



SUSTAINABILITY PERFORMANCE DATA

PTT GLOBAL CHEMICAL PUBLIC COMPANY LIMITED

SUSTAINABILITY PERFORMANCE DATA

Financial Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
201-1	Direct Economic Value Generated					
	Sale Revenue	Million Baht	352,185	436,745	515,449	409,688
	Revenues from sale of goods and rendering of services	Million Baht	355,524	439,921	518,655	412,810
	Net sales plus revenues from financial investments and sales of assets ¹	Million Baht	356,377	440,866	520,232	413,811
	Economic Value Distributed					
	Employee wages ² and benefits ³	Million Baht	12,213	13,744	14,595	16,846
	Operating cost ⁴	Million Baht	324,651	396,468	480,881	407,088
	Payments to government ⁵ : Gross taxes	Million Baht	3,025	4,169	2,986	649
	Payments to providers of capital ⁶ : Dividends paid	Million Baht	11,123	16,501	19,739	16,336
	Community investments	Million Baht	48	259	164	179
Economic value retained	Million Baht	5,317	9,725	1,867	-27,287	
204-1	Proportion of spending on local suppliers in Thailand	%	71.85	75.00	54.00	80.00

¹ Net sales plus revenues from financial investment include revenues from sale of goods and rendering of services, and investment income

² Total Wages comprises employee salaries, including amounts paid to government institutions (such as employee taxes, levies, and unemployment funds) on behalf of employees. Non-employees working in an operational role are normally not included here, but rather under operating costs as a service purchased.

³ Total benefits include regular contributions (such as to pensions, insurance, company vehicles, and private health), as well as other employee support such as housing, interest free loans, public transport assistance, educational grants, and redundancy payments. They do not include training, costs of protective equipment, or other cost items directly related to the employee's job function.

⁴ Operating Cost includes cost of sale of goods and rendering of services, selling and distribution expenses and, and administrative expenses

⁵ All of the organization's taxes (include corporate, income, and property) plus related penalties paid at the international, national, and local level, excludes deferred taxes.

⁶ Dividend to all shareholders, plus interest payments made to providers of loans. (Interest payments made to providers of loans can include; interest on all forms of debt and borrowings and arrears of dividends due to preferred shareholders)

Manufacture Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Return on Environmental Investment					
	Total expenditures	Million Baht	1,385	2,163	1,477	1,528
	Capital investments	Million Baht	1,210	1,950	1,092	1,167
	Operating expenses	Million Baht	175	213	385	361
	Waste disposal, emission treatment, and remediation costs	Million Baht	301	373	348	327
	Prevention and environmental management costs	Million Baht	41	45	37	34
	Savings, cost avoidance, income, tax incentives, etc.	Million Baht	319	570	324	765
	Operations covered (by revenue, production volume, or employees, etc.)	% of operation covered	88.00	100	100	100

Human Capital

GRI	Required Data	Unit	Data Collection Period							
			2016		2017		2018		2019	
			Male	Female	Male	Female	Male	Female	Male	Female
	Worker									
102-8	Total worker ¹	Person	6,289		6,241		8,716		9,575	
		Person	4,822	1,467	4,737	1,504	6,561	2,155	7,337	2,238
102-7, 405-1	Total employee ²	Person	6,289		6,241		7,613		8,378	
		Person	4,822	1,467	4,737	1,504	5,683	1,930	6,388	1,990
	Contractor ³	Person	0		0		1,081		744	
		Person	0	0	0	0	874	207	578	166
	Other (please specific, if any)	Person	0		0		0		453	
		Person	0	0	0	0	3	19	371	82
405-1	Total employee by Area									
	Rayong	Person	4,572	1,018	4,489	1,045	5,327	1,289	6,041	1,437
	Bangkok	Person	231	441	222	451	346	637	297	546
	Other provinces	Person	19	8	26	8	10	4	50	7
102-8	Total Employee by Employment Contract and by Area									
	Permanent contract ⁴	Person	4,012	1,360	3,964	1,406	4,486	1,751	4,850	1,697
	Rayong	Person	NA	NA	3,733	951	4,130	1,110	4,540	1,152
	Bangkok	Person	NA	NA	219	448	346	637	297	544
	Other provinces	Person	NA	NA	12	7	10	4	13	1
	On contract (Temporary contract) ⁵	Person	810	107	773	98	1,197	179	1,538	293
	Rayong	Person	NA	NA	758	97	1,197	179	1,501	285
	Bangkok	Person	NA	NA	1	0	0	0	0	2
	Other provinces	Person	NA	NA	14	1	0	0	37	6
	Total Employee by Employment Type									
	Full-time	Person	4,822	1,467	4,737	1,504	5,683	1,930	6,388	1,990
	Part-time	Person	0	0	0	0	0	0	0	0
405-1	Total Employee by Age group									
	<30 years	%	12.85	4.37	13.24	4.39	13.10	4.99	9.75	4.01
		Person	808	275	826	274	997	380	817	336
	30 - 50 years	%	54.54	16.81	52.56	17.26	51.32	17.75	44.50	15.24
		Person	3,430	1,057	3,280	1,077	3,907	1,351	3,728	1,277
	>50 years	%	9.29	2.15	10.06	2.50	10.23	2.61	22.00	4.50
		Person	584	135	628	156	779	199	1,843	377
	Total Employee by Employee Category (level)									
	Executive (Level 13-18)	%	0.78	0.17	0.72	0.13	0.91	0.22	0.92	0.17
		Person	49	11	45	8	69	17	77	14
	Middle management (Level 10-12)	%	7.46	2.67	7.53	2.79	7.19	3.18	7.14	2.85
		Person	469	168	470	174	547	242	598	239
	Senior (Level 8-9)	%	12.40	5.20	12.77	5.90	11.94	5.95	11.57	5.19
		Person	780	327	797	368	909	453	969	435
	Employee (Level 7 and Below)	%	47.83	14.39	45.14	13.73	41.10	13.75	40.56	12.23
		Person	3,008	905	2817	857	3,129	1,047	3,398	1,025
	Unclassified ⁶	%	8.20	0.89	9.74	1.55	13.52	2.25	16.07	3.31
		Person	516	56	608	97	1,029	171	1,346	277

¹ Total worker is total employee including contractor and other persons working for GC Group.

² Total employee is total workforce for GC Group.

³ Worker (exclude employee) refers to significant workers that are contractors.

⁴ Permanent contractor is a permanent employment contract is a contract with an employee for full-time or part-time work for an indeterminate period.

⁵ Temporary contract is of limited duration and terminated by a specific event, including the end of a project or work phase or return of replaced personnel.

⁶ Unclassified means employees who serve the Company on contract as advisors, experts and specialists.

Human Capital

GRI	Required Data	Unit	Data Collection Period								
			2016		2017		2018		2019		
			Male	Female	Male	Female	Male	Female	Male	Female	
401-1	New Employee										
	New employee	Person	366		473		1,073		1,212		
			256	110	350	123	802	271	910	302	
	New hire rate	% of total employees	5.82		7.58		14.09		14.47		
			4.07	1.75	5.61	1.97	10.53	3.56	10.86	3.60	
	New Employee by Area										
	Rayong	Person	240	62	322	87	756	208	869	244	
			% of total employees	4.00	1.00	5.16	1.39	9.93	2.73	10.37	2.91
	Bangkok	Person	16	48	14	35	45	63	36	58	
			% of total employees	0.25	0.76	0.22	0.56	0.59	0.83	0.43	0.69
	Other provinces	Person	0	0	14	1	1	0	5	0	
			% of total employees	0.00	0.00	0.22	0.02	0.01	0.00	0.06	0.00
	New Employee Hire by Age Group										
	<30 years	Person	132	64	204	77	360	154	459	179	
			% of total employees	2.00	1.00	3.27	1.23	4.73	2.02	5.48	2.14
	30 - 50 years	Person	111	44	132	44	401	113	413	121	
			% of total employees	1.76	0.70	2.12	0.71	5.27	1.48	4.93	1.44
	>50 years	Person	13	2	14	2	41	4	38	2	
			% of total employees	0.21	0.03	0.22	0.03	0.54	0.05	0.45	0.02
	Turnover										
	-	Total employee turnover rate	Person	165		275		523		423	
				102	63	215	60	391	132	313	110
			% of total employees	2.62		4.41		6.00		4.42	
				1.62	1.00	3.44	0.96	4.49	1.51	3.27	1.15
	-	Voluntary employee turnover rate	Person	165		226		451		220	
				102	63	173	53	347	104	130	90
			% of total employees	2.62		3.62		5.17		2.30	
1.62				1.00	2.77	0.85	3.98	1.19	1.36	0.94	
Turnover Rate by Age Group											
401-1	< 30 years	Person	36	22	57	24	109	39	104	35	
			% of total employees	0.57	0.35	0.91	0.38	1.43	0.51	1.24	0.42
	30 - 50 years	Person	62	38	118	32	225	69	142	60	
			% of total employees	0.99	0.60	1.89	0.51	2.96	0.91	1.69	0.72
	> 50 years	Person	4	3	40	4	25	1	67	15	
			% of total employees	0.06	0.05	0.64	0.06	0.33	0.01	0.80	0.18
Turnover by Area											
Rayong	Person	91	36	195	34	341	79	268	74		
		% of total employees	1.00	1.00	3.12	0.54	4.48	1.04	3.20	0.88	
Bangkok	Person	11	27	19	26	18	30	45	36		

Human Capital

GRI	Required Data	Unit	Data Collection Period							
			2016		2017		2018		2019	
			Male	Female	Male	Female	Male	Female	Male	Female
		% of total employees	0.18	0.43	0.30	0.42	0.24	0.39	0.54	0.43
	Other provinces	Person	NA	NA	1	0	0	0	0	0
		% of total employees	NA	NA	0.02	0.00	0.00	0.00	0.00	0.00
-	Average hiring cost / FTE in the last fiscal year	Baht/FTE	40,000		50,000		50,000		50,000	
401-3	Parental Leave									
	Number of employees entitled to parental leave	Persons	4,822	1,467	4,737	1,504	5,683	1,930	5,766	1,990
	Number of employees taking parental leave	Persons	127	55	112	46	123	58	80	133
	Number of employees returning to work after parental leave	Persons	127	55	112	46	123	58	80	133
	Number of employees returning to work after parental leave who were still employed for 12 months after returning	Persons	127	55	112	46	116	57	79	123
	Employee returning to work retention rate	%	100	100	100	100	94.31	98.28	98.75	92.48
-	Training and Development									
	Average hours per FTE of training and development	Hours/person/ year	48.35		48.90		37.64		46.18	
			34.28	10.53	51.40	41.90	52.95	35.85	52.53	36.90
	Average amount spent per FTE on training and development	Baht	22,195		37,319		75,145		36,903	
	Percentage of open positions filled by internal candidates	%	24.00		38.00		15.75		51.50	
	Total investment on employees training	Million Baht	68	24	118	43	240	89	236	73
404-1	Average hours of training by employee category (level)	Hour /person /year	54	40	51	42	35	28	52	38
	Executive (Level 13-18)	Hour /person /year	65	55	37	40	41	36	33	24
	Middle management (Level 10-12)	Hour /person /year	66	51	63	63	34	28	44	43
	Senior (Level 8-9)	Hour /person /year	43	44	44	39	43	28	56	40
	Employee (Level 7 and below)	Hour /person /year	35	36	53	39	23	19	74	44
-	Quantitative financial benefit of human capital investment over time (e.g. EVA/FTEs, HROI)	Million Baht	293		250		68		33	
	Total Revenue	Million Baht	352,185		436,745		515,449		409,688	
	Total Operating expenses	Million Baht	324,651		396,468		480,881		407,088	
	Total employee-related expense (Salaries+Benefits)	Million Baht	12,213		13,744		14,595		16,846	
	Resulting HC ROI	-	3.25		3.93		3.37		1.15	
	Total FTEs	Person	6,289		6,241		7,613		8,378	
-	Talent Attraction and Retention									
	Management by objectives: systematic use of agreed measurable targets by line superior	% of all employees	100		100		100		100	
	Multidimensional performance appraisal	% of all employees	100		100		100		100	

Human Capital

GRI	Required Data	Unit	Data Collection Period							
			2016		2017		2018		2019	
			Male	Female	Male	Female	Male	Female	Male	Female
	Formal comparative ranking of employees within one employee category	% of all employees	100		100		100		100	
-	Employee engagement result	% of actively engaged employees	61.00		65.00		65.00		70.00	
			65.00	47.00	70.00	49.00	71.00	49.00	75.00	56.00
	Employee engagement target	% of actively engaged employees	60.00		61.00		65.00		65.00	
			NA	NA	NA	NA	NA	NA	NA	NA
	Coverage	% of total employees	99.00		99.00		99.00		99.00	
			NA	NA	NA	NA	NA	NA	NA	NA
404-3	Employee Receiving Regular Performance and Career Development Reviews (Excl. People in Unclassified Group)									
	Executive (Level 13-18)	Person	42	5	45	8	69	17	77	14
		%	100	100	100	100	100	100	100	100
	Middle management (Level 10-12)	Person	469	168	470	174	547	242	598	239
		%	100	100	100	100	100	100	100	100
	Senior (Level 8-9)	Person	780	327	797	368	909	453	969	435
		%	100	100	100	100	100	100	100	100
	Employee (Level 7 and below)	Person	3,008	905	3,425	954	4,158	1,218	3,398	1,025
		%	100	100	100	100	100	100	100	100
-	Gender Diversity and Equal Remuneration									
	Women in workforce	Persons	1,467		1,504		1,930		1,990	
		% of total management workforce	23.33		24.10		25.35		23.75	
	Women in management positions	Persons	NA		182		259		253	
		% of total management workforce	25.68		26.11		29.60		27.26	
	Women in top management positions	Persons	11		8		17		14	
		% of total top management positions	18.33		0.13		19.77		15.38	
	Women in junior management positions	Persons	168		174		242		239	
		% of total junior management positions	26.37		2.8		30.67		28.55	
	Women in management positions in revenue generating functions e.g. Sales, Marketing, Operation and BD that under BU	Person	NA		2		9		58	
		% of total managers in revenue generating functions	10.9		12.5		50.00		16.71	
	Number of women on board of directors/supervisory board	Persons	2		2		2		3	
		%	13.33		13.33		13.33		20.00	
405-2	Ratio salary (Average Female Salary / Average Male Salary)									
	Executive (Level 13-18): Base salary	Ratio	1	0.73	1	0.82	1	0.85	1	0.82
	Management (Level 10-12): Base salary	Ratio	1	0.95	1	0.95	1	0.92	1	0.99
	Management (Level 10-12): Base salary+Others	Ratio	1	0.95	1	0.92	1	0.88	1	0.95

Human Capital

GRI	Required Data	Unit	Data Collection Period							
			2016		2017		2018		2019	
			Male	Female	Male	Female	Male	Female	Male	Female
	Non-management (Level 9 and below): Base salary	Ratio	1	1.05	1	1.04	1	1.03	1	1.05
-	Board structure									
	Total number of board members	Number	15		15		15		15	
	Number of executive director	Number	1		1		1		1	
	Number of non-executive directors (excl. independent directors)	Number	5		5		5		5	
	Number of independent directors	Number	9		9		9		9	
-	Labor Practice Indicators									
	Employees represented by an independent trade union	%	100	100	100	100	100	100	100	100

Human Capital

GRI	Required Data	Unit	Data Collection Period							
			2016		2017		2018		2019	
			Male	Female	Male	Female	Male	Female	Male	Female
Health and Safety										
403-8	Work-related Fatalities									
	Employee									
	Covered by an occupational health and safety management system	Person		6,289		6,241		7,613		8,378
		%		100		100		100		100
	Covered by such a system that has been internally audited	Person		6,289		6,241		7,613		8,378
		%		100		100		100		100
	Covered by such a system that has been audited or certified by an external party	Person		6,289		6,241		7,613		8,378
		%		100		100		100		100
	Contractor ¹									
	Covered by an occupational health and safety management system	Person		0		0		1,081		744
		%		0		0		100		100
	Covered by such a system that has been internally audited	Person		0		0		1,081		744
		%		0		0		100		100
	Covered by such a system that has been audited or certified by an external party	Person		0		0		1,081		744
		%		0		0		100		100
403-9	Fatalities as a result of work-related injury									
	Employees	Case		0		0		0		0
				0		0		0		0
	Rayong	Case		0		0		0		0
	Bangkok	Case		0		0		0		0
	Other provinces	Case		0		0		0		0
	Contractors ¹	Case		0		1		1		0
				0		1		1		0
	Rayong	Case		0		1		1		0
	Bangkok	Case		0		0		0		0
	Other provinces	Case		0		0		0		0
	Rate of fatalities as a result of work-related injury									
	Employees	Case/1 million manhours		0.00		0.00		0.00		0.00
				0.00		0.00		0.00		0.00
	Rayong	Case/1 million manhours		0.00		0.00		0.00		0.00
	Bangkok	Case/1 million manhours		0.00		0.00		0.00		0.00
	Other provinces	Case/1 million manhours		0.00		0.00		0.00		0.00
	Contractors ¹	Case/1 million manhours		0.00		0.01		0.04		0.00
				0.00		0.01		0.04		0.00
	Rayong	Case/1 million manhours		0.00		0.01		0.04		0.00
	Bangkok	Case/1 million manhours		0.00		0.00		0.00		0.00
	Other provinces	Case/1 million manhours		0.00		0.00		0.00		0.00
	High-consequence work-related injuries (excluding fatalities)									
	Employees	Case		4		4		6		0
				4		4		6		0
	Rayong	Case		4		4		6		0

¹ Worker (exclude employee) refers to significant workers that are contractors

	Bangkok	Case	0	0	0	0	0	0	0	0
	Other provinces	Case	0	0	0	0	0	0	0	0
	Contractor ¹	Case	18		10		18		0	
			18	0	10	0	18	0	0	0
	Rayong	Case	18	0	10	0	18	0	0	0
	Bangkok	Case	0	0	0	0	0	0	0	0
	Other provinces	Case	0	0	0	0	0	0	0	0
Rate of high-consequence work-related injuries (excluding fatalities)										
	Employees	Case/1 million manhours	0.63		0.37		0.33		0.00	
			0.63	0.00	0.37	0.00	0.33	0.00	0.00	0.00
	Rayong	Case/1 million manhours	0.63	0.00	0.37	0.00	0.33	0.00	0.00	0.00
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Contractors ¹	Case/1 million manhours	0.83		0.36		0.72		0.00	
			0.83	0.00	0.36	0.00	0.72	0.00	0.00	0.00
	Rayong	Case/1 million manhours	0.83	0.00	0.36	0.00	0.72	0.00	0.00	0.00
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total recordable work-injuries²										
	Employees	Case	4		4		5		4	
			4	4	4	0	5	0	4	0
	Rayong	Case	4	4	4	0	5	0	4	0
	Bangkok	Case	0	0	0	0	0	0	0	0
	Other provinces	Case	0	0	0	0	0	0	0	0
	Contractors ¹	Case	18		11		20		11	
			18	0	11	0	20	0	11	0
	Rayong	Case	18	0	11	0	20	0	11	0
	Bangkok	Case	0	0	0	0	0	0	0	0
	Other provinces	Case	0	0	0	0	0	0	0	0
Recordable work-injuries rate (IR)³										
	Employees	Case/1 million manhours	0.63		0.37		0.33		0.22	
			0.63	0.00	0.37	0.00	0.33	0.00	0.22	0.00
	Rayong	Case/1 million manhours	0.31	0.00	0.31	0.00	0.33	0.00	0.22	0.00
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Contractors ¹	Case/1 million manhours	0.83		0.36		0.72		0.18	
			0.83	0.00	0.36	0.00	0.72	0.00	0.18	0.00
	Rayong	Case/1 million manhours	0.83	0.00	0.36	0.00	0.72	0.00	0.18	0.00
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of hours worked										
	Employees	Manhours	8,217,002		13,715,660		14,955,327		18,473,010	

¹ Worker (exclude employee) refers to significant workers that are contractors.

² Main types of work-related injury include Medical Treatment Case (MTC), Restrict Treatment Case (RTC).

³ Injury types include medical treatment, restricted work and loss time cases.

	Contractor ¹	Manhours	16,088,112.21	31,737,838	27,691,584	60,652,628				
	Lost-Time Injury Frequency Rate (LTIFR)									
	Employees	Case	0	1	1	2				
		Case/1 million manhours	0.00	0.09	0.13	0.11				
	Data coverage	% of revenue	100	100	100	100				
	Contractors ¹	Case	4	4	3	4				
		Case/1 million manhours	0.20	0.12	0.07	0.07				
	Data coverage	% of revenue	100	100	100	100				
	Lost Work Day (LWD) & Lost Day Rate (LDR)									
	Employees	Case	0	3	2	14				
		Case/1 million manhours	0.00	0.24	0.13	0.76				
	Contractors ¹	Case	241	164	39	145				
		Case/1 million manhours	2.99	5.42	1.41	2.39				
403-10	Number of fatalities as a result of work-related ill health									
	Employees	Case	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	
	Rayong	Case	0	0	0	0	0	0	0	
	Bangkok	Case	0	0	0	0	0	0	0	
	Other provinces	Case	0	0	0	0	0	0	0	
	Contractors ¹	Case	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	
	Rayong	Case	0	0	0	0	0	0	0	
	Bangkok	Case	0	0	0	0	0	0	0	
	Other provinces	Case	0	0	0	0	0	0	0	
	Number of cases of recordable work-related ill health									
	Employees	Case	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	
	Rayong	Case	0	0	0	0	0	0	0	
	Bangkok	Case	0	0	0	0	0	0	0	
	Other provinces	Case	0	0	0	0	0	0	0	
	Contractors ¹	Case	0	0	0	0	0	0	0	
			0	0	0	0	0	0	0	
	Rayong	Case	0	0	0	0	0	0	0	
	Bangkok	Case	0	0	0	0	0	0	0	
	Other provinces	Case	0	0	0	0	0	0	0	
	Occupational Diseases Rate (ODR)²									
	Employees	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Rayong	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Data coverage	% of revenue	100	100	100	100				
	Contractors ¹	Case/1 million manhours	0.00	0.00	0.00	0.25	0.00			
			0.00	0.00	0.00	0.00	0.25	0.00		
	Rayong	Case/1 million manhours	0.00	0.00	0.00	0.25	0.00			
	Bangkok	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00			

¹ Worker (exclude employee) refers to significant workers that are contractors.

² Occupation Disease Rate refers to Occupational Illness Frequency Rate (OIFR).

	Other provinces	Case/1 million manhours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Occupational Health and Safety										
G4-	Process Safety Events - Tier 1									
OG13	Number of process safety events – Tier 1 Million hours worked	Number	4		1		0		1	
	Data coverage	% of revenue	100		100		100		100	
	Target of tier 1 process safety events per million hours worked	Number	0		0		0		0	

Social and Relationship Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
Corporate Governance						
-	Non-executive Chairman/Lead Director					
	Number of years that company adopt approach the "Chairman is non-executive and independent"	Year	5	6	7	8
Board Industry Experience						
	Number of board members that have relevant working experience in company's sector according to GICS level 1 sector classification	Number	14	14	14	14
Board Effectiveness						
	Average board meeting attendance	% of meetings of board of directors/supervisor board	94	96	96	97
	Minimum of attendance for all members required, at least	%	80	80	80	80
	Number of non-executive/ independent directors with 4 or less other mandates:	Number	7	14	13	13
	Number of other mandates for non-executive/independent directors restricted to	Number	4	4	4	4
Average Tenure						
	Average tenure of board members in years	Year	3.00	3.00	3.00	3.50
Executive Compensation – Alignment with Long-Term Performance						
	The longest performance period covered by your executive compensation plan	Year	4	4	4	4
	The longest time vesting period for variable CEO compensation	Year	4	4	4	4
Transparency of Executive Compensation						
	Total compensation of CEO	Baht	15,630,000	16,400,000	23,096,000	25,809,000
	Salary of CEO	Baht	12,040,000	13,000,000	14,560,000	15,141,000
	Bonus of CEO	Baht	2,850,000	2,600,000	7,617,000	9,707,000
	Provident Fund of CEO	Baht	740,000	800,000	919,000	961,000
	Total compensation of Executives (except the CEO)	Baht	34,800,000	35,500,000	42,471,000	61,635,000
	Salary of Executives (except the CEO)	Baht	22,300,000	22,100,000	24,157,000	35,955,000
	Bonus of Executives (except the CEO)	Baht	9,500,000	10,500,000	15,137,000	20,770,000
	Provident Fund of Executives (except the CEO)	Baht	3,000,000	2,900,000	3,177,000	4,910,000
	Total compensation of Executives (Executive Vice President)	Baht	35,593,000	55,136,000	54,036,000	92,705,000
	Salary of Executives (Executive Vice President)	Baht	24,800,000	36,000,000	32,840,000	52,732,000
	Bonus of Executives (Executive Vice President)	Baht	8,000,000	14,900,000	17,534,000	32,145,000
	Provident Fund of Executives (Executive Vice President)	Baht	2,793,000	4,236,000	3,662,000	7,828,000
	Total compensation of Executives (Senior Vice President)	Baht	163,700,000	167,300,000	215,462,000	230,530,000
	Salary of Executives (Senior Vice President)	Baht	102,200,000	103,600,000	123,346,000	137,053,000
	Bonus of Executives (Senior Vice President)	Baht	47,100,000	49,000,000	74,619,000	75,755,000
	Provident Fund of Executives (Senior Vice President)	Baht	14,400,000	14,700,000	17,497,000	17,722,000
Disclosure of Median or Mean Compensation of all Employees & CEO Compensation						
	Median annual compensation of all employees, except the CEO	Baht	1,350,000	1,400,000	1,539,000	1,600,000
	Mean annual compensation of all employees, except the CEO	Baht	1,700,000	1,700,000	1,921,000	1,981,000
	Ratio of the median employee compensation and the total annual compensation of the CEO	Ratio	12	12	15	16
	Ratio of the mean employee compensation and the total annual compensation of the CEO	Ratio	9	10	12	13

Social and Relationship Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Management Ownership Requirements					
	Number of a company share that CEO hold	Times of the annual base salary	0.45	0.45	0.29	0.00
	Compliance					
205-2	Anti-Bribery and Corruption (ABC)					
	Governance body members that the organization's anti-corruption policies and procedures have been communicated to	Person	21	21	26	31
		% of governance body members	100	100	100	100
	Total number and percentage of <u>governance body members</u> that the organisation's anti-corruption policies and procedures have been communicated to, by region					
	Rayong	Person	10	10	13	17
		% of governance body members	100	100	100	100
	Bangkok	Person	11	11	12	14
		% of governance body members	100	100	100	100
	Other provinces	Person	0	0	1	0
		% of governance body members	0	0	100	0
	Employees that anti-corruption policies and procedures have been communicated to	Person	6,289	6,241	6,427	8,378
		%	100	100	100	100
	Total number and percentage of <u>employees</u> that anti-corruption policies and procedures have been communicated to, by employee category					
	Senior executive	Person	25	25	26	91
		% of employees	100	100	100	100
	Management	Person	188	97	558	837
		% of employees	100	100	100	100
	Non-management	Person	6,076	6,119	5,843	7,450
		% of employees	100	100	100	100
	Total number and percentage of <u>employees</u> that anti-corruption policies and procedures have been communicated to, by region					
	Rayong	Person	5,590	5,534	5,767	7,478
		% of employees	100	100	100	100
	Bangkok	Person	672	673	647	843
		% of employees	100	100	100	100
	Other provinces	Person	27	34	13	57
		% of employees	100	100	100	100
	Business partner that anti-corruption policies and procedures have been communicated to	Person	NA	374	374	374
		%	NA	100	100	100
	Total number and percentage of <u>business partner</u> that anti-corruption policies and procedures have been communicated to, by type of business partner					
	Contractors / Suppliers / Service Providers	Person	NA	351	374	374
		% of business partner	NA	93.9	100	100
	Subsidiaries	Person	NA	17	17	17
		% of business partner	NA	4.50	75.00	88.00
	Joint ventures (including stakes below 51%)	Person	NA	6	6	8
		% of business partner	NA	1.60	1.60	38.00
	Total number and percentage of <u>business partner</u> that anti-corruption policies and procedures have been communicated to, by region					
	Rayong	Person	NA	80	80	80
		% of business partner	NA	22.79	21.39	21.39

Social and Relationship Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Bangkok	Person	NA	172	172	172
		% of business partner	NA	49.00	45.99	45.99
	Other provinces	Person	NA	122	122	122
		% of business partner	NA	34.76	32.62	32.62
	Governance body member training on Anti-Bribery and Corruption (ABC)	Person	20	20	20	31
		%	100	100	100	100
Total number and percentage of <u>governance body member</u> training on Anti-Bribery and Corruption (ABC) by region						
	Rayong	Person	10	11	13	17
		% of governance body members	100	100	100	100
	Bangkok	Person	11	14	12	14
		% of governance body members	100	100	100	100
	Other provinces	Person	0	0	1	0
		% of governance body members	0	0	100	0
	Employee training on Anti-Bribery and Corruption (ABC)	Person	582	471	821	8,378
		% of total employees	9.30	13.45	10.78	100
Total number and percentage of <u>employee</u> training on Anti-Bribery and Corruption (ABC) by employee category						
	Senior executive	Person	25	25	26	91
		% of senior executive	100	100	100	100
	Management	Person	188	102	298	837
		% of management employee	NA	30.00	83.00	100
	Non-management	Person	369	344	1,288	7,450
		% of non-management employee	5.90	9.80	25.00	100
Total number and percentage of <u>employee</u> training on Anti-Bribery and Corruption (ABC) by region						
	Rayong	Person	NA	303	603	7478
		% of employee in Rayong	NA	9.60	9.11	100
	Bangkok	Person	NA	41	218	843
		% of employee in Bangkok	NA	11.71	22.18	100
	Other provinces	Person	0	0	0	57
		% of employee in other provinces	0	0	0	100
Codes of Business Conduct: Coverage						
Coverage of codes of conduct has been deployed in the past three years						
	Employees	% of total employees	100	100	100	100
	Contractors / Suppliers / Service Providers	% of total contractors/suppliers/service providers	100	100	100	100
	Subsidiaries	% of total subsidiaries	100	82	79	100

Social and Relationship Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Joint ventures (including stakes below 51%)	% of total Joint ventures	100	85	75	90
	Coverage of codes of conduct written acknowledgement has been obtained in the past three years					
	Employees	% of total employees	100	100	100	100
	Contractors / Suppliers / Service Providers	% of total contractors/supplier s/service providers	100	100	100	100
	Subsidiaries	% of total subsidiaries	100	82	79	100
	Joint ventures (including stakes below 51%)	% of total Joint ventures	33	85	75	90
	Coverage of codes of conduct training has been provide in the past three years					
	Employees	% of total employees	100	100	100	100
	Contractors / Suppliers / Service Providers	% of total contractors/supplier s/service providers	100	100	50	100
	Subsidiaries	% of total subsidiaries	69	60	85	100
	Joint ventures (including stakes below 51%)	% of total Joint ventures	100	100	100	100
206-1	Anticompetitive Practices					
	Total amount of any fines or settlements related to antitrust/anticompetitive business practices (excluding legal fees)	Baht	0	0	0	0
		% of total revenues	0	0	0	0
	Amount of contingent liabilities for ongoing antitrust/anticompetitive investigations	% of total revenues	0	0	0	0
205-3, 206-1	Codes of Business Conduct: Reporting on breaches					
	Number of code of conduct breaches reporting	Case	7	10	5	9
	Corruption	Case	7	5	1	1
	Conflict of interest	Case	0	2	1	3
	Corporate compliance	Case	0	3	3	5
	Antitrust/Anticompetitive	Case	0	0	0	0
	Number of code of conduct breaches ongoing investigation in the reporting year	Case	6	3	5	0
	Corruption	Case	6	3	1	0
	Conflict of interest	Case	0	0	1	0
	Corporate compliance	Case	0	0	3	0
	Antitrust	Case	0	0	0	0
	Number of code of confirmed conduct breaches	Case	3	5	4	0
	Corruption	Case	3	2	1	0
	Conflict of interest	Case	0	0	0	0
	Corporate compliance	Case	0	3	3	0
	Antitrust	Case	0	0	0	0
307-1	Non-Compliance with Environmental Laws and Regulations					
	Total number of violations of legal obligations/regulations	Case	0	0	0	0
	Environmental liability accrued at year end	Baht	0	0	0	0
	Significant fines					
	Total number of case	Case	0	0	0	0
	Total monetary value	Baht	0	0	0	0
	Non-monetary sanctions					
	Total number of case	Case	0	0	0	0

Social and Relationship Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Case brought through dispute resolution mechanisms					
	Total number of case	Case	0	0	0	0
Supply Chain						
308-1	Percentage of new suppliers that were screened using <u>environmental criteria</u>	% of new suppliers	100	100	100	100
414-1	Percentage of new suppliers that were screened using <u>social criteria</u>	% of new suppliers	0	3	100	100
Corporate Social Responsibility						
201-1	Philanthropic Activities					
	Total contribution	Million Baht	138	314	198	252
	Charitable donations	Million Baht	31	51	33	69
		% of total cost	23.00	16.37	16.81	27.50
	Community investments	Million Baht	48	259	164	179
		% of total cost	35.00	82.66	83.05	70.84
	Commercial initiatives	Million Baht	59	3	0	4
		% of total cost	43.00	0.97	0.15	1.66
	Input					
	Management overheads	Million Baht	158	73	44	52
	Employee volunteering time during paid working hours	Million Baht	12	11	11	11
		Hour	27,224	26,870	32,323	31,307
	Cash contribution	Million Baht	30	244	181	194
	Products or services donations	Million Baht	1	8	15	27
413-1	Local Community					
	Percentage of operations with implemented local community engagement, impact assessments, and/or development programs	%	100	100	100	100
	Community satisfaction survey	%	85.80	86.20	89.24	90.10
	Community satisfaction target at fiscal year	%	>86	>86	>86	>86
	Community satisfaction target at next fiscal year	%	>86	>86	>86	>86
Social Reporting						
-	Social Reporting - Coverage					
	Coverage of publicly available social data ¹	% of business operations	100	100	100	100
Customer Relation Management						
-	Customer satisfaction result	%	85.80	89.10	92.00	92.00
	Data coverage	% of direct customers	100	100	100	100
	Customer satisfaction target at fiscal year	%	88.60	88.60	90.00	90.00
	Percentage of satisfied clients	% of total clients	NA	NA	100	100
	Target of satisfied clients at fiscal year	% of total clients	NA	NA	100	100

¹ The scope of this report covers the companies under GC, by which GC holds greater than or equal to 50% of the total shares and has operational control.

Natural Capital

GRI	Required Data	Unit	Data Collection Period				
			2016	2017	2018	2019	
301-1	Material						
	Total material used	Million tons	24.07	22.40	25.11	24.33	
	Non renewable material	Million tons	23.68	21.99	24.69	24.04	
	Renewable material	Million tons	0.39	0.41	0.42	0.30	
301-2	Percentage of materials used that are recycled input materials	%	10.07	12.25	9.61	10.06	
302-1	Energy Consumption						
	Total direct non-renewable energy consumption	MWh	30,164,906	32,125,309	32,299,352	31,376,606	
	Natural gas	MWh	10,273,329	11,610,176	14,035,420	18,522,519	
	LPG	MWh	800,503	587,968	624,624	307,742	
	Diesel	MWh	1,916	1,709	1,795	3,039	
	Pyrolysis gas oil	MWh	46,463	3,941	26,472	58,542	
	Foul hexane	MWh	463	2,540	3,340	4,489	
	Recovered volatile (RV)	MWh	5,225	5,594	5,842	6,765	
	Fuel oil	MWh	279,836	164,327	50,333	16,062	
	Fuel gas	MWh	18,757,171	19,749,053	17,551,525	12,457,447	
	Total indirect energy consumption by primary energy source	MWh	11,925,774	13,682,662	13,213,686	9,702,143	
	Electricity (non-renewable) purchased	MWh	2,594,803	2,997,273	3,092,921	2,883,379	
	Steam (non-renewable) purchased	MWh	9,330,970	10,685,389	10,120,765	6,788,284	
	Cooling (non-renewable) purchased	MWh	0	0	0	30,480	
	Total non-renewable energy sold	MWh	5,402,727	5,531,561	5,607,454	4,931,412	
	Electricity sold	MWh	1,870,397	2,020,938	2,031,011	1,789,946	
	Steam sold	MWh	3,532,330	3,510,624	3,576,443	3,059,550	
	Return steam condensate sold	MWh	0	0	0	81,915	
	Heating sold	MWh	NA	NA	NA	NA	
	Cooling sold	MWh	NA	NA	NA	NA	
	Total renewable energy (wind, solar, biomass, hydroelectric, geothermal, etc.) purchased or generated.	MWh	16.40	43.59	43.58	43.55	
	Solar cell	MWh	16.36	43.55	43.58	43.55	
	Wind turbine	MWh	0.0390	0.0390	0.0001	0.0001	
	Total energy consumption within the organization from non-renewable sources	MWh	36,687,953	40,276,409	39,905,584	36,147,337	
	-	Total cost of energy consumption	Million Baht	33,118	37,987	40,866	41,424
		Percentage of data coverage	% of revenue	100	100	100	100
		Total non-renewable energy consumption n target at fiscal year	MWh				37,046,093
	302-2	Total energy consumption outside organization	MWh	1,383,238	1,449,860	1,757,787	1,533,564
	302-3	Total energy intensity ¹	MWh/ton production	1.56	1.56	1.54	1.42
	302-4	Total energy saved by efforts to reduce energy use and increase energy efficiency	MWh	301,414	387,756	182,354	711,644
		Fuel Saving	MWh	167,570	208,068	36,265	191,123
		Total indirect energy saved from initiative to reduce indirect energy use	MWh	133,844	179,687	146,089	520,522
Electricity saving		MWh	51,590	28,536	11,553	3,464	
Steam saving		MWh	82,253	151,151	134,536	517,058	
Greenhouse Gases Emissions (GHGs)²							

¹ All types of energy included in the intensity ratio and consumed within the organization

² GHGs emissions based on report of 1) GHGs calculation standard, methodology, emission factors and GWP referred to IPCC 2006, WRI GHG protocol and ISO 14064. 2) The operational control approach for emissions.

Natural Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
305-1	Total direct GHGs emissions (scope 1) ¹	Million tons CO ₂ equivalent	6.05	6.37	6.09	6.10
	Percentage of data coverage	% of revenue	100	100	100	100
	Total direct GHG emissions (scope 1) target at fiscal year	Million tons CO ₂ equivalent				6.13
305-2	Indirect GHGs emissions from energy purchased and consumes (scope 2) ¹⁶	Million tons CO ₂ equivalent	2.24	2.20	2.11	2.41
	Market-based energy indirect (scope 2) GHG emissions	Million tons CO ₂ equivalent	2.23	2.19	2.10	2.39
	Location based energy indirect (scope 2) GHG emissions	Million tons CO ₂ equivalent	0.01	0.01	0.01	0.01
	Percentage of data coverage	% of revenue	100	100	100	100
	Total indirect GHGs (scope 2) target at fiscal year	Million tons CO ₂ equivalent				2.42
305-3	Other relevant indirect GHG emission (scope 3) ^{16,2}	Million tons CO ₂ equivalent	10.71	11.18	10.19	11.03
305-4	GHG emission intensity (scope 1 & 2) ³	Tons CO ₂ equivalent/ tons production	0.35	0.33	0.32	0.33
305-5	Total estimated annual CO ₂ savings	Tons CO ₂ equivalent	68,930	111,383	66,421	130,137
-	GHG annual reduction target at fiscal year	Tons CO ₂ equivalent				60,000
305-7	NOx, SOx, and Other Significant Air Emissions⁴					
	Volatile organic compounds (VOCs)	Tons VOCs	1,302	1,210	802	777
	Percentage of data coverage	% of revenue	100	100	100	100
	VOCs target at fiscal year	Tons VOCs				800
	VOCs intensity	Tons VOCs/ million tons production	55.49	46.92	30.95	30.52
	Nitrogen oxides (NOx) emissions	Tons NOx	3,700	3,430	3,540	3,311
	Percentage of data coverage	% of revenue	100	100	100	100
	NOx emissions target at fiscal year	Tons NOx				3,356
	NOx intensity	Tons NOx / million tons production	166.06	139.49	133.11	130.01
	Sulfur oxides (SOx) emissions	Tons SOx	1,092	1,063	812	544
	Percentage of data coverage	% of revenue	100	100	100	100
	SOx emissions target at fiscal year	Tons SOx				553
	SOx intensity	Tons SOx / million tons production	49.03	43.24	30.52	21.35
	Total suspended particulate (TSP)	Tons	26.43	71.10	26.29	29.87
	TSP intensity	Tons/ million tons production	1.13	2.76	1.01	1.17
303-1	Water withdrawn					

¹ All greenhouse gases included in the report.

² Indirect GHG emission scope 3 categories activities reported include 1) Purchased goods and service, 2) Capital goods, 3) Upstream transportation and distribution, 4) Waste generated in operations, 5) Business travel, 6) Downstream transportation and distribution, 7) Processing of sold products, 8) Use of sold products, and 9) End-of-life treatment of sold products.

³ Types of GHGs emissions, which are direct (scope 1) and energy indirect (scope 2), included in the intensity ratio.

⁴ Standards, methodologies, source of emission factors and assumptions used are identified relevant regulations. The measurement approaches include direct and/or continuous measurement.

Natural Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Total water withdrawal from all areas	Mega litres	60,739	61,037	60,555	59,185
	Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	Mega litres	51,007	53,067	53,320	50,195
	Surface water	Mega litres	0	0	0	0
	Groundwater	Mega litres	0	0	0	0
	Seawater	Mega litres	0	0	0	0
	Produced water	Mega litres	0	0	0	0
	Third-Party water	Mega litres	51,007	53,067	53,320	50,195
	Surface water	Mega litres	21,090	21,386	21,100	19,273
	Water supply	Mega litres	29,744	31,523	32,047	30,749
	Groundwater	Mega litres	173	158	173	172
	Seawater	Mega litres	0	0	0	0
	Produced water	Mega litres	0	0	0	0
	Other water ($> 1,000$ mg/L Total Dissolved Solids).	Mega litres	9,732	7,970	7,235	8,990
	Surface water	Mega litres	0	0	0	0
	Groundwater	Mega litres	0	0	0	0
	Seawater	Mega litres	9,732	7,970	7,235	8,990
	Produced water	Mega litres	0	0	0	0
	Third-Party water	Mega litres	0	0	0	0
	Water withdrawal intensity	m ³ / ton production	2.59	2.37	2.34	2.32
	Water reused	Mega litres	11,156	11,558	11,434	17,303
	Water recycled	Mega litres	923	893	1,091	1,093
	Total Water recycled & Water reused	Mega litres	12,078	12,450	12,525	18,396
	Water reused and recycled	% of total water withdrawal	19.90	20.40	20.70	31.10
-	Total net fresh water consumption	Million m ³	51.01	53.07	53.32	50.20
	Data coverage	% of group revenue	100	100	100	100
	Total net fresh water consumption target at fiscal year	Million m ³				51.35
303-4	Water Discharge¹					
	Total water discharge to all areas	Mega litres	20,977	19,914	18,562	20,571
	Fresh water ($\leq 1,000$ mg/L Total Dissolved Solids)	Mega litres	0	0	0	0
	Surface water	Mega litres	0	0	0	0
	Groundwater	Mega litres	0	0	0	0
	Seawater	Mega litres	0	0	0	0
	Third-party water (Total)	Mega litres	0	0	0	0
	Third-party water sent for use to other organizations	Mega litres	0	0	0	0
	Other water ($> 1,000$ mg/L Total Dissolved Solids).	Mega litres	20,977	19,914	18,562	20,571
	Surface water	Mega litres	4,646	4,528	4,880	5,040
	BOD Loading	Tons	10	10	11	13
	COD Loading	Tons	227	216	200	213
	TSS Loading	Tons	37	38	32	34
	Oil & Grease Loading	Tons	2	2	3	7
	Groundwater	Mega litres	0	0	0	0
	Seawater	Mega litres	6,141	4,925	4,775	5,822
	Total third-party water	Mega litres	10,190	10,461	8,907	9,709
	Third-party water sent for use to other organizations	Mega litres	10,190	10,461	8,907	9,709
	BOD Loading	Tons	66	63	94	62
	COD Loading	Tons	465	551	551	316

¹ Treatment methods were Reverse Osmosis (R.O.) systems and biological treatment, and discharged water was not reused by another organization. In addition, information sources about the volume of water discharge include flow meters and regulatory permits.

Natural Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	TSS Loading	Tons	100	128	92	42
	Oil & Grease Loading	Tons	24	20	21	13
-	Total direct COD	Tons	692	767	751	529
	Percentage of data coverage	% of revenue	100	100	100	100
	Total direct COD target at fiscal year	Tons COD				540
Waste Disposal						
-	Total waste disposed	Tons	34,558	33,349	35,967	31,986
	Data coverage	% of revenue	100	100	100	100
	Total waste disposal target at fiscal year	Tons				32,914
306-2	Hazardous Waste Generated ¹ as defined by National Legislation	Tons	27,342	55,836	40,912	47,775
	Reuse	Tons	281	20,058	426	721
	Recycle	Tons	17,214	8,972	5,869	7,167
	Recovery, including energy recovery	Tons	1,257	11,158	14,371	14,147
	Landfill	Tons	369	147	35	0
	Incineration (mass burn)	Tons	6,919	7,404	15,442	22,779
	On-site storage	Tons	0	0	0	0
	Other management method (Land reclamation, etc)	Tons	1,300	8,097	4,770	2,960
	Data coverage	% of revenue	100	100	100	100
	Total Hazardous waste generated target at fiscal year	Tons				48,712
	Total Non-Hazardous waste ² from routine operations	Tons	42,852	43,799	44,355	42,611
	Reuse	Tons	372	529	565	373
	Recycle	Tons	7,736	9,582	7,354	3,862
	Recovery, including energy recovery	Tons	185	339	468	6,390
	Landfill	Tons	45	303	41	0
	Composting	Tons	1	0	161	43
	Incineration (mass burn)	Tons	853	478	979	1,201
	Other management method (please specify)	Tons	31,381	30,663	32,864	28,471
	Municipal waste	Tons	2,277	1,905	1,923	2,271
	Waste from non-routine operation ³	Tons	10,487	667	9,281	20,640
306-3	Spills					
	Oil spills	Case	2	4	0	0
		m ³	0.060	0.153	0	0
	Fuel spills	Case	0	0	0	0
		m ³	0	0	0	0
	Waste spills	Case	0	1	0	0
		m ³	0	0.001	0	0
	Chemical spills	Case	18	0	0	0
		m ³	0.804	0	0	0
G4-OG6	Flared and vented hydrocarbon					
	Volume of flared and vented hydrocarbon	Million m ³	45.28	77.89	32.18	33.27
Environmental Reporting						
-	Environmental Reporting - Coverage					

¹ As defined by National Legislation and there is no on-site storage during reporting year.

² As defined by National Legislation and there is no on-site storage during reporting year.

³ Waste from non-routine operations i.e. construction waste. This includes hazardous waste and non-hazardous waste.

Natural Capital

GRI	Required Data	Unit	Data Collection Period			
			2016	2017	2018	2019
	Coverage of publicly available environmental data ¹	% of business operations	100	100	100	100
Operational Eco-Efficiency						
-	Denominator - Production / Revenues					
	Total production volume	Tons	23,456,500	25,792,470	25,907,862	25,465,163
Product Stewardship						
-	Life Cycle Assessment					
	Full product LCAs conducted	% of total products	11	11	11	10
	Simplified product LCAs conducted	% of total products	89	89	76	81
	Others	% of total products	-	-	13	9
Climate Strategy						
-	Climate Change Products					
	Avoided emissions products	% of total revenues from products	2.00	3.00	3.00	2.00
	Low carbon products	% of total revenues from products	85.00	97.50	92.00	93.00
Climate Strategy Impacts						
	Total annual investment required of anticipated annual CO ₂	Million Baht	225	816	167	1,167
	Total anticipated annual cost savings	Million Baht	319	570	324	765

Remarks:

- This report remains focus on materiality aspects in Thailand as the operational control. The information on GC subsidiaries and affiliates as well as joint ventures can be found in the Annual Report.
- NA : Data not available

¹ The scope of this report covers the companies under GC, by which GC holds greater than or equal to 50% of the total shares and has operational control.