



ZWS Carbon Metric Tool

Dr Ramy Saleemdeeb, Environmental Analyst



EUROPE & SCOTLAND
European Regional Development Fund
Investing in a Smart, Sustainable and Inclusive Future

Our work



Improving recycling performance



Accelerating a circular economy



Encouraging resource efficiency



Reducing litter and fly tipping

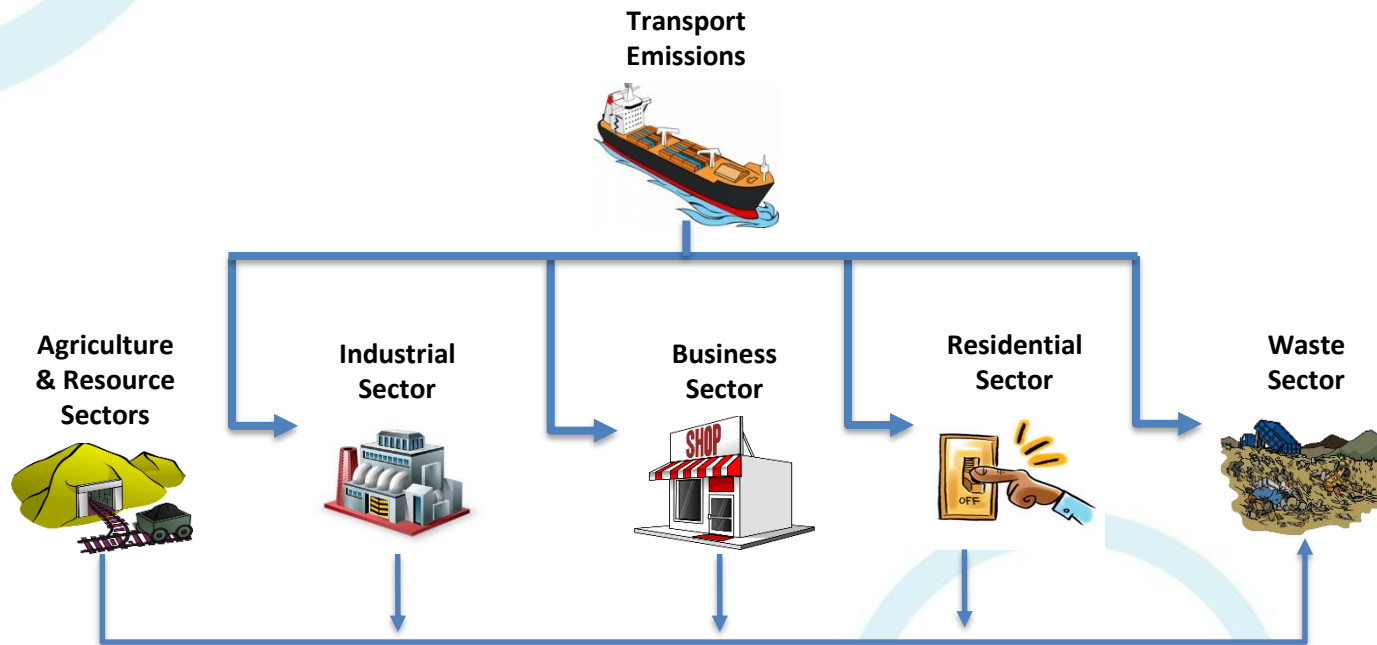
Scotland's Carbon Metric



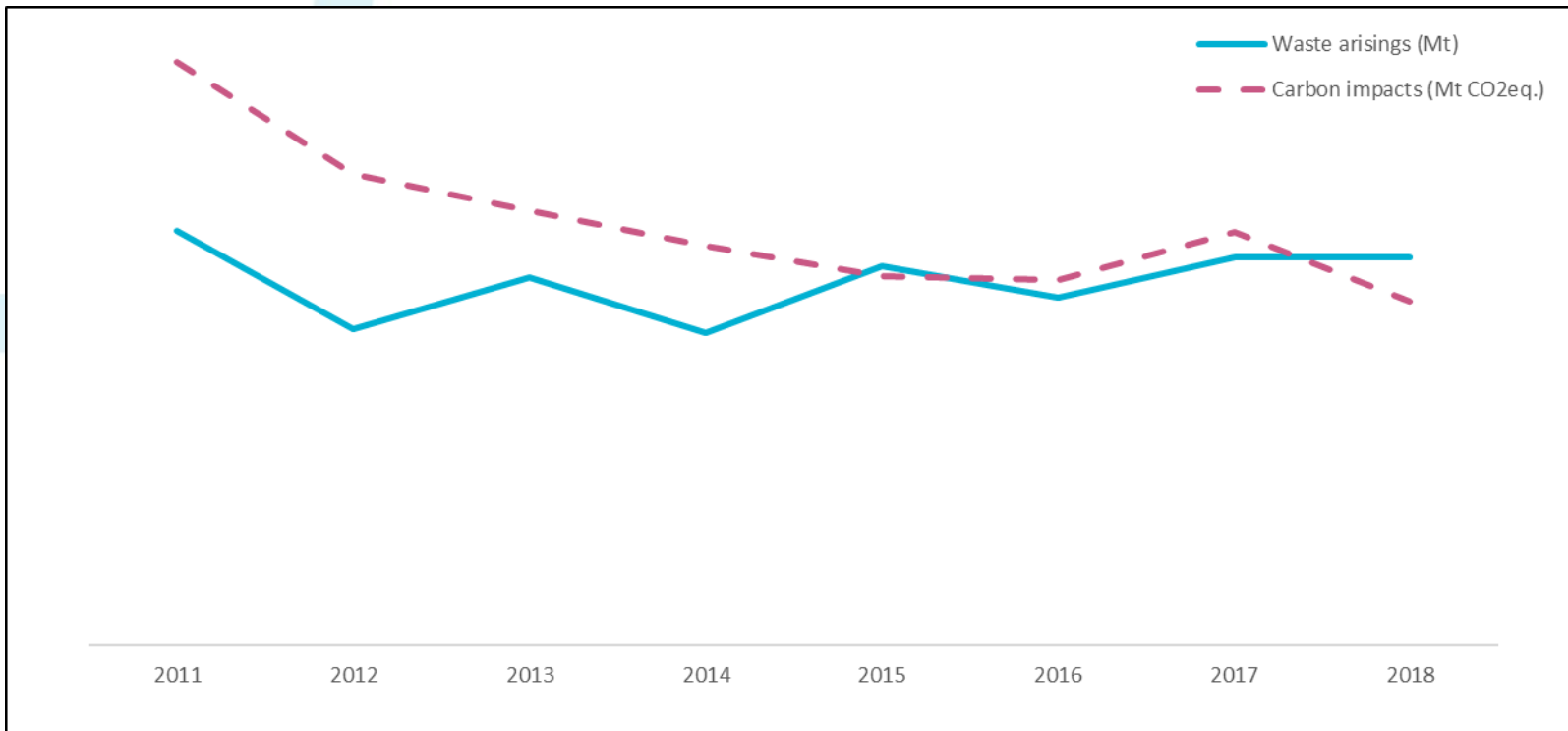
The CM measures the whole-life carbon impacts of Scotland's waste

Lifecycle Approach: Focuses on THE CAUSE OF EMISSIONS

Lifecycle Emissions of a material, product or service

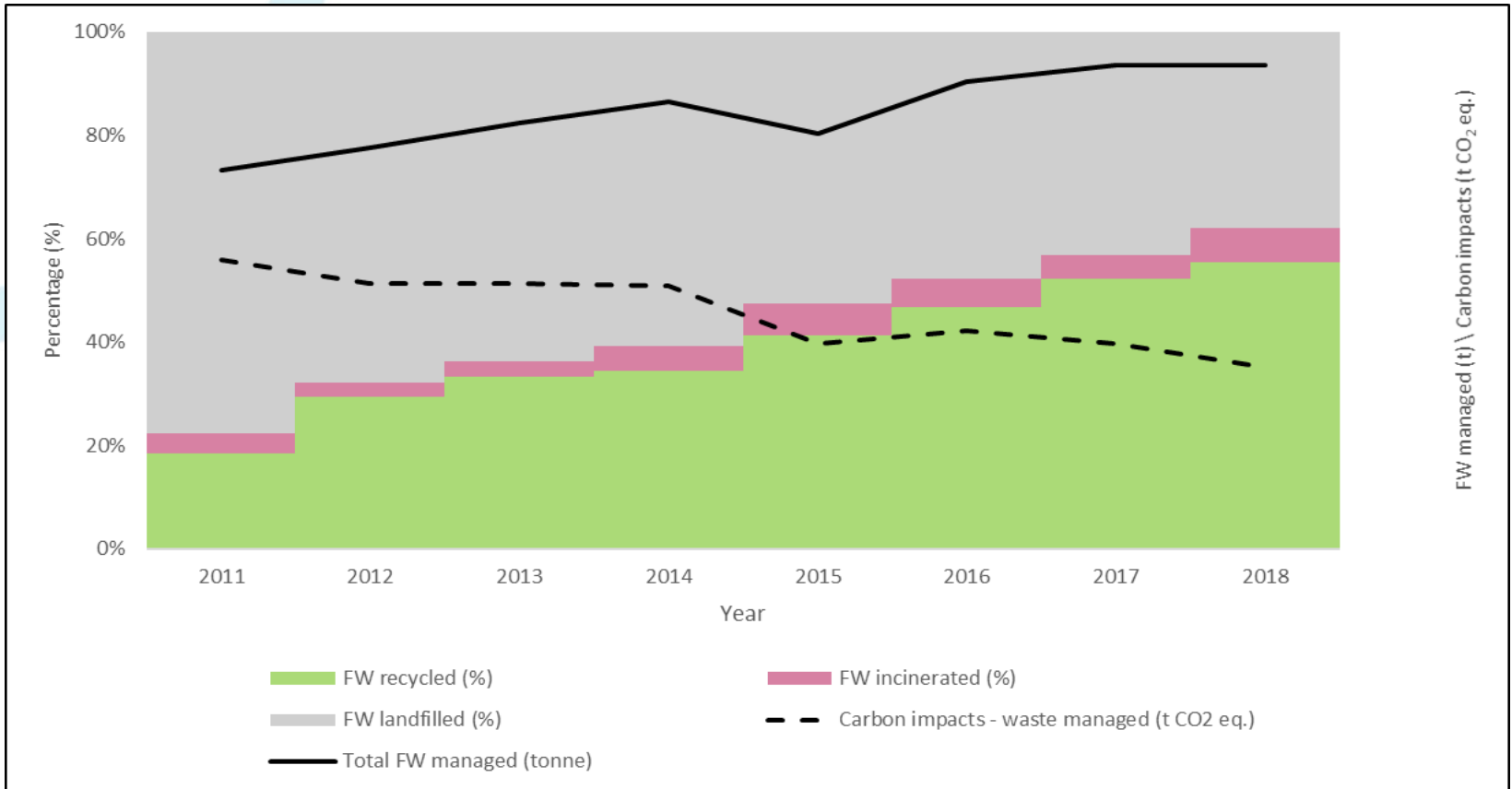


Carbon metric: new insights



Weight vs carbon impacts of resources loss and waste management in Scotland.

Carbon metric: new insights



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.

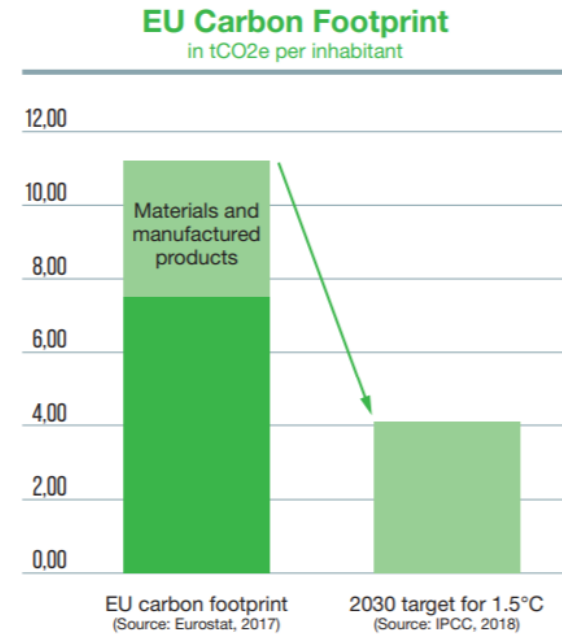


ACR+

ACR+ More Circularity Less Carbon



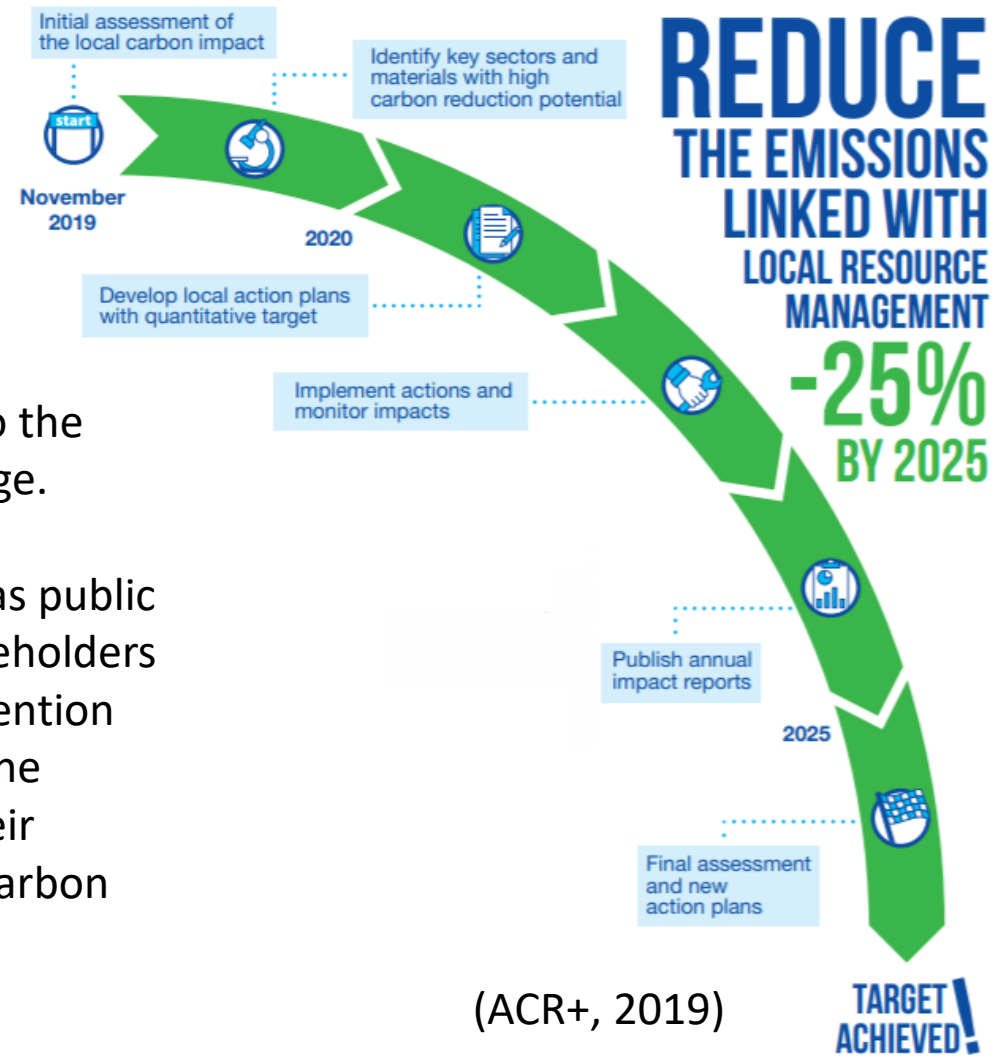
*To reach carbon neutrality in 2050, the carbon footprint of EU citizens must decrease from about **11** tCO₂e to **4** tCO₂e per inhabitant in 2030.*



(ACR+, 2019)



ACR+ More Circularity Less Carbon



- 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)

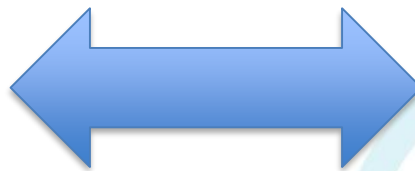
Carbon Metric International (CMI)

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+



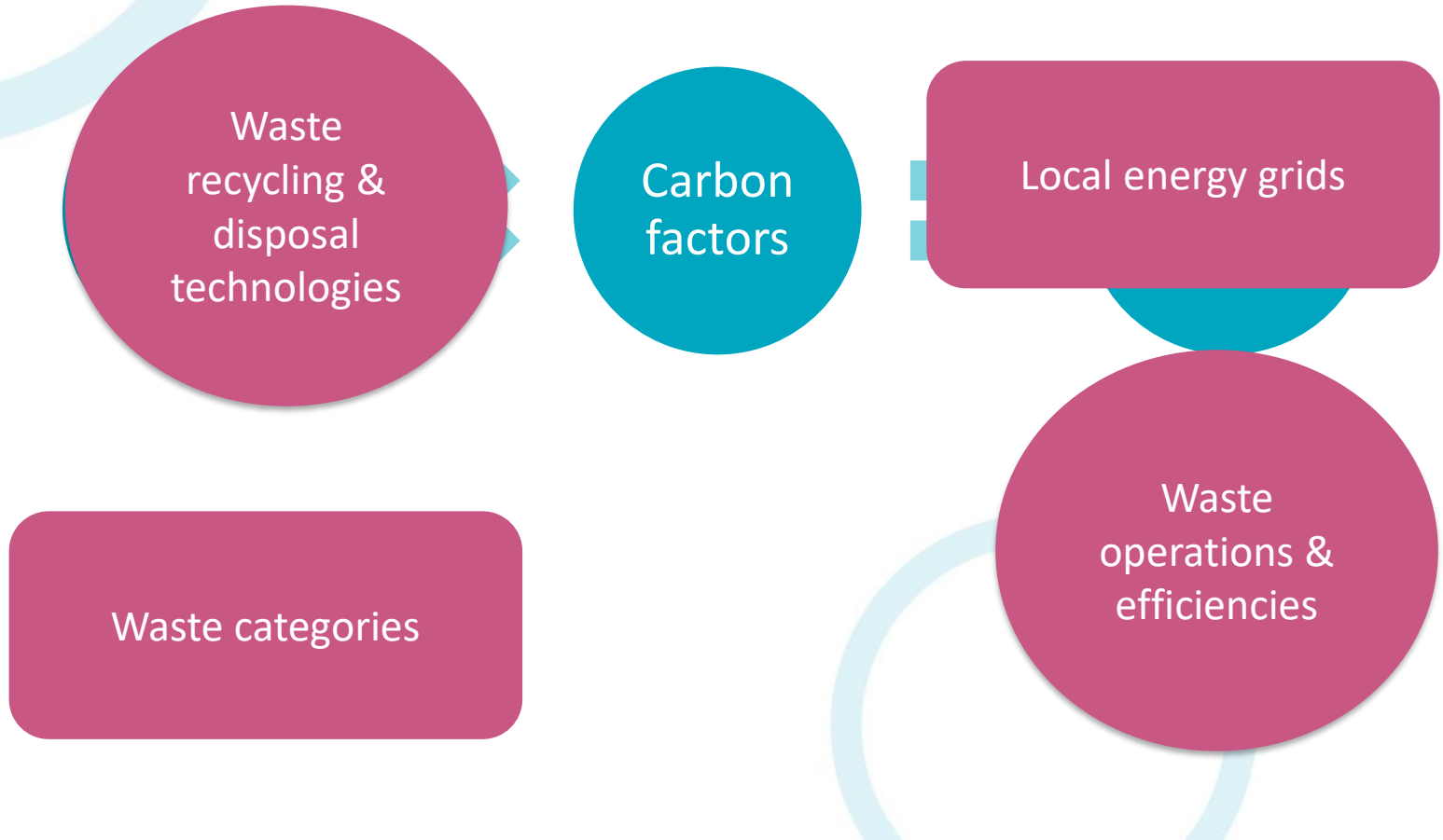
Région
PAYS DE LA LOIRE



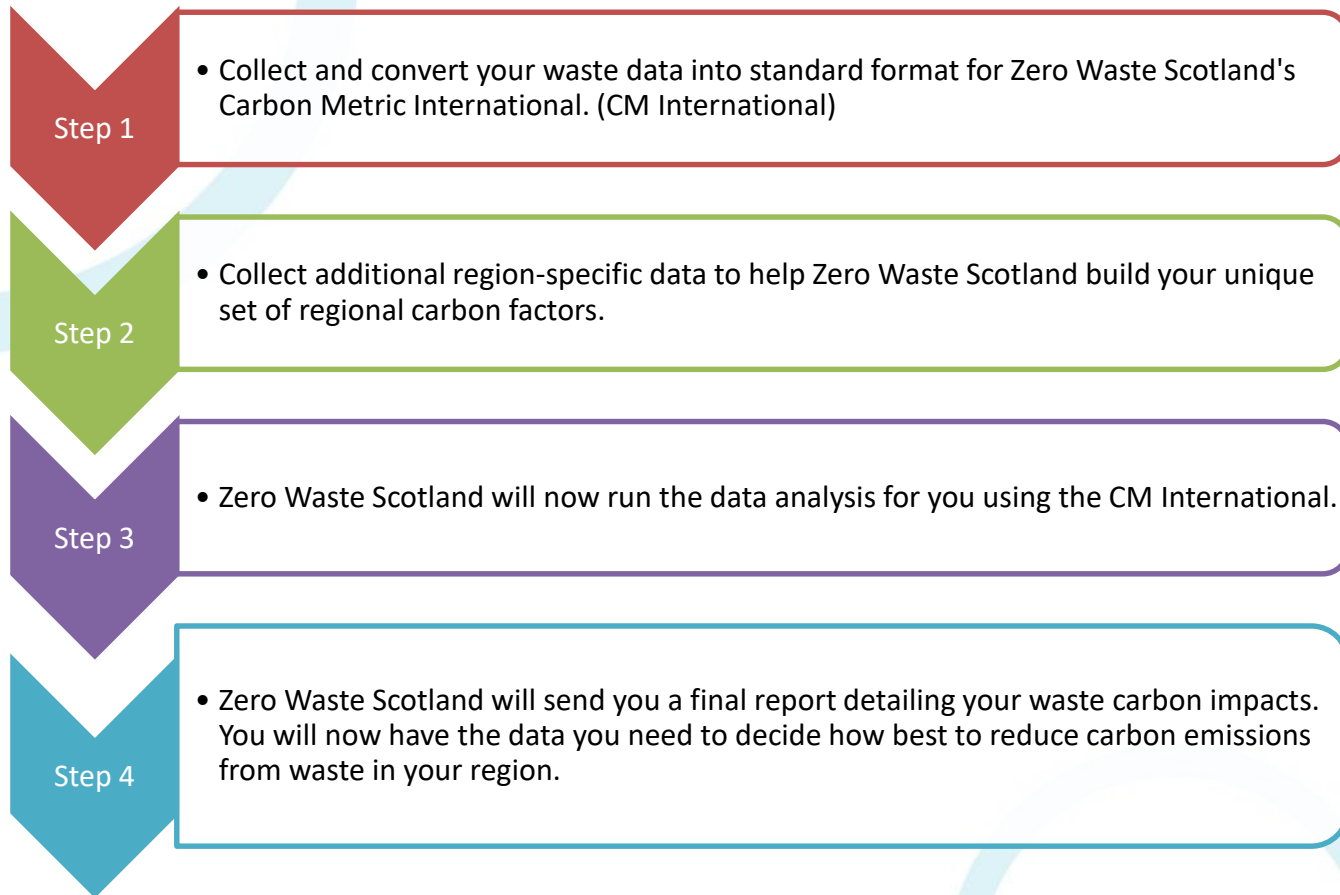
Brussels Environment

The logo for amiu GENOVA, featuring a stylized green and white circular icon and the text "amiu GENOVA" on a dark green background.

Carbon metric: How does it work?



More Circularity Less Carbon



How long will it take?



Project Partners:

- ACR+ member
- Zero Waste Scotland

Stage	Feb-20				Mar-20				Apr-20				May-20			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Step 1: Waste data conversion																
Step 2: Waste operation data and model-specific assumptions																
Step 3: Data analysis																
Step 4: Results																

CMI: from theory to practice

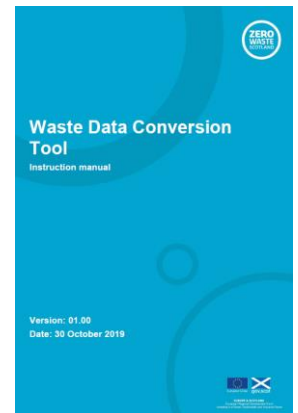
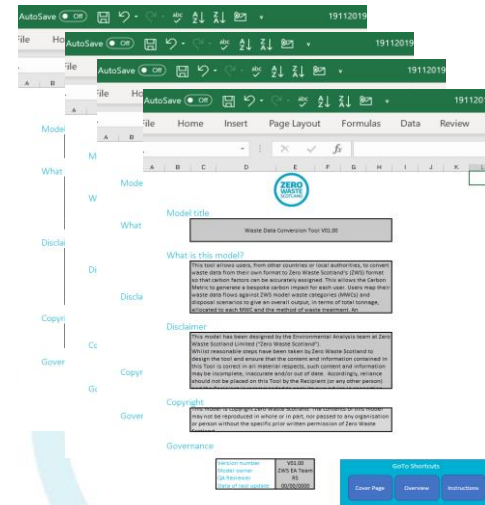


Step 1

- 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



Version: 01.00
Date: 30 October 2019

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.

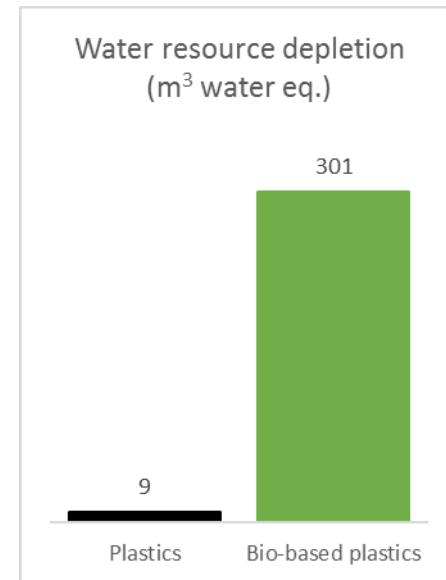
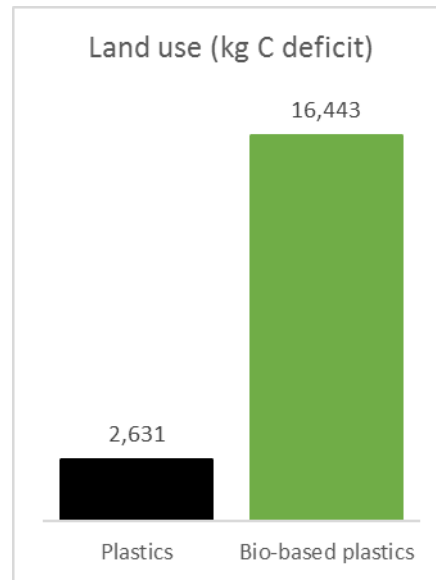
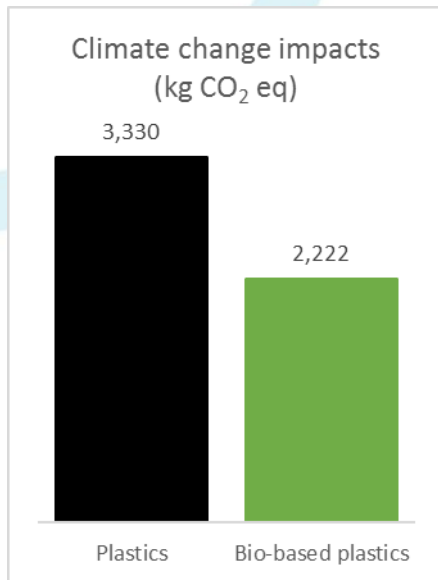
Provide additional analytical insights and features such as benchmarking.

Collaboration... Collaboration ... Collaboration ...

Beyond Carbon



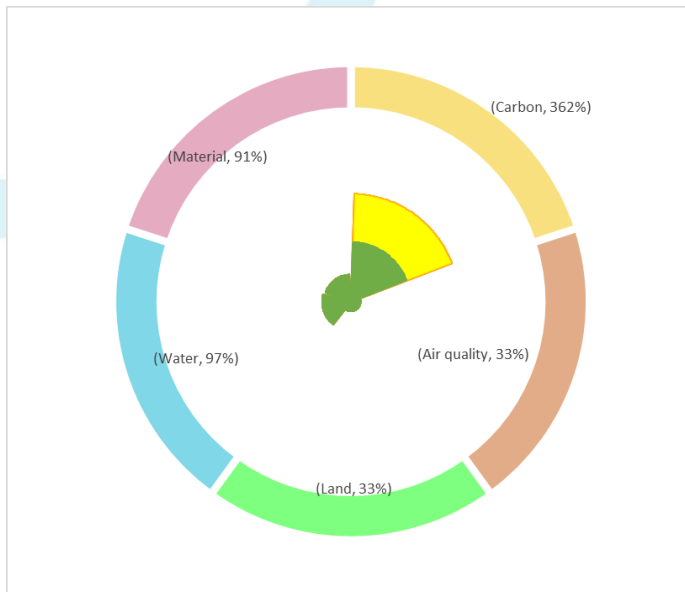
Consider a number of environmental indicators to quantify the actual environmental cost of waste.



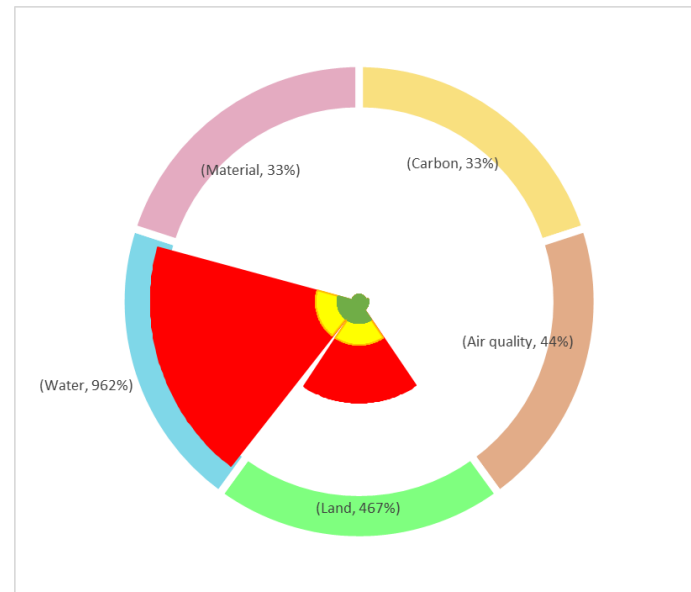
Towards a holistic environmental assessment of materials & products



PET plastics*



Bio-based 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!

Dr Ramy Salemdeeb, Environmental Analyst

Email: ramy.salemdeeb@zerowastescotland.org.uk



@Ramysalemdeeb