



Unilever's Basis of Reporting 2011 for ten assured Environmental and Occupational Safety (EOS) indicators

Background

For the sixth year running, Deloitte LLP (Deloitte) have carried out limited assurance of the same ten environmental and occupational safety performance indicators reported this year in the Unilever online Sustainable Living Plan Progress Report for 2011 and published on www.unilever.com in August 2012.

Deloitte's report is available on the [Independent assurance](#) page.

Below we provide the definitions and basis of reporting for our environmental and occupational safety performance indicators.

Environmental Data

o Scope

Every year we collect data from each of our manufacturing sites on key measures of environmental performance. This is collated and analysed using a web-based environmental performance reporting system.

Since 1995 (17 years) we have continually improved the way we collect and report environmental performance data from our manufacturing sites. In 2007 we focused on improving the reporting methodology for energy and carbon dioxide (CO₂) emissions from renewable energy to allow better reporting of data on renewable energy, biomass and resulting CO₂ emissions in line with the internationally accepted Greenhouse Gas Protocol*.

In 2008 we introduced the reporting of monthly/quarterly environmental performance data by our sites into the Environmental Performance Reporting (EPR) tool.

In 2011, 258 manufacturing sites in 67 countries reported environmental performance data. In 2011 there was one additional site compared to 2010 as a result of ten sites closing/merging into one and eleven new/acquired sites.

In line with previous years, for the purposes of sustainability reporting, we define our manufacturing sites as those where we have management control (over 51% share). Our reporting includes 100% of manufacturing site data, even if our economic or ownership interest is less than 100%. Where we have an economic interest in a site but do not have management control, we do not report its environmental data. We also do not collect environmental data from third-party companies that manufacture or pack our products (these account for approximately 15% of production) or from Unilever non-manufacturing sites.

Data on environmental prosecutions and related fines is collected from all our manufacturing sites and also from our corporate head offices and research laboratories (ten sites in 2011). The total number of sites therefore reporting environmental prosecutions and related fines in 2011 was 268.

* The Greenhouse Gas Protocol Initiative is a multi-stakeholder partnership of businesses, NGOs, governments and others convened by the World Resources Institute (WRI), a US-based environmental NGO, and the World Business Council for Sustainable Development (WBCSD),





a Geneva-based coalition of 200 international companies. Launched in 1998, the Initiative's mission is to develop internationally accepted greenhouse gas (GHG) accounting and reporting standards for business and to promote their broad adoption.

Seven eco-efficiency key performance indicators (KPIs) are used for managing and reporting the environmental performance by our manufacturing operations and for driving future improvements. These KPIs were chosen because they reflected the main environmental aspects for our sites covering utilities consumption (energy/CO₂ and water) and all environmental media (waste, air and water pollution). The KPIs also represent our main environmental costs and corresponding potential for cost savings as a result of achieving our reduction targets.

Emissions of ozone depleting substances are also reported, expressed as ozone depleting potential (ODP). ODP is the eighth eco-efficiency KPI that is externally assured. Load per tonne of production is reported for seven parameters:

Chemical oxygen demand (kg)
Water abstracted (m³)
Waste – hazardous and non-hazardous (kg)
Energy (GJ)
CO₂ from energy use (kg)
Boiler/utilities sulphur oxides (SO_x) (kg).

All products, semi-finished products and by-products are reported in our production tonnage. The reported tonnage is the net weight in tonnes excluding all packaging.

The collection of eco-efficiency data described above is primarily for the purposes of management reporting. Many of our manufacturing sites also make use of real-time eco-efficiency data collected through automated systems (known as measurement, monitoring and targeting – MM&T systems). This helps the sites track their performance better and identify reduction opportunities.

o Definitions of our eight parameters

1) Total COD (chemical oxygen demand) (kg)

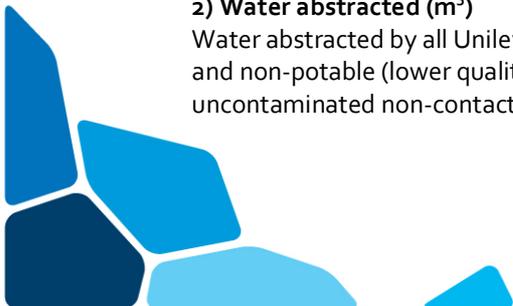
COD represents the ingredients and product lost from our manufacturing processes. It arises mainly during cleaning operations.

COD is widely used by regulatory bodies to control industrial wastewaters, and to calculate the correct level of charges for downstream municipal wastewater treatment, which is designed to remove most of the COD before the wastewater is discharged to the environment.

The Unilever COD data represent the effluent load discharged from the factory/manufacturing site. The data does not make any allowance for the fact that based on individual site data we estimate that around a further 90% of this material is removed in municipal wastewater treatment plants. Consequently the COD load which actually reaches the environment is much lower.

2) Water abstracted (m³)

Water abstracted by all Unilever factories is measured. The data includes potable (drinking quality) and non-potable (lower quality) water. Examples include water as an ingredient in products, uncontaminated non-contact cooling water and wastewater.





We previously referred to this metric as 'water use'. We have changed the name to 'water abstracted' to specifically describe the withdrawal of water by our manufacturing sites since this is more consistent with developing standards for water assessment. The underlying basis of the data reported remains the same as in previous years.

3) and 4) Hazardous & non-hazardous waste (kg)

In terms of potential impact on the environment, it is important to distinguish between hazardous and non-hazardous waste. As a result, hazardous and non-hazardous waste sent for disposal are reported separately. We also derive, and report, a figure for total waste sent for disposal.

Since there is no common international waste classification, the Unilever data is based on the national legal definitions applicable for each site, and is simply the total mass of material disposed of from the site under each classification.

We report amounts of waste sent for disposal (tonnes), waste sent for off-site recycling (tonnes), total waste (tonnes) and total recycled (%). We consider disposed waste to include material disposed of by landfill and material that is disposed of by incineration where no energy is recovered.

Recycling data excludes material or effluent that is reused or recycled within the factory.

5) and 6) Total energy consumption (GJ or 10^9 Joules) & CO₂ from energy use (kg)

Energy consumption per tonne of production is widely used as a manufacturing performance indicator.

Since 1999 we have focused both on energy (in GJ) and CO₂ from energy use (in kg CO₂) as the main contributor to greenhouse gas emissions from manufacturing, and set targets for each of these. Our CO₂ from energy load has been calculated from the source energy data using internationally accepted conversion factors such as the International Energy Agency (IEA) and national regulatory bodies such as the United States Environmental Protection Agency (EPA).

During 2007 we improved the reporting methodology for energy and CO₂ emissions from renewable energy in line with the Greenhouse Gas Protocol for the energy consumed and the CO₂ generated from energy at our manufacturing sites.

Our manufacturing sites use different sources of energy depending on their production processes and also their geographical location. We collect this information, along with data on emissions from electricity generation and other fuel sources for each country, to calculate our total CO₂ emissions from energy. In 2007 we improved our reporting of energy and CO₂ emissions from renewable energy and biogenic material. Pre-2007 we reported wood. From 2007, we have extended biogenic material to include wood, biomass, biogas and waste material that is used for fuel, eg waste crops at our plantations and sugarcane fibre. This methodology more accurately reflects our reported CO₂ emissions.

We report in more detail our direct and indirect greenhouse gas (GHG) emissions from energy sources used by our manufacturing sites, together with their other non-energy GHG emissions. These energy sources include electricity, coal, natural gas, heavy fuel oil, light fuel oil, wood, liquid petroleum gas and steam. We also record emissions associated with the use of biogenic fuels and consistent with the Greenhouse Gas protocol, these are reported separately. Emissions from these sources do not

form part of our environmental performance indicators and as such are outside the scope of the annual assurance process.





Our main non-energy sources of GHGs from manufacturing are methane emissions from the landfilling of biodegradable wastes such as paper, cardboard and vegetable waste; CO₂ from aerobic wastewater treatment, and refrigerants losses. Emissions from these sources do not form part of our environmental performance indicators and as such are outside the scope of the annual assurance process.

We do not measure levels of three other major GHGs because our emissions are negligible. These are: nitrous oxide (produced mainly in nitric oxide manufacture), perfluorocarbons (mainly associated with aluminium and magnesium production) and sulphur hexafluoride (used in some electrical equipment).

7) Boiler/utilities sulphur oxides SO_x (kg)

This air emission parameter is relevant to most sites since almost all have a boiler used for generating steam. In some cases diesel generators are also used on-site for electricity generation.

The Unilever data is calculated from the total mass of fuel consumed, and its sulphur content, and is expressed in terms of a mass of sulphur dioxide (SO₂). Emissions of SO_x are known to contribute to acid rain potential.

8) Ozone depleting potential (kg)

Ozone depleting substances (ODSs) are compounds mainly used as refrigerants. They include CFCs, HCFCs, HFCs, halons and methyl bromide. When these compounds break down in the stratosphere, they release chlorine or bromine atoms which deplete the ozone layer.

We report the annual quantity of ODSs emitted to the atmosphere including losses, eg due to leaks or maintenance (which are subsequently topped up) and emissions to the atmosphere not replaced, eg when a unit is decommissioned and for some reason the refrigerant is not recycled.

The ozone depleting potential (ODP) is derived for the different ODSs using specific factors. The source data we use is from the United States Environmental Protection Agency (EPA) website for some of the single source refrigerants (R-11, R-12, R-113) – see values in <http://www.epa.gov/ozone/ods.html>, with the remainder (mainly mixtures) being derived from the refrigerant data summary by James M Calm and Glenn C Hourahan, *Engineered Systems*, November 2001.

o Target setting for environmental data

Target setting provides a key driver to achieve environmental improvement and cost savings.

In November 2009 Unilever launched a new vision to double the size of our business while reducing our environmental footprint across the entire value chain. As part of this, the Supply Chain Leadership Team agreed a long-term target for manufacturing of maintaining our environmental impact at 2008 levels or below while growing the business. This target was re-confirmed with the launch of the Unilever Sustainable Living Plan in November 2010.

As part of the Plan, we have set ourselves targets for 2020 to reduce greenhouse gas emissions, water use and waste from our manufacturing processes. Our future external reporting will focus on our performance against these long-term targets. This provides a more accurate reflection of our progress rather than reporting against rolling annual milestones since most of our eco-efficiency initiatives yield results over a longer timeframe.





Our annual environmental reporting process requires each site to set improvement targets (annual milestones) for our seven eco-efficiency performance indicators. Action plans are put in place at site level and the data is reviewed monthly or quarterly. We will continue to track internal, short-term targets for these seven indicators to drive our performance towards the long-term goals.

Sites are encouraged to set stretching targets/annual milestones through a process of review with the Regions. In each case, targets proposed by the site are reviewed by the Regional SHE managers, supported by training material and guidance from Supply Chain specialists.

The web-based Environmental Performance Reporting (EPR) tool enables the Regions to easily assess, for example, the progress of individual sites against targets/annual milestones, and the contribution of each site to the total regional load.

This allows the identification of key sites where stretch targets are particularly important. Through dialogue with the sites and the Regions, a site's annual milestones are agreed in each case by taking into account any changes that may have occurred at the site during the previous year, for example, production portfolio and effluent treatment systems.

Occupational Safety Data

o Scope

We collect data from all our manufacturing sites and non-manufacturing sites, eg head offices, research laboratories and marketing/sales organisations and in 2011 there were 449 reporting sites.

Two occupational safety indicators are collected and reported on – fatal accidents and Total Recordable Frequency Rate.

o Definitions of our two indicators

1) Fatal accidents

We collect data on three categories of fatal accidents: employee on-site, employee off-site and contractor on-site.

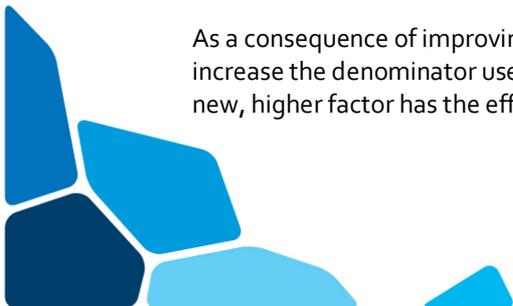
In addition to this fatality data, where such accidents may be deemed to be associated with our operations, Unilever also requires its individual organisations/units to report fatal accidents involving members of the public and those which occur at third-party contract manufacturers where they are producing goods and services for us. In common with other companies in our industrial sector, these incidents are only reportable internally.

2) Total Recordable Frequency Rate (TRFR)

Accidents are measured as Total Recordable Frequency Rate per 1,000,000 (one million) man-hours. TRFR is defined as all workplace accidents, excluding only those that require simple first aid treatment.

The TRFR calculation is the sum of all lost-time accidents (LTA) plus restricted work cases (RWC) plus medical treatment cases (MTC) expressed as a rate per one million hours worked.

As a consequence of improving our safety performance over many years, in 2009 Unilever decided to increase the denominator used to calculate TRFR from 100,000 to 1,000,000 man-hours. Using this new, higher factor has the effect of increasing current and historical TRFR data by a factor of ten.





TRFR is now the preferred reporting indicator for accidents at work. Prior to 2004 we reported our accident frequency rate (AFR) – defined as workplace accidents resulting in time off work or some temporary restriction in the work that the injured person can undertake.

Information on man-hours worked is either obtained directly from personnel in our Human Resources (HR) function or calculated via employee numbers, absences and overtime information provided by HR. In line with industry best practice, we include in our definition of an 'employee', temporary staff and contractors who work under our direct supervision.

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