	66-2619-3179	Ordinary shares	24	2,667	10
						Preferred shares	3		
274	Michelin Siam Co., Ltd.	Holding company in tyre business	Bangkok	66-2619-3000-19	66-2619-3179	Ordinary shares	38	2,197	-
275	Lysando AG	Research and development	Liechtenstein	66-2586-2104	66-2586-2008	Ordinary shares	1	37	10
276	Siam Toyota Manufacturing Co., Ltd.	Automotive engines and automotive parts	Chonburi	66-3821-3451-5	66-3874-3310	Ordinary shares	9	1,850	4

* Directly and indirectly holding through the Company, subsidiaries, associates, jointly-controlled entity and other companies.

2. Operation of Key Business units

Revenue Structure

	(in Million Baht)				
	Revenue from sales	Other Income	Total Revenue	Sale breakdown (%)	Equity in Associates *
SCG Cement-Building Materials	174,642	3,432	178,074	37.61	394
SCG Chemicals	209,997	2,389	212,386	47.47	2,774
SCG Paper	59,135	558	59,693	13.34	7
Other	94	6,972	7,066	1.58	3,378
Total Consolidated	434,251	13,141	447,392	100.00	6,546

Remark : Financial figures are classified according to business unit before intersegment elimination.

* Share of profit of associates and jointly-controlled entities recognize by using equity method.

SCG Cement-Building Materials

SCG Cement-Building Materials Co., Ltd, business consists of cement, building materials, and distribution, focuses on developing High Value Added Products & Services 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) 1 million tons per year ● Ready-Mixed Concrete 570 plants ● Roof products 98 million Sq.M. per year ● Ceiling / Board / Wood substitutions 113 million Sq.M. per year ● Floor and Wall Ceramic tile 225 million Sq.M. per year	
Brand	◆ Cement: Elephant and Tiger Brands ◆ Ready-Mixed Concrete: CPAC Brand and Jayamix Brand ◆ Roofing products: Elephant, CPAC Monier, EXCELLA, NeuStile and AYARA	

Key Information	
	◆ Ceiling/Board/Wood substitutions: Elephant ◆ Concrete blocks, concrete floor tiles, and precast concrete walls: Elephant ◆ Ceramic floor and wall tiles: COTTO, SGI Tiles, SOSUCO and CAMPANA COTTO Italia Prime KIA Mariwasa Brand ◆ Sanitary, Bath Room, and Kitchen: COTTO ◆ Building Material Outlet: SCG HOME SOLUTION, HOME MART ◆ Flagship Retail Store for SCG: SCG Experience ◆ Transportation Service: Transport OK
Strengths	◆ Major integrated producer of cement and building material products in ASEAN ◆ The largest production capacity in floor/wall ceramic tiles in the world ◆ Embedded sustainable development philosophy as part of company policy 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 a regional leader ◆ Maintain price and market stability as well as enhance its domestic market leadership ◆ Develop High Value Added Products and Services ◆ Continuously conserve natural resources and 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)

Building Material Group

7. Roof (Fiber Cement Roof, Concrete Roof, and Ceramic Roof)
8. Ceiling/Board/Wood Substitute

Ceramic Group

9. Floor and Wall Tiles

Other Products and Services

10. Logistic service
11. Import/Export Service
12. Disposal of Industrial Waste
13. Other Products and Services such as Insulation, Roofing Center, and Home Product and Service

2.2 Market and Competition

A. Policy and Market Features of Main Products and Services

- Policy and Market Features

1) Competitive Strategy

- The business avoids competing on price, by creating value to customers through High Value Added Products and Services to create differentiation and response to customer needs such as continuous improvement, becoming trend setter, 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 unit that allows SCG Cement to efficiently develop its goods and services to serve the needs of each customer segment such as Tiger Plastering Cement, Tiger Super Cement, Elephant Precast Cement, Elephant Marine Cement, Portland Composite cement, SmartWood Modeena serie, Curvlon Roof, Ceramic Tile, and COTTO Digital.
- The business has policy to continuously increase production efficiency and implement cost reduction projects, for example, energy cost reduction, raw material consumption reduction, and waste reduction. Furthermore, SCG CBM also has its own technical teams to provide customers professional advice and recommendation about production

process, quality control, and cost reduction as well as suggest possible solutions 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 and environment by providing many marketing and social activities such as “Elephant Concrete”, education activity for increase knowledge and skill about concrete technology for engineering students, and “Tiger Professional Community”, education activity to improve skills and enhance living standard of local contractors.

2) Customer Features and Target Groups

- Cement Product: cement is sold to affiliate companies such as ready mixed concrete, concrete roof, board, etc. Besides SCG customers, cement is sold to dealers, major concrete building material producer, and major contractors.
- Building Material Products: target groups are classified by price, and group of customers to match with product categories, designs, and customer behavior in each area.
- Ceramic products can be classified as follows:

Target Group/Application	Brand
Medium to low income segment	SGI Tiles , SOSUCO and CAMPANA
Medium to high income segment	COTTO

3) Channel of Distribution

- Domestic Distribution: the business provides strong distribution network through 500 dealers across Thailand and supports sales promotion to both dealers and sub-dealers. For project customers, Project Management, the One Stop Solution for managing, following, and servicing, was used to enhance efficiency. 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.
- Regional Distribution: SCG Trading, SCG's subsidiary, is the SCG exporting agent to other countries. The export will focus on needs of destination customer or dealer in each country.

For strategic countries, for example Indonesia, PT KOKOH Inti Arebama Tbk, SCG subsidiary, manages distribution network with more than 2,700 dealers throughout Indonesia.

- In addition, the business focus on increasing efficiency in supply chain by using advance information technology (IT) to connect all operation in order to response customers' needs and increasing dealers' capabilities in management and HR development. For example, in 2013, "SCG Skills Development School" was founded in order to develop partners' skills.

- Policy and Market Features of Main Products and Services

Presently, the business has five grey cement plants in Thailand: 1) Ta Luang Cement Plant (Saraburi), 2) Khao Wong Cement Plant (Saraburi), 3) Kaeng Khoi Cement Plant (Saraburi), 4) Thung Song Cement Plant (Nakorn Sri Thammarat), 5) Lampang Cement Plant (Lampang) with the production capacity 23.2 million and domestic market share of approximately 40 percent, which is the highest market share compared to other domestics cement producers. For building materials, the business has factories, producing roof, ceiling, and board, in Saraburi, Nakhon Prathom, Lampang, Lamphun, Chonburim Khonkarn, Nakhon Ratchasima, and Nakhon Si Thammarat. In the year 2013, the business has products and innovation in the market as follows:

- 1.) Continue expanding production capacity of Portland Composite Cement (PCC) in various plants to serve customers' needs. PCC can be used in the concrete work as same as Ordinary Cement Portland (OPC). However, PCC is more environmental friendly from carbon dioxide in cement production process.
- 2.) Increase production capacity of Tiger Cement under brand "Tiger Cement Decorative", which is for floor and wall decorative to serve customers that need unique and outstanding covering cement decorative.
- 3.) Produce special Mortar for Formwork panel. This special Mortar is used for the panel work in high rise building or single house with fast, convenience, and strong benefits.
- 4.) Produce CPAC Super Plus, new ready mixed concrete to serve customers that do not want to mix more water in the workplace
- 5.) Smart Wood Decorative Wall Panel, Modeena serie is the unique wall panel with dimension surface, applicable both indoor and outdoor decoration. Be easily painted with color before finished with water base acrylic paint. In addition, it can be easily installed with dry process and resistant to water and termite.

6.) Tra chang roof tile, Curvlon serie is made of fiber-cement and has aesthetic appearance, such as colorful & shiny color. With its advantage in terms of sizing and superior quality, installation time is shorten compared to usual corrugated roof tile.

7.) Increase production of Concrete Roof at Lamphun for profile and flat (prestige) tile. Prestige tile is concrete roof that is designed to fill Thai humid climate. It is painted colour with wet on wet system and used Inorganic pigment that makes color becoming smoothness with the tile and durable.

8.) Continue R&D on Marmo Granito. Marmo Granito is the artificial stone that look beautiful, the same as natural stone, but stronger and more durable. The Marmo Granito technology belongs to SCG and was patented internationally.

- Domestic Market and Competition

In 2013, the domestic cement demand increased by 7% compared to the previous year, due primarily to investment from both government and private sectors, while export decreased. The sales of building materials have continuously growth driving from HVA products.

For 2014, the cement demand would grow slower from political issue, government instability, and investment policy on mega project. However, in case of slowdown in cement domestics' consumption, the company will focus more on cement exporting.

SCG CBM focuses on maintaining its market leadership, avoiding to compete on price, by creating value to customers through high value added products and services (HVA), and 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

Cambodia: in 2013, the grey cement demand grew from economics expansion especially in government infrastructure investment. The cement plant in Cambodia, Kampot Cement, is still the market leader. For building materials, the company is still the leader in concrete roof and board, which mainly sold through SCG Authorized Dealer.

Myanmar: the cement demand from infrastructure and construction is growing significantly after the foreign direct investment law was implemented in 2012. For building materials, fiber cement roof has high growth. All products were managed through retails, wholesales, and project channels.

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 relation 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 and partly buy from external suppliers.
Copper Slag	1	3-year contracts with external suppliers.	0% / 100%	Buy from external suppliers
Gypsum	~ 6	Long-term contracts with suppliers and partly operate from own sources.	100% / 0%	Currently buy from external suppliers and partly from own sources.
Kraft Paper	4	Yearly contracts with SCG affiliates and international suppliers	30% / 70%	Currently buy international suppliers and partly from domestics suppliers
Fuel				
Lignite	~ 2	Long-term contracts with suppliers	100% / 0%	Self-operate from its supply sources and buy from external suppliers.
Petroleum Coke	~ 2	Occasional purchase	0% / 100%	Buy from external suppliers
Coal	~ 10	Long-term contracts with suppliers and occasional purchase.	0% / 100%	Buy from external suppliers
Bunker Oil	3	Occasional purchase.	100% / 0%	Buy from external suppliers
Biomass	20	Long-term contracts with suppliers and occasional purchase.	50% / 50%	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

SCG Cement-Building Materials has enacted environment policies as follows:

1) Environment Protection

- 1.1) Green and Clean Plant:** SCG Cement-Building Materials consistently implements environment protection policy by requiring all cement plants and their surrounding areas to be “Green and Clean Plants”. The policy aims to reduce dust as well as protect nearby local communities and environments. Besides, SCG Cement-Building Materials has initiated and implemented the Total Preventive Management (TPM) under “Dust Free Plant” campaign to control the dust within the plant areas at below 1 mg/m³ (standard regulation < 10 mg/ m³). To do so, both employees and business partners have full responsibility to keep their working areas and machines in a good and safe condition.
- 1.2) Dust Control:** SCG Cement-Building Materials has installed electrostatic precipitators and bag filters to collect dust in every point of manufacturing process. Besides, SCG Cement-Building Materials systematically implements preventive maintenance plans to enable the plants to operate more efficiently during working time. Raw material silos and closed transportation systems were put in place to control dust.
- 1.3) Limestone Mining Process:** For mining operation, the modernized and environmental-friendly Semi-Open Cut Mining has been employed. This mining technique preserves much of the natural landscape by extracting our limestone while leaving the outside of the mountain intact to maintain surrounding scenery and reduce noise and dust pollution. In addition, during the mining process, water is sprayed onto raw material receipt basin, raw material and transportation routes to reduce the spreading of dust. For the depleted mining areas, SCG Cement-Building Materials establishes environmental plans to rehabilitate the areas to its original condition by improving land surface and planting native trees to restore ecosystem and biodiversity.
- 1.4) Water Consumption:** Water management under the Closed Circuit System was conducted by recycling all used water from cool down process in cement burning production and

machinery within the factories. Besides, the water wells are established within the factory areas to preserve water during the rainy season. The reserved water will be used in the dry season as well as in Waste Heat Power Generation (WHG). For Ceramics business, water was recycled to use in wall/floor ceramic production process of Thai Ceramic co., Ltd. by reusing waste water from production and treatment by Ultra Filtration (UF).

1.5) The quality control of environment: Apart from installing efficient machines to control the quality of environment in manufacturing process to meet or even exceed government standards, SCG Cement-Building Materials's cement plant regularly measures air quality from factory stacks, in the community areas around the factories, and in the offices as specified in the environmental impact analysis report. Moreover, the automatic system known as "The Continuous Emission Monitoring Systems (CEMS)" has been installed at every smokestack to observe the emitted air. Mobile cars are employed to monitor air quality around the plant areas. In addition, environmental laboratories are set up to investigate and prevent environmental impact from business operations.

2) Natural Resources Conservation

2.1 Alternative Fuels: In 2013, SCG Cement-Building Materials used alternative fuels at approximately 16% of heat consumption in its manufacturing process. The sources of alternative fuels come mainly from biomass and industrial waste. In addition, building material business invested in gasifier to reduce natural gas consumption. The use of alternative fuel is not only to reduce natural resources consumption, but also to help the country eliminate industrial waste. Presently, every SCG's cement plant has been granted Total Waste Quality Adjustment Permit (Number 101) from the Ministry of Industry.

2.2 Energy Consumption: SCG Cement-Building Materials has regularly monitored energy usage of each cement plant which indicates cement production efficiency. Thus, the efficiency of existing machines is continuously improved to reduced energy consumption in the forms of both electricity and fuel utilization; for example, ceramics business changes its process to reduce natural gas consumption in powder preparation process by replacing spray dryer with dry grinding system. The process is to produce body powder by grinding ceramic mixes made up of raw materials without liquid to be a finesses powder that will be

granulated with a granulating system for the required positive characteristics of granulates to be used in ceramic tiles production

2.3 Waste Heat Power Generation (WHG): in 2012, WHG can reduce the purchasing electricity around 30% of total cement plant electricity consumption.

2.4 Natural Resource Reduction: In order to reduce natural resource consumption, Siam Fiber Glass Co.,Ltd, SCG subsidiary, redesigned and installed Cullet Melter to reduce silica sand consumption for manufacturing glass wool.

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 2,900,000 tons per year. Byproducts from the olefins plant such as Mix-C4, Benzene and Toluene are mainly consumed within the business's and/or SCG subsidiaries' downstream plants.

Polyolefins

Polyolefins are the business's main products. The business has total polyolefins capacity of 1,900,000 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 good chemical resistance. 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, ropes, fishnets, ring-nets, water pipes, electric 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 and high tensile strength. 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 and high stiffness. It is normally used as the main raw material for the production of cold food bags, food preservation films, lids, plastic boxes, surface coatings, and etc.
- 5) Polypropylene (PP) Outstanding features are 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, battery shells, electrical appliance parts, car components, and etc.

Polyvinyl Chloride (PVC)

PVC products from Thai Plastics and Chemicals Public Company Limited, the largest PVC producer in Thailand and ASEAN with total production capacity of 886,000 tons per year, can be divided into two 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 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, fire retardant, light weight, and rust-free material, it can be used as insulator, sheath for electrical wire, telephone cable, pipes, and etc.

Jetty & Tank Terminal

The Company 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, Butadiene, MMA, and etc. At present, the Company owns four jetties with a capacity of 100,000, 80,000, 20,000 and 10,000 dead weight 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 50 percent of total sales of downstream products. High value-added products are namely:

- Pipe: PE 100 water pipe, gas pipe
- Rotomolding: “Elixir” water storage, outdoor furniture
- Wire and Cable: sheath for electrical wire, fiber optic cable, telephone cable
- PE Wax: processing aid, dispersant
- Propylene compound and Propylene co-polymer: compounds for medical devices and automotive parts
- PVC: resin and compound for medical application and automotive parts
- Other specialties: construction materials, door and window made from plastic and wood substitution materials or Wood Plastic Composite (WPC)

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**

Both domestic and export prices of Polyolefins and PVC resins are closely correlated with the global market prices. The business aims to create a price premium by offering high quality products and differentiated value added services to its customers. The business has adopted Total Quality Management (TQM) concept which emphasizes on customer and quality, and was awarded with the Deming Application Prize. In terms of cost management, the business gives priorities to maintaining competitive cost position. As petrochemical industry requires high investment, the business has to constantly de-bottlenecking the plant capacities to achieve economy of scale with lowest investment cost per ton. In addition, as a fully integrated player, the business also utilizes Total Productivity Management (TPM) concept which emphasizes on equipment maintenance, production efficiency, and cost reduction. By following TPM concept, the business was awarded with Advance Special Award for its achievement in production efficiency enhancement, energy conservation as well as accident and environmental impact reduction, leading to

improvement in employee morale and capabilities. The business has also invested in advanced IT and e-Business systems, such as e-Supply Chain, e-Ordering, Advanced Process Control and CRM Portal to achieve best-in-class efficiency and customer satisfaction.

- **Product Quality Management**

One of the business's main policies is to produce 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 ISO system with TQM and TPM to come under one quality management resulted in being certified by the international quality system, namely ISO 9001, ISO 14001, and TIS 18001. In addition, the business also applied for ISO17025 which is related to laboratory management since the business invests in research and development to constantly improve its product quality to meet changing customer expectations.

- **Service**

The business recognizes that “service is the heart of selling”. Therefore, it has developed Customer Relationship Management system by applying IT technology to gather customer requirement and analysis so that it can accurately and timely responds to customer needs leading to sustainable customer relationship. Moreover, the business provides technical assistance in Polyolefins and PVC conversion including close collaboration with customers to co-create products that better serve end-user demands, and emphasizes on delivery timeliness and accuracy. It continuously engages in plans to develop and increase service efficiency to a better level of service standard and hence, ability to satisfy the needs of different target customers.

- **Management**

In the Polyolefins business, product demands and prices change rapidly. Therefore, an excellent management with accurate and rapid decisions is very important. The business has improving the efficiency of Enterprise Resource Planning (ERP) system to increase visibility in supply chain management in order to enable the business to better satisfy customer needs. The system consists of order forecasts, sales, delivery, production, raw material procurement, and inventory management. Moreover, the business is using new technologies to continuously improve its Supply

Chain Management system including implementing Vendor Management Inventory (VMI) system to reduce the amount of inventory in stock, setting up Hub and multimodal transportation system. Also, it is using Warehouse Management Operation Excellence (WOEX) for inventory management database and Supply Chain Visibility Improvement to enhance efficiency of production planning system. Besides, the business plans to introduce Radio Frequency Identification (RFID) to increase efficiency of feedstock management and Business Continuity Management (BCM) system to response to customers in case of emergency.

2) Customer Features and Target Groups

Target groups are Polyolefins converters which are classified based on formation types such as film, injection molding, monofilament & yarn, blow molding, and others which are lamination, extrusion, and pipe. For PVC business, target groups are plastic converters, classified based on product types such as pipe and fitting, calendaring and profile and others.

The business's customers are mostly small and fragmented so the business aims to diversify the customer base into diverse segment and region. Hence, the Company is risk averse as it is not dependent on one customer.

3) Channel of Distribution

In 2013, domestic and export sales of Polyolefins are accounted for 43 percent and 57 percent respectively.

- **Domestic**

There are two types of customers of which 93 percent are domestic customers and 7 percent are re-exporters. For the former, 46 percent is through direct sales by the business while the rest (54 percent) is sold through agents who manage financial risks and distribution of products to Polyolefins converters. For re-exporters customers, goods are sold mostly through direct sales by the business.

- **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 8 representative companies internationally which are located in Myanmar, Vietnam, Philippines, Indonesia, China (Shanghai and Guangzhou), Brazil, and United Arab Emirates. The proportion for the export market is 30 percent in Southeast Asia, 33 percent in East Asia, 4 percent in South Asia, and 33 percent in other regions.

As the business internationally exports around 1,016,000 tons per year without concentrating in one particular country, it is able to avoid direct confrontation with multinational players and diversify political or economic risks. 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 2013, Domestic and export sales of PVC through Thai Plastic and Chemicals Public Company Limited are 58 percent and 42 percent respectively.

- **Domestic**

In respect of local distribution, the Company emphasizes on direct selling to plastic manufacturers in various industries. The objectives are to know the real customer demand and to be able to promptly provide technical assistances to the customers.

All customers are domestic customers with 92 percent sale through direct sales by the business while the rest (8 percent) is sold through agents.

- **Export**

The Company exported 80 percent, in volume, through agents and 20 percent directly to customers. Main export areas are China, Southeast Asian countries, South Asia, Middle East, Africa, Australia and New Zealand. To sell through agents, the Company has selected only capable companies in distribution of plastic products and chemicals with the addition of good relationships with customers. They are also capable of negotiations, co-ordination and providing assistances to customers in all areas.

- Competition and Capacity

1) Domestic

Thailand has Polyolefins capacity of approximately 5.6 million tons per year while the country's demand in 2013 was approximately 2.5 million tons. Moreover, Thailand export Polyolefins around 53 percent of total production. Import tariff for Polyolefins has been reduced according to AFTA and WTO, causing higher competition. However, when comparing with local producers, the business has the largest Polyolefins capacity in the country – about 34 percent of total domestic capacity. Thailand has total PVC production capacity of 846,000 tons per year. Thai Plastic and Chemicals Public Company Limited is the largest producer, accounting for 64% percent of total domestic capacity.

2) Foreign

In 2013, Polyolefins demand in Asia equaled 76 million tons with China as the largest importer. Major exporters are producers in the Middle East, USA, Korea, and Singapore. For PVC, PVC demand in 2013 was 24 million tons. Demand growth was mainly driven by China which is the largest importer in Asia.

2.3 Products or Services Procurement

A) Product Procurement Feature

- Production

The business has 2 Olefins plants and 9 Polyolefins plants located in Map Ta Phut Industrial Estate, Rayong Province. Nameplate capacities are displayed below:

Company	Product / Service	Capacity (Ton / Year)	Year First Operated	% Shareholding
Rayong Olefins	Ethylene	800,000	1999	67
	Propylene	400,000		
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	240,000	2001	
	HDPE 4	400,000	2010	
	LLDPE	120,000	1990	
	LDPE	100,000	1995	
Thai Polypropylene	PP 1	140,000	1993	100
	PP 2	180,000	1997	
	PP 3	400,000	2010	
Thai Plastics and Chemicals	PVC Resin	530,000	1971	91
	PVC Compound	63,000		
TPC Paste Resin	PVC Paste Resin	36,000	1993	91
PT. TPC Indo Plastic & Chemicals	PVC Resin	120,000	1996	96
TPC Vina Plastic and Chemicals Corporation	PVC Resin	200,000	1994	63

Company	Product / Service	Capacity (Ton / Year)	Year First Operated	% Shareholding
Viet-Thai Plastchem	PVC Compound	16,500	1994	66
Map Ta Phut Tank Terminal	Jetty and Tank Terminal	-	1998	82
Rayong Pipeline	Pipe Transportation	-	1998	92
Rayong Engineering and Plant Service	Engineering and Plant Service	-	2001	100

- **Raw Material Procurement**

◆ **Olefins Production**

The key raw material in Olefins production is Naphtha in which 41 percent of total consumption comes from local oil refineries and the other 59 percent is imported from the Middle East and India. In addition, the crackers were designed to use alternative raw materials such as LPG, raffinate, and condensate if Naphtha price is higher than other raw materials.

◆ **Polyolefins Production**

The key raw material in Polyolefins production is Olefins in which the business has long term Olefins purchase contracts with PTT Global Chemical PLC (PTTGC) at a total of 185,000 tons per year. In addition, the business has contract with in house olefins production for 1,469,000 tons per year while the rest of olefins production is sold to external customers who are the business's olefins plant shareholders. Moreover, the business is also able to procure more Olefins from PTTGC or import in case of Olefins shortages.

◆ **PVC Production**

The key raw material for PVC production is Vinyl Chloride Monomer (VCM) in which some portion is captive used within the group. Other raw materials are domestically supplied and imported from overseas. The raw materials for VCM production are ethylene dichloride (EDC) and ethylene. TPC produces 54 percent of its EDC demand in Rayong province and purchases the rest quantity through agents

B) Environmental Impact

One of the SCG's Philosophies is "Concern for Social Responsibility" which includes the environment conservation. Therefore, the business has chosen "Clean Technology" which is up-to-date, efficient, energy saving and environmental friendly technology – in the production process. The business has implemented the Environmental Management Best Practices by using 3Rs (Reduce, Reuse/Recycle, and Replenish) and eco-efficiency concepts together with Best Available Control Technology which are one of the business' commitment to protect the environment and operate its business on sustainability concept.

Moreover, the business has applied and certified with ISO 14001 Environmental Management Standard as well as examined the Environmental Performance Assessment Program (EPAP) by 3rd party institutions which are internationally accredited.

2.4 Undelivered Projects on High-Valued Purchase Agreements

None

SCG Paper

SCG Paper 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.

The SCG Paper 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 1,956,000 tons per year
	◆ Corrugated Containers 1,013,000 tons per year
	Fibrous Chain
	◆ Pulp 470,000 tons per year
	◆ Printing and Writing paper 570,000 tons per year
Main Products	Packaging Chain
	◆ Kraft paper, duplex board, corrugated containers

Key Information	
	Fibrous Chain ◆ Pulp and printing & writing paper
Brand	◆ Packaging paper & container: Green Carton ◆ Printing and writing paper • Idea green, Idea work, Idea max, Supreme, Ultimate • PRO Series – Offset PRO New, Matt PRO, Card PRO, Note PRO, Text PRO • Green Series – Green Offset, Green Card, Green Matt, Green Form
Strengths	◆ Only integrated producer of pulp, paper, and containers in Thailand. ◆ 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.

SCG Paper

2.1 Product or Service Features

SCG Paper is the country's leading manufacturer of pulp, paper, and corrugated containers. The business is the only integrated producer in Thailand with production process starting from pulp preparation to manufacture of printing and writing paper, packaging paper, and corrugated containers. 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 manufacture of corrugated containers, extensible sacks, kraft bags, core paper, gypsum linerboard and coated duplex board, and various types of corrugated containers packaging, offset laminated packaging, folding carton, paper pallet, merchandising display, and design solution center.

- Fibrous Chain

The main products are eucalyptus pulp and printing & writing paper. We also provide specialty paper and food packaging paper. Eucalyptus pulp is used as raw material for various paper grades e.g. Printing & Writing paper which is used for magazines, notebooks, textbooks and photocopy paper, Kraft paper which is used for packaging and containers, Specialty paper which is used for industrial applications such as glass interleaving paper, carbonless paper and label paper, and also Food packaging paper such as cup stock paper.

In addition, eucalyptus pulp is also used as raw material for other applications e.g. rayon fibers and melamine compound resin.

2.2 Market and Competition

A) Policy and Market Features of Main Products and Services

- Policy and Market Features

- 1) **Marketing strategy**

SCG Paper focuses on continuous development of products and services to satisfy customers' needs. "Innovation" is the key strategy to sustainably increase our competitiveness in high competitive market. For Packaging Paper Business, SCG Paper 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. SCG Paper 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, testliner (KA, KT, TA, TR, TI) and corrugating medium (CA, CS) were certified by SCG eco value for their higher recycled content comparing with competitors' in the market. Moreover, SCG Paper's products are also certified by FSC (Forest Stewardship Council), which ensures that our products are from environmentally appropriate, socially beneficial and economically viable forest management. For example, testliner (TTF, TCF) and corrugating medium (CAF, CSF) were certified by FSC for their 100% recycled raw materials.

Dedicated to providing total packaging solutions, Packaging Business (Corrugated Containers) has continuously invested in new machinery and equipment in the previous year so as to offer a variety of products for the customers. The business has expanded its range of printing expert into Offset printing and Digital printing, aside from Flexography printing, the main experienced printing system of the business. With the inclusion of these new printing systems, the business has achieved greater efficiency to serve all requirements of the customers. Moreover, Packaging Business (Corrugated Containers) has also invested in development of designer team to work proactively and to have a skill set of integrated design, including the design of logo, brand, merchandising display, exhibition, and other printing materials. Design Solution together with the facilities scattering across the country and in the region, the customers can always rely on the premium quality product and service.

For Pulp, we are continuously developing our pulp products to use not only for paper application, but also for other applications. We succeeded in developing high value added pulp "Dissolving Pulp". In the third quarter of 2013, we have started commercial operations to produce and sell dissolving pulp which is a raw material used in the textile industry to manufacture a rayon fibres and also in melamine industry.

For Printing and Writing Paper, we implemented outsourcing strategy for coated wood-free paper from our partners to satisfy our customer requirements. Moreover, we increasingly expand sales in provincial areas to enhance the competitiveness across country.

Besides printing and writing paper, we expand our business to non-printing and writing as well. The areas of business that we expand are “Food Packaging Paper ” to response the high potential growth in both domestic and overseas food market in the future. Currently, we have received the Certificate of GMP FIBER-BASE (Good Manufacturing Practices for Flexible and Fibre-Base Packaging for Food) for laminated paper for foods, after we received the Certificate of GMP FIBRE-BASE for paper production process since 2012. We are the first manufacturer to obtain this type of GMP certification for food packaging in Thailand.

The progress of the joint venture project between SCG Paper and Nippon Paper Group to commercial high value added product 43,000 tons/year “Machine-Glazed paper” machine will be started up in the first quarter of 2014. The Machine-Glazed paper will be used as packaging for food, medical industry (Hygienic industry) and furniture industry.

Another key milestone is the signing of Joint Venture Agreement between Nippon Paper Industries Company Limited (or “NPI”), and SCG Paper Public Company Limited (or “SCG Paper”) to form a strategic joint venture. This joint venture will involve NPI’s equity injection for an initial stake of 22% in SCG Paper’s Fibrous Chain within June 2014 while the remaining stakes will be increased up to a 30% stake within 2016. This partnership between NPI and SCG paper would collaboratively enhance the competitiveness of SCG Paper’s Fibrous Chain, in addition, would create an effective synergistic platform that enhances the production efficiency, new product development, marketing and sales network, toward High Value Added products and services (HVA) and becoming an ASEAN sustainable business leader.

2) Customer Features and Channel of Distribution

Packaging Chain

Packaging Paper

Channel: Directly sold to affiliated firms under SCG Paper 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 such as Malaysia, Indonesia, Singapore, Vietnam, Cambodia, Myanmar and China etc.

Packaging

Channel: Direct sold by sales representatives and account executives that work closely with the customers, Packaging Business (Corrugated Containers) has totally 19 facilities located in ASEAN, including Thailand, Vietnam, Indonesia, Singapore, and Malaysia. A wide range of products include various types of corrugated containers packaging, offset laminated packaging, folding carton, paper pallet, merchandising display, and design solution center.

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: 75 percent of total sales served domestic market by different channels, including printing house, industry uses, converter, modern trade and stationeries stores, and the rest are sold to export markets; Vietnam, Australia, Malaysia, Japan, other ASEAN countries and the Middle East Countries, etc.

Non-Printing & Writing Paper such as specialty paper for industrial uses and food packing paper

Channel: Directly sold to industrial customers or converters and sold through agents for export markets.

- Industry, Competition, and Trend

1) Packaging Chain

In 2013, demand for packaging paper in Thailand increased by 4 % y-o-y contributed from domestic consumption. Growth rate of corrugated containers demand in 2013 is close to the growth rate of GDP. Instant food and beverage industries, especially non-alcohol beverage, have a significant expansion, by which many manufacturers have increased their production capacity and continuously implemented marketing activities to stimulate consumption. Furthermore, frozen chicken export has increased after many countries lifted ban on import from Thailand, resulting in a continuous growth of this industry. Industries with decreasing corrugated containers demand y-o-y are frozen shrimp industry (affected by Early Mortality Syndrome: EMS), having 50 percent decline in productivity. Demand in Electrical appliances and electronic related industry also dropped, comply with the major importing countries such as the United States, Europe, and Japan. In addition, changes in

production technology also affect form and size of packaging inevitably. Due to the fact that there were a number of competitors in the market, pricing strategy was widely used.

2) Fibrous Chain

In 2013, world bleached chemical pulp (BCP) demand increased by 2% y-o-y. The average price of bleached long fiber pulp and bleached short fiber pulp increased 4% y-o-y. For the first half of the year bleached long fiber pulp price and bleached short fiber pulp price continuously increased however, for the second half of the year, bleached short fiber pulp price decreased due to the planned start-up of new short fiber pulp capacity in Brazil in the third and fourth quarter of 2013.

For Printing and Writing Paper in Thailand, demand in 2013 decreased by 3 percent from previous year. The main reasons were from decreasing paper demand in magazine segment and effect from political uncertainty which resulted in the reduction of promotion marketing activities and advertising media budget. The market competition was more intense, showing by 20 percent growth of import paper, due to the surplus capacity from overseas.

2.3 Product or Service Procurement

A) Product Procurement Feature

- Raw Material and Suppliers

1) Packaging Chain

Packaging Paper

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

Source:

- Wastepaper: 75 percent from local vendors and 25 percent from import.
- Bleached and unbleached short fibre pulp: 90 percent from local vendors and 10 percent from import.
- Bleached and unbleached long fibre pulp: All from import.
- Main chemicals such as starch, sizing agent, color, and others: From local vendors and import.

Obstacles: Bleached and unbleached short fibre pulps are procured domestically. 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 the need to import wastepaper, which has higher price than domestic wastepaper.

Packaging

Raw Material Type: Kraft paper.

Source: From Siam Kraft Industry Co.,Ltd., a subsidiary of SCG Paper

Obstacles: No problem on raw materials due to adequate supplies and controllable quality.

Selling price is set by referring to current market price to optimize fair and competitive cost.

2) 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 food packing paper

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 fiber pulp is entirely imported with 30-45 days lead-time.

B) Environmental Impact

In 2013, SCG Paper has continuously committed to the environmentally-friendly business in line with its 3Greens concept (Green Product, Green Process and Green Mind). Key undertakings include:

Green Product: SCG Paper has emphasized on research and development of Eco-Friendly products and services to offer certified products under SCG eco value label. This year, new four certified products include Idea Green paper, CS-Super Flute, TA-Stax linerboard, and TR-recycled linerboard. SCG Paper has also emphasized on supporting both customers and stakeholders to understand SCG eco value, adopting Eco-Friendly sourcing in the entire supply chain.

Green Process: SCG Paper has committed to 3Rs concept (Reduce, Reuse, Recycle); for example,

- Energy management: reusing the waste heat from paper production, reducing energy consumption by using rejects from waste plant as fuel in the boiler, and implementing alternative energy such as biomass energy and biogas from wastewater treatment.
- Water management: improving production process for water use reduction and reusing/recycling water in paper production.

Green Mind: SCG Paper has placed great emphasis on community and employee engagement. Last year, the company initiated project that is the partnership with local communities to construct check dams to help replenish the water sources, to raise fund for flood-hit communities nearby Prachinburi plant. In addition, the company has continuously conducted stakeholder dialogue with nearby communities to understand opinions and expectations.

2.4 Undelivered Projects on High-Valued Purchase Agreements

None

3. Risk Management

Risk Management

At SCG, risk management is a key process contributing to the attainment of the Group's objectives and goals, leading to value added for the Group, shareholders, and stakeholders while contributing to the SCG's sustainable growth.

SCG Risk Management Framework

To ensure timely response to rapidly changing business environment, address potential problematic situations, and exploit risks to identify new business opportunities domestically and overseas, SCG this year revamped its Enterprise Risk Management Framework to be progressively in line with international standards, adding value throughout the value chain and creating a pervasive risk culture throughout the Company. The SCG Risk Management Framework consists of :

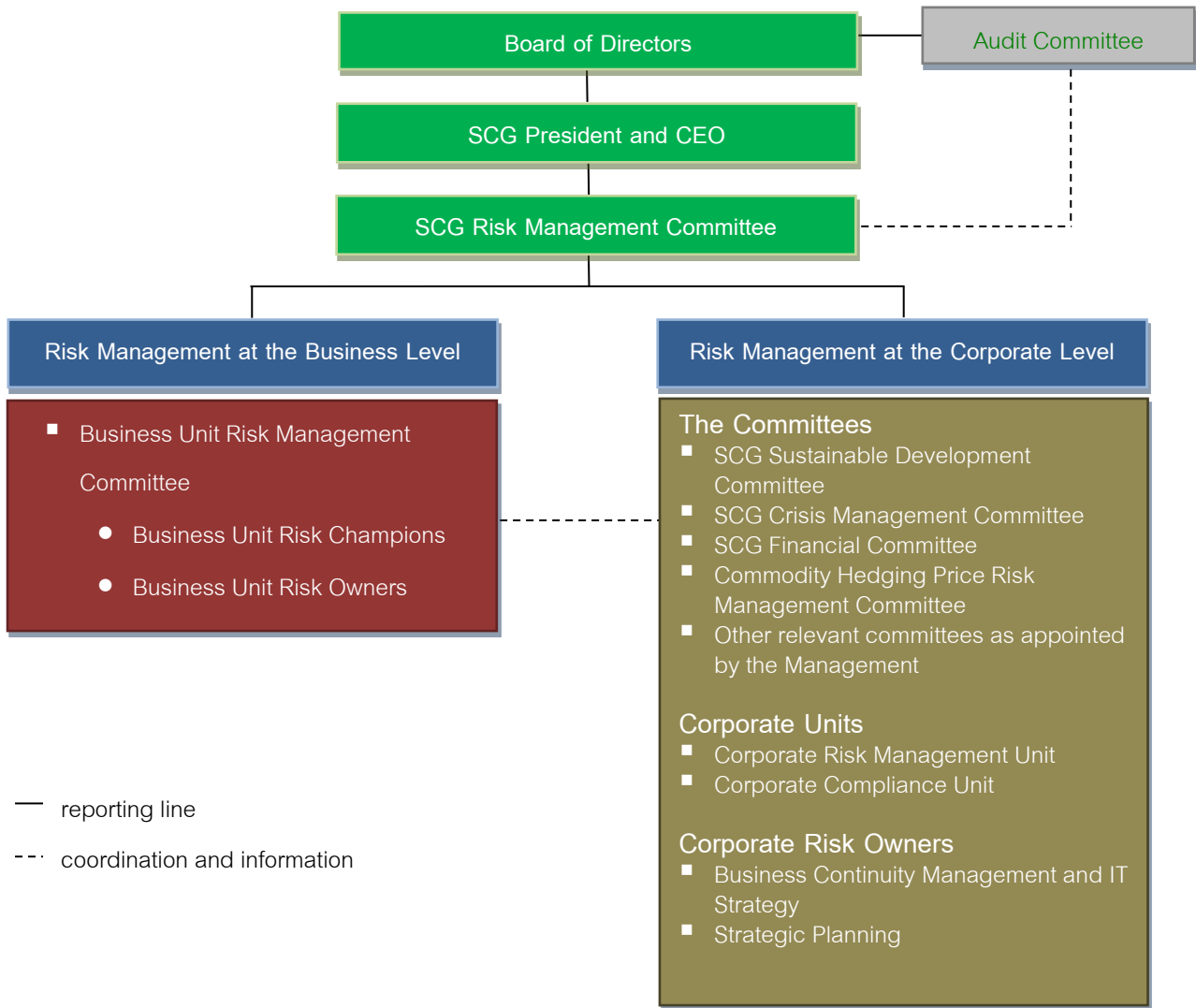
1. Strategy Establishment

SCG establishes explicit objectives and risk appetite in managing risk in order to ensure consistent risk management practices across the organization.

2. SCG Risk Management Structure and Responsibilities

Continuously committed to developing and improving risk management structure and capability, this year SCG has established the SCG Risk Management Committee chaired by the SCG President and CEO. The Committee oversees, supports and monitors risk management in all areas, including compliance. The organization structure of SCG's risk management is illustrated as follows:

Enterprise Risk Management Organizational Structure



The Board of Directors and Audit Committee

The Board of Directors lays out risk management policies and oversees risk management process and practice of both domestic and overseas units. The Audit Committee evaluates the risk management to ensure that it is efficient, effective and compliant with the established guidelines.

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. Improves/determines risk management structure and designated responsible parties for risk management.
2. Considers and approves risk management policies, strategies, framework and plans.
3. Reviews risks and monitors SCG risk profile.
4. Reports risks and risk management to the Audit Committee.

2.1 Risk Management at the Corporate Level

Risk management at the corporate level comprises of top executives from all business units who establish directions, policies, goals and strategies for managing risks which have a material and pervasive impact upon SCG's business operations. In this regard, SCG has set up relevant committees/corporate units to manage specific areas and closely monitor ensuing situations. These include:

2.1.1 The SCG Sustainable Development Committee defines policies and guidelines for sustainable development in the areas of safety, health, environment, community and social responsibility to be on par with international standards, while setting an example at the national level. The Committee also monitors relevant indicators and risk trends and reports to the SCG Risk Management Committee and the Board of Directors.

2.1.2 The SCG Crisis Management Committee consists of the SCG Management members who are assigned the duty to set policies and strategies and make decisions on how to handle crises that affect, legally and otherwise, business operations and corporate image. The Committee also cooperates with external parties to support handling of these crises and provides updates on such situations to the Board of Directors.

2.1.3 The SCG Financial Committee manages financial risks in the following ways:

- Establishes policies and guidelines for managing financial and foreign exchange risks with regard to investment transactions, loans, deposits, and international transactions.

- Establishes policies and oversees management of financial derivatives and cash.
- Monitors financial status, foreign exchange and interest rate trends, and reports such updates to the SCG Risk Management Committee.

2.1.4 The Commodity Hedging Price Risk Management Committee establishes policies, guidelines and strategies for managing risks from rising or volatile prices of major raw materials and fuels used in manufacturing processes to manage costs and enhance competitiveness in the global market, and proposes such information to the SCG Risk Management Committee and the Board of Directors.

2.1.5 The Corporate Risk Management Unit communicates risk management policies and strategies established by the SCG Risk Management Committee to all relevant parties. The Unit monitors trends and key situations which may impact SCG's long term goals in order to establish strategies and countermeasures, tracks and continuously improves SCG's risk management capabilities, promotes sharing of risk management knowledge, build risk management culture throughout the Group, and reports risk management outcomes to the SCG Risk Management Committee.

2.1.6 The Corporate Compliance Unit develops control, communication and reporting systems and defines roles and responsibilities of compliance functions to ensure effectiveness and appropriateness.

2.1.7 Corporate Risk Owners are central corporate units responsible for managing risks which may have a pervasive impact upon SCG operations or which require specialized expertise; e.g. the Business Continuity Management and IT Strategy Unit (responsible for managing risks resulting in business disruption and IT risks); or the Corporate Communication Office (responsible for managing risks which may affect SCG's reputation).

2.2 Risk Management at the Business Unit Level

As SCG consists of various business units operating in a diverse range of industries and working environments, the Company has established business unit risk management committees to ensure the efficient risk management of each business unit and its ability to cope with business specific risks in a timely and appropriate manner. Each of these committees comprises executives from all companies within each business unit. Responsible for ensuring systematic risk management, the committees establish risk management structures and strategies, designate Risk Owners to manage risks, oversee and monitor outcomes of risk management, and report such outcomes to the SCG Risk Management Committee. The designated Business Unit Risk Champions communicate risk management policies and strategies set by the Business Unit Risk Management Committee to all relevant parties. The risk champions monitor trends and important situations

which may affect the long-term goals of their business unit in order to establish strategies and countermeasures. The champions also track and continuously improve the risk management capabilities of each business unit, as well as promote the exchange of risk management knowledge and build the culture within that unit.

3. Risk Management Process

3.1 Establishing a Common Language

SCG develops the SCG risk universe which covers all risks potentially impacting the company's operations. The risk are categorized for easy understanding and practice into eight categories as follows: (1) safety, health and environment risk (2) compliance risk (3) intangible assets risk (4) hazard risk (5) input risk (6) operations risk (7) financial risk and (8) business risk.

3.2 Risk Assessment

SCG established common risk metrics to standardize assessment methodology across the organization. Risk Owners use various tools (e.g. statistical methods such as scenario analysis, correlation analysis, and benchmarking) to assess the likelihood, severity, and manageability of risk. The assessment results are then compared with specified risk limits, which are devised in accordance with risk appetite. SCG divides risk limit into two levels, the corporate level and the Business Unit level. If the risk owners find that a residual risk remains higher than the designated risk limit, countermeasures must be clearly stated and reported to the Business Unit Risk Management Committee or the SCG Risk Management Committee, until such risk is at the acceptable level.

3.3 Risk Management Process

In order to put the above risk framework into practice, SCG designated three primary approaches to manage risk. These are (1) medium and long-term strategic risk management (2) investment project risk management and (3) operational risk management. These risk management processes are documented in the "SCG Risk Management Manual" which provides guidelines and enhances mutual understanding among all concerned parties.

4. Building a Corporate Risk Culture

SCG recognizes that the risk culture is a critical component of the success of risk management, even with leading risk management tools and standards. If parties within the Company do not share a similar understanding of the risk management framework or its components (such as risk appetite), or possess mindsets which are not in accordance with SCG risk management

guidelines, erroneous decision-making with regard to risk/return tradeoffs can arise. SCG has therefore established guidelines for building a corporate risk culture as follows:

- Develop future policies and a risk management system via collaborative workshops.
- Develop joint commitment among key concerned parties via meetings, interviews and requests for recommendations.
- Enable practical application at work by designating a business unit risk champion.
- Develop the risk management system which can add value to the business by designating the Corporate Risk Management Unit to follow-up on progress and continuously improve the system.
- Designate risk management as a component of employee training and development programs.

Safety, Health, and Environment Risk - Occupational health and safety - Increasing environmental conservation trends	Compliance Risk Compliance with regulations for overseas operations	Intangible assets Risk Building and managing brands for overseas operations	Hazard Risk - Political unrest in Thailand - Natural disasters
Input Risk - Fluctuation of fuel and major raw material prices - Labor shortage and rising wages	Operations Risk - Supply chain risk - Human resource management and competency development to support future growth	Financial Risk - Fluctuation of foreign exchange rates - Higher leverage resulting from rapid growth of investment projects	Business Risk - Disruption of major government projects in Thailand - Significant events in countries of investment - Industry trends and volatility

Key Risks and Management Strategies in Accordance with the Sustainable Development Approach

Following risk assessment which took into consideration significant economic forecasts, social trends, environmental trends, as well as the business objectives of the Company, SCG faces eight major types of risks, categorized in the SCG Risk Universe as above table.

SCG uses a diverse number of strategies in managing such risks, namely, to retain, exploit, transfer, reduce, and avoid as deemed appropriate. Details of such key risks and management strategies are as follows:

1. **Safety, health and environment risk** consists of significant risks as follows:

- 1.1 **Occupational Health and Safety**

SCG conducts its businesses in heavy industries which rely upon both machinery and chemical substances. In addition, the rapid growth of its business, both domestically and overseas, may also contribute to possible accidents or other undesirable health and safety incidents. These, in turn, affect not only the injured party on both physical and mental levels, but may also damage the SCG's reputation as well as increase its costs.

Preventive Measures and Corrective Actions

SCG recognizes that "human resources are a critical factor and a valuable resource" and therefore attributes importance to the health and safety of its employees and business partners. The Group applies proactive measures to prevent such incidents before losses arise. This includes stipulating risk appetite and risk limits at levels indicating that occupational health and safety risks are considered unacceptable at SCG. Safety is also designated as a Key Performance Indicator, which must be monitored and reported to both the Business Unit Management Committee and the SCG Management Committee a monthly basis. In addition, the SCG Safety Framework and Safety Performance Assessment Program were also applied to companies within SCG, both domestically and overseas, to ensure practices generate visible results. SCG carried out the analysis of unsafe working behavior, the survey of safety risk points, danger zones, and the inspection of working conditions and how light, noise, and dust could affect employees' health. Such information was used to determine preventive measures and mitigation plans as well as to compile a work safety manual and promote the understanding of safety issues to employees, business partners and other relevant third parties. With regard to SCG Chemicals, where sensitivity to safety risks is high, a consultant was contracted to develop a Process Safety Management System in line with internationally accepted standards, and an independent expert on safety was contracted to conduct a third party audit.

- 1.2 **Increasing Environmental Conservation Trends**

SCG recognizes that environmental problems are causing widespread impact with regard to climate change, geographical conditions, and the increasing escalation of natural disasters. This has resulted in various environmental conservation movements, which may affect continuity of business operations, the Group's reputation, or increasing costs due to compensation expenses which may arise. SCG emphasizes an environmentally friendly production process and a control of pollution levels to be within, or lower than, regulatory

limits. SCG launched a number of projects aimed at maintaining its relationship with the community and stakeholders. SCG also assessed various risk factors which form the basis for relevant environmental problems as follows:

1.2.1 Industrial Waste and Pollution

SCG's core business is a manufacturing business in an industry which is reliant upon the use of energy, machinery, and chemical substances, all of which could affect environmental conditions and the community surrounding the plant. This may trigger environmental activism or opposition from the surrounding community.

Preventive Measures and Corrective Actions

SCG's waste management policy regarding waste from the production process mandates that the emissions of chemical waste, dust and particles, odors and noise pollution are lower than regulatory limits. Continuous enhancement of industrial waste management methods have been carried out by stringently applying the 3Rs principles (Reduce, Reuse/Recycle, Replenish). Focus is given to recycling such waste for reuse within the Group so as to minimize waste to be disposed. For waste requiring external disposal, SCG closely monitors and inspects the disposal process. Certain types of waste, such as used oils, used solution, rubber and plastic scraps which can be used as alternative raw materials and alternative fuels in cement production, are incinerated in the cement kiln at high heat, without causing environmental problems and without affecting cement quality. To this end, SCG Eco Services Ltd., accredited with ISO 14001:2004 standards for the production of alternative fuels from chemicals and recyclable waste, has been contracted. To manage air pollution resulting from dust and particles, chemical substances and odors, SCG uses air pollution treatment equipment, which is highly efficient and includes a Continuous Emission Monitoring System (CEMs). In addition, SCG also has an environmental laboratory to monitor operations and ensure that no adverse environmental impacts occur.

1.2.2 Biodiversity

SCG recognizes that the Company's operations could impact biodiversity. The limestone quarry directly impacts biodiversity and the surrounding forest ecosystem in particular. A part of SCG's operations is also reliant upon the abundance of natural resources, such as the paper manufacturing process which depends on eucalyptus pulp as its primary raw material. The eucalyptus plantation requires soil which contains sufficient minerals and nutrients.

Preventive Measures and Corrective Actions

In managing the limestone quarry to reduce its biodiversity impact, SCG uses a “cradle to grave” procedure which comprises the following: collaborating with external experts to study and formulate a Master Plan aimed at rehabilitating the quarry while preserving the biodiversity of surrounding areas; compliance with preventive measures and mitigation plans regarding environmental impact throughout the mine’s operation; ensuring the allocation of necessary resources in rehabilitating the mine and the conservation of biodiversity throughout the life of the mining operation; consistently communicating with and enhancing the understanding of surrounding communities; sourcing local plant species for the rehabilitation process in order to restore the ecological system back to its original state (as far as possible). In addition, SCG established a center to educate surrounding communities on the diversity of the ecosystem as well as the various ways to carry out rehabilitation of the quarry and to serve as a knowledge center for the community and other interested persons.

In order to reduce the impacts arising from the production of paper pulp from eucalyptus trees, SCG conducts its operations based upon the practices for sustainable forest management in line with the standards mandated by the Forest Stewardship Council (FSC) which comprises the following principles: maintaining or enhancing the forest ecosystem; enhancing biodiversity in the conservation areas of the forest; rehabilitating the natural ecology of the forest; conservation of the habitats of rare, threatened or endangered plant and animal species; enhancing the quality of life for local communities; and supporting the optimal use of and adding value to forest products.

1.2.3 Climate Change

Climate change and global warming have had pervasive impacts domestically, regionally and across the globe, giving rise to risks pertaining to the environment and natural disasters, which in turn, may have consequences upon SCG’s business operations: for instance, factors such as temperature change, affecting the survival of certain living organisms and plants, could impact the biodiversity of the ecosystem. The melting of polar ice caps caused sea levels to rise, resulting in severe flooding. Rising temperatures could cause forest fires, droughts, and water shortages in certain areas. Significant events of global warming today are the result of human behavior, due to such activities as the burning of fossil fuels and the emission of greenhouse gases.

Preventive Measures and Corrective Actions

SCG conducted an assessment of factors contributing to the greenhouse effect and systematically manages this by: creating a record of greenhouse gases for use as fundamental data in monitoring greenhouse gas emissions; setting a target goal of a 10% reduction in greenhouse gas emissions from the production process by the year 2020 (using 2007 as the base year); and studying and developing technologies for the use of alternative fuels, using biomass and waste scraps from domestic households and factories as alternative fuels in the production process. These projects have contributed to SCG saving energy costs of 213 Million Baht in 2013. SCG also continuously improved machinery to utilize energy more efficiently; such as the recovery of waste heat from the cement production process to generate electricity using the Waste Heat Power Generator, resulting in the reduction of the purchase of electricity from external sources by 30%, or an annual savings of 1,500 Million Baht. In addition, SCG also accelerated the development of environmentally-friendly products under the SCG eco value label. This will not only assist in enhancing acceptance from society, but will also create competitiveness over the long term, as consumers and stakeholders are more likely to choose products and services which are environmentally-friendly, or have a lower carbon content. In 2013, SCG's revenue from sales of products under the SCG eco value label amounted to 114,770 million Baht or 26% of total sales.

1.2.4 Water Resource Risks

Water is a principal natural resource used by SCG in its business operations. SCG Paper uses water in the planting of eucalyptus trees, boiling chopped wood to produce paper pulp, rinsing paper pulp, and producing steam power for use in the production process. SCG Chemicals uses water in the plastic resin cutting process, as well as to control the pressure and temperature of the machinery used in the production of plastic resins. SCG uses water from three principal sources: surface water, groundwater and piped water. Throughout each product's life cycle, SCG considers water resource risks comprehensively as follows:

- Risks from water shortages and water quality that enters the production process:
The increase in world population has consequently increased global demand for water. Meanwhile, the availability of natural water sources is limited, with a tendency towards further reduction due to global warming. This may result in water shortages which could disrupt SCG's production processes, or increase production costs due to the need to locate alternate sources of water. In addition, human consumption of water causes pollution due to the discharge of waste and chemicals into the water. With regard to water quality risks, if the water used in the production process does not meet requisite standards, not only will production costs increase due to the need to condition the water, product quality will be altered and the efficiency and working life of the machinery will be affected.
- Risks arising from volume and quality of water from the production process:
Water from the production process which has been treated prior to being released back into public water sources must not cause any environmental impact and be in compliance with regulatory requirements. Otherwise, the environment and ecosystem surrounding the plant could be affected, which could give rise to opposition from the local community, cause additional burdens with regard to compensation costs for damages or expenses for waste disposal in line with regulatory requirements, or damage the Group's reputation, which cannot be valued in monetary terms.

Preventive Measures and Corrective Actions

SCG continues to focus on resolving the problems of water balance. As such, SCG determined measures to address water resource risks. SCG appointed a water management working group whose responsibility is to set policies, practice guidelines, and propose relevant goals and targets to ensure SCG's water management yields optimum benefits. The Committee also surveys and monitors water volume from various sources, such as reservoirs and rivers located in those areas where SCG's industries are operating, so as to set crisis levels for water. The Committee also forecasts water requirements of the manufacturing, agricultural and household sectors, and the available water supply to determine the difference, in order to identify the possibility of a water crisis, and prepare relevant measures should such a crisis arise. The Committee initiates new projects and identifies various tools and instruments to reduce

the use of water in the production process, or to carry out wastewater treatment even more efficiently. The Committee also remains on alert by monitoring the water situation via diagnosis equipment which measures water quality continuously. It also establishes targets similar to those used internationally, and collaborates with local communities and stakeholders in carrying out projects which raise consciousness about the importance of water resources.

2. **Compliance risk** consists of significant risks as follows:

2.1 **Compliance with regulations for overseas operations**

In line with its vision to become a regional leader, SCG continued to expand its investments overseas. Due to the diverse nature of each country where SCG maintains its investments (including differences in legal and court structure, system, and practices), the Company attributes importance to compliance with relevant laws and regulations overseas. Failure to fully comply with such regulations may lead to losses due to: legal disputes, which in turn could damage the Company's reputation; the imposition of penalties and fees; or the loss of the opportunity to exercise rights with regard to the law. In addition, if employees do not possess accurate understanding of SCG's own regulations and business practices, further losses, either financial or those concerning the discredit of SCG's reputation, could arise.

Preventive Measures and Corrective Actions

SCG formulated risk management measures such as studying various good practices to develop the compliance framework in order to ensure systematic governance and management. The Company has assessed risks and will apply the Framework to high risk areas. The Company also stipulates, via its operations manual and the organization of workshops, that SCG overseas companies comply with relevant laws and regulations (both internal and external to the companies). SCG's internal audit processes are used to oversee compliance with the manual. SCG also closely monitors potential changes with regard to laws and regulations relevant to SCG.

3. **Intangible assets risk** consists of significant risks as follows:

3.1 **Building and managing brands for overseas operations**

Reputation risk is a major risk which could have swift and severe repercussions, both in the short run and over the long run, and which cannot be valued in monetary terms. Due to SCG's 100 years of operation as a reputable organization, stakeholders may have higher expectations of the SCG brand. For SCG's investment growth overseas, the "One SCG

Brand” strategy has created new opportunities for SCG to increase the sales of its products and services, based on the strength of the original SCG brand. However, this has also increased risk exposure due to the different operating environments, practices and cultures which vary from country to country.

Preventive Measures and Corrective Actions

In 2013, SCG appointed a Country Brand Committee for Indonesia and Vietnam. The Committee determines guidelines for brand management in each country so as to be in line with the overall business strategies and brand management of SCG. The Committee oversees the marketing strategies and activities of each country’s business to ensure effective consistency with the SCG brand strategy, and establishes guidelines and strategies for building SCG Brand Engagement with key corporate stakeholders. As part of its standard business operations, SCG regularly conducts a corporate reputation survey, which surveys attitudes and satisfaction of key stakeholders. Survey results are then analyzed with regard to expectations and possible risks to determine future strategies. In addition, SCG consistently hosts crisis communications training and simulation sessions to educate relevant employees, helps to establish a crisis management plan, as well as ensuring employee readiness in handling various crises via drills. SCG also designates a communication procedure to ensure all relevant parties are effectively informed to ensure correct and timely understanding which also contributes to enhancing the corporate reputation. SCG continues to support projects beneficial to the environment and youth development, as well as projects which provide public benefits, both in Thailand and in the countries in which it conducts business.

4. Hazard risk consists of significant risks as follows:

4.1 Political Unrest in Thailand

SCG recognizes that present-day business operations face risks from possible threats as a result of political instability in the country. Such events present direct repercussions on the lives, properties and safety of employees, which inevitably affects business operations.

Preventive Measures and Corrective Actions

SCG ensures readiness by continually monitoring and assessing the political situation. Should a potentially violent scenario arise, a Crisis Room will be set up to monitor and closely track developments, transmit critical information on the situation and specify actions to ensure the safety of all concerned, strengthen security measures at SCG business locations, and

formulate a Business Continuity Plan, which incorporates an information technology readiness plan, as well as plans for employees to work at home or at the SCG Backup Office.

4.2 Natural Disasters

Statistics of natural disasters reflect their increasing severity. The flooding in Thailand and Typhoon Haiyan in the Philippines have affected economies on a wide scale, resulting in the loss of lives and property, and possibly causing disruption with regard to the supply chain and business operations.

Preventive Measures and Corrective Actions

SCG implements a business continuity management process to companies within SCG, both domestically and overseas and has a plan to roll out this process to all companies. The business continuity management process consists of a value chain analysis to identify critical processes, assesses risks and ranks the importance of each risk identified in the critical process, in order to formulate risk management strategies and compile a Risk Treatment Plan, an Emergency Response Plan and a Business Continuity Plan (BCP). The BCP incorporates an operations plan and designates responsible parties in the event of business disruption during a crisis. Regular drills outlined in the BCP is also mandated. In addition, SCG attributes importance to natural disaster preparedness by monitoring possible natural disasters via reputable sources from both the government and other organizations. The Corporate Business Continuity Management (BCM) and the BCM of each Business Unit monitors, processes, and communicates relevant news and information pertaining to the situation, as well as alerts employees and business groups who may be affected to ensure readiness in handling the situation according to the Business Continuity Plan.

5. Input risk consists of significant risks as follows:

5.1 Fluctuation of Fuel and Major Raw Material Prices

5.1.1 Coal is a primary fuel in the production of cement and paper. This year coal prices continue to decline slightly from last year. The average Newcastle coal price in 2013 was 85 USD per ton, decreasing by 1 USD per ton, or a decrease of 1% from the average price in 2012. The price drop was due to the increased supply of coal from major exporters such as Australia and Indonesia, who continue to increase production. Although demand for coal faces a slower pace of growth, the risk of higher prices exist in the long term as supply growth is expected to slacken, while demand is expected to

rise due to Chinese and global economic recovery, all of which will drive production costs for both cement and paper higher.

Preventive Measures and Corrective Actions

SCG formulated several measures in response to such risks, by increasing the use of alternative fuels, such as biomass fuels; exploring new sources of fuels; carrying out long-term coal contracts; hedging prices to reduce price volatilities; purchasing at spot prices when coal prices decline significantly; and investing in energy efficient projects such as the Waste Heat Power Generator, which reuses waste heat from cement production.

5.1.2 Petrochemical major raw materials and products

The average Naphtha prices was 922 USD per ton, decreasing by 3% from the previous year, due to decreasing crude oil prices stemming from increased supply in the United States of America. HDPE plastic resin prices and PP plastic resin prices averaged at 1,488 and 1,519 USD per ton, an increase of 7% and 4% respectively due to a recovering global economy which resulted in an overall higher margin between the product and raw material prices when compared to the previous year.

Preventive Measures and Corrective Actions

SCG manages raw material costs by hedging purchase prices of Naphtha, and restricting purchase volume to levels suitable to market conditions and product purchase orders. On the sales side, SCG maintains its profit margins between raw material prices and sale prices by accelerating forward selling, driving product sales in overseas markets which offer higher returns, conducting research and developing high value added products and services which meet customer needs, as well as works to retain market share in countries with a strategic customer base.

5.1.3 Wood and Waste Paper

Wood and Waste Paper are principal raw materials in the production process of SCG paper.

Wood: In 2013, the price of eucalyptus wood, a principal raw material in the production of short fiber composites by SCG Paper, increased by approximately 6% from the year before. This is due to low levels of domestic wood inventory (a consequence of a longer than average rainy season which delayed the harvesting of wood) and the rise of export wood prices, while global short fiber composite prices rose approximately 4% from the previous year.

Preventive Measures and Corrective Actions

SCG Paper manages risks related to both the volume and price of wood by using the Geographic Information System (GIS) and the Management Information System (MIS). Both GIS and MIS were applied to monitor forest areas and wood volume. To ensure continuous availability of its raw materials, SCG Paper expanded channels for the purchasing of wood, and promoted the planting of various species of wood in line with the diverse geography of each area. SCG also monitors wood prices domestically and overseas so as to alter wood purchasing strategies and inventory management to ensure competitiveness.

Waste Paper: in 2013, the average domestic price of waste paper dropped from 6,500 Baht per ton to 5,700 Baht per ton, compared to the previous year. Sluggish economies both in Thailand and overseas affected the manufacturing sector through a slackening of demand for waste paper in both the domestic and global markets. With regard to the domestic market, the price of SCG Kraft paper decreased at lower levels than the price of waste paper due to sustained sales and marketing activities.

SCG Paper managed and monitored such scenarios, enabling it to make profits from the margin between waste paper production costs and the sale price of Kraft paper. However, the company continues to assess possible repercussions as both the volume and price of waste paper are expected to further increase, in light of the improving global economy in 2014.

Preventive Measures and Corrective Actions

SCG Paper manages risk by monitoring economic trends, volume and market prices of raw materials, as well as by closely following waste paper purchasing behavior of major producers in the global market, in order to identify opportunities to purchase waste paper at spot price and maintain raw material inventory at appropriate levels. The company also considered selling trends to support decision-making for increasing or reducing the volume of raw materials purchased and storage levels. Furthermore, the company sought additional sources of raw materials by purchasing waste paper directly from users and investing in additional points of purchase and baling stations, both domestically and overseas. SCG Paper also improved the efficiency of the manufacturing process to reduce costs and increased the use of domestic waste paper to reduce dependence on waste paper imports as well as the impacts from the volatility of prices and supply in the global market.

5.1.4 Aggregates

Aggregates consist of rock and sand, which are principal raw materials for the production of cement and other products manufactured by SCG Cement-Building Materials. At present, the demand for aggregates has increased each year due to the expansion of investment projects by both the public and private sectors, resulting in an upward trend for the prices of aggregates.

Preventive Measures and Corrective Actions

SCG Cement-Building Materials manages risks pertaining to the volume and costs of raw materials by seeking additional sources of raw materials and carrying out long-term purchase agreements.

5.2 Labor Shortage and Rising Wages

Prospects for regional economic growth have led to increased demand for labor, which may result in labor shortages and rising wages.

Preventive Measures and Corrective Actions

Labor shortages and rising wages have promoted SCG to increase the use of technology. The Group also has a policy to hire subcontractors as appropriate. SCG also collaborated with academic institutions in Thailand and within the ASEAN region, with the objective of developing human resources and shaping them to become part of the future ASEAN. One such program is the “Vocational Students for the Nation Scholarships” project which aims to develop the skills and knowledge vital to building a future profession. Upon graduation, recipients will be able to start their careers flawlessly, whether working in a high demand industry (particularly with regard to the advent of the ASEAN Economic Community, or AEC) or in other sectors. Relationship-building with universities and other institutions in ASEAN was also continuously performed, with university professors invited to SCG Thailand and the recruitment of top university students as employees.

6. Operations risk consists of significant risks as follows:

6.1 Supply Chain Risk

SCG assessed the supply chain risks and specify the risks as follows

- Procurement: shortage of raw materials and production equipment due to inadequate supplies in the market, or dependence on certain suppliers which may lead to increasing costs.

- Production: Inadequate production capacity may cause a loss in sales opportunity or excessive production capacity incurring unnecessary expenses or inefficient production process may cause higher production cost and reduce competitive edges
- Delivery: The delay or interruption of raw material and product delivery due to natural disaster, the perils of war and politics, and labor protest may cause disruption to production continuation or delayed product shipment to customers.
- Sales of goods: Inaccurate sales estimate may have an impact on the supply chain starting with the purchase order of raw materials and inventory management which all impact cost as well as the deterioration of raw materials or finished goods.
- Information technology: damages to the information technology infrastructure or the lack of systems connectivity cause the lack of crucial information needed for decision making or misleading information.

Preventive measures and corrective actions

SCG considers the risk factors throughout the Supply Chain to begin with the process of procurement of raw materials and materials and equipment used in the production, transportation to sales and delivery of products and services. For the purpose of managing the risk in relation to Supply Chain, SCG uses various instruments and methodology for assessment, for example, the assessment of supply chain disruption risks via the risk methodology of business continuity management, the Spend Analysis that helps categorize key expenses of the production and develop management strategies, identification of key business partners which may impact the business operations by considering economic, social and environmental risks, development of business partners according to sustainable supply chain concept, and the application of Portfolio Diagram in determining the methodology handling key business partners.

6.2 Human Resource Management and Competency Development to Support Future Growth

SCG has dedicated to excellence and in its one hundred years of operation, has always believed in the value of the individual. SCG recognizes the importance of employees as key contributors to the success of the Group. The loss of key personnel may cause the reduction of efficiency and effectiveness in operations, disrupt business continuity, increase costs with regard to the recruitment and training of new employees, while possibly causing the loss of certain knowledge areas. Integration into the AEC in 2015 will facilitate the mobility of skilled labor. This in turn may affect the retention of highly skilled employees, but at the same time

could present the opportunity to attract skilled personnel from overseas due to a wider labor market.

Preventive measures and corrective actions

SCG earnestly ensured the readiness of its employees in Thailand to support the future growth of its operations. SCG also developed SCG staff in its companies in ASEAN countries to ensure competency and readiness to advance to management level in those countries. Staff assigned to ASEAN countries are systematically prepared to ensure that they are equipped with relevant knowledge and skills suited to their overseas assignments. Such preparation includes cross-cultural management and communication, managerial skills to ensure preparedness with regard to differing attitudes and work practices, adaptability skills, networking and interpersonal skills, building a global mindset to enhance understanding of conducting business with overseas parties, and change management. In addition, SCG has a plan to establish a Country Business Support Office (CBSO) in strategic countries to promote investment in ASEAN as well as develop the competency of SCG employees within ASEAN. The company has already set up the CBSO in Indonesia.

7. Financial risk consists of significant risks as follows:

7.1 Fluctuation of Foreign Exchange Rates

The fluctuation of foreign exchange rates presents a significant risk for SCG, due to global economic volatility, SCG's expansion of overseas investments, and the Group's increasing international trade. Effective management of such risk may contribute to reducing business costs, and avert losses from foreign exchange rates.

Preventive measures and corrective actions

SCG appointed the SCG Financial Committee to mandate financial policies for SCG companies and ensure that financial management is consistent across SCG. The policies concern the elimination of foreign exchange risks. The Financial Committee meets monthly to monitor key economic and financial developments, assess risks regarding foreign exchange rates and its effects, as well as to formulate guidelines on carrying out timely and appropriate responses to such risks.

7.2 Higher leverage resulting from Rapid Growth of Investment Projects

In line with SCG's Business Plan which aims to expand its overseas investments, most notably in the ASEAN region, significant capital expenditure is required. In addition to the cash inflows from operations, additional funding sources may be needed, which could affect the financial position of the Group, or result in higher financial ratios than is deemed acceptable.

Preventive measures and corrective actions

To diversify risk, SCG considers various sources of funding, such as debentures denominated in Thai Baht and in foreign currency, secured loans from banks both in Thailand and overseas. Moreover, SCG has developed a cash pooling system to effectively track and manage excess cash. SCG specified acceptable financial ratios and managed them to be in line with the acceptable level. SCG also carefully considered and systematically ranked large-scale investment projects based on risk and return analysis before making investment decisions.

8. Business risk consists of significant risks as follows:

8.1 Disruption of Major Government Projects in Thailand

Political instability has affected the direction of the Thai economy, trade, investment, and policies for the development of infrastructure. As such, the state mega-project valued at two trillion Baht could be affected, which in turn could slacken growth in the building materials sector. However, SCG views that the construction sector is still driven by regional economic activity, stemming from economic liberalization and the advent of the AEC in 2015, which resulted in lively trade and investment across the region and along the borders, leading to the development of basic infrastructure in neighboring countries, and benefitting private sector investment in infrastructure in nearby countries.

Preventive measures and corrective actions

SCG addresses these risks by distributing product sales to all consumer groups both in the private and public sectors. The disruption of state mega-projects will therefore not have severe repercussions due to demand from other consumer groups, including local state projects which are still carried out continually. SCG also conducts research and analysis to forecast market trends and the potential growth of each client group, so as to retain its client base and seize opportunities which may arise due to changing business conditions.

8.2 Significant Events in Countries of Investment

SCG assesses and monitors the country-specific risks of the countries in which it continuously maintains investments. In this regard, SCG anticipates major trends for the following year, namely: the political situation and changes of state policy in Indonesia such as the reduction of oil price subsidies and the possibility of more stringent regulations with regard to foreign investors and export policies; all of which could impede growth in Indonesia, affect

production costs of SCG, or create complications for SCG investments in the country. The volatility of the Indonesian Rupiah may also affect operating performance.

Preventive measures and corrective actions

SCG monitors and assesses country-specific risks with regard to socio-economic aspects, legal system and taxation, infrastructure readiness, political factors and conflict, as well as major global crises. SCG uses a scenario-planning and sensitivity analysis methodology in analyzing and evaluating the repercussions of such incidents to ensure readiness, and formulates appropriate risk management measures, based on cost benefit analysis. Such measures include the plan to establish a Country Business Support Office in each country in order to closely monitor relevant situations. SCG conducts the diligent assessment of risks associated with investment projects prior to making decisions, applies measures to reduce production costs to compensate for variable costs which could increase due to reduction of government subsidies; and increases investment proportion in other countries instead, such as becoming a major shareholder in a ceramics business in Vietnam and building a cement production plant in Myanmar, so as to diversify risk, and optimize benefits resulting from integration of the AEC.

8.3 Industry Trends and Volatility

The petrochemical industry is a cyclical industry with fluctuations of demand and supply, affecting prices of raw materials and plastic resins in the global market. The operating results of SCG Chemicals for the past year reflect such volatility; for instance, during periods of oversupply, profits decreased as a result of reduced plastic resin prices. However, SCG views that the petrochemical industry shows the upward trend in the coming year, due to anticipated global economic recovery, resulting in a higher demand growth than supply growth; while volatility of raw material prices should reduce when compared to the previous year, as a result of easing of tensions in the Middle East, all of which contribute to the company's assessment that it will receive higher returns overall. With regard to the paper and packaging business, such business continues to be affected by the change in consumer behavior, which increasingly favors the use of electronic media.

Preventive measures and corrective actions

SCG manages risks by closely monitoring the market and movements of its competitors. SCG emphasized investment in other businesses, such as integrating the cement, building materials and distribution businesses to create synergy in the building materials business. SCG also accelerated the development and sales of high value-added products, including

the modification of the value chain of the paper and packaging businesses to fibrous chain and packaging chain so as to add value throughout the production cycle, beginning from paper pulp to packaging, in order to diversify risk.

4. Asset Used in Operation

Total Assets

Total assets of The SCG at the end of 2013 were Baht 440,436 million of which 31 percent of them are current assets, comprising of cash and cash equivalents, trade accounts and notes receivable, and inventories. The rest (69 percent) are investments, property, plant and equipment, and other assets.

Most assets shown in the financial statements of the Company and its subsidiaries were built by and 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>2013</u>	<u>2012</u>	
SCG Cement-Building Materials	155,458	129,818	Million Baht
SCG Chemicals	192,063	176,837	Million Baht
SCG Paper	65,169	58,439	Million Baht
Other	246,621	215,586	Million Baht

From the consolidated financial statements at the end of 2013, SCG's property, plant and equipment have carrying values of Baht 183,589 million, which are 42 percent of total assets.

Property, Plant and Equipment - Net

(in million Baht)

Business Unit	Land		Building		Machine and Others		Total	
	Dec 31,13	Dec 31,12	Dec 31,13	Dec 31,12	Dec 31,13	Dec 31,12	Dec 31,13	Dec 31,12
SCG Cement-Building Materials	12,224	10,643	13,913	11,189	48,452	45,766	74,589	67,598
SCG Chemicals	2,884	2,761	5,407	5,574	67,953	68,265	76,244	76,600
SCG Paper	2,014	1,606	4,850	4,418	33,228	29,809	40,092	35,833
Other	431	18	1,332	78	1,296	1,066	3,059	1,162
Consolidated Financial	16,513	14,029	24,436	19,528	142,640	131,735	183,589	165,292

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

Intangible Assets

- Patent

At the end of 2013, SCG has 192 valid patents comprising 9 invention patents, 68 petty patents and 115 design patents. The number of patent owned by SCG Cement-Building Materials, SCG Chemicals, SCG Paper and the Siam Cement Plc. are 134 patents, 34 patents, 22 patents, and 2 patents, consecutively. List of important 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
<u>The Siam Cement Plc.</u>								
1	18017	Jan 11, 2005	The Siam Cement Plc.	9901000939 (049446)	Mar 22, 1999	A process for producing pozzolan from kaolin clay and rice husk ash	-	Mar 21, 2019
2	19730	Mar 21, 2006	The Siam Cement Plc.	9901000940 (049447)	Mar 22, 1999	A manufacturing process for cement products and/ or concrete with ceramic coating	-	Mar 21, 2019
<u>SCG Chemicals</u>								
3	37716	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000373	Feb 4, 2011	-	Container for crops	Feb 4, 2021
4	37715	Oct 25, 2013	SCG Chemicals Co., Ltd.	1102000374	Feb 4, 2011	-	Container for crops	Feb 4, 2021
5	Petty Patent 7762	Jan 16, 2013	SCG Chemicals Co., Ltd.	1103000619	Jun 21, 2011	Container	-	Jun 21, 2021

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
6	Petty Patent 6747	Dec 9, 2011	SCG Chemicals Co., Ltd.	0903000414	Apr 28, 2009	A fire-resistant polyethylene compound and a composite obtained by forming the fire-resistant polyethylene compound	-	Apr 28, 2019
7	28126	Jun 30, 2010	Thai Polyethylene Co., Ltd.	0101003359	Aug 21, 2001	A catalyst for ethylene polymerization and a process for ethylene polymerization using the catalyst	-	Aug 21, 2021
8	23793	Jun 2, 2008	Nawaplastic Industries Co., Ltd.	0402001092	Apr 19, 2004	-	Building component	Apr 18, 2014
9	23794	Jun 2, 2008	Nawaplastic Industries Co., Ltd.	0402001093	Apr 19, 2004	-	Building component	Apr 18, 2014
10	23795	Jun 2, 2008	Nawaplastic Industries Co., Ltd.	0402001098	Apr 19, 2004	-	Building component	Apr 18, 2014
11	24115	Nov 14, 2008	Nawaplastic Industries Co., Ltd.	0402000475	Feb 16, 2004	-	Building component	Feb 15, 2014
12	24116	Nov 14, 2008	Nawaplastic Industries Co., Ltd.	0402000477	Feb 16, 2004	-	Building component	Feb 15, 2014
13	24117	Nov 14, 2008	Nawaplastic Industries Co., Ltd.	0402001094	Apr 19, 2004	-	Building component	Apr 18, 2014
14	24118	Nov 14, 2008	Nawaplastic Industries Co., Ltd.	0402001100	Apr 19, 2004	-	Building component	Apr 18, 2014
15	24966	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001096	Apr 19, 2004	-	Building component	Apr 18, 2014

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
16	24972	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001097	Apr 19, 2004	-	Building component	Apr 18, 2014
17	25083	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001089	Apr 19, 2004	-	Frame component	Apr 18, 2014
18	25084	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001091	Apr 19, 2004	-	Building component	Apr 18, 2014
19	25085	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001090	Apr 19, 2004	-	Building component	Apr 18, 2014
20	25086	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402000481	Feb 16, 2004	-	Door or window frame component	Feb 15, 2014
21	25087	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402000479	Feb 16, 2004	-	Sliding door or window frame component	Feb 15, 2014
22	25088	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402000478	Feb 16, 2004	-	Sliding door or window frame trim component	Feb 15, 2014
23	25089	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001087	Apr 19, 2004	-	Door or window frame component	Apr 18, 2014
24	25090	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001088	Apr 19, 2004	-	Door or window frame component	Apr 18, 2014
25	25091	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402000474	Feb 16, 2004	-	Building component	Feb 15, 2014
26	25092	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402000473	Feb 16, 2004	-	Building component	Feb 15, 2014
27	25093	Jun 3, 2009	Nawaplastic Industries Co., Ltd.	0402001099	Apr 19, 2004	-	Building component	Apr 18, 2014
28	25496	Jun 18, 2009	Nawaplastic Industries Co., Ltd.	0402001095	Apr 19, 2004	-	Building component	Apr 18, 2014
29	25716	Mar 25, 2009	Nawaplastic Industries Co., Ltd.	0502000120	Jan 19, 2005	-	Building component	Jan 18, 2015
30	27039	Mar 16, 2010	Nawaplastic Industries Co., Ltd.	0502000122	Jan 19, 2005	-	Building component	Jan 18, 2015
31	27134	Mar 16, 2010	Nawaplastic Industries Co., Ltd.	0502000123	Jan 19, 2005	-	Building component	Jan 18, 2015

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
32	28461	Sep 17, 2010	Nawaplastic Industries Co., Ltd.	0502000126	Jan 19, 2005	-	Plastic pallet	Jan 18, 2015
33	28463	Sep 17, 2010	Nawaplastic Industries Co., Ltd.	0502000125	Jan 19, 2005	-	Plastic pallet	Jan 18, 2015
34	33133	Jul 6, 2012	Nawaplastic Industries Co., Ltd.	0702000288	Feb 2, 2007	-	Casement door or window frame component	Feb 1, 2017
35	33232	Jul 23, 2012	Nawaplastic Industries Co., Ltd.	0702000285	Feb 2, 2007	-	Fixed sash adapter	Feb 1, 2017
36	33233	Jul 23, 2012	Nawaplastic Industries Co., Ltd.	0702000287	Feb 2, 2007	-	Sliding door or window frame component	Feb 1, 2017
SCG Paper								
37	Petty Patent 3439	Aug 21, 2007	SCG Paper Plc.	0603000102	Jan 26, 2006	Splicer for Single Face	-	Jan 25, 2016
38	Petty Patent 6021	Mar 2, 2011	SCG Paper Plc.	0603001927	Dec 7, 2006	Pressure Testing Equipment	-	Dec 6, 2014
39	Petty Patent 6859	Jan 13, 2012	SCG Paper Plc.	0903001383	Nov 25, 2009	Mobile Pressure Testing Equipment	-	Nov 24, 2015
40	Petty Patent 7328	Jul 20, 2012	SCG Paper Plc.	1003000688	Jul 30, 2010	Pallet	-	Jul 29, 2016
41	Petty Patent 4196	Apr 29, 2008	Siam Kraft Industry Co., Ltd.	0603000103	Jan 26, 2006	Motion detector for slow speed machine	-	Jan 25, 2016

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
42	Petty Patent 4324	Jun 27, 2008	Siam Kraft Industry Co., Ltd.	0603001675	Oct 17, 2006	Wire twist machine	-	Oct 16, 2014
43	Petty Patent 3723	Oct 15, 2007	Thai Containers Songkhla (1994) Co., Ltd.	0603000791	Jun 19, 2006	Slitter Knife	-	Jun 18, 2014
44	Petty Patent 3724	Oct 15, 2007	Thai Containers Group Co., Ltd.	0703000328	Mar 16, 2007	Equipment for keeping and delaminate backing sheet of Black Tape	-	Mar 15, 2015
45	Petty Patent 4714	Jan 28, 2009	Thai Containers Group Co., Ltd.	0803000764	Jun 12, 2008	Box Partition	-	Jun 11, 2014
46	25568	Mar 3, 2009	Thai Containers Group Co., Ltd.	0402002194	Aug 26, 2004	-	Paper Pallet	Aug 25, 2014
47	29361	Dec 22, 2010	Thai Containers Group Co., Ltd.	0502004374	Dec 6, 2005	-	Cushion	Dec 5, 2015
48	29362	Dec 22, 2010	Thai Containers Group Co., Ltd.	0502004373	Dec 6, 2005	-	Cushion	Dec 5, 2015
49	31692	Jan 17, 2012	Thai Containers Group Co., Ltd.	0702002359	Sep 11, 2007	-	Cushion	Sep 10, 2017
50	34441	Nov 29, 2012	Thai Containers Group Co., Ltd.	0702002360	Sep 11, 2007	-	Container	Sep 10, 2017

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
51	34990	Feb 5, 2013	Thai Containers Group Co., Ltd.	0702001297	May 16, 2007	-	Paper Pallet	May 15, 2017
52	34991	Feb 5, 2013	Thai Containers Group Co., Ltd.	0702001298	May 16, 2007	-	Paper Pallet	May 15, 2017
53	34992	Feb 5, 2013	Thai Containers Group Co., Ltd.	0702001299	May 16, 2007	-	Paper Pallet	May 15, 2017
54	35765	May 28, 2013	Thai Containers Group Co., Ltd.	0702002882	Oct 31, 2007	-	Carton Blank	Oct 30, 2017
55	35766	May 28, 2013	Thai Containers Group Co., Ltd.	0702002883	Oct 31, 2007	-	Carton Blank	Oct 30, 2017
56	35767	May 28, 2013	Thai Containers Group Co., Ltd.	0702003392	Dec 21, 2007	-	Container Blank	Dec 20, 2017
57	36314	Jul 26, 2013	Thai Containers Group Co., Ltd.	0702003153	Nov 28, 2007	-	Carton Blank	Nov 27, 2017
58	36654	Aug 19, 2013	Thai Containers Group Co., Ltd.	0902000310	Feb 11, 2009	-	Folding Chair	Feb 10, 2019
SCG Cement-Building Materials								
59	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

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
60	27668	Mar 17, 2010	The Concrete Products and Aggregate Co., Ltd.	0701002440	May 17, 2007	Air brake system for motor	-	Mar 17, 2026
61	27669	Mar 17, 2010	The Concrete Products and Aggregate Co., Ltd.	0702001549	Jun 12, 2007	-	Hydraulic Concrete Bucket Conveyor	Jun 11, 2017
62	Petty Patent 3109	Mar 2, 2007	SCG Cement Co., Ltd.	0603000610	May 8, 2006	Producing compressive strength cement by using fluorspar	-	May 7, 2014
63	Petty Patent 3258	Jun 12, 2007	SCG Cement Co., Ltd.	0603001634	Oct 6, 2006	Mixture substance for mining work	-	Oct 5, 2014
64	Petty Patent 4831	Apr 20, 2009	SCG Cement Co., Ltd.	0803001101	Jul 14, 2008	Round column surface polishing Equipment	-	Jul 13, 2014
65	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, 2014

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
66	Petty Patent 7048	Mar 23, 2012	SCG Cement Co., Ltd.	0903000048	Jan 21, 2008	Method and testing kit for the closed packaging.	-	Jan 20, 2017
67	Petty Patent 7049	Mar 23, 2012	SCG Cement Co., Ltd.	0803000884	Jul 14, 2008	Dust-free by water-curtain	-	Jul 14, 2017
68	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
69	25337	Jan 23, 2009	The Siam Refractory Industry Co., Ltd.	0301003133	Aug 22, 2003	Spraying or Mortar Refractory	-	Aug 21, 2023
70	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, 2018
71	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
72	29833	Mar 31, 2011	The Siam Fibre-Cement Co., Ltd.	0602001170	Apr 28, 2006	-	Roof Tile	Apr 27, 2016
73	25463	Mar 19, 2009	SCG Building Materials Co., Ltd.	0502002199	Jun 30, 2005	-	Roof Tile	Jun 29, 2015
74	25464	Feb 17, 2009	SCG Building Materials Co., Ltd.	0502002200	Jun 30, 2005	-	Round Ridge	Jun 29, 2015

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
75	26085	Jun 5, 2009	SCG Building Materials Co., Ltd.	0402002256	Sep 2, 2004	-	Side Ridge	Sep 1, 2014
76	26086	Jun 5, 2009	SCG Building Materials Co., Ltd.	0402002255	Sep 2, 2004	-	Beginning Ridge	Sep 1, 2014
77	26361	Aug 5, 2009	SCG Building Materials Co., Ltd.	0402000467	Feb 13, 2004	-	Hook for tiles	Feb 12, 2014
78	28232	Jul 16, 2010	SCG Building Materials Co., Ltd.	0502002019	Jun 17, 2005	-	Roof Tile	Jun 16, 2015
79	28233	Jul 16, 2010	SCG Building Materials Co., Ltd.	0502002020	Jun 17, 2005	-	Roof Tile	Jun 16, 2015
80	28234	Jul 16, 2010	SCG Building Materials Co., Ltd.	0502002021	Jun 17, 2005	-	Roof Tile	Jun 16, 2015
81	28235	Jul 16, 2010	SCG Building Materials Co., Ltd.	0602002130	Jul 25, 2006	-	Rood Ridge	Jul 24, 2016
82	28292	Jul 23, 2010	SCG Building Materials Co., Ltd.	0602002133	Jul 25, 2006	-	Rood Ridge	Jul 24, 2016
83	28293	Jul 23, 2010	SCG Building Materials Co., Ltd.	0602002131	Jul 25, 2006	-	Rood Ridge	Jul 24, 2016
84	28294	Jul 23, 2010	SCG Building Materials Co., Ltd.	0602002132	Jul 25, 2006	-	Roof Tile	Jul 24, 2016
85	28295	Jul 23, 2010	SCG Building Materials Co., Ltd.	0602002129	Jul 25, 2006	-	Rood Ridge	Jul 24, 2016
86	29607	Feb 16, 2011	SCG Building Materials Co., Ltd.	0602003695	Dec 27, 2006	-	Corrugate roof tile	Dec 26, 2016
87	29693	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003696	Dec 27, 2006	-	Flat roof tile	Dec 26, 2016
88	29694	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003697	Dec 27, 2006	-	Flat roof tile	Dec 26, 2016

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
89	29695	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003698	Dec 27, 2006	-	Flat roof tile	Dec 26, 2016
90	29696	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003699	Dec 27, 2006	-	Flat roof tile	Dec 26, 2016
91	29697	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003705	Dec 27, 2006	-	Fascia Bracket	Dec 26, 2016
92	29698	Mar 7, 2011	SCG Building Materials Co., Ltd.	0602003706	Dec 27, 2006	-	Fascia Bracket	Dec 26, 2016
93	29819	Mar 31, 2011	SCG Building Materials Co., Ltd.	0602003700	Dec 27, 2006	-	First row roof tile	Dec 26, 2016
94	30006	May 12, 2011	SCG Building Materials Co., Ltd.	0602002134	Jul 25, 2006	-	Round Ridge	Jul 24, 2016
95	30023	May 23, 2011	SCG Building Materials Co., Ltd.	0602003702	Dec 27, 2006	-	Fascia Bracket	Dec 26, 2016
96	30582	Sep 6, 2011	SCG Building Materials Co., Ltd.	0502000449	Feb 18, 2005	-	Roof mounting mean	Feb 17, 2015
97	30583	Sep 6, 2011	SCG Building Materials Co., Ltd.	0502000452	Feb 18, 2005	-	Roof mounting mean	Feb 17, 2015
98	30584	Sep 6, 2011	SCG Building Materials Co., Ltd.	0402002861	Oct 21, 2004	-	Ventilated chimney	Oct 20, 2014
99	30821	Sep 27, 2011	SCG Building Materials Co., Ltd.	0502000216	Feb 1, 2005	-	Translucent Flat Tile	Jan 31, 2015
100	Petty Patent 5259	Mar 5, 2010	SCG Building Materials Co., Ltd.	0803000408	Mar 12, 2008	Conveyer machine	-	Mar 11, 2014
101	Petty Patent 5366	May 6, 2010	SCG Building Materials Co., Ltd.	0803000800	Jun 20, 2008	Conveyer machine	-	Jun 19, 2014

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
102	Petty Patent 5520	Jul 16, 2010	SCG Building Materials Co., Ltd.	0603001665	Oct 13, 2006	Conveyer machine	-	Oct 12, 2014
103	Petty Patent 5610	Sep 3, 2010	SCG Building Materials Co., Ltd.	0803000922	Jul 25, 2008	Method for installing roof insulation	-	Jul 24, 2014
104	Petty Patent 5898	Jan 11, 2011	SCG Building Materials Co., Ltd.	1003000350	Apr 26, 2010	Ventilated cabinet	-	Apr 25, 2016
105	Petty Patent 6099	Mar 25, 2011	SCG Building Materials Co., Ltd.	0903000394	Apr 24, 2009	Connector for waste water in water closet	-	Apr 23, 2015
106	Petty Patent 6218	May 12, 2011	SCG Building Materials Co., Ltd.	1003000629	Jul 16, 2010	Isostatic punch	-	Jul 15, 2016
107	Petty Patent 6326	Jun 24, 2011	SCG Building Materials Co., Ltd.	1103000369	Apr 12, 2011	Apparatus for roof attachment	-	Apr 11, 2017
108	Petty Patent 6440	Aug 1, 2011	SCG Building Materials Co., Ltd.	0803000801	Jun 20, 2008	Mould for ceramic tile	-	Jun 19, 2014
109	Petty Patent 6471	Aug 11, 2011	SCG Building Materials Co., Ltd.	1103000368	Apr 12, 2011	Cementitious garden floor	-	Apr 11, 2017

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
110	Petty Patent 6618	Sep 26, 2011	SCG Building Materials Co., Ltd.	0703000485	Apr 27, 2007	Method for bathroom renovation without damage existing structure	-	Apr 26, 2015
111	Petty Patent 6619	Sep 26, 2011	SCG Building Materials Co., Ltd.	0603000569	Apr 28, 2006	Rainbow glass tile and process thereof	-	Apr 27, 2014
112	Petty Patent 6648	Oct 5, 2011	SCG Building Materials Co., Ltd.	0803000600	Apr 29, 2008	Surface Covering	-	Apr 28, 2014
113	China Patent ZL200710305114.7	Aug 17, 2011	SCG Building Materials Co., Ltd.	20071030511 4.7	Sep 20, 2007	Apparatus and Method for Forming a Pattern in Ceramic Tile or Slab with Prescribed Thickness	-	Sep 19, 2027
114	Petty Patent 4182	Apr 18, 2008	Siam Fiber Glass Co., Ltd.	0603001313	Sep 14, 2006	Ceiling and wall board for heat insulation and sound absorption	-	Sep 13, 2014
115	Petty Patent 4183	Apr 18, 2008	Siam Fiber Glass Co., Ltd.	0603001315	Sep 14, 2006	Ceiling and wall board, made from fiberglass, with groove or tapered edge for heat insulation and sound absorption	-	Sep 13, 2014

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
116	Petty Patent 4184	Apr 18, 2008	Siam Fiber Glass Co., Ltd.	0603001314	Sep 14, 2006	Heat insulation for ceiling	-	Sep 13, 2014
117	30040	May 25, 2011	Siam CPAC Block Co., Ltd.	0602000284	Feb 2, 2006	-	Construction Materials	Feb 1, 2016
118	Petty Patent 1912	Aug 9, 2005	Saraburirat Co., Ltd.	0403000183	Feb 23, 2004	Polyurethane Mould	-	Feb 22, 2014
119	Petty Patent 2688	Jul 7, 2006	Thai Ceramic Co., Ltd.	0403000298	Mar 18, 2004	Production of glass tiles	-	Mar 17, 2014
120	Petty Patent 2756	Aug 9, 2006	Thai Ceramic Co., Ltd.	0403000710	Jul 7, 2004	Ceramic Cutting Machine	-	Jul 6, 2014
121	Petty Patent 2757	Aug 9, 2006	Thai Ceramic Co., Ltd.	0403000391	Apr 5, 2004	Gold or platinum glass tiles and production process	-	Apr 4, 2014
122	Petty Patent 2758	Aug 9, 2006	Thai Ceramic Co., Ltd.	0403000390	Apr 5, 2004	The production of luminous glass tile	-	Apr 4, 2014

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
123	Petty Patent 3009	Dec 26, 2006	Thai Ceramic Co., Ltd.	0403000885	Aug 20, 2004	Ceramic Color Testing Machine	-	Aug 19, 2014
124	Petty Patent 3273	Jun 15, 2007	Thai Ceramic Co., Ltd.	0403000389	Apr 5, 2004	Motion Image on decorative items and production process	-	Apr 4, 2014
125	Europe Patent EP1717000B1	Apr 1, 2009	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
126	33522	Aug 17, 2012	SCG Building Materials Co., Ltd.	0702000121	Jan 12, 2007	-	Concrete block dividing unit	Jan 11, 2017
127	33521	Aug 17, 2012	SCG Building Materials Co., Ltd.	0702000122	Jan 12, 2007	-	Floor tile	Jan 11, 2017
128	33520	Aug 17, 2012	SCG Building Materials Co., Ltd.	0702000123	Jan 12, 2007	-	Concrete block dividing unit	Jan 11, 2017
129	33217	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702000251	Jan 31, 2007	-	Curb	Jan 30, 2017
130	33222	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702001033	Apr 10, 2007	-	Roof tile	Apr 9, 2017

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
131	33745	Sep 11, 2012	SCG Building Materials Co., Ltd.	0702001034	Apr 10, 2007	-	Roof tile	Apr 9, 2017
132	32920	Jun 22, 2012	SCG Building Materials Co., Ltd.	0702001035	Apr 10, 2007	-	Roof tile	Apr 9, 2017
133	33220	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702002409	Sep 13, 2007	-	Fence	Sep 12, 2017
134	33219	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702002410	Sep 13, 2007	-	Fence	Sep 12, 2017
135	33218	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702002417	Sep 13, 2007	-	Construction material	Sep 12, 2017
136	32919	Jun 20, 2012	SCG Building Materials Co., Ltd.	0702002667	Oct 5, 2007	-	Roof tile	Oct 4, 2017
137	33221	Jul 20, 2012	SCG Building Materials Co., Ltd.	0702002668	Oct 5, 2007	-	Roof tile	Oct 4, 2017
138	32678	May 16, 2012	SCG Building Materials Co., Ltd.	0702002967	Nov 7, 2007	-	Construction material	Nov 6, 2017
139	33744	Sep 11, 2012	SCG Building Materials Co., Ltd.	0802000804	Mar 12, 2008	-	Construction Material	Mar 11, 2018
140	32764	Jun 1, 2012	SCG Building Materials Co., Ltd.	0802003120	Oct 17, 2008	-	Growing unit	Oct 16, 2018
141	Petty Patent 6648	Oct 5, 2011	SCG Building Materials Co., Ltd.	0803000600	Apr 29, 2008	Wall block	-	Apr 28, 2014
142	Petty Patent 7542	Oct 12, 2012	SCG Building Materials Co., Ltd.	1003001095	Oct 29, 2010	Vertical green panel	-	Oct 28, 2016

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
143	Petty Patent 7091	Apr 12, 2012	SCG Building Materials Co., Ltd.	1003001134	Nov 2, 2010	Glass mosaic	-	Nov 1, 2016
144	Petty Patent 6888	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000083	Jan 28, 2011	ALC counter	-	Jan 27, 2017
145	Petty Patent 6889	Jan 26, 2012	SCG Building Materials Co., Ltd.	1103000303	Mar 25, 2011	Screen wall system	-	Mar 24, 2017
146	Petty Patent 7615	Nov 16, 2012	Cement Thai Home Service Co.	1203000798	Jul 31, 2012	High-level display unit	-	Jul 30, 2018
147	Petty Patent 7656	Dec 4, 2012	Cement Thai Home Service Co.	1203000799	Jul 31, 2012	Lifting device	-	Jul 30, 2018
148	34903	Jan 28, 2013	SCG Building Materials Co., Ltd.	0802000825	Mar 13, 2008	-	Washbasin	Mar 12, 2018
149	34975	Feb 4, 2013	SCG Building Materials Co., Ltd.	0702002966	Nov 7, 2007	-	Ridge	Nov 6, 2017
150	35905	Jun 14, 2013	SCG Building Materials Co., Ltd.	0702002411	Sep 13, 2007	-	Fence	Sep 12, 2017
151	35906	Jun 14, 2013	SCG Building Materials Co., Ltd.	0702002413	Sep 13, 2007	-	Fence	Sep 12, 2017
152	35904	Jun 14, 2013	SCG Building Materials Co., Ltd.	0802000826	Mar 13, 2008	-	Roof tile	Mar 12, 2018
153	35907	Jun 14, 2013	SCG Building Materials Co., Ltd.	0802001448	Apr 25, 2008	-	Tile	Apr 24, 2018

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
154	35919	Jun 18, 2013	SCG Building Materials Co., Ltd.	0702002414	Sep 13, 2007	-	Fence	Sep 12, 2017
155	35921	Jun 18, 2013	SCG Building Materials Co., Ltd.	0802001447	Apr 25, 2008	-	Growing unit	Apr 24, 2018
156	35920	Jun 18, 2013	SCG Building Materials Co., Ltd.	0802001449	Apr 25, 2008	-	Tile	Apr 24, 2018
157	35922	Jun 18, 2013	SCG Building Materials Co., Ltd.	0802001450	Apr 25, 2008	-	Tile	Apr 24, 2018
158	35923	Jun 18, 2013	SCG Building Materials Co., Ltd.	0802001451	Apr 25, 2008	-	Tile	Apr 24, 2018
159	35966	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000805	Mar 12, 2008	-	Block	Mar 11, 2018
160	35970	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000823	Mar 13, 2008	-	Bidet	Mar 12, 2018
161	35971	Jun 25, 2013	SCG Building Materials Co., Ltd.	0802000824	Mar 13, 2008	-	Sanitary ware	Mar 12, 2018
162	38303	Nov 29, 2013	SCG Building Materials Co., Ltd.	0802000827	Mar 13, 2008	-	Wall tile	Mar 12, 2018
163	36132	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000057	Jan 16, 2009	-	Roof tile	Jan 15, 2019
164	36133	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000506	Feb 25, 2009	-	Roof tile	Feb 24, 2019
165	36134	Jul 15, 2013	SCG Building Materials Co., Ltd.	0902000507	Feb 25, 2009	-	Roof tile	Feb 24, 2019
166	36368	Jul 31, 2013	SCG Building Materials Co., Ltd.	0502000451	Feb 18, 2005	-	Fixing device	Feb 17, 2015
167	36367	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000056	Jan 16, 2009	-	Roof tile	Jan 15, 2019
168	36369	Jul 31, 2013	SCG Building Materials Co., Ltd.	0902000505	Feb 25, 2009	-	Roof tile	Feb 24, 2019
169	36778	Aug 28, 2013	SCG Building Materials Co., Ltd.	0402002257	Sep 2, 2004	-	Fixing device	Sep 1, 2014
170	36779	Aug 28, 2013	SCG Building Materials Co., Ltd.	0902000164	Jan 28, 2009	-	Fixing device	Jan 27, 2019

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
171	36780	Aug 28, 2013	SCG Building Materials Co., Ltd.	0902000165	Jan 28, 2009	-	Fixing device	Jan 27, 2019
172	37016	Sep 16, 2013	SCG Building Materials Co., Ltd.	0502000450	Feb 18, 2005	-	Fixing device	Feb 17, 2015
173	37017	Sep 16, 2013	SCG Building Materials Co., Ltd.	0502000453	Feb 18, 2005	-	Fixing device	Feb 17, 2015
174	37456	Oct 9, 2013	SCG Building Materials Co., Ltd.	0502000454	Feb 18, 2005	-	Fixing device	Feb 17, 2015
175	38253	Nov 28, 2013	SCG Building Materials Co., Ltd.	0402002859	Oct 21, 2004	-	Fixing device	Oct 20, 2014
176	38254	Nov 28, 2013	SCG Building Materials Co., Ltd.	0902000163	Jan 28, 2009	-	Fixing device	Jan 27, 2019
177	Petty Patent 7794	Jan 24, 2013	SCG Building Materials Co., Ltd.	1103001300	Dec 6, 2011	Rain filtering device	-	Dec 5, 2017
178	Petty Patent 7821	Feb 1, 2013	SCG Building Materials Co., Ltd.	1203001319	Nov 16, 2012	Air washing foot valve	-	Nov 15, 2018
179	Petty Patent 7898	Mar 4, 2013	SCG Building Materials Co., Ltd.	1203000406	Apr 24, 2012	Foundation system	-	Apr 23, 2018
180	Petty Patent 8043	May 23, 2013	SCG Building Materials Co., Ltd.	0803001305	Oct 31, 2008	Cement for fiber cement board	-	Oct 30, 2014
181	Petty Patent 8140	Jul 15, 2013	SCG Building Materials Co., Ltd.	1103001301	Dec 6, 2011	Rain filtering device	-	Dec 5, 2017

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
182	Petty Patent 8269	Sep 4, 2013	SCG Building Materials Co., Ltd.	0803000588	Apr 25, 2008	Porous block	-	Apr 24, 2014
183	Petty Patent 8297	Sep 16, 2013	SCG Building Materials Co., Ltd.	1003000717	Aug 6, 2010	Tile reverse device	-	Aug 5, 2016
184	Petty Patent 8328	Sep 24, 2013	SCG Building Materials Co., Ltd.	0903000393	Apr 24, 2009	Wall installation system	-	Apr 23, 2015
185	Petty Patent 8327	Sep 24, 2013	SCG Building Materials Co., Ltd.	1303000079	Jan 24, 2013	Heat trapping device	-	Jan 23, 2019
186	Petty Patent 3196	May 3, 2007	SCG Logistics Management Co.,Ltd.	0603000996	Jul 28, 2006	Attachment Part of Truck for Loading	-	Jul 27, 2014
187	Petty Patent 3440	Aug 21, 2007	SCG Logistics Management Co.,Ltd.	0603000139	Feb 3, 2006	Level Measurement Equipment of Barge Draft	-	Feb 2, 2014
188	Petty Patent 4011	Feb 1, 2008	SCG Logistics Management Co.,Ltd.	0603001619	Oct 5, 2006	Arrangement Equipment for Wood Slab	-	Oct 4, 2014
189	Petty Patent 5135	Nov 5, 2009	SCG Distribution Co.,Ltd.	0703000033	Jan 9, 2007	Warning System for Doze Off	-	Dec 8, 2015

No.	Patent Number	Registration Date	Assignee	Application Number	Filing Date	Patent/Petty Patent	Design Patent	Expiry Date
190	Petty Patent 5155	Dec 4, 2009	SCG Distribution Co.,Ltd.	0803001512	Dec 22, 2008	Canvas Tester	-	Dec 21, 2014
191	Petty Patent 6310	Jun 17, 2011	SCG Distribution Co.,Ltd.	0903001006	Sep 11, 2009	Multi Wall System	-	Sep 10, 2015
192	35965	Jun 21, 2013	SCG Distribution Co.,Ltd.	0802000673	Feb 27, 2008	-	Breath Alcohol Tester	Feb 26, 2014

- **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. Hence, there is a hypothesis that cement market growth closely links to economic growth of the country

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	13	RFD	3,683	3	2017
			3	RFD	897	4	2018
			15	RFD	3,012	22	2036
		Pyrophyllite	1	RFD	95	14	2028
			2	RFD	183	18	2032
	Nakorn Sawan	Gypsum	1	RFD	298	17	2031
			1	RFD	278	11	2025
	Nakorn Sri Thammarat	Shale for cement industry	1	Owned by the company	151	1	2015
SCG Cement Co., Ltd.	Lamphun	Lignite	1	Owned by the company	228	1	2015
	Lampang	Lignite	1	RFD	209	18	2032
The Siam Cement (Lampang) Co., Ltd.	Lampang	Limestone for cement industry	17	RFD	4,987	4	2018
		Shale for cement industry	2	RFD	597	4	2018
		Industrial Clay for cement industry	1	Owned by the company	51	15	2029
			1	Owned by the company	280	21	2035

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.	Saraburi	Limestone for cement industry	10	RFD	2,575	13	2027
		Shale for cement industry	3	Owned by the company	874	13	2027
	Lopburi	Industrial Clay for cement industry	1	Owned by the company	218	24	2038
The Siam Cement (Ta Luang) Co., Ltd.	Saraburi	Limestone for cement industry	5	RFD	954	16	2030
		Industrial Clay for cement industry	1	Owned by the company	279	12	2026
			3	Owned by the company	840	24	2038
The Siam Cement (Thung Song) Co., Ltd.	Nakorn Sri Thammarat	Limestone for cement industry	19	RFD	4,973	19	2033
	Krabi	Industrial Clay for cement industry	2	Owned by the company	373	24	2038
Kampot Cement Co.,Ltd.	Cambodia	Limestone for cement industry	1	Ministry of industry, Mines and Energy	6,133	52	2066

● 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
PP 3	Jul 24, 2007	Mar, 2023
HDPE 3	Jul 24, 2000	Oct, 2014
HDPE 4	Jul 24, 2007	Feb, 2023
Jetty and Terminal	Oct 2, 2003	Dec, 2016
	May 19, 2004	Jul, 2017
	25 Nov, 2004	Jan, 2018
	Dec 12, 2007	Apr, 2023
	Aug 14, 2009	Nov, 2023
	Mar 5, 2010	May, 2024
	Jun 26, 2012	Nov, 2025
Olefins (MOC)	Dec 25, 2006	Jan, 2023
PE COMPOUND	Feb 10, 2003	Feb, 2017
	Mar 11, 2004	Mar, 2018
	Mar 26, 2004	Feb, 2020
	Apr 10, 2006	Nov, 2019
	May 23, 2006	Jul, 2020
	Dec 7, 2007	Mar, 2021
	Apr 20, 2012	Mar, 2026
STEAM	Oct 30, 2009	Apr, 2024
CATALYST	Aug 7, 2009	8 years from the date of first revenue received

Project	Date Acquired	Expiry of Tax Incentives
INDUSTRIAL WAX	Feb 28, 2013	Nov, 2026
DPEX (LDPE)	Nov 22, 2013	8 years from the date of first revenue received
R&D (SCG CHEM)	May 6, 2011	Nov, 2026
R&D (SCG CHEM)	May 27, 2011	8 years from the date of first revenue received
R&D (SCG CHEM)	Nov 10, 2011	Dec, 2024
ISOPRENE, Piperylene and DI-Cyclopentadiene (DCPD) (SCG CHEM)	May 21, 2013	8 years from the date of first revenue received
Butene-1 and Methyl Tertiary Butyl Ether (MTBE) (SCG CHEM)	May 21, 2013	8 years from the date of first revenue received
R&D (SCG CHEM)	Nov 22, 2013	8 years from the date of first revenue received
CALIBRATION	Jun 30, 2003 Nov 21, 2003 May 22, 2012	May, 2019 Jun, 2018 8 years from the date of first revenue received
Industrial Zone	Dec 4, 1997	Mar, 2018
Waste water treatment, Plant Industrial Waste and Toxic Chemicals Management	Mar 20, 2008	Apr, 2023
Human resources development	Dec 16, 2011	8 years from the date of first revenue received
PVC RESIN	Jul 17, 2007	Jul 16, 2020
PROFILE,PIPE,JOINT	Dec 26, 2002	Jan 13, 2017
	Dec 26, 2003	Feb 28, 2017
	Apr 23, 2004	Jan 5, 2018
	Dec 16, 2004	Mar 7, 2018
	Dec 16, 2004	Jan 31, 2018
	Oct 4, 2005	Oct 7, 2018
	Mar 10, 2006	Jul 2, 2013
	Sep 18, 2006	Jan 26, 2014
	Sep 18, 2006	Jul 31, 2019

Project	Date Acquired	Expiry of Tax Incentives
PROFILE,PIPE,JOINT	Sep 18, 2006	Mar 12, 2020
	Dec 15, 2009	Feb 16, 2017
	Dec 29, 2010	Jan 5, 2024
	Mar 11, 2011	May 31, 2024
	May 6, 2011	Jul 1, 2018
	May 14, 2012	Mar 12, 2025
	Jul 11, 2012	Mar 12, 2020
	Jul 11, 2012	Jul 22, 2025
	Sep 25, 2012	Oct 22, 2025
	Mar 22, 2013	30 Sep, 2026
MOULD	Aug 23, 2005	Aug, 2018
	Nov 25, 2010	Nov, 2023

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

Project	Date Acquired	Expiry of Tax Incentives
R&D (SCG CHEM)	Aug 27, 2009 Oct 20, 2011 Feb 10, 2012	8 years from the date of first revenue received
R&D (TPC)	Jun 30, 2003	

The project which receives corporate tax exemption on corporate net profit in an amount equivalent or less than an investment amount of modification project for 3 years from the first date of revenue generated:

Project	Date Acquired	Expiry of Tax Incentives
PP (Modification)	Oct 30, 2009	Feb, 2014
HDPE1	Dec 23, 2013	Dec, 2016

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.

Project	Date Acquired	Expiry of Tax Incentives
PE	Feb 3, 2011	Feb, 2019
PP	Feb 3, 2011	Feb, 2019
LDPE	Feb 3, 2011	Feb, 2019
TERMINAL/ JETTY	Oct 10, 2012	Oct, 2020
PVC RESIN	May 31, 2013	May, 2021

The project which receives 3 years of corporate tax exemption in an amount equivalent to 70% of an investment amount excluding cost of land and working capital for the investment promotion in energy for sustainable development. So that the project receives the corporate tax exemption on its revenue from existing operation.

Project	Date Acquired	Expiry of Tax Incentives
COMPOUNDED PLASTICS	May 31, 2013	May, 2016
VINYL CHLORIDE MONOMER (VCM)	May 31, 2013	May, 2016

SCG Paper

Details of businesses in SCG Paper receiving BOI privileges:

Project	Date Acquired	Expiry of Tax Incentives
PULP	Mar 25, 2011	Mar, 2014
	Jul 11, 2011	Jul, 2014
Uncoated paper	Jan 11, 2007	May, 2016
Coated and uncoated paper	Jun 24, 2011	Jun, 2014
	Jul 11, 2011	Jul, 2014

Project	Date Acquired	Expiry of Tax Incentives
Hygienic plastic coated paper	Jul 12, 2012	Jul, 2018
Kraft Paper	Feb 14, 2013 Feb 14, 2013 Feb 14, 2013 Feb 14, 2013 May 20, 2013 Aug 16, 2013	Mar, 2019 Sep, 2014 Sep, 2019 Dec, 2020 May, 2021 3 years from the date of first revenue received
Eucalyptus Forest	Feb 6, 2013	Jun, 2021
Cogeneration Plant	Apr 5, 2010 Sep 22, 2005	Mar, 2019 8 years from the date of first revenue received
Corrugated Container	Sep 11, 2012 Apr 1, 2013 Apr 1, 2013 Apr 1, 2013 Apr 1, 2013 May 14, 2013 Sep 27, 2013	Sep, 2020 Sep, 2015 May, 2014 Sep, 2014 Oct, 2019 8 years and 3 years from the date of first revenue received
Corrugated Sheet and Container	Jul 24, 2007	Jan, 2022

SCG Cement-Building Materials

Details of businesses in SCG Cement-Building receiving BOI privileges:

Project	Date Acquired	Expiry of Tax Incentives
Waste Heat Power Generator (WHG)	Nov 6, 2007	Jan, 2018
Solid Waste Pre-Treatment Plant	May 31, 2010	Dec, 2018
Environmental Laboratory	Jun 29, 2012	13 years from the date of first revenue
Production line of ceramic roof tiles LINE 3 (No. 1871(2)/2005)	May 25, 2005	May 11, 2018
Production line of ceramic roof tiles LINE 4 (No. 1053(2)/2013)	Dec 4, 2012	Nov 14, 2020
Production line of ceramic roof tiles LINE 5 (No. 2393(2)/2013)	Aug 13, 2013	Not started using the tax right. 7 years from the date of first revenue
Fiberglass insulation No. 1475(2)/2011	Nov 9, 2010	Feb, 2020 7 years from the date of first revenue
Export Service Center	Mar 2, 2010	Mar 29, 2018

Trademarks

The key trademarks of The Siam Cement Public Company Limited and its subsidiaries comprise of “Elephant” in a hexagon, “Elephant” in a circle, “Erawan Elephant” in a circle, and “Tiger” in a circle, “Elephant” in a hexagon and “SCG” trademark etc. About 553 trademarks are registered at The Department of Intellectual Property.



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 Paper. 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 4-14 for shareholding structure of direct and indirect ownership of company, associate, subsidiaries, and joint ventures.

5. Legal Disputes

Legal disputes in which the Company is a party concerned or disputed, whether the disputes are cases or unsettled claims and are not related to ordinary course of business, are summarized as follows.

Case: Theft of Company Property (Form of Ordinary Share Certificates) and Forgery of Ordinary Share Certificates by a Former Employee

In the first quarter of 2009, the Company lodged a criminal complaint with the police officers against a former employee for the theft (form of ordinary share certificate) and the forgery of 672,000 Company's ordinary share certificates. In the second quarter, the Company was notified by the Civil Court that the heirs and the estate administrator of the shareholder whose share certificates were forged filed a civil lawsuit against the Company and relevant individuals and juristic persons (9 parties altogether) alleging the joint liability in negligence and claiming for restitution and damages of Baht 223 million.

On November 30, 2011, the Civil Court decided that Mr. Praphan Chumuang, the former employee of the Company, committed a tort against the plaintiffs and ordered Mr. Chumuang to return 672,000 shares of the Company to the plaintiffs. If the returning of the shares is not possible, Mr. Chumuang would have to pay the share price of 164 million baht, together with interest of 7.5 % per annum from the commencement date of the tort until the payment is made in full, including the dividend which the plaintiffs should have received. The Civil Court also decided that the Company, as the employer of Mr. Chumuang, shall be jointly liable to the plaintiffs. The Company has already appealed the judgment of the Civil Court to the Appeal Court in 2012. Currently, the case is being reviewed by the Appeal Court.

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 September 2, 2010, the Central Administrative Court delivered its judgment 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 judgment, almost all projects of the Group which are considered as non-serious impact projects are 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 has complied with the paragraph 2 of Article 67 of the Constitution B.E. 2550. The Industrial Estate Authority of Thailand (IEAT) was of the opinion that the project has fulfilled the requirements and accordingly, IEAT has 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 has filed the petition to the Supreme Administrative Court. Currently, the petition is being reviewed by the Supreme Administrative Court.

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.co.th
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 31.6% 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.co.th Corporate Secretary Office Tel. 66-2586-6098 Fax 66-2586-3007 e-mail: corporate@scg.co.th Investor Relations Department Tel. 66-2586-3309 Fax 66-2586-3307 e-mail: invest@scg.co.th

Corporate Communications Office

Tel. 66-2586-3770

Fax 66-2586-2974

e-mail: corpcomm@scg.co.th

Designated Directors as Minority Shareholders'

Representative

Fax 66-2586-3007

e-mail: ind_dir@scg.co.th

2. Investment in subsidiaries, associates, jointly-controlled entity and other companies of which their operations are significant are disclosed in page 4-14.

3. References

Registrars: Thailand Securities Depository Company Limited

Address: The Stock Exchange of Thailand Building
1st Floor, 62 Ratchadapisek Road, Klongtoey,
Bangkok 10110

Tel: 66-2229-2800

Fax: 66-2359-1259

e-mail: contact.tsd@set.or.th

Website: www.tsd.co.th

Auditors: KPMG Phoomchai Audit Ltd.

Mr. Supot Singhasaneh (Certificated Public Accountant
Registration No. 2826) and / or

Mr. Winid Silamongkol (Certificated Public Accountant
Registration No. 3378) and / or

Mr. Charoen Phosamritlert (Certificated Public Accountant
Registration No. 4068) and / or

Ms. Sureerat Thongarunsang (Certificated Public Accountant
Registration No. 4409)

Address: Empire Tower 50th – 51st Floors,
195 South Sathorn Road, Yannawa, Sathorn,
Bangkok 10120

Tel: 66-2677-2000

Fax: 66-2677-2222

Legal:	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:	Thanachart Bank Public Company Limited for the Debentures of The Siam Cement Public Company No. 2/2553 Due B.E. 2558
Address:	900 Tonson Tower, Ploenchit Road, Lumpini Patumwan, Bangkok 10330
Tel:	66-2655-9000
Fax:	66-2655-9171
Website:	www.thanachartbank.com
Trustee:	TMB Bank Public Company Limited for the Debentures of The Siam Cement Public Company No.1/2554 Due B.E. 2558, No.2/2554 Due B.E. 2558, No.1/2555 Due B.E. 2559, No.2/2555 Due B.E. 2559, No.1/2556 Due B.E. 2560, No.2/2556 Due B.E. 2560 and No.1/2557 Due B.E. 2561
Address:	3000 Phahon Yothin Road, Chatuchak, Bangkok 10900
Tel:	0-2299-1111
Fax:	0-2990-6010
Website:	www.tmbbank.com