ZWS Carbon Metric Tool

Dr Ramy Salemdeeb, Environmental Analyst
Our work

- Improving recycling performance
- Accelerating a circular economy
- Encouraging resource efficiency
- Reducing litter and fly tipping
Scotland’s Carbon Metric

The CM measures the whole-life carbon impacts of Scotland’s waste

**Lifecycle Approach:** Focuses on **THE CAUSE OF EMISSIONS**

**Lifecycle Emissions of a material, product or service**
Weight vs carbon impacts of resources loss and waste management in Scotland.
End-of-life route (%) for food waste (FW) in Scotland from 2011 to 2018, including a trend analysis of total FW tonnages managed and carbon impacts.
Beyond Scotland

• Develop an international version of the Carbon Metric that will give our international partners a far clearer picture of how the way they consume and waste goods and materials contributes to the climate crisis.
To reach carbon neutrality in 2050, the carbon footprint of EU citizens must decrease from about 11 tCO2e to 4 tCO2e per inhabitant in 2030.

(ACR+, 2019)
ACR+ members will contribute to the global fight against climate change.

They will build on their key role as public authorities, mobilising local stakeholders and citizens, to drive waste prevention and management and advance the circular economy throughout their jurisdictions in order to reduce carbon impacts.

(ACR+, 2019)
Carbon Metric International (CMI)

To develop a user-friendly CM tool that can be used by regions (and even cities) to estimate carbon impacts of waste.

The tool should be:
• User-friendly
• Robust and reliable
• Easy to adapt to take into consideration local conditions

PARTNERSHIP

ACR+
Région PAYS DE LA LOIRE
amiu
Brussels Environment
Carbon metric: How does it work?

- Waste recycling & disposal technologies
- Waste categories
- Carbon factors
- Local energy grids
- Waste operations & efficiencies
More Circularity Less Carbon

Step 1
- Collect and convert your waste data into standard format for Zero Waste Scotland's Carbon Metric International. (CM International)

Step 2
- Collect additional region-specific data to help Zero Waste Scotland build your unique set of regional carbon factors.

Step 3
- Zero Waste Scotland will now run the data analysis for you using the CM International.

Step 4
- Zero Waste Scotland will send you a final report detailing your waste carbon impacts. You will now have the data you need to decide how best to reduce carbon emissions from waste in your region.
## How long will it take?

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### Project Partners:
- ACR+ member
- Zero Waste Scotland

How long will it take?
Step 1
- Waste Data Conversion
  - Excel-based tool
  - Guidance document
  - Recorded tutorial
  - Dedicated technical advisor

Step 2
- LCA assumptions
  - Excel-based survey tool
  - Guidance document (including example)
  - Dedicated technical advisor

CMI: from theory to practice
Environmental indicators: What have we learned so far?

1. Carbon assessment projects are time-consuming and resource intensive which might make it difficult to regions to launch their own projects.

2. The paucity of data is one of the key challenges facing the development of environmental indicators.

3. There are numerous methodologies and standards to carry out LCA. Standardisation is important to enable us to benchmark and compare results.

4. Life cycle assessment, a branch of ecological economics, is evolving continuously so the involvement of LCA practitioners is essential to ensure a robust methodology and the latest guidance are considered.
Environmental indicators: the way forward

You don’t need to reinvent the wheel, but rather build on the success of other partners.

Reduce cost.

Increase transparency & promote standardisation.

Provide additional analytical insights and features such as benchmarking.

Collaboration... Collaboration ... Collaboration ...
Beyond Carbon

Consider a number of environmental indicators to quantify the actual environmental cost of waste.
Towards a holistic environmental assessment of materials & products

PET plastics*

Bio-baseed plastics*

*This analysis is based on average data reflecting the global market. 100% virgin material. Difference in intensities are based on a reference flow.
Thank you!

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