



Overview of Environmental Impacts Through Our Business Activities (FY2018)

	Extraction	Crude oil procurement and import	Domestic manufacturing	Domestic transportation	Domestic sales	Consumption	
Idemitsu's performance from April 2018 to March 2019 (12 months)							
Input	Energy 30 PJ Equivalent in crude oil 780 thousand kl	Energy 13 PJ Equivalent in crude oil 336 thousand kl	Oil refining + Petrochemicals Energy 139 PJ Equivalent in crude oil 3,584 thousand kl Seawater 1,288,375 thousand t Water 60,130 thousand t		Energy 3.6 PJ Equivalent in crude oil 92.5 thousand kl Water 12.6 thousand t	Energy 0.7 PJ Equivalent in crude oil 18.7 thousand kl	Gasoline 7,691 thousand kl Jet fuel 1,973 thousand kl Kerosene 2,280 thousand kl Diesel oil 6,041 thousand kl Heavy fuel oil A 2,099 thousand kl Heavy fuel oil C 2,143 thousand kl LPG (propane) 2,577 thousand t LPG (butane) 641 thousand t Coal 6,868 thousand t Lubricants 601 thousand kl Basic chemicals 3,493 thousand t Performance chemicals 50 thousand t
	CO ₂ -Scope1 285 thousand t CO ₂ -Scope2 73 thousand t CO ₂ -Scope3 1,410 thousand t Total CO₂ (Scope 1-3) 1,769 thousand t	CO ₂ -Scope1 190 thousand t CO ₂ -Scope2 0 thousand t CO ₂ -Scope3 740 thousand t Total CO₂ (Scope 1-3) 931 thousand t	CO ₂ -Scope1 6,862 thousand t CO ₂ -Scope2 363 thousand t CO ₂ -Scope3 – thousand t Total CO₂ (Scope 1-3) 7,225 thousand t		CO ₂ -Scope1 0 thousand t CO ₂ -Scope2 0 thousand t CO ₂ -Scope3 253 thousand t Total CO₂ (Scope 1-3) 253 thousand t	CO ₂ -Scope1 10 thousand t CO ₂ -Scope2 24 thousand t CO ₂ -Scope3 0 thousand t Total CO₂ (Scope 1-3) 34 thousand t	CO ₂ -Scope1 0 thousand t CO ₂ -Scope2 0 thousand t CO ₂ -Scope3 79,318 thousand t Total CO₂ (Scope 1-3) 79,318 thousand t
	SOx 20,450 t NOx 5,959 t	SOx 17,711 t NOx 26,156 t	SOx 6,066 t NOx 6,640 t Soot/dust 231 t Water discharge 1,345,984 thousand t COD 97 t Total nitrogen (TN) 104 t Total phosphorus (TP) 1.5 t Total waste* 209,828 t Final disposal (landfill)* 1,383 t Unit energy consumption* 8.87 l/kl (refinery), 0.396 kl/t (petrochemical plant) *Covering only refineries and petrochemical plants		SOx 3,122 t NOx 3,274 t Water discharge 6.0 thousand t Total waste 18.9 t Final disposal (landfill)* 5.4 t Unit energy consumption* 8.77 kl/million t-km *Covering petroleum products + lubricants + petrochemical products + coal		SOx 91,223 t
Boundary Crude oil ■ Idemitsu Petroleum Norge AS Coal ■ ENSHAM COAL SALES PTY. LTD. ■ MUSWELLBROOK COAL COMPANY LTD ■ BOGGABRI COAL OPERATIONS PTY LTD ■ TARRAWONGA COAL SALES PTY LTD ■ PT MITRABARA ADIPERDANA Tbk [Scope 3] CO ₂ emissions from crude oil and coal extracted from oil fields and mines owned by other companies	■ Idemitsu Tanker Co., Ltd. ■ Astomos Energy Corporation [Scope 3] CO ₂ emissions attributable to transportation using ships chartered from other companies	Refineries ■ Hokkaido Refinery ■ Chiba Complex ■ Chiyama Complex ■ Aichi Refinery Other manufacturing ■ BASF Idemitsu Co., Ltd. ■ Omaezaki Factory ■ Keihin Lube Center ■ Moji Lube Center ■ Idemitsu Unitech Co., Ltd. ■ SDS Biotech K.K. ■ Union Oil Industry Co., Ltd.	Petrochemical plant ■ Chiba Complex ■ Tokuyama Complex ■ Cray Valley Idemitsu Corporation ■ Prime Polymer Co., Ltd., Anesaki Works	[Scope 3] CO ₂ emissions attributable to transportation by contracted transport companies and maritime shipping companies	■ Oil depots (Kushiro, Hakodate, Hachinohe, Akita, Shioyama, Hitachi, Tokyo, Hachiojima, Oigawa, Niigata, Fushiki, Kishiwada, Hiroshima, Takamatsu, Kochi, Fukuoka, Nagasaki, Kagoshima) ■ Advanced Technology Research Laboratories ■ Lubricants Research Laboratory ■ Coal & Environment Research Laboratory ■ Offices (Head Office, Branches, Idemitsu Retail Marketing Co., Ltd. Idemitsu Unitech Co., Ltd., SDS Biotech K.K., etc.)	[Scope 3] CO ₂ emissions attributable to the consumption of products sold in Japan * Lubricants and petrochemical products that are not used as fuel are not included in the calculation. * The sales volumes of LPG (propane) and LPG (butane) are those of Astomos Energy Corporation. CO ₂ emissions are calculated by multiplying the investment ratio in Astomos Energy Corporation (51%).	
Showa Shell's performance from January 2018 to March 2019 (15 months)							
Input	Not aggregated	Energy 12 PJ Equivalent in crude oil 315 thousand kl	Energy 88 PJ Equivalent in crude oil 2,282 thousand kl Seawater 170,600 thousand t Industrial water 40,316 thousand t Tap water 194 thousand t	Energy 2.9 PJ Equivalent in crude oil 75 thousand kl Industrial water 1,479 thousand t Tap water 110 thousand t Underground water 2,102 thousand t	Energy 2.9 PJ Equivalent in crude oil 75 thousand kl	Energy 2.3 PJ Equivalent in crude oil 61 thousand kl	Gasoline 9,555 thousand kl Jet fuel 2,501 thousand kl Kerosene 3,248 thousand kl Diesel oil 6,622 thousand kl Heavy fuel oil A 2,255 thousand kl Heavy fuel oil C 1,070 thousand kl LPG (propane) 80 thousand kl LPG (butane) 160 thousand kl Lubricants 344 thousand kl Basic chemicals 1,448 thousand kl Others 8,980 thousand kl
	Not aggregated	CO ₂ -Scope1 0 thousand t CO ₂ -Scope2 0 thousand t CO ₂ -Scope3 873 thousand t Total CO₂ (Scope 1-3) 873 thousand t	CO ₂ -Scope1 6,982 thousand t CO ₂ -Scope2 434 thousand t CO ₂ -Scope3 – thousand t Total CO₂ (Scope 1-3) 7,416 thousand t	CO ₂ -Scope1 32 thousand t CO ₂ -Scope2 108 thousand t CO ₂ -Scope3 – thousand t Total CO₂ (Scope 1-3) 139 thousand t	CO ₂ -Scope1 1.0 thousand t CO ₂ -Scope2 4.3 thousand t CO ₂ -Scope3 193 thousand t Total CO₂ (Scope 1-3) 198 thousand t	CO ₂ -Scope1 0 thousand t CO ₂ -Scope2 9.9 thousand t CO ₂ -Scope3 102 thousand t Total CO₂ (Scope 1-3) 112 thousand t	CO ₂ -Scope1 0 thousand t CO ₂ -Scope2 0 thousand t CO ₂ -Scope3 63,331 thousand t Total CO₂ (Scope 1-3) 63,331 thousand t
			SOx 2,972 t NOx 2,769 t Soot/dust 95 t Water discharge 196,122 thousand t COD 255 t Total waste 51,296 t Final disposal (landfill) 0 t Unit energy consumption 7.28 l/kl	Water discharge 3,691 thousand t Total waste 23,009 t		Domestic transportation Unit energy consumption 10.1 kl/million t-km	
Boundary N/A	[Scope 3] CO ₂ emissions attributable to transportation using ships chartered from other companies	■ Showa Yokkaichi Sekiyu Co., Ltd. ■ TOA Oil Co., Ltd. ■ Seibu Oil Co., Ltd.	■ Showa Shell Sekiyu K.K. ■ Shell Lubricants Japan K.K. ■ Keihin Biomass Power Co., Ltd. ■ Solar Frontier K.K. ■ Nippon Grease Co., Ltd. ■ Shoseki Kako Co., Ltd. (excluding Sunamachi Plant) ■ Rekisei Kagaku K.K.	■ Showa Shell Sekiyu K.K. ■ Wakamatsu Gas Co., Ltd. ■ Japan Oil Network Co., Ltd.	■ Showa Shell Contract Service Stations (approx. 3,000 locations)	[Scope 3] CO ₂ emissions from energy consumption at service stations that are not included in Scope 1 and 2 [Scope 3] CO ₂ emissions attributable to the consumption of products sold in Japan * Lubricants and petrochemical products that are not used as fuel are not included in the calculation.	