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CEWEP calculation tool for assessing impact on waste management based on the new EU waste legislation

The aim of this tool is to allow for a basic understanding on waste weight shifts between recycling/composting, landfilling and thermal treatment according to the targets set by the new EU Waste Framework Directive (WFD) and EU Landfill Directive (LD) for 2025, 2030 and 2035. The tool does not claim to be a comprehensive model.

The municipal waste section is based on Eurostat data for municipal waste on Member State (MS) level. The calculation for EU 28 is then made by summing up the municipal waste stream of each MS in the model. 2016 is used as the base year, as the latest figures available on Eurostat are from that year.

The recycling targets for municipal waste correspond to the new monitoring framework for recycling (WFD) which refers to the amount of waste that is finally recycled and does not include the derogation option. In the baseline scenario we assumed:

- Recycling targets: 55% for 2025, 60% for 2030, 65% for 2035 (WFD);
- Landfill target: 10% maximum for 2035[1] (LD);
- 15% residues from recycling process and sorting[2] (conservative estimation);
- No extension for reaching the recycling / landfill targets;
- Same population as in 2016 (which leads to the same amount of municipal waste generated as in 2016. The assumption has been made considering that the growth in municipal waste generation due to the expected population growth would be balanced by the successful waste prevention efforts from MS).

All assumptions can be changed by the user (except for the waste targets themselves). The assumptions made are optimistic (conservative), i.e. the figures for the need for residual (not-recycled) waste treatment capacity could be higher in reality. Furthermore, an additional assumption for waste prevention can be added to the model. Potential crediting of home composting and metals from bottom ashes to the recycling rate waste are not considered.

The Commercial and Industrial waste section is equally based on Eurostat data. For the purpose of the tool, only aggregated data on EU 28 level (top down approach) was considered. Data refers to non-hazardous commercial and industrial waste treated in 2016, whereas major mineral waste fractions are excluded.

Currently no specific targets for different treatment options of commercial and industrial waste exist. Therefore, several assumptions of the share of commercial and industrial waste input to the recycling process as well as for a maximum landfilling rate are incorporated into the model. In the baseline scenario we assumed:

- 80% input to recycling;
- 7.2% maximum landfilling (as for municipal waste);
- 15% residues from recycling process and sorting;
- No GDP growth (which leads to the same amount of commercial and industrial waste generated as in 2016. The assumption has been made considering that the effect of expected GDP growth on commercial waste generation would be balanced by the successful waste prevention efforts from MS).

All of the assumptions can be changed by the user. Additional waste prevention can be added as well.

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[1] which in practice means 7.2%, since several MS already landfill well below 10%.

[2] The amounts of residues greatly depend on the waste stream. Blueprint for plastics packaging waste: Quality sorting & recycling (p.23) shows large differences between the amounts of polyolefin and PET plastics collected for recycling and finally recycled while other collected waste streams, like glass or paper, may have lower levels of rejects.