



## ESG Data

## Governance

Composition of Executive		Unit	FY2017	FY2018	FY2019	FY2020	FY2021
Directors		People	12	11	13	12	11
	Of the numbers mentioned above, Outside Directors	People	4 (Female:1, Non-Japanese:1)	4 (Female:1, Non-Japanese:1)	5 (Female:1, Non-Japanese:1)	5 (Female:1, Non-Japanese:1)	4 (Female: 2)
Audit & Supervisory Board Members		People	4	4	4	4	4
	Of the numbers mentioned above, Outside Audit & Supervisory Board Members	People	2	2	2	2	2
Number of Convened Meetings of the Board of Directors, etc.		Unit	FY2020				
Board of Directors	Number of meetings	Times	16				
	Average rate of attendance	%	99.5				
Audit & Supervisory Board	Number of meetings	Times	17				
	Average rate of attendance	%	100				



## ESG Data

## Environmental Data of Refineries and Complexes

## Hokkaido Refinery

	Unit	FY2017	FY2018	FY2019	FY2020
Crude oil throughput	thousand kL	8,235	6,750	7,768	4,598
Crude oil equivalent	thousand kL*1	608	522	578	373
Unit energy consumption	kL/thousand kL*2	8.46	8.73	8.24	8.98
Seawater	thousand t	138,293	121,659	128,835	111,202
Industrial water	thousand t	11,114	12,693	12,484	12,608
Tap water	thousand t	-	-	60	65
Underground water	thousand t	-	-	356	279
CO <sub>2</sub>	thousand tCO <sub>2</sub>	990	894	1,664	1,124
SO <sub>x</sub>	t	2,086	1,877	2,397	1,612
NO <sub>x</sub>	t	1,231	1,037	1,224	867
Soot/dust	t	5	15	8	6
Wastewater	thousand kL	149,407	134,352	141,380	123,875
COD	t	36	31	33	18
Total nitrogen	t	-	-	-	-
Total phosphorus	t	-	-	-	-
Total waste	t	12,003	9,155	9,584	10,571
Reduced by intermediate treatment	t	1,026	1,800	1,006	1,763
Recycled	t	10,973	7,351	8,575	7,412
Final disposal	t	4	4	3	3

## Chiba Complex (Only oil refining until FY2017)

	Unit	FY2017	FY2018	FY2019	FY2020
Crude oil throughput	thousand kL	10,321	11,122	9,351	9,937
Petrochemical product manufacturing (Ethylene equivalent)	thousand t	-	2,056	1,661	1,776
Crude oil equivalent	thousand kL*1	833	1,555	1,315	1,426
Unit energy consumption	kL/thousand kL*2	8.65	8.42	9.11	8.97
	kL/t*3	-	0.32	0.35	0.34
Seawater	thousand t	349,977	503,972	418,108	468,093
Industrial water	thousand t	18,131	22,513	21,064	19,641
Tap water	thousand t	-	-	-	-
Underground water	thousand t	-	-	364	320
CO <sub>2</sub>	thousand tCO <sub>2</sub>	1,727	3,148	3,072	3,455
SO <sub>x</sub>	t	2,205	2,579	2,541	3,268
NO <sub>x</sub>	t	1,440	2,752	2,342	2,478
Soot/dust	t	150	160	128	125
Wastewater	thousand kL	368,108	524,140	437,723	486,602
COD	t	30	40	40	37
Total nitrogen	t	57	80	59	67
Total phosphorus	t	0.4	0.6	0.5	0.4
Total waste	t	78,087	66,850	51,488	76,711
Reduced by intermediate treatment	t	20,149	21,213	18,993	17,534
Recycled	t	57,916	45,630	32,470	59,170
Final disposal	t	22	7	27	6

## Chiba Complex (Petrochemicals)

	Unit	FY2017	FY2018	FY2019	FY2020
Petrochemical product manufacturing (Ethylene equivalent)	thousand t	1,838			
Crude oil equivalent	thousand kL*1	611			
Unit energy consumption	kL/t*3	0.332			
Seawater	thousand t	109,444			
Industrial water	thousand t	3,303			
CO <sub>2</sub>	thousand tCO <sub>2</sub>	1,274			
SO <sub>x</sub>	t	16			
NO <sub>x</sub>	t	804			
Soot/dust	t	8			
Wastewater	thousand kL	110,987			
COD	t	9			
Total nitrogen	t	12			
Total phosphorus	t	0.1			
Total waste	t	8,730			
Reduced by intermediate treatment	t	3,200			
Recycled	t	5,524			
Final disposal	t	6			

## Aichi Refinery

	Unit	FY2017	FY2018	FY2019	FY2020
Crude oil throughput	thousand kL	7,049	7,699	8,577	7,474
Crude oil equivalent	thousand kL*1	586	608	681	667
Unit energy consumption	kL/thousand kL*2	9.40	9.76	8.51	9.24
Seawater	thousand t	207,469	242,389	241,254	239,380
Industrial water	thousand t	12,438	12,375	12,396	12,256
Tap water	thousand t	-	-	103	114
Underground water	thousand t	-	-	-	-
CO <sub>2</sub>	thousand tCO <sub>2</sub>	1,146	1,187	1,870	1,851
SO <sub>x</sub>	t	851	789	904	884
NO <sub>x</sub>	t	1,270	1,267	1,278	1,240
Soot/dust	t	52	38	60	44
Wastewater	thousand kL	219,907	254,764	253,753	251,750
COD	t	6	8	11	11
Total nitrogen	t	6	11	8	13
Total phosphorus	t	0.3	0.4	0.9	1.2
Total waste	t	81,988	99,762	94,556	80,775
Reduced by intermediate treatment	t	47,787	64,417	59,115	51,124
Recycled	t	34,149	35,321	35,410	28,707
Final disposal	t	52	24	31	26

\*1 Crude oil equivalent from FY2019 is the figure subtracted from sales of by-product energy.

\*2 Unit energy consumption = Crude oil equivalent (L) / Atmospheric distillation equipment converted throughput(kL)

\*3 Unit energy consumption = Crude oil equivalent (L) / Ethylene equivalent production(t)



## ESG Data

## Tokuyama Complex

	Unit	FY2017	FY2018	FY2019	FY2020
Petrochemical product manufacturing (Ethylene equivalent)	thousand t	1,986	1,814	1,888	1,536
Crude oil equivalent	thousand kL*1	958	898	920	778
Unit energy consumption	kL/t*2	0.47	0.49	0.49	0.51
Seawater	thousand t	452,264	420,355	431,407	397,463
Industrial water	thousand t	13,069	11,962	10,554	11,502
Tap water	thousand t	-	-	193	201
Underground water	thousand t	-	-	-	-
CO <sub>2</sub>	thousand tCO <sub>2</sub>	2,051	1,928	2,002	1,712
SO <sub>x</sub>	t	835	821	1,006	815
NO <sub>x</sub>	t	1,712	1,583	1,624	1,423
Soot/dust	t	15	18	14	14
Wastewater	thousand kL	465,332	432,508	442,154	409,166
COD	t	23	18	13	16
Total nitrogen	t	19	14	17	18
Total phosphorus	t	0.4	0.5	0.4	0.3
Total waste	t	34,573	34,061	31,786	24,924
Reduced by intermediate treatment	t	19,091	20,175	19,046	15,001
Recycled	t	14,621	12,537	12,187	9,920
Final disposal	t	861	1,348	553	2

\*1 Crude oil equivalent from FY2019 is the figure subtracted from sales of by-product energy.

\*2 Unit energy consumption = Crude oil equivalent (L) / Ethylene equivalent production(t)