

23<sup>rd</sup> November 2018 – EEEN



# The role of waste composition data in evaluating waste and material policy achievements and options in a circular economy


Phil Williams - Research Analyst  
Phil.Williams@zerowastescotland.org.uk

zerowastescotland.org.uk  
🐦 @zerowastescot

# Introduction

- Overview of Zero Waste Scotland
- Context to national waste composition analysis (WCA) project
- Summary of WCA project
- Use of WCA...
  - Recycling service performance
  - Food waste target
  - Deposit return
  - Whole life carbon impacts of waste

# Overview of Zero Waste Scotland

- Funded by and work closely with Scottish Government
  - Inform and facilitate SG policy
  - Policy, Research and Evaluation team
- 
- A large, light blue circular graphic is partially visible in the bottom right corner of the slide.

# Context to WCA study

- Policy largely devolved from UK government
- Investment in household recycling services
- Challenging targets...
  - Recycle 70% of Scotland's waste by 2025
  - Reduce food waste by 33% by 2025
  - Ban on biodegradable municipal waste sent to Landfill by 2021



# WCA study objectives

- What is collected at the kerbside in total?
- What is thrown away instead of being recycled?
- How many items that could be recycled are actually recycled?
- How common is it for the wrong items to end up in recycling collections?
- Comparison with 2009 study





# WCA methodology (1)

- 18 municipalities (from 32 in total)
- Sampled over 18-month period during 2014-15



# WCA methodology (2)

- Approx. 250 households per authority
- Focus on kerbside waste
- Emphasis on sampling waste disposal and mixed recycling
- Approx. 160 tonnes of waste analysed in total



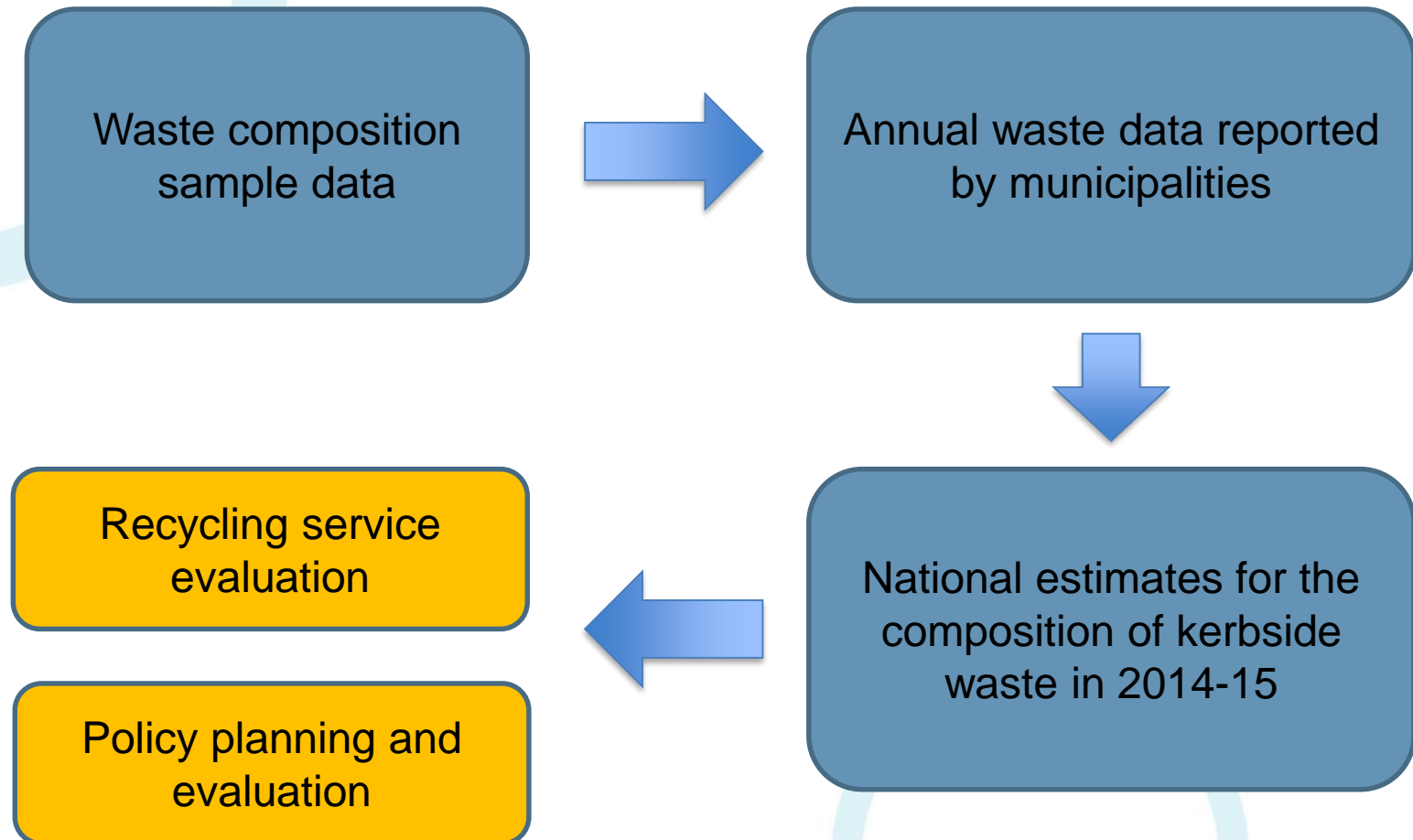
# WCA methodology (3)

- Coordinated national program
- Standardised e.g household sampling & material categories
- Supported by guidance





# From samples to national estimates & informing policy

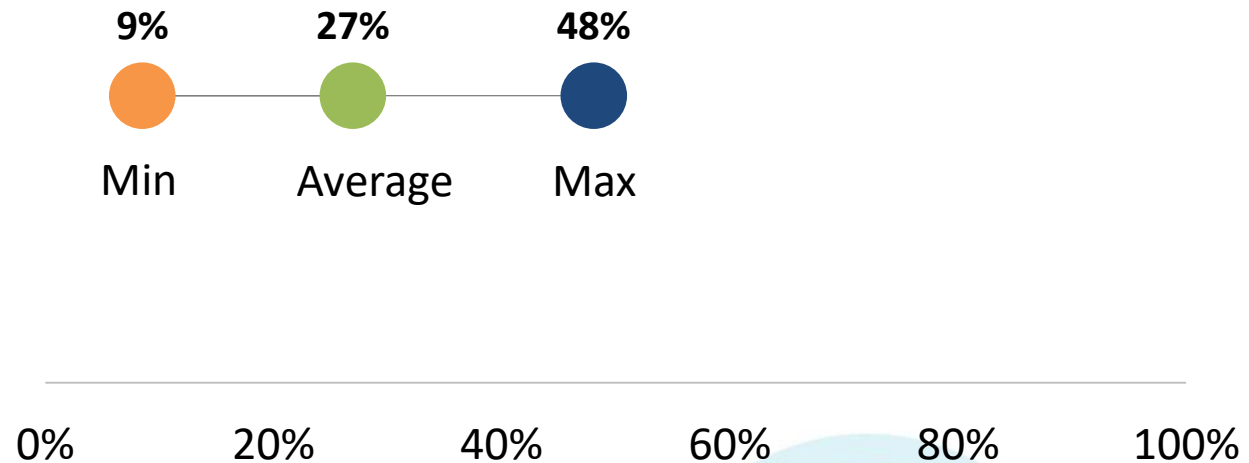


# Examples of waste composition analysis use...

# How much food waste is recycled by households with a recycling service?

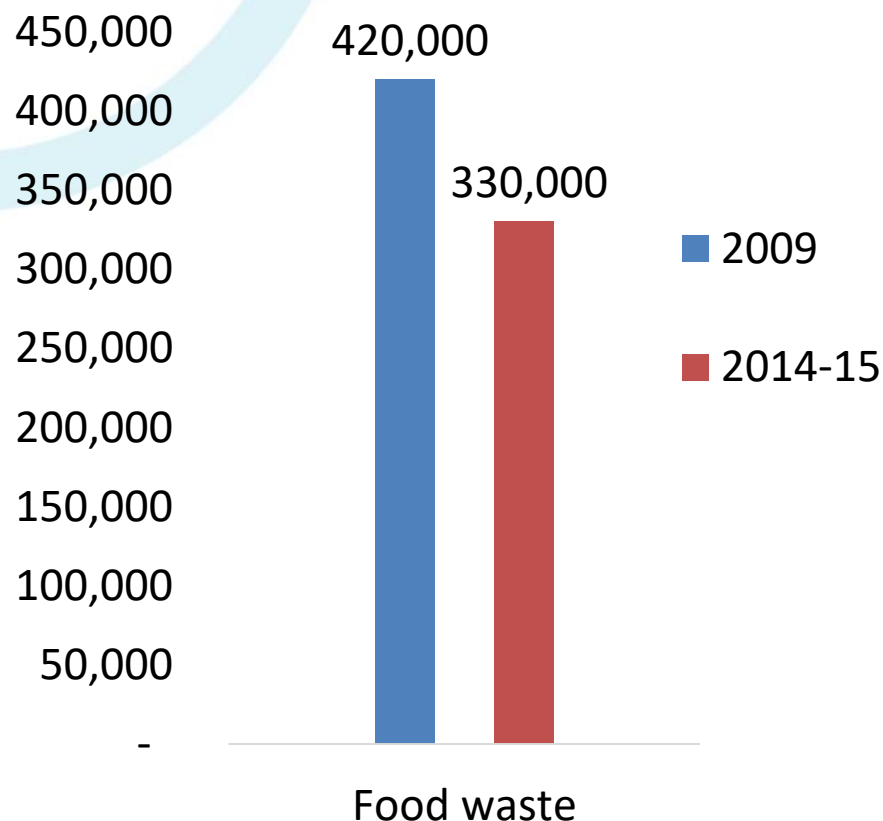


Household Food waste (% recycled)



# Disposal of household food waste

Food waste disposed and managed by municipalities (tonnes)

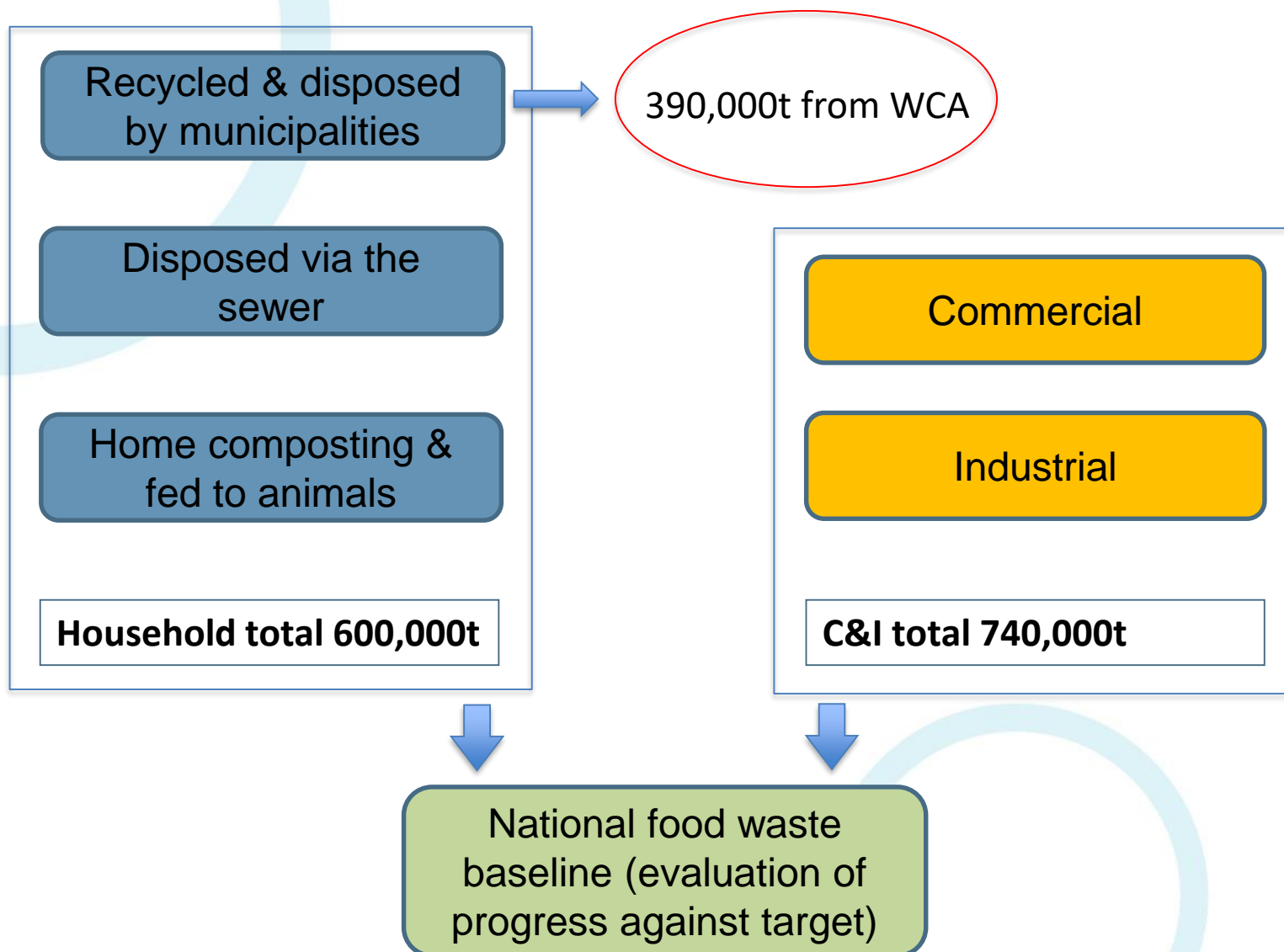


What we typically throw away (% weight)....





# Baseline for food waste target



# WCA & evaluating Deposit return

- Zero Waste Scotland are currently working on a deposit return scheme for Scotland
- What is the potential impact of DRS on municipalities waste and recycling services?



# WCA & evaluating Deposit return



- WCA analysis applied to most recent waste & recycling data..
- Packaging data typically UK-level...
- ...WCA provides a nationally-relevant analysis of what municipalities currently manage

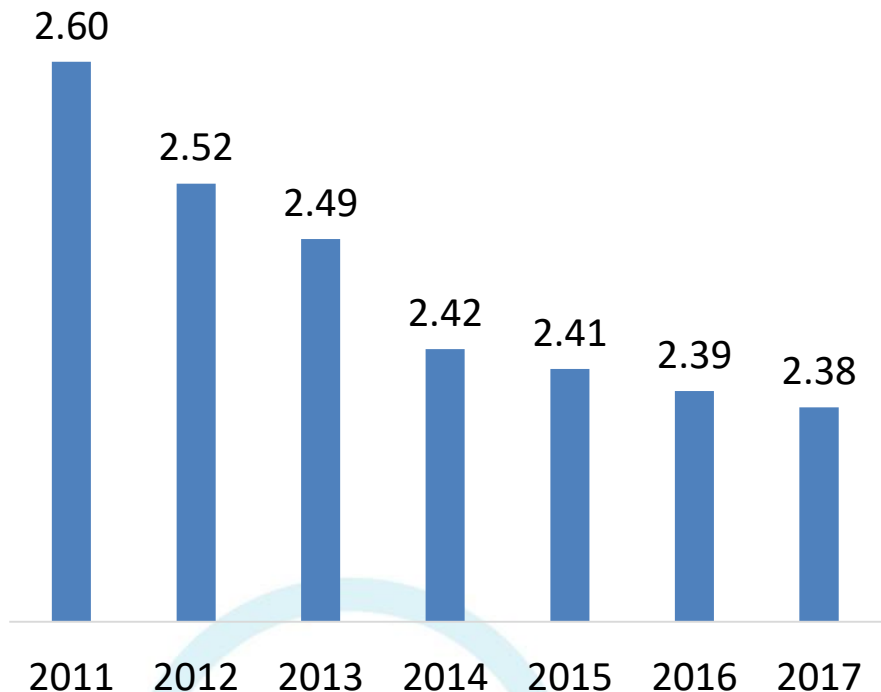


# WCA & Scotland's carbon metric



- Whole-life carbon impacts of waste (resource extraction, manufacturing, storage, waste management etc)
- WCA to estimate the carbon impacts of household waste disposed
- ..The life cycle impact of a tonne of household waste has been steadily declining

Change in whole-life impact (TCO<sub>2</sub>e) per tonne of household waste generated





# Summary

- Co-ordinated national study
- Use of WCA...
  - Recycling service performance
  - Food waste target
  - Deposit return
  - Whole life carbon impacts of waste
- The future

# Links

- Waste composition analysis guidance - [https://www.zerowastescotland.org.uk/sites/default/files/WCAMethodology\\_Jun15.pdf](https://www.zerowastescotland.org.uk/sites/default/files/WCAMethodology_Jun15.pdf)
- Waste composition analysis method and findings - <https://www.zerowastescotland.org.uk/composition-household-waste-kerbside>
- Food waste <https://www.zerowastescotland.org.uk/content/how-much-food-waste-there-scotland>
- Deposit return - <https://consult.gov.scot/environment-forestry/deposit-return-scheme/> and <https://www.zerowastescotland.org.uk/deposit-return-scheme/research-evaluation>
- Carbon metric - <https://www.zerowastescotland.org.uk/our-work/carbon-metric>



# Thank you.

[zerowastescotland.org.uk](http://zerowastescotland.org.uk)

 @ZeroWasteScot