Performance Summary

Indicators	Material Aspects	Unit	2017	2018	2019	2020
	Environmental Performance					
GRI302-1	Energy consumption within the organization					
	Total energy consumption within the organization	**MJ**	**6,548,882,864**	**6,272,113,885**	**8,230,240,250**	**8,233,894,388**
	Total fuel consumption within the organization from non-renewable sources	**MJ**	**4,217,717,527**	**3,842,134,240**	**4,449,797,246**	**4,195,263,011**
	- Fuel oil	MJ	1,817,833,830	1,364,409,734	1,125,218,753	1,213,782,760
	- Natural gas	MJ	112,984,871	3,298,576	19,089,673	69,188,652
	- Reused oil	MJ	0	64,885,721	316,760,421	225,289,606
	- Gasoline	MJ	4,584,687	4,303,097	4,308,057	4,881,195
	- Diesel	MJ	1,137,919,666	997,922,778	1,083,453,896	993,854,964
	- Bituminous Coal	MJ	1,040,995,429	1,300,044,619	1,719,556,012	1,463,530,288
	- LPG	MJ	103,399,044	107,269,714	181,410,434	224,735,545
	Total fuel consumption within the organization from renewable sources	**MJ**	**1,190,073,807**	**1,072,622,936**	**2,658,773,769**	**2,960,910,252**
	- Biogas	MJ	583,460,442	565,276,866	668,481,859	629,994,793
	- Concentrated slop	MJ	558,402,242	451,631,413	269,827,965	508,714,007
	- Technical alcohol	MJ	48,211,123	55,714,657	54,483,922	64,632,383
	- Wood Chip	MJ	0	0	1,631,099,974	1,673,871,138
	- Rice Husk	MJ	0	0	34,279,740	35,079,676
	- Palm Shell	MJ	0	0	0	0
	- Biofuels	MJ	0	0	600,310	48,618,255
	Electricity and steam purchased for consumption	**MJ**	**1,172,076,339**	**1,085,069,893**	**1,291,715,097**	**1,262,064,027**
	- Electricity consumption	MJ	1,094,353,260	991,558,614	1,165,983,325	1,125,758,020
	- Steam consumption	MJ	77,723,079	93,511,279	125,731,773	136,306,007
	Self-generated electricity from renewable sources	**MJ**	**456**	**442,337**	**392,535**	**536,199**
	- Solar energy	MJ	456	442,337	392,535	536,199
	Electricity Sold	**MJ**	**30,985,265**	**35,977,518**	**170,438,396**	**153,463,100**
	- Electricity sold from renewable sources	MJ	30,985,265	35,977,518	170,438,396	153,463,100
	Steam Sold from non-renewable sources	**MJ**	**0**	**0**	**0**	**363,566**
	Energy intensity (Beverage) (12)	**MJ/ hL**	**215.48**	**204.33**	**244.89**	**245.97**
	- Energy intensity (Distillery) (9)	MJ/ hL	565.59	555.09	701.09	676.22
	- Energy intensity (Brewery)	MJ/ hL	198.86	213.01	218.25	231.02
	- Energy intensity (Oishi)	MJ/ hL	119.65	111.48	130.00	137.76
	- Energy intensity (Sermsuk)	MJ/ hL	50.18	43.16	41.83	35.19
	Energy intensity (Beverage - Thailand) (12)	**MJ/ hL**	**215.48**	**204.33**	**232.94**	**232.19**
	- Energy intensity (Grand Royal Group) (2)	MJ/ hL	N/A	N/A	592.44	527.05
	- Energy intensity (Inver House) (2)	MJ/ hL	N/A	N/A	757.44	855.71
	Energy intensity (Food)	**MJ/ kg**	**8.86**	**6.83**	**6.93**	**8.14**
GRI303-3	Water Withdrawal (3)					
	Total volume of water withdrawn	**Megaliters**	**24,842**	**19,883**	**24,080**	**24,867**
	- Surface water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	18,827	15,128	18,233	16,170
	- Surface water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	734
	- Total surface water withdrawn	Megaliters	18,827	15,128	18,233	16,904
	- Ground water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	3,892	3,435	4,249	5,670
	- Ground water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total ground water withdrawn	Megaliters	3,892	3,435	4,249	5,670
	- Seawater (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	0	0	0	0
	- Seawater (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total seawater withdrawn	Megaliters	0	0	0	0
	- Produced water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	0	0	0	0
	- Produced water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total produced water withdrawn	Megaliters	0	0	0	0
	- Third-party water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	2,123	1,320	1,465	2,130
	- Third-party water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			134	163
	- Total third-party water withdrawn	Megaliters	2,123	1,320	1,599	2,293
	Total volume of water withdrawn in water stressed areas	**Megaliters**	**N/A**	**N/A**	**12,722**	**13,298**
	- Surface water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	N/A	N/A	9,638	8,888
	- Surface water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total surface water withdrawn	Megaliters	N/A	N/A	9,638	8,888
	- Ground water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	N/A	N/A	2,640	3,393
	- Ground water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total ground water withdrawn	Megaliters	N/A	N/A	2,640	3,393
	- Seawater (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	N/A	N/A	0	0
	- Seawater (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total seawater withdrawn	Megaliters	N/A	N/A	0	0
	- Produced water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	N/A	N/A	0	0
	- Produced water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total produced water withdrawn	Megaliters	N/A	N/A	0	0
	- Third-party water (Freshwater ≤ 1000 mg/L Total Dissolved Solids)	Megaliters	N/A	N/A	443	1,017
	- Third-party water (Other water > 1000 mg/ L Total Dissolved Solids)	Megaliters			0	0
	- Total third-party water withdrawn	Megaliters	N/A	N/A	443	1,017
	- Third-party water that is surface water	Megaliters	N/A	N/A	443	1,017
	- Third-party water that is ground water	Megaliters	N/A	N/A	0	0
	- Third-party water that is seawater	Megaliters	N/A	N/A	0	0
	- Third-party water that is produced water	Megaliters	N/A	N/A	0	0
GRI303-4	Water Discharge (3) (4)					
	Total volume of water discharge	**Megaliters**	**12,705**	**9,485**	**11,040**	**12,199**
	- Surface water	Megaliters	N/A	N/A	8,313	9,524
	- Ground water	Megaliters	N/A	N/A	0	0
	- Seawater	Megaliters	N/A	N/A	21	33
	- Third-party water	Megaliters	N/A	N/A	2,707	2,642
	Total volume of freshwater discharge (≤ 1000 mg/L Total Dissolved Solids)	**Megaliters**	**N/A**	**N/A**	**5,305**	**4,272**
	Total volume of other water discharge (> 1000 mg/L Total Dissolved Solids)	**Megaliters**	**N/A**	**N/A**	**5,735**	**7,927**
	Total volume of freshwater discharge in water stressed areas (≤ 1000 mg/L Total Dissolved Solids)	**Megaliters**	**N/A**	**N/A**	**2,689**	**1,263**
	Total volume of other water discharge in water stressed areas (> 1000 mg/L Total Dissolved Solids)	**Megaliters**	**N/A**	**N/A**	**3,604**	**4,971**
GRI303-5	Water Consumption (3)					
	Total water consumption	**Megaliters**	**12,137**	**10,398**	**13,040**	**12,668**
	Total water consumption in water stressed areas	**Megaliters**	**N/A**	**N/A**	**6,435**	**7,063**
	Change in water storage (8) ( ) indicates negative change	**Megaliters**	**N/A**	**N/A**	**109**	**(80)**
	Water Intensity					
	Water intensity (Beverage) (12)	**hL/ hL**	**4.01**	**3.52**	**4.08**	**3.96**
	- Water intensity (Distillery)	hL/ hL	9.89	7.26	7.68	8.79
	- Water intensity (Brewery)	hL/ hL	1.46	2.07	2.53	2.64
	- Water intensity (Oishi)	hL/ hL	3.62	2.97	2.69	1.55
	- Water intensity (Sermsuk)	hL/ hL	3.41	3.17	3.57	2.90
	Water intensity (Beverage - Thailand) (12)	**hL/ hL**	**4.01**	**3.52**	**3.83**	**3.75**
	- Water intensity (Grand Royal Group)	hL/ hL	N/A	N/A	11.42	10.40
	- Water intensity (Inver House)	hL/ hL	N/A	N/A	15.19	10.63
	Water intensity (Food)	**hL/ kg**	**0.28**	**0.22**	**0.21**	**0.23**
DJSI	**Water Consumption Related Data**					
	Total municipal water supplies (or from other water utilities)	Megaliters	2,123	1,320	1,599	2,293
	Withdrawal: Surface water (lakes, rivers, etc.)	Megaliters	18,569	14,890	18,233	16,904
	Withdrawal: Groundwater	Megaliters	3,892	3,435	4,249	5,670
	Discharge: Surface water and groundwater returned to the source of extraction at similar or higher quality as raw water extracted (based on TDS content as per GRI 303-3 & GRI 303-4)	Megaliters	2,320	812	4,846	3,980
GRI305-1	Direct (Scope 1) GHG emissions (5)					
	Direct (Scope 1) GHG emissions	**Metric tons CO_2e**	**1,144,905**	**1,053,716**	**1,371,739**	**1,331,768**
	Gross direct (Scope 1) GHG emissions	**Metric tons CO_2e**	**901,067**	**826,801**	**927,649**	**881,891**
	Biogenic CO2 emissions	**Metric tons CO_2e**	**243,837**	**226,915**	**444,090**	**449,877**
GRI305-2	Energy indirect (Scope 2) GHG emissions					
	Energy indirect (Scope 2) GHG emissions	**Metric tons CO_2e**	**179,078**	**163,317**	**186,696**	**180,966**
GRI305-4	GHG emissions intensity (5)					
	GHG emissions (Scope 1 and Scope 2)	Metric tons CO_2e	1,080,145	990,119	1,114,345	1,062,857
	GHG emissions intensity (Beverage) (12)	**kg CO_2e/ hL**	**36.06**	**34.54**	**35.23**	**33.48**
	- GHG emissions intensity (Distillery)	kg CO_2e/ hL	131.48	133.32	130.15	121.44
	- GHG emissions intensity (Brewery)	kg CO_2e/ hL	19.87	21.68	21.88	22.71
	- GHG emissions intensity (Oishi)	kg CO_2e/ hL	12.31	11.99	15.49	15.18
	- GHG emissions intensity (Sermsuk)	kg CO_2e/ hL	5.12	4.39	4.60	3.65
	GHG emissions intensity (Beverage - Thailand) (12)	**kg CO_2e/ hL**	**36.06**	**34.54**	**34.41**	**33.13**
	- GHG emissions intensity (Grand Royal Group)	kg CO_2e/ hL	N/A	N/A	61.63	41.71
	- GHG emissions intensity (Inver House)	kg CO_2e/ hL	N/A	N/A	60.26	54.48
	GHG emissions intensity (Food)	**kg CO_2e/ kg**	**1.12**	**0.86**	**0.85**	**1.00**
GRI306-2	Waste by type and disposal method (7)					
	Total weight of hazardous waste	**Metric tons**	**N/A**	**318**	**185**	**168**
	- Reuse	Metric tons	N/A	1	6	9
	- Recycling	Metric tons	N/A	173	93	55
	- Recovery, including energy recovery	Metric tons	N/A	31	59	44
	- Incineration (mass burn)	Metric tons	N/A	11	1	0
	- Landfill	Metric tons	N/A	102	18	34
	- Chemical Treatment	Metric tons	N/A	0	3	26
	- Deep Well injection	Metric tons	N/A	0	4	0
	Total weight of non-hazardous waste	**Metric tons**	**N/A**	**13,155**	**38,071**	**37,434**
	- Reuse	Metric tons	N/A	121	1,950	2,006
	- Recycling	Metric tons	N/A	10,051	18,404	18,265
	- Composting	Metric tons	N/A	864	12,194	12,898
	- Recovery, including energy recovery	Metric tons	N/A	346	236	158
	- Incineration (mass burn)	Metric tons	N/A	67	38	23
	- Landfill	Metric tons	N/A	1,706	5,238	4,076
	- Chemical treatment	Metric tons	N/A	0	10	8
DJSI	Waste by type and total waste disposed					
	Total waste generated [6]	**Metric tons**	**65,645**	**13,473**	**38,256**	**37,602**
	- General waste	Metric tons	2,936	N/A	N/A	N/A
	- Hazardous waste	Metric tons	261	N/A	N/A	N/A
	- By-product waste	Metric tons	46,922	N/A	N/A	N/A
	- Valuable waste	Metric tons	15,526	N/A	N/A	N/A
	Total waste used/ recycled/ sold	**Metric tons**	**62,448**	**11,587**	**32,942**	**33,435**
	Total waste disposed	**Metric tons**	**3,197**	**1,886**	**5,314**	**4,166**
DJSI	**Environmental Violation**					
	Number of violations of legal obligations/regulations	Numerical	0	0	0	0
	Amount of fines/penalties related to the above. Currency:	Monetary units	0	0	0	0
	Environmental liability accrued at year end. Currency:	Monetary units	0	0	0	0

Note

N/A: not applicable

1. In 2017 - 2018, ThaiBev's reporting of environmental performance was expanded to included the following operations:
1.1 Environmental data from the food group in terms of food production facility located in Ban Bueng, Chonburi.
1.2 Environmental data in terms of non-alcoholic beverages from S.P.M. Food and Beverage Co., Ltd. (under Sermsuk), discontinued as of 2019.
1.3 Environmental data from Supply Chain business units such as Thai Beverage Energy Co., Ltd., Thai Beverage Logistics Co., Ltd, and Thai Molasses Co., Ltd.
2. From FY 2019, ThaiBev's reporting of environmental performance was expanded to include overseas operations in Myanmar (Grand Royal Group) and Scotland (Inver House).
3. In 2019, ThaiBev started reporting water and effluents in line with the reporting requirements of GRI 303 (2018). Historical data was recategorised where possible to report as per new requirements.
4. For 2017 - 2018, ThaiBev's water discharge was updated to include water based soil conditioner for agricultural application as third-party discharge.
5. For 2017 - 2018, GRI 305-1 data was corrected to include fugitive emissions from wastewater treatment systems.
6. In 2017, waste disposal was classified by types of waste generated, consisting of the following 4 types:
6.1 General waste – disposed of by local authorities, such as the municipality or sub-district administration organization.
6.2 Hazardous waste – disposed of by legally licensed companies.
6.3 By-product waste – handled by Feed Addition Co., Ltd. one of ThaiBev's subsidiaries to generate income for the Company.
6.4 Valuable waste – sorted so that it can be reused and recycled.
7. From FY 2018, ThaiBev has reported waste by type and disposal method following reporting requirements of GRI 306-2.
8. ThaiBev has defined water storage as having a significant water-related impact if the storage system is located in a water-stressed area.
9. Energy intensity does not include consumption of renewable energy sources used to generate electricity that is sold to third-parties.
10. In 2019 ThaiBev corrected previous reporting of biogenic emissions to include biogas and other renewable fuels consumption as per GRI 302-1. As such, historical emission intensities have been corrected.
11. Total energy consumption within the organization, energy intensity (food), direct (scope 1) GHG emissions, and GHG intensity (food) have been corrected for FY2018 as an error in reporting of natural gas was identified.
12. "Beverages - Thailand" refers to operations in Thailand only. "Beverage" refers to operations including overseas.
13. ThaiBev has not identified any non-compliance with environmental laws and/or regulations in the previous four fiscal years of disclosure.