Key figures environment

Environmental impact

Environmental impact	2015 UBP	2016 UBP	Deviation %
Electricity	101,508	101,708	0.2
Combustibles	120,734	113,793	-5.7
Fuels	18,944	15,771	-16.8
Disposal	3,183	3,430	7.7
Solvents	1,492	1,460	-2.1
Water and waste water	2,948	2,631	-10.7
Total environmental impact	**248,809**	**238,793**	**-4.0**

UBP = Ecopoints in million UBP in accordance with the Swiss Ecological Scarcity Method (version 2013)

Material usage

Material usage	2015 Metric tons	2016 Metric tons	Deviation %
Raw material plastics	62,734	66,612	6.2
Raw material metal	52,591	60,154	14.4
Raw material mineral	186,237	175,372	-5.8
Other raw materials	531	501	-5.6
Semi-finished products	36,505	41,372	13.3
Finished products	46,209	46,410	0.4
Total material usage	**384,807**	**390,421**	**1.5**

Energy consumption

Energy consumption	Unit	2015	2016	Deviation %
Electricity	GWh	222.3	224.6	1.0
District heating	GWh	13.8	14.1	2.5
Combustibles				
Natural gas	m^3	51,232,158	47,340,113	-7.6
Biogas	m^3	817,436	874,135	6.9
Liquified petroleum gas (LPG)	Metric tons	6,227.4	6,167.4	-1.0
Diesel for electricity generation	l	220,693	142,586	-35.4
Heating oil extra light	Metric tons	57.6	39.0	-32.3
Solid fuels	Metric tons	6,641.3	5,962.7	-10.2
Fuels				
Gasoline	l	241,861	199,556	-17.5
Diesel	l	3,004,475	2,476,475	-17.6
Liquified petroleum gas (LPG)	kg	184,875	171,675	-7.1

Energy consumption	2015 TJ	2016 TJ	Deviation %
Electricity	800.4	808.5	1.0
District heating	49.6	50.9	2.5
Combustibles	2,308.9	2,150.2	-6.9
Natural gas	1,864.9	1,723.2	-7.6
Biogas	29.8	31.8	6.9
Liquified petroleum gas (LPG)	288.3	285.6	-1.0
Diesel for electricity generation	7.9	5.1	-35.4
Heating oil extra light	2.5	1.7	-32.3
Solid fuels	115.5	102.8	-10.2
Fuels (gasoline, diesel, LPG)	124.1	103.2	-16.8
Total energy consumption	**3,283.0**	**3,112.8**	**-5.2**

Electricity mix

Electricity mix 2016	GWh	Renewable %	Fossil %	Nuclear %	Others %
Europe	166.8	23.2	53.7	21.8	1.3
USA	6.8	9.7	70.2	19.4	0.7
China	5.6	19.1	78.8	2.1	0.0
India	1.4	16.4	81.8	1.8	0.0
Green electricity	44.0	100.0	0.0	0.0	0.0
Total electricity mix	**224.6**	**37.7**	**44.4**	**16.9**	**1.0**

Electricity mix 2015	GWh	Renewable %	Fossil %	Nuclear %	Others %
Europe	168.8	22.8	53.2	22.7	1.3
USA	6.8	9.7	70.2	19.4	0.7
China	4.6	19.1	78.8	2.1	0.0
India	1.1	16.4	81.8	1.8	0.0
Green electricity	41.0	100.0	0.0	0.0	0.0
Total electricity mix	**222.3**	**36.5**	**44.6**	**17.9**	**1.0**

Water and waste water

Water	2015 m^3	2016 m^3	Deviation %
Drinking water	330,744	292,681	-11.5
Well water	545,049	533,850	-2.1
River and lake water	289,003	299,466	3.6
Rain water	5,560	7,949	43.0
Total water	**1,170,356**	**1,133,946**	**-3.1**

Waste water	2015 m^3	2016 m^3	Deviation %
Domestic waste water	291,039	224,110	-23.0
Process water ceramic	607,529	602,124	-0.9
Other waste water	28,485	20,764	-27.1
Total waste water	**927,053**	**846,998**	**-8.6**

Emissions

Absolute CO_2 emissions	2015 Metric tons	2016 Metric tons	Deviation %
from combustibles (Scope 1)	134,280	127,268	-5.2
from fuels (Scope 1)	9,162	7,613	-16.9
from process emissions (Scope 1)	308	455	47.9
from electricity (Scope 2)	114,105	114,705	0.5
from district heating (Scope 2)	54	67	24.7
Total absolute CO_2 emissions	**257,909**	**250,108**	**-3.0**

Calculation of CO_2 emissions according to IPCC 2013

Air emissions		2015 Kilogram	2016 Kilogram	Deviation %
NO_x	direct	77,663	69,105	-11.0
	indirect	153,716	156,090	1.5
	Total NO_x	**231,379**	**225,195**	**-2.7**
SO_2	direct	2,160	1,880	-13.0
	indirect	296,919	302,009	1.7
	Total SO_2	**299,079**	**303,889**	**1.6**
NMVOC	direct	107,926	99,620	-7.7
	indirect	20,346	20,224	-0.6
	Total NMVOC	**128,272**	**119,844**	**-6.6**
Dust (PM10)	direct	6,341	5,532	-12.8
	indirect	32,227	32,719	1.5
	Total dust	**38,568**	**38,251**	**-0.8**
CFC11 equivalents	direct	0.4	1.8	346.0
	indirect	9.5	9.4	-1.1
	Total CFC11 equivalents	**9.9**	**11.2**	**12.6**

Calculation based on Ecoinvent data version 3.1

Waste

Waste	2015 Metric tons	2016 Metric tons	Deviation %
to incineration	1,686	2,163	28.3
to inert waste landfill	20,127	16,787	-16.6
to mixed waste landfill	1,023	1,330	30.0
to external recycling	59,361	58,558	-1.4
to hazardous waste incineration	479	417	-12.9
to hazardous waste recycling	729	609	-16.5
Total waste	**83,405**	**79,864**	**-4.2**