Environmental Data

Energy

	Unit	2019	2018	2017	2016	2015
Energy						
Energy consumption[1]	PJ	117.4	127.4	130.8	126.8	137.8
Fuel consumption within the organization	PJ	142.42	152.52	157.5	143.8	n.r.
Electricity consumption[2]	PJ	2.9	3.5	2.9	4.3	n.r.
Heating, cooling and steam consumption	TJ	95	96	14.8	32.3	n.r.
Electricity sold[3]	PJ	12.7	25.1	26.2	19.4	n.r.
Heating, cooling and steam sold	PJ	2.9	2.7	3.3	3.2	n.r.

[1] Refers to the total energy used for operations based on site calculations with specific data and methodology.

[2] Includes only electricity purchased and consumed. Electricity consumed from own generation is included in fuel consumption.

[3] Decrease as Samsun is out of scope in 2019

n.r. = not reported

Emissions

	Unit	2019	2018	2017	2016	2015
GHG Emissions						
GHG (direct, Scope 1)[1]	mn t CO_2 equivalent	10.6	11.1	11.1	11.0	12.2
of which from Upstream activities	mn t CO_2 equivalent	4.2	3.6	3.5	4.0	4.7
of which from Downstream activities	mn t CO_2 equivalent	6.4	7.6	7.7	7.0	7.2
CO_2	mn t	9.4	10.0	10.2	9.7	10.4
CH_4	t	49,376	44,782	38,807	54,753	70,741
N_2O	t	74	57	52	60	72
GHG (indirect, Scope 2)	mn t CO_2 equivalent	0.4	0.4	0.3	0.4	0.4
GHG (indirect, Scope 3)[2]	mn t CO_2 equivalent	126	108	108	113	112
GHG reductions from projects	t CO_2 equivalent	154,522	374,000	174,000	82,000	266,000
GHG reductions from projects to date (from 2009)	mn t CO_2 equivalent	1.8	1.7	1.2		
Other air emissions						
SO_2	t	2,627	3,090	2,995	3,105	2,918
NO_X	t	7,441	11,231	12,730	12,050	12,951
NM-VOC	t	11,011	9,400	8,689	10,229	11,585
Particulate emissions	t	124	138	145	139	155
Ozone-depleting substances	t	0.4	0.4	0.5	0.5	0.4

[1] Since 2016 OMV is applying global warming potentials of the IPCC Fourth Assessment Report (AR4 – 100 year); 2015 GHG emissions have been re-calculated accordingly.

[2] Includes Scope 3 emissions from the use of sold processed products. These include total sales amounts from companies, which are under operational or financial control by OMV; pure "trading margin" sales as well as intercompany sales are excluded. Since 2015 Scope 3 emissions from purchased goods & services and capital goods are included. From 2018 on net import of refinery feedstock is included.

Flaring and venting

	Unit	2019	2018	2017	2016	2015
Flaring and Venting						
Hydrocarbons flared[1]	t	337,512	233,770	185,832	180,452	299,825
Hydrocarbons vented	t	34,282	37,420	32,834	50,173	61,443

[1] Increase of flaring amounts due to production increase in Yemen and planned unit shutdowns at the Burghausen refinery

GHG intensity of OMV operations[1]

		2019	2018[2]	2010
GHG intensity of operations	OMV Group Carbon Intensity Index	78	86	100
Reduction achieved vs. 2010	%	22	14	

[1] CO_2 equivalent emissions produced to generate a certain business output using the following business-specific metric (Upstream: t CO_2 equivalent/toe produced, refineries: t CO_2 equivalent/t throughput, power: t CO_2 equivalent/MWh produced) consolidated into an OMV Group Carbon Intensity Operations Index, based on weighted average of the business segments' carbon intensity

[2] 2018 data restated.

GHG intensity of OMV product portfolio[1] (Scope 3)

	Unit	2019	2018	2017	2016	2015
Oil to energy	mn t CO_2 equivalent	68.2	58.2	73.8	85.5	83.4
Oil for non-energy use[1]	mn t CO_2 equivalent	7.7	6.2	6.6	5.1	5.3
Gas to energy[1, 2]	mn t CO_2 equivalent	41.8	34.4	25.9	20.3	21.2
Gas for non-energy use	mn t CO_2 equivalent	2.0	1.5	0.9	0.7	0.6
Chemicals	mn t CO_2 equivalent	0.01	0.01	0.01	0.01	0.01
Total GHG (indirect, Scope 3)	mn t CO_2 equivalent	119.8	100.4	107.2	111.5	110.5
GHG intensity of product portfolio	mn t GHG per mn t oil equivalent	2.5	2.5	2.6	2.7	2.7

[1] Increase in Upstream direct sales and related GHG emissions from 2016 to 2017 due to corrected application of boundaries

[2] Increase in 2018 mainly due to increased gas sale volumes in Russia

GHG intensity of OMV purchased goods & services and capital goods (Scope 3)

	Unit	2019	2018	2017	2016	2015
Purchased goods and services[1]	mn t CO_2 equivalent	6.1	5.7	1.1	1.1	1.3
Capital goods	mn t CO_2 equivalent	0.2	0.2	0.1	0.2	0.2
Total GHG (indirect, Scope 3)[1]	mn t CO_2 equivalent	6.3	7.2	1.3	1.2	1.5
GHG intensity[1]	mn t GHG per bn $	0.8	0.8	0.7	0.6	0.6

[1] Increase in 2018 due to inclusion of net import of refinery feedstock (crude and intermediates)

Biogenic CO_2 emissions

	Unit	2019	2018	2017	2016
Biogenic CO_2 emissions	t CO_2 equivalent	1,527,113	1,303,703	1,243,810	1,225,865

Water

	Unit	2019	2018	2017	2016	2015
Water						
Water withdrawn[1]	megaliters	103,637	100,381	98,523	99,592	102,114
thereof groundwater	megaliters	24,117	23,964	24,530	23,915	24,016
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	23,836	23,716	24,144	23,614	23,828
thereof other water (>1,000 mg/l total dissolved solids)	megaliters	281	247	386	301	188
thereof surface water	megaliters	14,054	14,955	11,526	12,370	12,757
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	14,054	14,955	11,526	12,370	12,757
thereof other water (>1,000 mg/l total dissolved solids)	megaliters	0	0	0	0	0
thereof water from public supply systems	megaliters	1,360	1,477	1,509	1,606	1,807
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	1,360	1,477	1,509	1,606	1,807
thereof other water (>1,000 mg/l total dissolved solids)	megaliters	0	0	0	0	0
thereof seawater[2]	megaliters	920	586	577	382	396
thereof produced water[3]	megaliters	63,186	59,400	60,382	61,319	63,137
Water withdrawn (other than total water withdrawal by source)[4]	megaliters	920	280,963	411,854	397,860	466,137

	Unit	2019	2018	2017	2016	2015
Water withdrawn from all areas with water stress[5]	megaliters	1,230	1,775	2,524	2,367	2,300
thereof groundwater	megaliters	399	645	1,144	1,119	1,255
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	118	398	758	819	1,067
thereof other water (>1,000 mg/l total dissolved solids)	megaliters	281	247	386	301	188
thereof surface water	megaliters	0	0	0	0	0
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	0	0	0	0	0
thereof other water (>1,000 mg/L mg/l total dissolved solids)	megaliters	0	0	0	0	0
thereof water from public supply systems	megaliters	67	82	84	86	70
thereof freshwater (≤1,000 mg/l total dissolved solids)	megaliters	67	82	84	86	70
thereof other water (>1,000 mg/l total dissolved solids)	megaliters	0	0	0	0	0
thereof seawater	megaliters	0	0	0	0	0
thereof produced water	megaliters	764	1,048	1,297	1,162	975
Water consumed[6]	megaliters	74,924	75,135	76,152	78,103	80,731
Water consumed in all areas with water stress[5]	megaliters	1,158	1,691	2,428	2,267	2,086
Water recycled and reused[7]	megaliters	251,959	7,041	6,859	6,733	6,675
Wastewater discharged						
Wastewater	megaliters	21,298	21,913	19,306	19,580	19,568
Chemical Oxygen Demand	t	948	1,374	936	853	824
Hydrocarbons	t	7	9	15	15	18
Total nitrogen	t	100	114	104	91	80

[1] Excluding water withdrawn for once-through-use (reported separately)

[2] Due to increase in OMV New Zealand's offshore installations

[3] Produced water amount increased mainly due to new Malaysia installation and new acquisition in New Zealand.

[4] Volume of water used for once-through cooling returned unchanged (excluding thermal effects) to water source as well as groundwater extracted solely for remediation or to control the migration of contaminated groundwater (IPIECA 2010); decrease due to divestment of Samsun CCPP, which is out of scope in 2019

[5] Decrease as Pakestan is out of scope in 2019.

[6] Excluding water withdrawn for once-through use (reported separately). Water storage does not have a significant impact.

[7] Due to the Brazi power plant, which applies continuous electrodeionization ("CEDI") to recycle the process water for use as water for steam production and cooling water. The Brazi power plant recycles 98% of the total amount of withdrawn water (used more than once), which amounted to approx. 260 million mn m^3 in 2018 and approx. 250 million mn m^3 in 2017. The respective amounts for 2018 and 2017 were not recorded into the Monitor.

Waste[1]

	Unit	2019	2018	2017	2016	2015
Waste[1]						
Total waste	t	633,722	583,831	460,247	923,709	832,017
thereof non-hazardous waste	t	323,268	315,219	224,008	662,153	493,285
thereof hazardous waste[2]	t	310,453	268,611	236,239	261,556	338,731
Transboundary movement of hazardous waste (Basel convention)	t	20	0	0	0	0
Waste recovered or recycled[3]	t	325,198	223,474	202,161	533,040	288,036
Waste recovery or recycling rate	%	51%	38%	44%	58%	35%
Waste safely disposed of	t	308,523	360,357	258,086	390,669	543,980

[1] Total waste amounts including those from one-time projects

[2] Increase due to maintenance activities in Brazi plant

[3] Increase due to a bigger amount of contaminated soil being bio-remediated in OMV Petrom's Asset IV

Spills

	Unit	2019	2018	2017	2016	2015
Spills						
Spills	number	2,047	2,184	2,403	2,138	2,333
of which major (i.e. severity level 3 to 5)	number	1	2	1	2	6
of which minor (i.e. severity level below 3)	number	2,046	2,182	2,402	2,136	2,327
Spills volume	liters	56,641	36,874	173,909	103,490	158,000

Environmental expenditures

	Unit	2019	2018	2017	2016	2015
Environmental expenditures						
Environmental protection expenditures, excluding depreciation	mn EUR	220	196	197	208	210
Environmental investments for assets put into operation	mn EUR	98	134	57	105	104