

# Performance indicators – environmental

Key performance Indicators		2009	2014	2015
<b>Energy</b>				
Energy (GJ)	Direct energy (from primary sources <sup>a</sup> )	1,632,589.20	1,678,083.81	1,712,689.51
	Indirect energy: purchased electricity & steam	897,286.10	922,754.39	950,117.36
	Total energy	2,529,875.30	2,600,838.20	2,662,806.87
Energy efficiency (GJ/tonne production)	Direct energy efficiency	5.30	4.38	4.47
	Indirect energy efficiency	2.91	2.41	2.48
	Total energy	8.21	6.79	6.95
<b>CO<sub>2</sub> emissions</b>				
CO <sub>2</sub> emissions (tonnes) <sup>c</sup>	Scope 1: from direct energy sources	102,452.60	98,016.12	99,739.80
	Scope 2: from indirect energy sources	113,687.00	104,470.34	86,019.35
	Total CO <sub>2</sub> emissions	216,139.60	202,486.46	185,759.71
CO <sub>2</sub> emissions efficiency (tonnes CO <sub>2</sub> /tonne of production)	Scope 1: from direct energy sources	0.33	0.26	0.26
	Scope 2: from indirect energy sources	0.37	0.27	0.22
	Total CO <sub>2</sub> emissions	0.70	0.53	0.48
<b>Waste</b>				
Hazardous waste (tonnes)	Incinerated	14,050.30	9,536.02	8,520.91
	Incinerated with energy recovery <sup>h</sup>	–	4,673.28	4,128.74
	Land-filled	728.40	533.06	396.27
	Recycled	3,312.90	14,197.34	14,996.65
	Total hazardous waste	18,091.60	24,266.42	23,913.82
Non-hazardous waste (tonnes)	Incinerated	3,058.00	2,244.95	2,145.47
	Incinerated with energy recovery <sup>h</sup>	–	843.38	949.01
	Land-filled	6,695.30	6,973.27	6,411.99
	Recycled	16,349.60	29,865.64	27,910.63
	Total non-hazardous waste	26,102.90	39,083.86	36,468.09
	Total incinerated and land-filled waste (HZ and NHZ)	24,532.00	19,287.30	17,474.64
One-off waste (tonnes)		–	27,487.49	2,177.76
Waste efficiency <sup>e</sup> (tonnes of waste/tonne of production)		0.0796	0.0503	0.0456

<sup>a</sup> Includes natural gas (0.0345 GJ/m<sup>3</sup>), light fuel (36.12 GJ/m<sup>3</sup>), heavy fuel (39.77 GJ/m<sup>3</sup>), liquid petroleum gas (22.65 GJ/m<sup>3</sup>), town gas (0.0186 GJ/m<sup>3</sup>)

<sup>b</sup> Includes sanitary, cooling and process water

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<b>Water intake</b>				
Water intake (m <sup>3</sup> )	Municipal water	2,286,998.90	2,370,367.79	2,340,554.35
	Ground water	1,074,034.90	1,307,622.73	1,405,027.62
	Total municipal and groundwater	3,361,033.80	3,678,030.51	3,745,581.97
	Surface water	7,432,649.00	5,007,034.40	5,006,361.00
	Total water <sup>b</sup>	10,793,682.80	8,685,064.91	8,751,942.97
Water efficiency <sup>e</sup> (m <sup>3</sup> /tonne of production)		10.91	9.60	9.77
<b>Water discharge</b>				
Water discharge (m <sup>3</sup> )	To the environment w/o biological treatment	7,509,122.80	4,607,642.77	4,584,656.65
	To the environment after biological treatment	1,928,725.00	1,952,077.78	1,883,520.51
	To external treatment facility w/o pre-treatment	355,458.40	424,394.41	429,375.40
	To external treatment facility with pre-treatment	1,311,436.40	1,754,173.90	1,725,230.78
	Total discharged water	11,104,742.60	8,738,288.84	8,622,783.34
	COD (tonnes)		255.5 <sup>f</sup>	466.74
<b>Other data</b>				
	Nitrogen oxides – NO <sub>x</sub> tonnes <sup>d</sup>	104.50	78.94	79.76
	Sulphur dioxide – SO <sub>2</sub> tonnes	359.30	1.21	1.12
	VOC (tonnes)	–	437.81	475.48
	CFC inventory (kg)	15,714.05	11,252.77	10,018
	CFC 11 equivalent inventory (kg)	–	654.34	624.96
	CFC loss-replacement (kg)	1,393.14	853.68	1,700.67
	CFC 11 equivalent loss/replacement (kg)	–	51.76	99.01
<b>Production</b>				
	Production quantities (tonnes)	308,050.10	383,217.24	383,353.00

<sup>c</sup> Greenhouse gas data are limited to CO<sub>2</sub> emissions

<sup>d</sup> Quantity is calculated by multiplying the annual fuel consumption by the corresponding emission factor for fuel type

<sup>e</sup> Includes incinerated and land-filled waste (HZ and NHZ)

<sup>f</sup> Covers the period from April to December 2014

<sup>g</sup> Includes municipal and groundwater

<sup>h</sup> Among the quantity of HW and non-HW incinerated, this is the quantity incinerated with an energy recovery of at least 75% per tonne

# Performance indicators – restatement table

Key performance indicators	2009 (as published in 2014 SR)	2009 (corrected in 2015)	% change 2009	2014 (as published in 2014 SR)	2014 (corrected in 2015)	% change 2014
<b>Energy (GJ)</b>						
Direct energy				1,678,076.00	1,678,083.81	0.0005%
Total energy				2,600,830.40	2,600,838.20	0.0003%
<b>Energy efficiency (GJ/tonne production)</b>						
Total energy	8.20	8.21*	0.12%			
<b>CO<sub>2</sub> emissions (T)</b>						
Scope 1				98,001.20	98,016.12	0.015%
Scope 2				104,455.30	104,470.34	0.014%
Total CO <sub>2</sub> emissions				202,456.50	202,486.46	0.015%
<b>Waste (T)</b>						
One-off waste				24,487.50	27,487.49	12.251%
<b>Water intake (m<sup>3</sup>)</b>						
Municipal water				2,379,183.10	2,370,367.79	-0.370%
Ground water				1,309,788.90	1,307,622.73	-0.162%
Total municipal and groundwater				3,688,972.00	3,678,030.51	-0.300%
Total water				8,696,006.40	8,685,064.91	-0.126%
<b>Water efficiency (m<sup>3</sup>/tonne of production)</b>						
	–	–	–			
Total water	10.90	10.91*	0.092%	9.63	9.6	-0.312%
<b>Other data</b>						
Sulphur oxide – SO <sub>2</sub> tonnes				1.20	1.21	0.885%
<b>Production (T)</b>						
Production quantities	308,466.70	308,050.10	-0.135%			

\* The 2009 production volume correction slightly affects this baseline indicator value