2008 Consolidated Nestlé Environmental Performance Indicators

Indicator	Units	1999 Reference Year	2004	2005	2006	2007	2008	% Change 2007-2008	% Change 2004-2008	% Change 1999-2008	GRI reference
Production tonnage	10^6 tonnes product per year	24.50	33.30	36.36	38.24	41.07	41.06	0.0%	23.3%	67.6%	
Inputs											
Total water withdrawal	10^6 m^3 per year	210	175	159	155	157	147	-6.0%	-16.0%	-29.8%	EN8
	m^3 per tonne product	8.59	5.27	4.37	4.05	3.82	3.59	-6.0%	-31.8%	-58.2%	
Total energy consumption (direct)	10^{15} Joules (PJ) per year	89.6	90.8	88.0	84.4	85.3	86.9	1.9%	-4.2%	-3.0%	EN3
	10^9 Joules (GJ) per tonne product	3.65	2.73	2.42	2.21	2.08	2.12	1.8%	-22.3%	-42.0%	
% Renewable energy	% of Total energy consumption	-	-	-	-	12.10	12.60	4.1%	-	-	
Indirect energy consumption (Primary sources)	10^{15} Joules (PJ) per year	-	-	-	-	63.70	65.29	2.5%	-	-	EN4
	10^9 Joules (GJ) per tonne product	-	-	-	-	1.55	1.59	2.5%	-	-	
Outputs											
Total water discharge	10^6 m^3 per year	161	142	123	118	101	96	-5.0%	-32.3%	-40.5%	EN21
	m^3 per tonne product	6.62	4.26	3.38	3.09	2.46	2.34	-4.8%	-45.1%	-64.6%	
Water discharge load	10^3 tonnes COD per year	-	-	-	-	-	9.17	-	-	-	
	Average mg COD / l	-	-	-	-	-	95	-	-	-	
	% of COD removed	-	-	-	-	-	96%	-	-	-	
Greenhouse gas emission (direct)	10^6 tonnes CO_2 per year	4.75	4.41	4.31	4.05	4.13	4.10	-0.6%	-7.0%	-13.5%	EN16
	kg CO_2 per tonne product	194	133	118	106	101	100	-0.6%	-24.6%	-48.4%	
Greenhouse gas emission (indirect)	10^6 tonnes CO_2 per year	-	-	-	-	3.1	3.0	-3.2%	-	-	EN16
	kg CO_2 per tonne product	-	-	-	-	75	73	-3.1%	-	-	
Air acidification potential	10^3 tonnes SO_x equivalents per year	29.3	21.6	18.4	19.0	21.4	18.11	-15.2%	-16.0%	-38.2%	EN 20
	kg SO_x equiv. per tonne product	1.21	0.65	0.51	0.50	0.52	0.44	-15.2%	-31.9%	-63.5%	
Ozone depletion potential	tonnes R-11 equivalents per year	59.15	9.58	10.19	8.93	8.82	5.02	-43.1%	-47.6%	-91.5%	EN19
	g R-11 equiv. per tonne product	2.41	0.29	0.28	0.23	0.21	0.12	-41.8%	-57.5%	-94.9%	
By-products (for recovery)	10^6 tonnes per year	1.43	1.47	1.48	1.20	1.07	1.11	3.6%	-24.8%	-22.7%	EN22
	kg per tonne product	58.8	44.2	40.7	31.4	26.0	27.0	3.6%	-39.0%	-54.2%	
Waste (for disposal)	10^6 tonnes per year	0.48	0.44	0.44	0.40	0.37	0.41	10.2%	-6.9%	-14.5%	EN22
	kg per tonne product	19.6	13.2	12.0	10.5	9.1	10.0	10.2%	-24.5%	-48.9%	

Definitions

Total water withdrawal: The sum of water used by Nestlé factories from all sources, including purchases from suppliers as well as surface, ground and rain water sources. This includes water that may be treated through industrial services (such as softening and demineralising), non-contact cooling water, water used for cleaning and water used by itself as a raw material (e.g. for bottled waters) but does not include water contained in raw materials (e.g. from milk). (GRI G3 Environmental Indicator EN8)

Total energy consumption (direct): The sum of all energy consumed by Nestlé factories for production (industrial processes) and internal business activities (offices, laboratories, etc). This includes purchased energy (electricity, steam, hot water) and produced energy either from fossil (oil, natural gas, etc) or renewable (coffee grounds, wood, biogas) fuels. Electricity produced on site from solar and wind sources is not included in this indicator. (GRI G3 Environmental Indicator EN3)

% Renewable Energy: Percentage of total energy consumption (direct) generated from renewable sources including solar, wind and hydrolic electricity as well as renewable fuels such as coffee grounds, wood and biogas. Electricity produced on site from solar and wind sources is not included in this indicator.

Indirect energy consumption (primary): The sum of all energy consumed to produce and deliver energy purchased by Nestlé factories (electricity, steam, hot water). A default factor is used based on data from the energy supplier or country default values. (GRI G3 Environmental Indicator EN4)

Total water discharge: The sum of all water effluents discharged from Nestlé factories . Water effluents are generated in manufacturing from processing, cleaning and some cooling processes. (GRI G3 Environmental Indicator EN21)

Water discharge load
Total amount of Chemical Oxygen Demand in water discharged from Nestlé factories after on-site and off-site treatment. This indicator shows the remaining amount of organic coumpounds in the water discharged into the environment (river, lake, sea or for irrigation).

% of COD removed
Proportion of Chemical Oxygen Demand removed from water discharged from Nestlé factories in on-site and off-site treatment plants before discharging it into the environment (river, lake, sea or for irrigation).

Greenhouse gas emission (Direct): The sum of all on-site greenhouse gas emissions at Nestlé factories which arise from combustion processes and refrigerants leakage. Greenhouse gases arising from transportation and business travel are not included. (GRI G3 Environmental Indicator EN16)

Greenhouse gas emission (Indirect): The sum of all greenhouse gas emissions arising from the production of energy purchased by Nestlé factories (electricity, steam, hot water). These emissions physically occur at the facility where the electricty, steam or hot water is generated (GRI G3 Environmental Indicator EN16, corresponding to GHG Protocol Scope 2 emissions). Publicly available country-specific default factors are used to calculate this indicator. It covers Scope 2 of the WRI/WBCSD GHG Protocol and addresses part of the GRI G3 Environmental Indicator EN16

Air acidification potential: The sum of all SOx and NOx gas emissions at Nestlé factories resulting from the total on site energy consumption, converted into SOx equivalents. (GRI G3 Environmental Indicator EN20)

Ozone depletion potential: The sum of substances emitted from Nestlé factories which have been shown to contribute to the depletion of the ozone layer. These substances are mainly refrigerants. The ozone depletion potential of each substance is determined using conversion factors validated by relevant authorities. (GRI G3 Environmental Indicator EN19)

By-products (for recovery): Any materials generated during the manufacture of a product that leave the factory and is destined for reuse or recovery, including recycling, composting and incineration with heat recovery. By products are not limited to the product but also include all materials used to support the manufacture. (GRI G3 Environmental Indicator EN22)

Commentary on 2008 Consolidated Nestlé Environmental Performance Indicators

General Comments

This report covers 443 factories. It excludes Alcon factories as well as factories that were sold or closed in 2008.
Data is presented for the current reporting year and 4 previous years, as well for 1999 so as to provide both 5 and 10 year periods for highlighting trends.

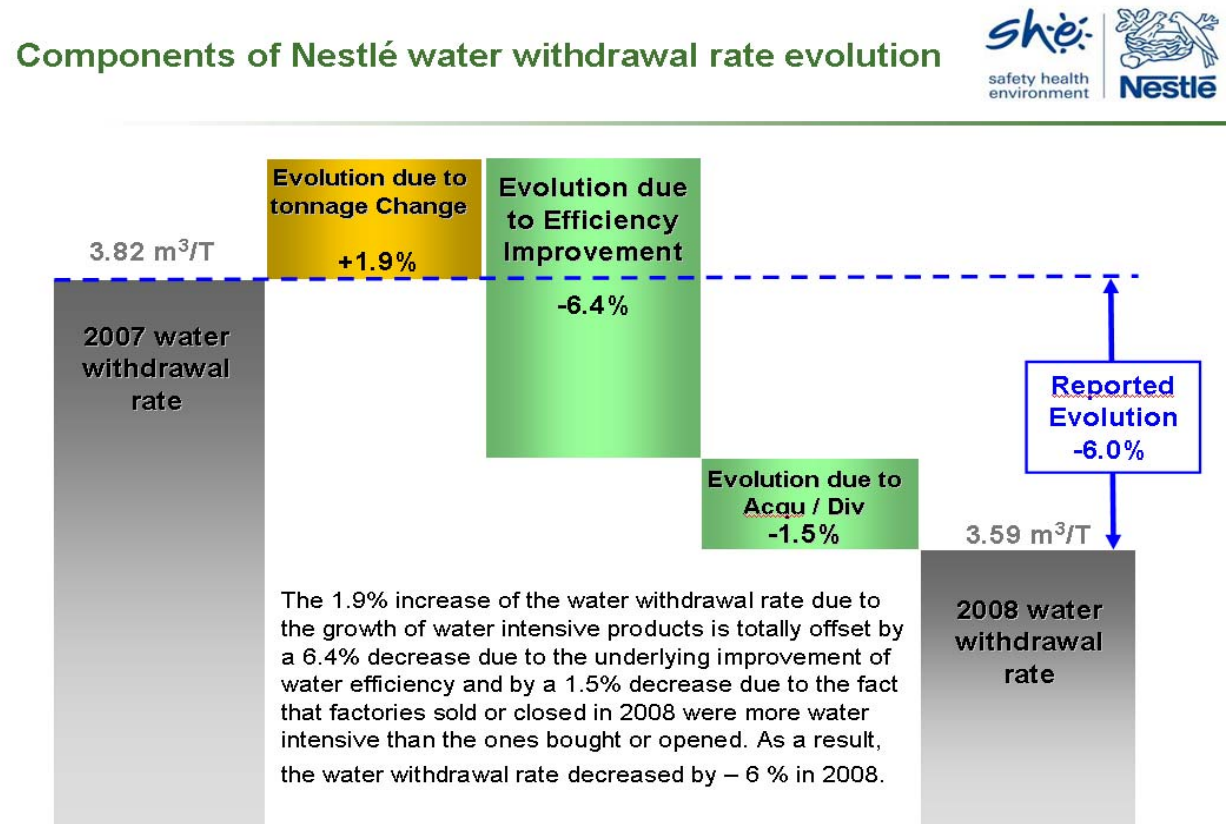
Production tonnage

Production tonnage remained almost constant in 2008 (less than 0.1% reduction).

Total water withdrawal

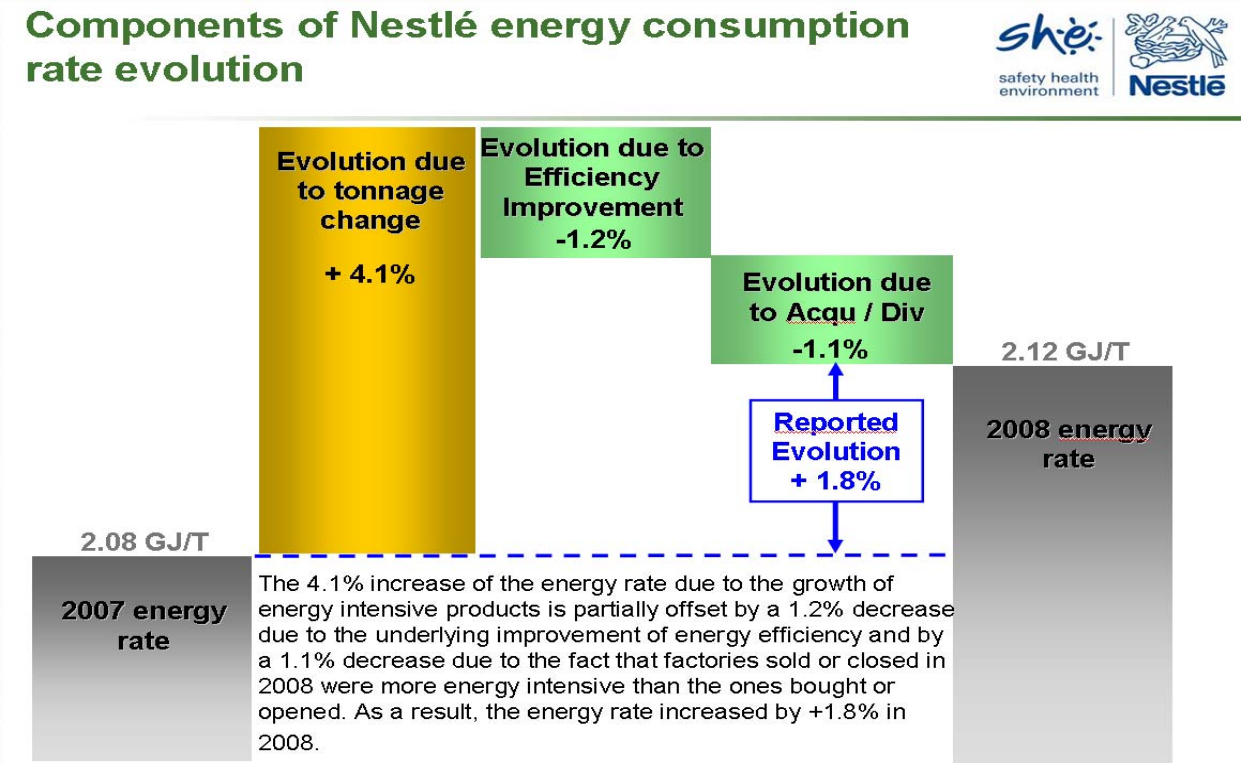
Both absolute total water withdrawal and water withdrawal rate per tonne of product have been continuously decreasing over the last ten years.

This decrease is the result of extensive efforts by Nestlé engineers and environmental professionals to improve water efficiency in our operations. It is also influenced by changes in the relative tonnage of each product category (tonnage change) and aquisitions and divestitures.
The following chart shows the contribution of these three components in 2008:



Total energy consumption (direct)

Both absolute total energy consumption and energy consumption rate per tonne of product have been decreasing over the 5 and 10 years periods.
These indicators increased in 2008 due to changes in the relative tonnage of product categories (tonnage change) while the actual energy efficiency improved by 1.2%, as shown in the following chart:



Total water discharge

Both absolute total water discharge and water discharge rate per tonne of product have been continuously decreasing over the last 10 years.

Greenhouse gas emission (direct)

Since 2007, Greenhouse gas emission (direct) includes refrigerant leakages. Without refrigerant leakages, the reduction over the last 5 and 10 years are respectively 10% and 17%.

Both absolute Greenhouse gas emission (direct) and Greenhouse gas emission (direct) rate per tonne of product have been constinuously decreasing over the last 10 years. These reductions have been achieved through energy savings and fuel-switching projects where fuels such as coal and heavy fuel oil were replaced by cleaner-burning fuels such as natural gas.

In particular, while greenhouse gas emission slightly decreased (-0.6%) in 2008, energy consumption increased by 1.8%, reflecting a significant switch to cleaner energy sources.

Air acidification potential

Both absolute air acidification potential and air acidification potential rate per tonne of product have been decreasing continuously over the last 10 years. These reductions have been achieved through energy savings and fuel-switching projects where fuels such as coal and heavy fuel oil were replaced by cleaner-burning fuels such as natural gas.

Ozone depletion potential

Both absolute air acidification potential and air acidification potential rate per tonne of product have been continuously decreasing over the last ten years. The actual reduction of air acidification potential and air acidification potential rate per tonne of product during 2008 amount to 22% taking into account the corrected 2007 indicators.
In 1986, ozone-depleting substances were first reported at 36 g R-11 equivalents per tonne of product. The 2008 figure of 0.12 gR-11 equivalents per tonne of product represents a reduction of 99.7% since that time.

By-products (for recovery)

Both absolute by-products quantity and by-products rate per tonne of product have been decreasing over the 5 and 10 years periods.
In 2008, both indicators increased partly due to improved quality of reporting.

Waste (for disposal)

Both absolute waste quantity and waste rate per tonne of product have been decreasing over the 5 and 10 years periods.
In 2008, both indicators increased partly due to improved quality of reporting.