

Definitions and Comments on 2017 Consolidated Nestlé Environmental Performance Indicators

General Comments

Environmental performance indicators cover all Nestlé factories except some of the factories acquired after 2015 and non-consumer Nestlé Waters Business factories. It includes data from factories closed or sold during 2017. Data is presented for the years 2017, 2016, 2010 and 2007.

References in brackets refer to the GRI Standards 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 2007, the production volume has increased by 35.3% from 41.1 million tonnes to 55.6 million tonnes.

Non-consumer Nestlé Waters Business factories resulted in an additional 5.1 million tonnes of production volume and 6.1 million m³ of water withdrawal in 2017.

Aspect: MATERIALS

Raw materials used (GRI 301)

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.

Over the last 10 years, raw materials used increased slower than production volume. Influencing factors are an increased manufacturing efficiency and changes in product mix.

Materials for packaging purposes (GRI 301)

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 (GRI 301)

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

Total percentage of recycled material in our packaging (GRI 301)

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

Aspect: ENERGY

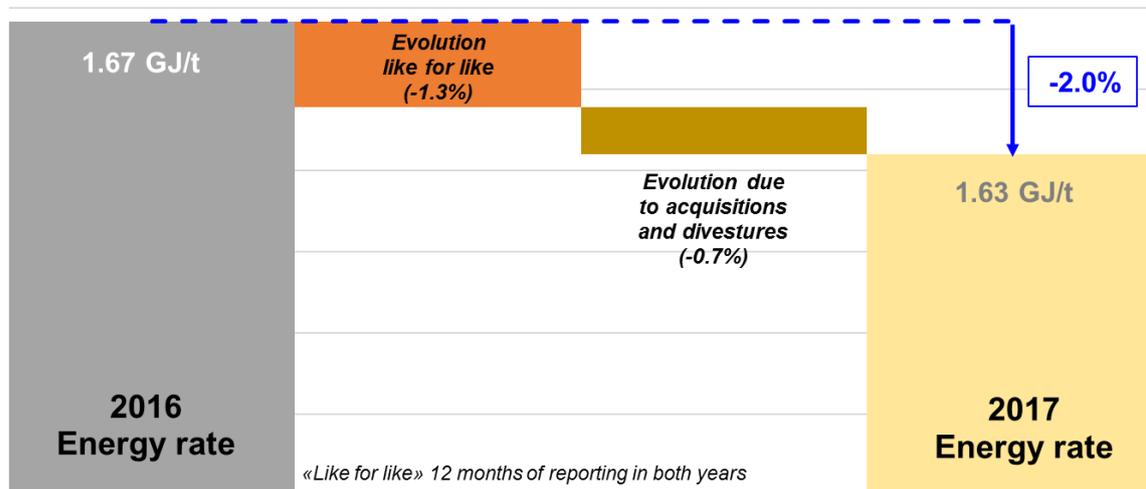
Total on-site energy consumption

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 (GRI 302-1) and total intermediate energy consumption (GRI 302-1).

Since 2007 total on-site energy consumption has increased by 6.4% whilst the total production volume increased by 35.3% over the same period, which resulted in a decrease of 21.4% 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.

The improvements from 2016 were delivered on a like for like basis; acquisitions and divestitures had a significant influence:

1.3% improvement of Nestlé Group energy consumption rate compared to 2016 like for like



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 19.2% of the total energy consumption of Nestlé factories; this includes spent coffee ground consumption, wood consumption and purchase of electrical energy generated from renewable sources. An estimated 25.7% of our purchased electricity comes from tracked renewable sources.

Total direct energy consumption (GRI 302)

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. This information is used to calculate direct greenhouse gas emissions. Direct renewable energy represents 11.9% of the total direct energy consumption.

Total intermediate energy consumption (GRI 302)

The sum of all energy consumed by Nestlé factories and purchased from a third party. This includes mainly electricity purchased, steam and minor amounts of heating.

Total indirect energy consumption (GRI 302)

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 (GRI 303)

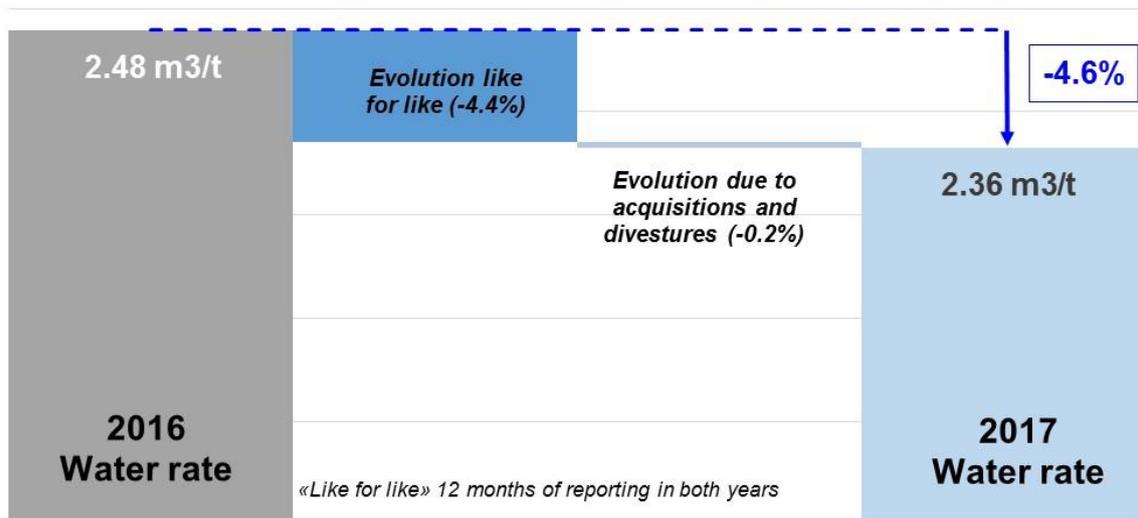
The sum of water used by Nestlé factories from all sources, including purchases from suppliers as well as surface, ground and rain water sources. This includes water that may be treated through industrial services (such as softening and demineralising), non-contact cooling water, water used for cleaning 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 2007, both absolute total water withdrawal and water withdrawal rate per tonne of product decreased significantly by 16.3% and 38.1% respectively.

This is the result of extensive efforts by Nestlé engineers and environmental sustainability managers to improve water efficiency in our operations.

The improvements from 2016 were mostly delivered on a like for like basis; acquisitions and divestitures had a minor influence:

4.4% improvement of Nestlé Group water withdrawal rate compared to 2016 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.

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 6.1% of the total water withdrawal.

Aspect: BIODIVERSITY

Total size of manufacturing sites located in protected areas (GRI 304)

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 (GRI 305)

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. Gases included in the calculation are CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃.

Since 2007, direct greenhouse gas emission decreased by 14.5%. The direct greenhouse gas emission rate per tonne of product also decreased by 36.8%. 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 2.2% compared to 2016, whereas the direct greenhouse gas emission rate per tonne of product decreased by 1.9%. Indeed, our direct energy consumption decreased by 2.0% thanks to energy efficiency measures.

Indirect greenhouse gas emission (GRI 305)

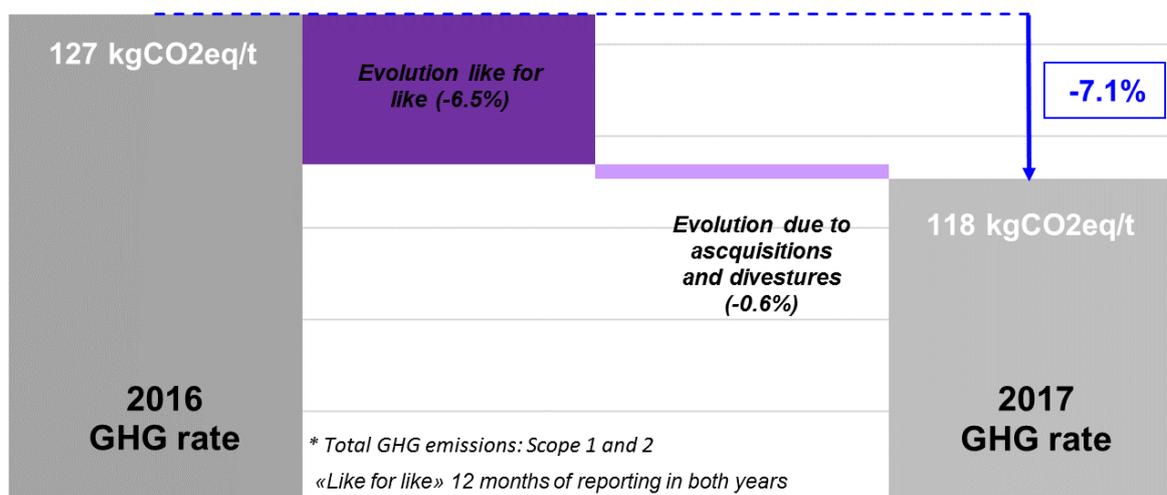
Greenhouse gas emissions arising from the generation of electricity, hot water and steam which is purchased by Nestlé or otherwise brought into our organizational boundaries. The emissions physically occur at the facility where the electricity, hot water or steam are generated. Publicly available country-specific 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. Gases included in the calculation are CO₂, CH₄, N₂O, HFCs, PFCs, SF₆ and NF₃.

Indirect greenhouse gas emissions decreased by 12.9% compared to 2016, whereas the indirect greenhouse gas emission rate per tonne of product decreased by 12.6%. Indeed, the share of tracked renewable electricity in total electricity consumption increased by 102.3% and our intermediate energy consumption decreased by 3.2% thanks to energy efficiency measures.

Direct and indirect greenhouse gas emission (GRI 305)

The sum of scope 1 and scope 2 greenhouse gas absolute emissions decreased by 7.4% compared to 2016, and the greenhouse gas emissions rate per tonne of product by 7.1%, mostly on a like for like basis:

6.5% improvement of Nestlé Group GHG emissions rate compared to 2016 like for like



Emissions of ozone-depleting substances (GRI 305)

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 2007, by 89.0% and 91.9% respectively.

Air acidifying substances (GRI 305)

Air acidification resulting from NOx gas emissions account for 38% of the total air acidification potential whereas the remaining 62% are related to SOx gas emissions.

In 2017 the absolute air acidifying substances emission decreased by 5.6% whereas the rate per tonne of product decreased by 5.2% compared to 2016. This is mainly due to the reduction of coal and oil consumption in our direct energy mix.

Total water discharge (GRI 306)

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 2007 absolute total water discharge decreased by 26.7% as well as the total water discharge per tonne of product, which decreased over this period by 45.8%.

Average quality of water discharge (GRI 306)

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.

By-product (for recovery) (GRI 306)

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 2017, the quantity of by-products decreased by 0.3%. The amount of by-products per tonne of product remained flat.

Waste for disposal (GRI 306)

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 waste 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 2007 absolute waste for disposal quantity decreased by 83.1%. The waste for disposal per tonne of product also decreased over this time period by 87.5%. Compared to 2016 the amount of waste for disposal decreased by 41.5%.

A site is Zero Waste for Disposal when a process is in place to ensure that all the material streams are sorted as necessary and have a traceable reuse or recovery destination. At the end of 2017, 253 of our factories (54%) were zero waste for disposal.

Food waste

Food waste calculation includes any food waste and associated inedible parts diverted from the human food chain.

Food categories such as organic material, sludge, mixed material and non-conforming goods and market returns are included in the scope. All waste within the Petcare and Nestlé Skin Health Category are excluded.

Assumptions:

- 100% of the organic material is food waste, as non-consumable organic material (leaves, gardening) is considered negligible.
- 20% of sludge weight represents food waste and the remaining 80% is water (based on an internal survey conducted within our factories in 2017 and related to sludge analysis). During anaerobic/aerobic digestion, some food is consumed, but bacteria also generate waste and die; this is assumed negligible.
- 23% of mixed material is food waste (based on Analysis of U.S. Food Waste Among Food Manufacturers, Retailers, and Wholesalers, Prepared for the Food Waste Reduction Alliance, BSR, April 2013).
- The weight of packaging is excluded from the weight of non-conforming goods and market returns. This corresponds to 9%, using a proxy based on the weight of "materials for packaging purposes" normalized by the production volume weight.

Significant spills (GRI 306)

Significant spills are defined as any spills that are included in our financial statement. Nestlé did not have any significant spills in 2017.

Aspect: COMPLIANCE

Total monetary value of fines (GRI 307)

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

In 2017 the total amount of environmental fines summed up to 30 kCHF.

Aspect: ENVIRONMENTAL SUSTAINABILITY GOVERNANCE

ISO 14001 certified sites

By the end of 2017, 608 sites achieved ISO 14.001:2004 certification, including 425 factories, 100 distribution centers, 28 R&D locations and 55 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.

