

Definitions and Comments on 2016 Consolidated Nestlé Environmental Performance Indicators

General Comments

Environmental performance indicators cover all Nestlé factories except some of the factories acquired after 2014 and non-consumer Nestlé Waters Business factories. It includes data from factories closed or sold during 2016. Data is presented for the years 2016, 2015, 2010 and 2006.

References in brackets refer to the G4 GRI guidelines on sustainability reporting.

Total Production Volume

The total of all products produced at a factory, based on net weight (i.e. without packaging). Since 2006, the production volume has increased by 45.9% from 38.2 million tonnes to 55.8 million tonnes.

Non-consumer Nestlé Waters Business factories resulted in an additional 5.8 million tonnes of production volume and 7.0 million m³ of water withdrawal in 2016.

Aspect: MATERIALS

Raw materials used (G4-EN1)

The total of all input resources used (i.e. natural resources used for conversion to products or services such as milk, plants, crops, etc.) to manufacture a product, including manufacturing losses, but excluding packaging material and water withdrawal, which are separate indicators.

Raw materials used increased slower than production volume. Influencing factors are an increased manufacturing efficiency and changes in product mix.

Materials for packaging purposes (G4-EN1)

The total of all packaging materials used for the production and in the distribution of products. The indicator includes all packaging with recycled content, bottles, cans, big bags, cartons, etc., and includes reusable packaging.

Packaging source optimization

The data is extracted from a dedicated packaging tracking tool developed by our packaging department.

Renewable packaging materials (G4-EN1)

The data is extracted from a dedicated packaging tracking tool developed by our packaging department.

Total percentage of recycled material in our packaging (G4-EN2)

The data is extracted from a dedicated packaging tracking tool developed by our packaging department.

Aspect: ENERGY

2016 (2015) Energy consumption balance

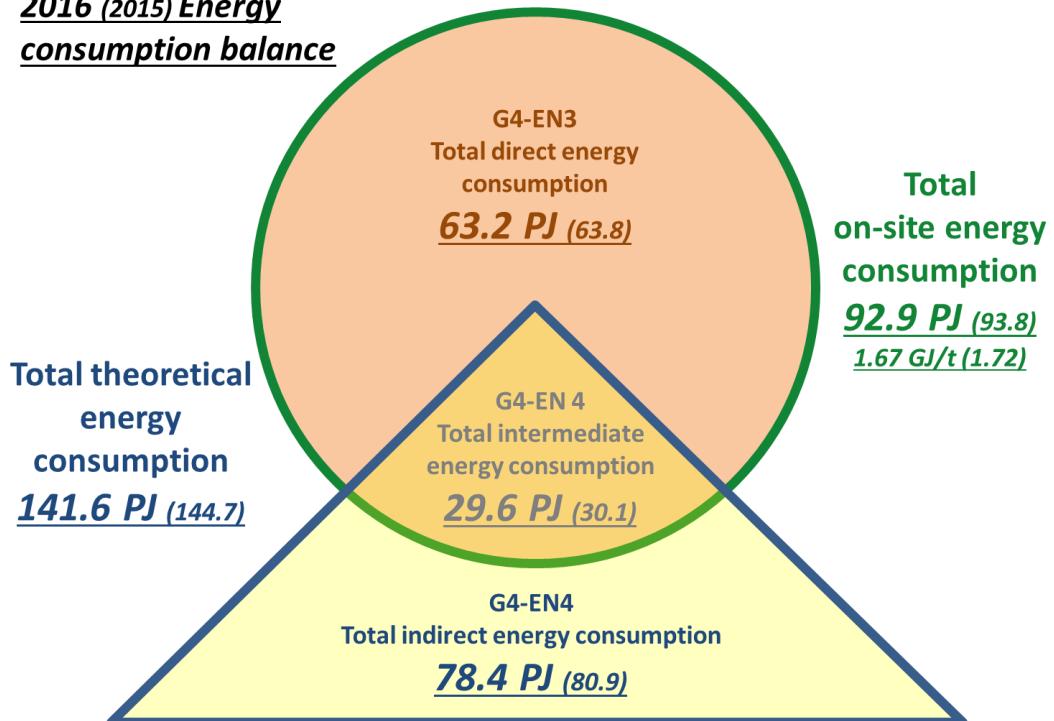


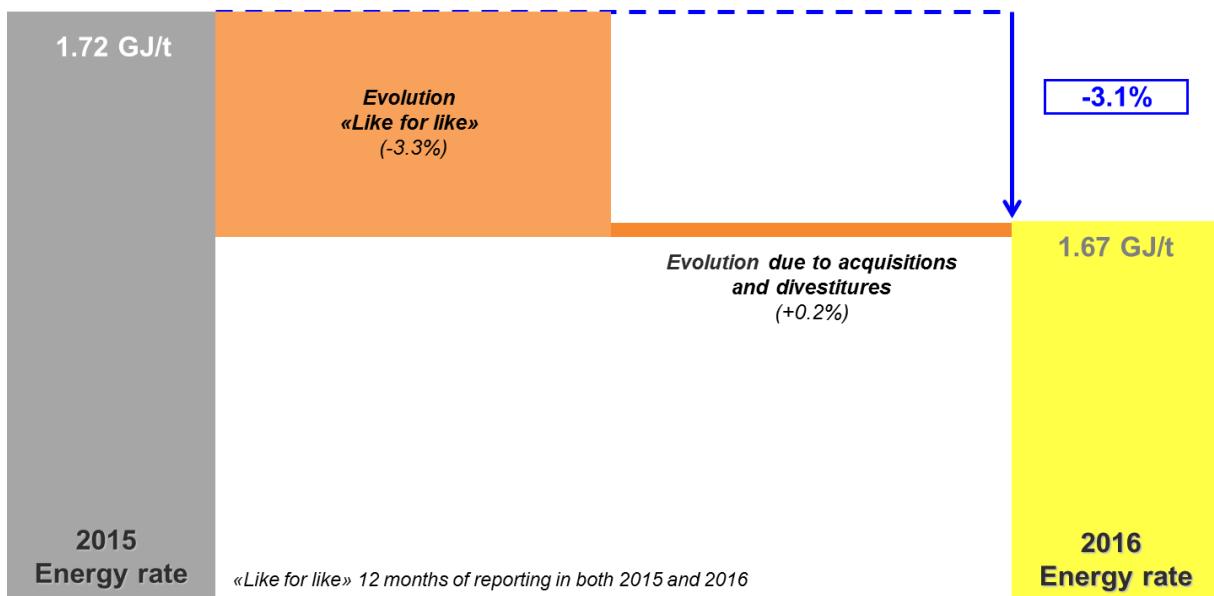
Chart 1: 2016 Energy consumption balance

Total on-site energy consumption

The sum of all energy consumed in Nestlé factories, whether purchased or produced – less any energy that, in some cases, is sold. This includes total direct energy consumption (G4-EN3) and total intermediate energy consumption (G4-EN3).

Since 2006 total on-site energy consumption has increased by 10% whilst the total production volume increased by 46% over the same period, which resulted in a decrease of almost 25% of the total energy consumption rate per tonne of product. This is the result of efforts by Nestlé engineers and environmental sustainability managers working together to reduce and recover energy.

3.3% improvement of Nestlé Group energy consumption rate compared to 2015 like for like



The improvements from 2015 were delivered on a like for like basis; acquisitions and divestitures had a marginal negative influence.

The types of energy included in these reductions are electricity, heat, steam and a range of fuels (primarily natural gas, coal and oil).

Renewable energy accounts for 16.9% of the total energy consumption of Nestlé factories. Spent coffee ground represents 20.7% of it, wood contributes for an additional 26.4%, and the remaining 52.9% correspond to the purchase of electrical energy generated from renewable sources. An estimated 29.6% of our purchased electricity comes from renewable sources: 12.7% is tracked renewable electricity, and 16.9% untracked renewable electricity.

Total direct energy consumption (G4-EN3)

The sum of all on-site generated energy consumed by Nestlé factories. It is composed of direct non-renewable energy consumption where the energy is produced from fossil fuels (coal, natural gas and oil) and direct renewable energy consumption where the energy is produced from biomass (e.g. spent coffee grounds, wood) and marginally from solar panels. Direct renewable energy represents 12.1% of the total direct energy consumption. This information is used to calculate direct greenhouse gas emissions.

Total intermediate energy consumption (G4-EN3)

The sum of all energy consumed by Nestlé factories and purchased from a third party. This includes mainly electricity purchased, from renewable sources (27.3%) and non-renewable sources (65.0%), steam (7.4%) and minor amounts of heating (0.33%).

Total indirect energy consumption (G4-EN3)

The energy required to produce and deliver purchased electricity and any other intermediate energy products (such as district heat) that involve significant energy consumption upstream from our reporting boundaries. Data from the energy supplier or country default values are used to calculate this indicator.

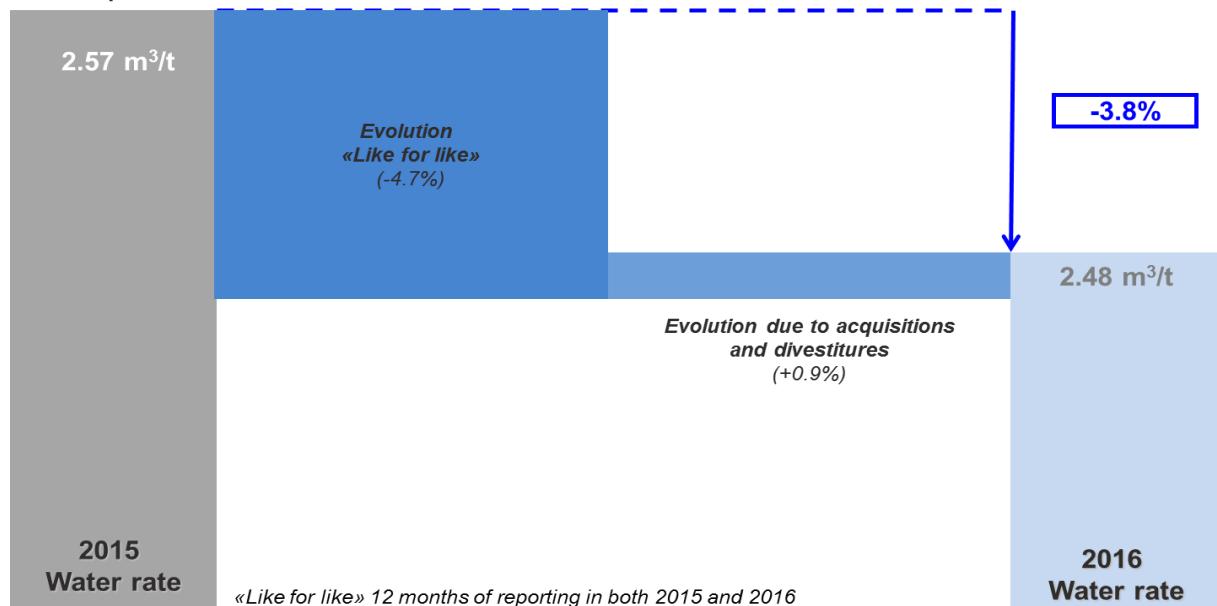
Aspect: WATER

Total water withdrawal by source (G4-EN8)

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).

Since 2006, both absolute total water withdrawal and water withdrawal rate per tonne of product decreased significantly by 10.8% and 38.8% respectively. This is the result of extensive efforts by Nestlé engineers and environmental sustainability managers to improve water efficiency in our operations. Acquisitions and divestitures have significantly influenced this rate as shown in the chart below:

4.7% improvement of Nestlé Group water withdrawal rate compared to 2015 like for like



Reporting the total volume of water withdrawn by source contributes to an understanding of the overall scale of potential impacts and risks associated with the reporting organization's water use. The total water withdrawal comes from various sources:

- Surface water: is described as water present on the earth's surface: streams, lakes, and ponds. Includes water from shallow bores that are fed from streams, lakes, and ponds.
- Ground water: is described as water within the earth that supplies wells and springs; water in the zone of saturation where all openings in rocks and soil are filled, the upper surface of which forms the water table. It is normally recovered using deep bore pumps.
- Municipal water: is described as treated potable water normally provided by third parties such as municipalities, councils, water authorities, etc.
- Rain water: can be untreated and used for irrigation, road cleaning etc., or can be treated and used in production. It represents a minor amount (<0.05%).

Once through cooling water from surface sources

Cooling water usage is the water used solely for once-through cooling purposes. The water source (e.g. rivers, lakes, etc.) passes through the cooling process (spray condensers, shell and tube heat exchangers, etc.) and then returns to the environment (lakes and rivers) without any significant quality alteration. It represents 5% of our total water withdrawal.

Water recycled and reused

The volume of recycled/reused water is mainly based on the water discharged to irrigation (including on site). This quantity represents 5% of the total water withdrawal.

Aspect: BIODIVERSITY

Total size of manufacturing sites located in protected areas (G4-EN11)

A detailed assessment of all of Nestlé's production sites performed in collaboration with UNEP-WCMC allowed us to identify 5 factories located in protected areas.

Aspect: EMISSIONS, EFFLUENTS and WASTE

Direct greenhouse gas emission (G4-EN15, G4-EN16)

The sum of all on-site greenhouse gas emissions at Nestlé factories which arise from combustion processes used to manufacture products as well as the CO₂ equivalents from refrigerants losses. These greenhouse gas emissions can result from burning of fuels in boilers, roasters, dryers, from electric generators and from refrigerants losses (CO₂ eq). This indicator corresponds to Scope 1 of the WRI/WBCSD GHG Protocol.

Since 2006, direct greenhouse gas emission decreased by 10.8%. The direct greenhouse gas emission rate per tonne of product also decreased by 38.9%. 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 and renewable fuels such as wood from sustainably managed forests.

Direct greenhouse gas emissions decreased by 3.6% compared to 2015, whereas the direct greenhouse gas emission rate per tonne of product decreased by 5.7%. Indeed, our direct energy consumption decreased by 0.8% thanks to energy efficiency measures, and the contribution of renewable energy in our direct fuel mix increased from 11.8% to 12.1%.

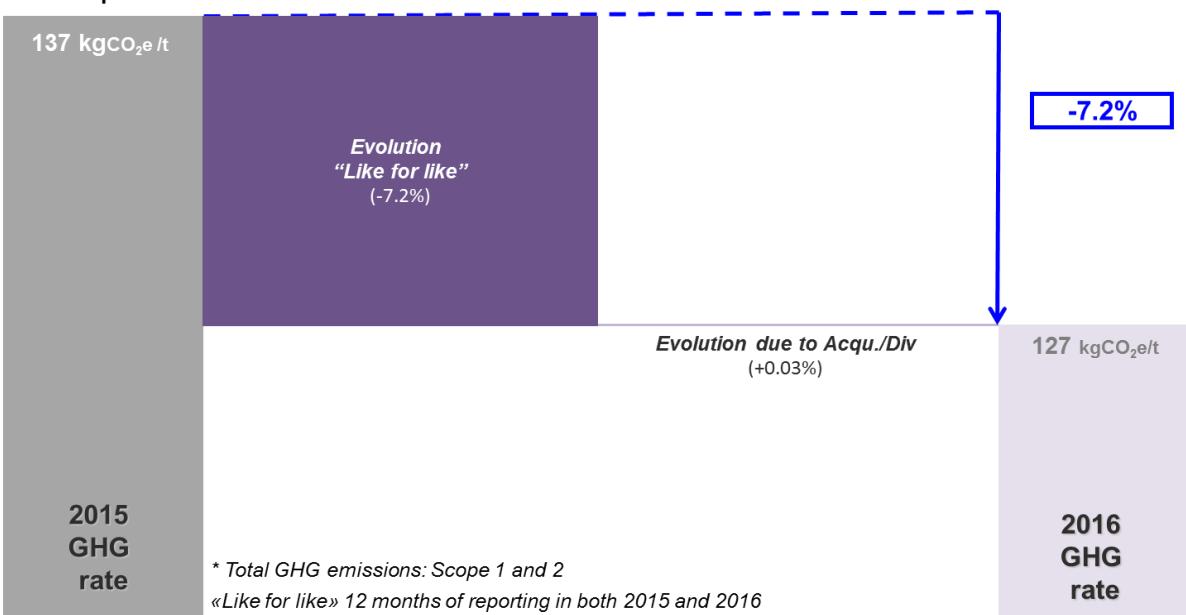
Indirect greenhouse gas emission (G4-EN15, G4-EN16)

Greenhouse gas emissions arising from the generation of electricity, hot water and steam which is purchased by Nestlé or otherwise brought into our organizational boundaries. The emissions physically occur at the facility where the electricity, hot water or steam are generated. Publicly available country-specific default factors or supplier-specific factors when available are used to calculate this from the purchased energy quantities. This indicator corresponds to Scope 2 of the WRI/WBCSD GHG Protocol. Indirect greenhouse gas emissions decreased by 6.8% compared to 2015, whereas the indirect greenhouse gas emission rate per tonne of product decreased by 8.8%. Indeed, our intermediate energy consumption decreased by 1.4% thanks to energy efficiency measures, and the share of tracked renewable electricity in total electricity consumption increased by 51.3%.

Direct and indirect greenhouse gas emission (G4-EN15, G4-EN16)

The sum of scope 1 and scope 2 greenhouse gas emissions decreased by 5.2% compared to 2015, and the total greenhouse gas emissions rate per tonne of product by 7.2%, all of it at comparable scope ("like for like"):

7.2% decrease of Nestlé Group GHG emissions compared to 2015 like for like



Emissions of ozone-depleting substances (G4-EN20)

The sum of substances emitted from Nestlé factories which have ozone depletion potential. The common unit of measurement is R-11 equivalents. R-11 is one type of refrigerant, which has been assigned an ozone depleting potential of one, with all other ozone depleting substances being assigned relative values. The ozone depletion potential of each substance is determined using conversion factors commonly agreed by relevant authorities. These substances are primarily refrigerants in equipment used to cool or freeze products.

Both absolute ozone depletion potential and ozone depletion potential rate per tonne of product significantly decreased since 2006, by 92.6% and 94.9% respectively.

Air acidifying substances (G4-EN21)

Air acidification resulting from NOx gas emissions account for 37% of the total air acidification potential whereas the remaining 63% are related to SOx gas emissions.

In 2016 the absolute air acidifying substances emission decreased by 0.2% whereas the rate per tonne of product decreased by 2.3% compared to 2015. This is mainly due to the reduction of coal and oil consumption in our direct energy mix.

Total water discharge (G4-EN22)

The sum of all water effluents discharged from Nestlé factories. Water effluents are generated in manufacturing from processing, cleaning and some cooling processes and are discharged to subsurface waters, surface waters, sewers that lead to rivers, oceans, lakes, wetlands, treatment facilities and ground water.

Since 2006 absolute total water discharge decreased by 33.9% as well as the total water discharge per tonne of product, which decreased over this period by 54.7%.

Average quality of water discharge (G4-EN22)

The water quality is expressed by the quantity of Chemical Oxygen Demand (COD) per volume of water, commonly used to measure the amount of organic compounds in water. A decrease in COD represents improvement of water quality. Compared to 2015 the amount of COD per volume of water increased by 1.6%.

By-product (for recovery) (G4-EN23)

Any materials generated during the manufacture of a product that leave the factory and are destined for reuse or recovery, including recycling, composting and incineration with heat recovery. They are not limited just to the product manufacture; they also include all materials used to support the manufacture.

In 2016, the quantity of by-products increased by 3.6% due to improvements in the recycling and recovery processes as well as an increased production volume. The amount of by-products per tonne of product increased by 1.4%.

Waste for disposal (G4-EN23)

Any materials arising during the manufacture or distribution stage of a product at a factory that are destined for final disposal to offsite landfill or to incineration without heat recovery. Not included are extraordinary wastes generated on a non-routine basis, such as construction and demolition waste, contaminated soils, and any materials sent to disposals as per legal obligation and over which we have no control.

Since 2006 absolute waste for disposal quantity decreased by 76.5%. The waste for disposal per tonne of product also decreased over this time period by 82.1%. Compared to 2015 the amount of waste for disposal decreased by 36.3%. Hazardous waste represents only 0.6% of waste for disposal. In 2016, 182 of our factories (39%) generated zero waste for disposal.

Significant spills (G4-EN23)

Significant spills are defined as any spills that are included in our financial statement. Nestlé did not have any significant spills in 2016.

Aspect: COMPLIANCE

Total monetary value of fines (G4-EN29)

The total amount of environmental fines or penalties for breaches of environmental legislation and/or operating permits. It excludes all legal costs.

In 2016 the total amount of environmental fines summed up to 113 kCHF.

Aspect: ENVIRONMENTAL SUSTAINABILITY GOVERNANCE

ISO 14001 certified sites

By the end of 2016, a total of 651 sites achieved ISO 14.001:2004 certification, including 432 factories, 135 distribution centers, 31 R&D locations and 53 head offices. The number of factories mainly represents sites that are part of the Nestlé Group for more than three years. Factories that are not certified are mainly recent acquisitions, which are currently working towards certification.