

Sustainability Performance Data

Environmental Performance	Unit	2016	2017	2018	2019	2020	GRI Standard	DJSI
Production and Raw Materials								
Production	Tons	39,506,000	42,048,000	43,224,000	43,136,000	39,851,000		0.1
Raw Materials	Tons	49,684,000	48,787,000	50,981,000	51,394,000	52,767,000	GRI 301-1	
Recycle Materials	Tons	3,438,000	3,877,000	3,733,000	4,251,000	5,652,000	GRI 301-2	
Greenhouse Gas Emissions								
GHGs Scope 1 and 2	Tons CO2	23,845,000	23,604,000	24,542,000	23,989,643	23,345,234		
GHG Scope 1*	Tons CO2	21,505,000	21,151,000	22,098,000	21,584,780	21,123,510	GRI 305-1	2.3.1
GHG Scope 2*	Tons CO2	2,340,000	2,453,000	2,444,000	2,404,863	2,221,724	GRI 305-2	2.3.2
GHG Emission Reduction compare with business as usual (BAU) at base year of 2007	Tons CO2	1,806,000	1,907,000	1,959,000	2,431,805	2,863,309		
	%	7.0	7.5	7.4	9.2	10.9		
Energy Consumption								
Total Energy Consumption*	Petajoules	180.90	183.49	189.36	188.83	183.54	GRI 302-1	2.3.3
Heating and Steam Consumption	Petajoules	166.30	169.14	175.00	174.60	170.11	GRI 302-1	
Alternative Energy								
- Renewable: Biomass	Petajoules	5.50	5.10	5.66	8.88	9.15	GRI 302-1	
- Renewable: Industrial Waste	Petajoules	12.37	12.64	9.80	9.81	8.81	GRI 302-1	
- Non-Renewable: Industrial Waste	Petajoules			4.42	5.08	6.28	GRI 302-1	
Portion of Alternative Energy	%	10.7	10.5	11.4	13.6	14.3	GRI 302-1	
Electrical Consumption	Gigawatt-Hours	4,057	3,985	3,988	3,953	3,730	GRI 302-1	
Energy Consumption Reduction compare with business as usual (BAU) at base year of 2007	Petajoules	13.18	16.90	16.08	15.31	15.00	GRI 302-4	
	%	6.8	8.4	7.8	7.5	7.6		
Energy Consumption - by Category								
a) Non-renewable fuels (coal, oil, natural gas, etc.) purchased and consumed*	Megawatt-Hours	39,783,469	40,460,824	42,863,956	42,038,353	41,155,843	GRI 302-1	2.3.3
b) Non-renewable electricity purchased*	Megawatt-Hours	3,632,773	3,496,405	3,398,368	3,371,388	3,154,717	GRI 302-1	2.3.3
c) Steam / heating / cooling and other energy (non-renewable) purchased*	Megawatt-Hours	1,445,991	1,595,372	1,484,067	1,314,380	1,233,071	GRI 302-1	2.3.3
d) Total renewable energy (wind, solar, biomass, hydroelectric, geothermal, etc.) purchased or generated.*	Megawatt-Hours	4,964,128	5,416,967	4,883,520	5,772,189	5,564,261	GRI 302-1	2.3.3
e) Total non-renewable energy (electricity and heating & cooling) sold*	Megawatt-Hours	31,570	30,901	29,816	42,563	124,029	GRI 302-1	2.3.3
Total Non-Renewable Energy Consumption (a+b+c-e)	Megawatt-Hours	44,830,663	45,521,700	47,716,575	46,681,558	45,419,602	GRI 302-1	2.3.3

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Water Withdrawal								
Water Withdrawal*	Million cubic meters	114.43	117.60	110.18	103.43	94.29	GRI 303-3	2.3.4
Water Withdrawal Reduction compare with business as usual (BAU) at base year of 2014	Million cubic meters	2.66	3.92	10.03	12.17	16.61		
	%	2.3	3.2	8.3	10.5	15.0		
Recycle Water*	Million cubic meters	9.04	10.19	11.24	12.30	12.33		
Portion of Recycle Water	%	7.3	8.0	9.3	10.6	11.6		
Water Consumption/Withdrawal - by Source								
a) Water Withdrawal: Municipal/Third-party Water	Million cubic meters	37.63	38.77	38.13	35.2	27.83	GRI 303-3	2.3.4
b) Water Withdrawal: Surface Water	Million cubic meters	33.32	33.78	27.79	26.44	28.45	GRI 303-3	2.3.4
c) Water Withdrawal: Underground Water	Million cubic meters	43.48	45.08	44.26	41.79	38.01	GRI 303-3	2.3.4
d) Discharge: Water returned to the source of extraction at similar or higher quality as raw water extracted	Million cubic meters	0	0	0	0	0		2.3.4
e) Total net fresh water consumption (a+b+c-d)*	Million cubic meters	114.43	117.60	110.18	103.43	94.29	GRI 303-3	2.3.4
Effluent Quality								
BOD	Tons	457	387	240	165	176	GRI 306-1	
COD	Tons	6,753	6,322	5,390	4,422	3,875	GRI 306-1	
TSS	Tons	922	965	793	588	549	GRI 306-1	
Waste Management								
Hazardous Waste Generation*	Tons	21,603	12,082	13,943	11,704	17,902		2.3.5
Hazardous Waste Management*	Tons	20,781	12,195	13,617	11,381	17,789	GRI 306-2	2.3.5
- Reuse/Recycled	Tons	17,236	9,946	12,307	10,997	17,593		
- Incinerated without energy recovery	Tons	3,546	2,222	1,310	384	195		
- Landfilled	Tons	0	27	0	0	1		
Hazardous waste in the storage at the end of the year	Tons	NA	NA	NA	1,159	1,238	GRI 306-2	
Non-Hazardous Waste Generation*	Tons	1,347,852	1,394,451	1,414,237	1,527,055	1,190,676		2.3.5
Non-Hazardous Waste Management*	Tons	1,488,481	1,376,281	1,354,884	1,542,302	1,217,625	GRI 306-2	2.3.5
- Reused/Recycled	Tons	1,475,393	1,372,585	1,172,792	1,318,964	1,206,658		
- Incinerated without energy recovery	Tons	13,078	3,696	2,113	1,364	111		
- Landfilled	Tons	10	0	179,979	221,975	10,855		
Non-Hazardous waste in the storage at the end of the year	Tons	NA	NA	NA	191,840	164,776	GRI 306-2	
Total waste generated in term of DJSI (means waste management)*	Tons	1,509,263	1,388,477	1,368,501	1,553,685	1,235,414	GRI 306-2	2.3.5
Total Waste reuse/recycle*	Tons	1,492,629	1,382,531	1,185,099	1,329,960	1,224,251	GRI 306-2	2.3.5
Total waste disposed (included incinerated and landfilled) *	Tons	16,634	5,946	183,402	223,725	11,162	GRI 306-2	2.3.5

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Air Emissions								
Oxides of Nitrogen*	Tons	22,160	25,481	27,229	25,716	30,804	GRI 305-7	2.3.6
Oxides of Sulfur*	Tons	2841	3496	2881	2746	3713	GRI 305-7	2.3.7
Particulate Matter*	Tons	1,374	1,087	1,246	1,357	1,394	GRI 305-7	2.3.9
Mercury	Tons	0.01495	0.01453	0.11228	0.08421	0.03295		2.3.8
Biodiversity								
Quarries with Biodiversity Management Plan in place	Number of sites	4	4	4	4	4		2.4.2
	%	100	100	100	100	100		
Environmental Expenditures and Benefits								
Environmental - Operating Expenses	Million Baht	1,124	1,462	2,190	2,192	2,676		2.2.3
Environmental - Capital Investments	Million Baht	1,562	692	1,275	2,593	1,220		2.2.3
Total Expense (Capital Investment + Operating Expenses)	Million Baht	2,686	2,154	3,465	4,785	3,896		2.2.3
Savings, cost avoidance and tax incentives linked to environment investment**	Million Baht	1,648	1,728	1,441	2,242	9,611		2.2.3
Violations of Legal Obligations and Regulations								
Number of violations of legal obligations/regulations	Number of cases	0	0	0	0	0	GRI 307-1	2.2.4

Environmental Performance	Unit	2016	2017	2018	2019	2020	GRI Standard	DJSI
Co-processing Performance for Cement-Building Materials Business								
% Alternative fuel used to replace the fossil fuel (as % of total heat consumption)	%	11.9	11.1	11.9	17.5	18.3		2.5.1
- % Alternative fossil fuel	%	5.0	5.0	4.9	6.2	6.6		
- % Biomass	%	6.9	6.1	7.0	11.3	11.7		
% Alternative raw materials contained in cement	%	13.5	13.4	13.8	9.6	8.4		2.5.1
% Alternative raw materials contained in concrete	%	1.9	2.0	2.0	1.2	1.3		2.5.1
Clinker-to-Cement ratio	%	76.0	75.6	74.8	74.4	72.9		2.5.1
% Alternative raw materials contained in other building materials	%	16.0	19.2	14.1	14.7	15.4		2.5.1

NA = Not Available

* Within KPMG's limited assurance scope

**Savings, cost avoidance and tax incentives linked to environment investment include Revenue from sales of SCG Green Choice - Benefit direct to customer