



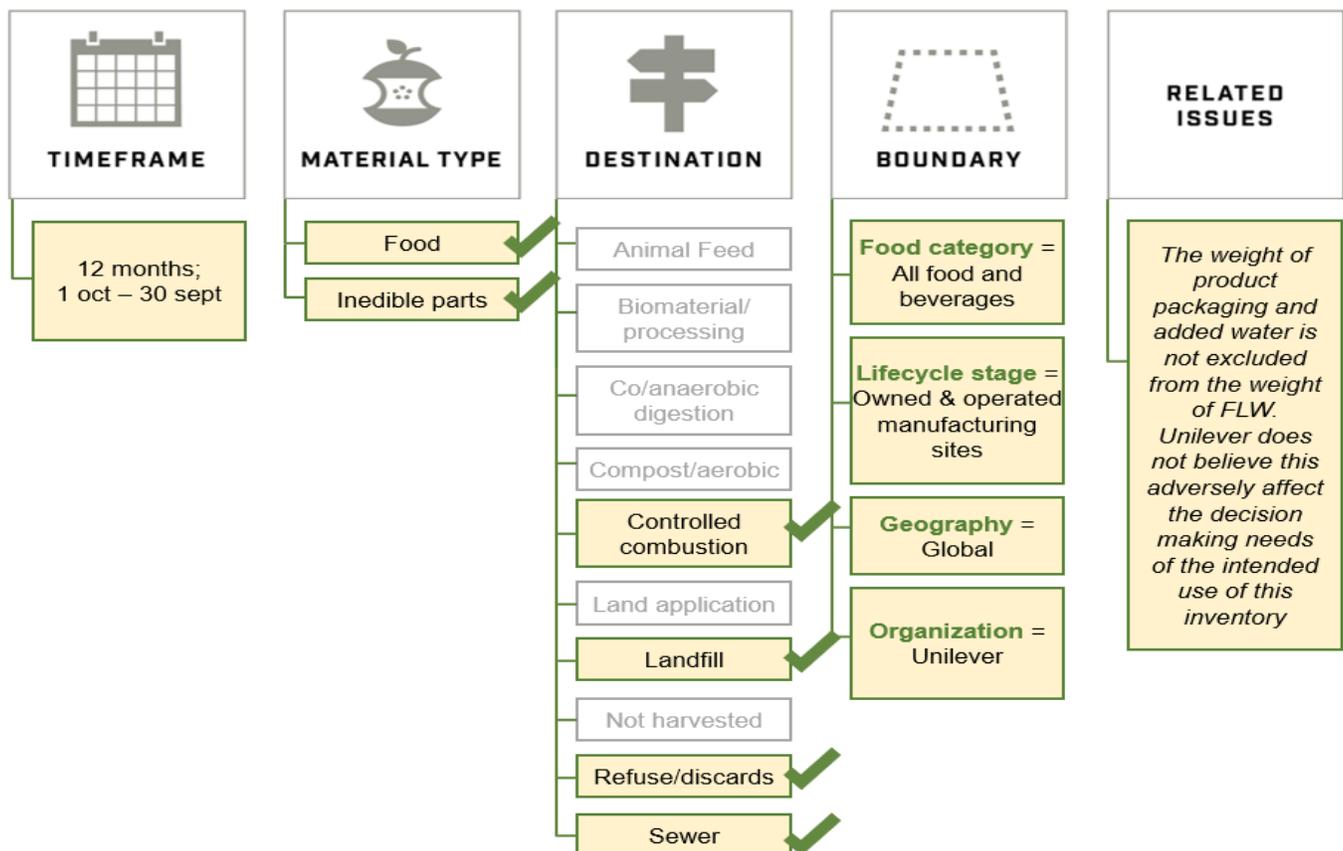
Unilever Food Loss and Waste (FLW) Methodology

Tackling food waste is an opportunity to address food insecurity and mitigate climate change – and it requires a global approach. It means focusing on the systems by which food is produced, consumed and disposed of, by our industry and others. We believe that food loss and waste needs to be reduced from farm to fork.

In 2015, we helped to shape and signed the [Consumer Goods Forum \(CGF\) Food Waste Resolution](#). This Resolution commits to halving disposed food waste by 2025 in retail and manufacturing operations, as well as supporting food waste reductions at consumer level and across supply chains.

During 2016-2017, we worked with the CGF and the World Resources Institute (WRI) to develop our reporting methodology – to measure our food waste footprint in our direct operations – so we can aim to be as efficient as possible in our manufacturing. We use the [Global Food Loss and Waste Standard](#), an accounting and reporting guide that helps quantify and report on how much food is lost or wasted in our manufacturing operations. Our measurement methodology can be found in Appendix 1.

Diagram 1: Unilever’s overview of our Consumer Goods Forum Food Waste Resolution scope





Appendix 1 – Unilever’s FLW Standard requirements.

The table below provides a summary of the eight reporting and accounting requirements contained in the Food Loss and Waste Standard.

FLW STANDARD REQUIREMENTS (see www.FLWProtocol.org for details and guidance)
<p>1. Base FLW accounting and reporting on the principles of relevance, completeness, consistency, transparency, and accuracy</p> <ul style="list-style-type: none"> • Relevance: Unilever already report disposed manufacturing waste for the Unilever group which includes both food and non-food sites. Reporting food waste separately and additionally will show food specific opportunity areas for waste reduction initiatives. • Completeness: All Unilever owned and operated factories which manufacture Unilever branded food and beverage products are included. • Consistency: The same measurement methodology will be used each year. • Transparency: The measurement methodology will be publically available. • Accuracy: The main dataset used is independently assured as accurate by an external auditor.
<p>2. Account for and report the physical amount of FLW expressed as weight</p> <p>Food waste reported in tonnes</p>
<p>3. Define and report on the scope of the FLW inventory</p> <ul style="list-style-type: none"> • Timeframe: Baseline 1 October 2015 - 30 September 2016. • Material type: Food and associated inedible parts. • Destination: Controlled combustion (without energy recovery), landfill, refuse/discards, sewer. • Boundary: <ul style="list-style-type: none"> ○ <i>Food category:</i> All food and beverage products sold (Unilever ‘Foods’ and ‘Refreshment’ categories) ○ <i>Lifecycle stage:</i> Unilever owned and operated manufacturing sites producing Unilever brands. ○ <i>Geography:</i> Global ○ <i>Organization:</i> Unilever owned and operated manufacturing sites producing Unilever brands. • Related issues: The weight of product packaging and water added is not excluded from the weight of FLW. Unilever does not believe this adversely affects the decision-making needs of the intended user of this inventory.
<p>4. Describe the quantification method(s) used. If existing studies or data are used, identify the source and scope</p> <p>Sources and scope of data used:</p> <ul style="list-style-type: none"> - Solid waste: All Unilever owned and operated manufacturing sites report their waste volumes monthly and annually into the central Environmental Performance Reporting (EPR) system. Primary waste data is typically from weighbridge tickets or invoices from waste providers. The disposed waste data is used to report the disposed waste metric in the Unilever Sustainable Living Plan, and this metric is independently assured by an external auditor.

- **Effluent/plant sludge to sewer:** All Unilever owned and operated manufacturing sites report the Chemical Oxygen Demand (COD) of effluent directly discharged from site. COD from direct discharge will be used to calculate and report food waste to the 'sewer' destination. This will come from the COD dataset used to report the COD metric in the Unilever Sustainable Living Plan. This metric is independently assured by an external auditor.

Food waste calculations:

- **Context:** Waste is reported into 36 waste categories, not all of which will contain food waste. Only the seven waste types that may include food waste are included. These are 'effluent', 'effluent treatment plant sludge', 'fat trap sludge', 'general mixed waste', 'waste raw materials & work in progress', 'waste finished product' and 'food waste'. Please note, there is a waste type category Unilever has historically called 'food waste' in our EPR system. However, this should not be confused with the total disposed food waste we are quantifying and reporting in support of the CGF Food Waste Resolution.

Waste is classified as hazardous or non-hazardous according to local legislation. Both hazardous and non-hazardous waste is included in this reporting. Materials that are not a food (such as packaging, glass and wood) and non-food products (such as homecare and personal care products) are excluded.

- **Calculations by waste type:**

For the two waste type categories that only apply to food production sites (i.e., 'food waste' and 'fat trap sludge'), the whole volume will be counted.

For the five waste type categories from 'mixed category' sites where both food and non-food products are made (i.e., 'general mixed waste', 'effluent', 'effluent treatment plant sludge', 'waste raw materials & work in progress', and 'waste finished product') the FLW and COD volume will be allocated according to the ratio of production between food and non-food products.

For 'effluent' and 'effluent treatment plant sludge' reported as mass in tonnes, we include the whole volume. We are not applying further calculations to remove the water content in the effluent and sludge. This is because we do not have robust data on the water content in our waste.

For the three waste type categories in which packaging waste and other non-food materials could be found (i.e., 'general mixed waste', 'waste raw materials & work in progress' and 'waste finished product'), we are not applying further calculations to subtract the weight of these additional materials from the weight of the food waste. This is because we do not have robust data on the percentages of packaging or other non-food materials in our waste. We would prefer to over report our food waste, rather than under-report due to incorrect assumptions.

5. If sampling and scaling of data are undertaken, describe the approach and calculation used, as well as the period of time over which sample data are collected (including starting and ending dates)

Not applicable

6. Provide a qualitative description and/or quantitative assessment of the uncertainty around FLW inventory results

This inventory is based on solid waste and COD data which are known to a high level of certainty because they are independently assured by an external auditor.

The only calculations applied use data on production volumes to determine the ratio of production between food and non-food products at 'mixed category' sites. Although these calculations represent a possible source of uncertainty, they use data on production volumes which are known to a high level of certainty.

We have chosen to use this assured and accurate data with minimal calculations (i.e., we are not adjusting the data to exclude water added and packaging), even though this will mean a higher waste footprint. We would prefer to over report our food waste, rather than under-report due to incorrect assumptions. Even with this known overestimation, Unilever's disposed waste footprint is very low and so the margin of error in absolute terms will also be low.

The EPR system annual reports use the waste destination route for the month of December, which means that if there have been changes in waste destinations throughout the year, these will not be recorded. We expect that any differences in waste route will be minimal, since sites usually have a set waste route for each waste type. Therefore, we do not expect this would make a material difference.

7. If assurance of the FLW inventory is undertaken (which may include peer review, verification, validation, quality assurance, quality control, and audit), create an assurance statement

The amount of our food waste is not an independently assured metric, however, the calculation does use our externally assured disposed waste and COD datasets.

8. If tracking the amount of FLW and/or setting an FLW reduction target, select a base year, identify the scope of the target, and recalculate the base year FLW inventory when necessary

Our baseline year is 2016 (which includes Q4 2015 – Q3 2016). Unilever achieved our target to become zero non-hazardous waste to landfill at the end of 2014 and so the focus is to maintain this achievement, reduce waste at source and reuse materials where possible.