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## Poster: Sustainable Solutions for the Plastics Economy

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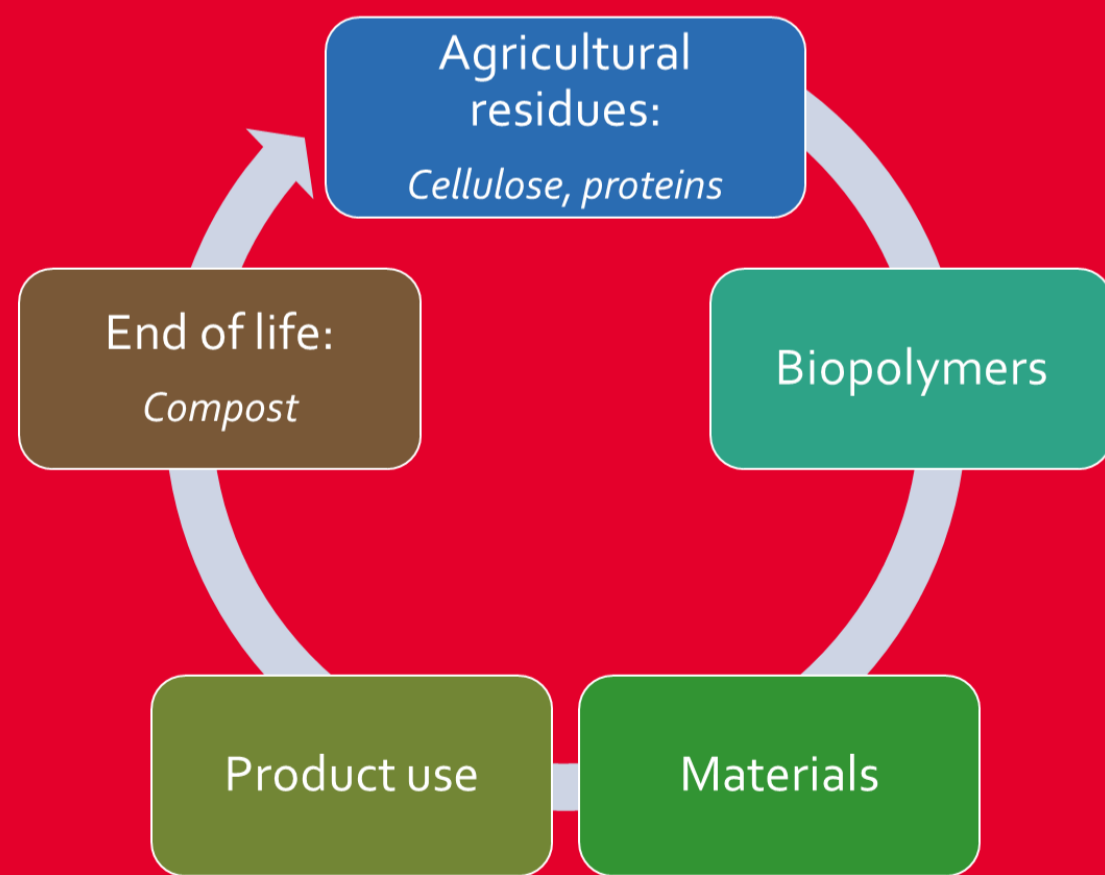
# Sustainable Solutions for the Plastics Economy



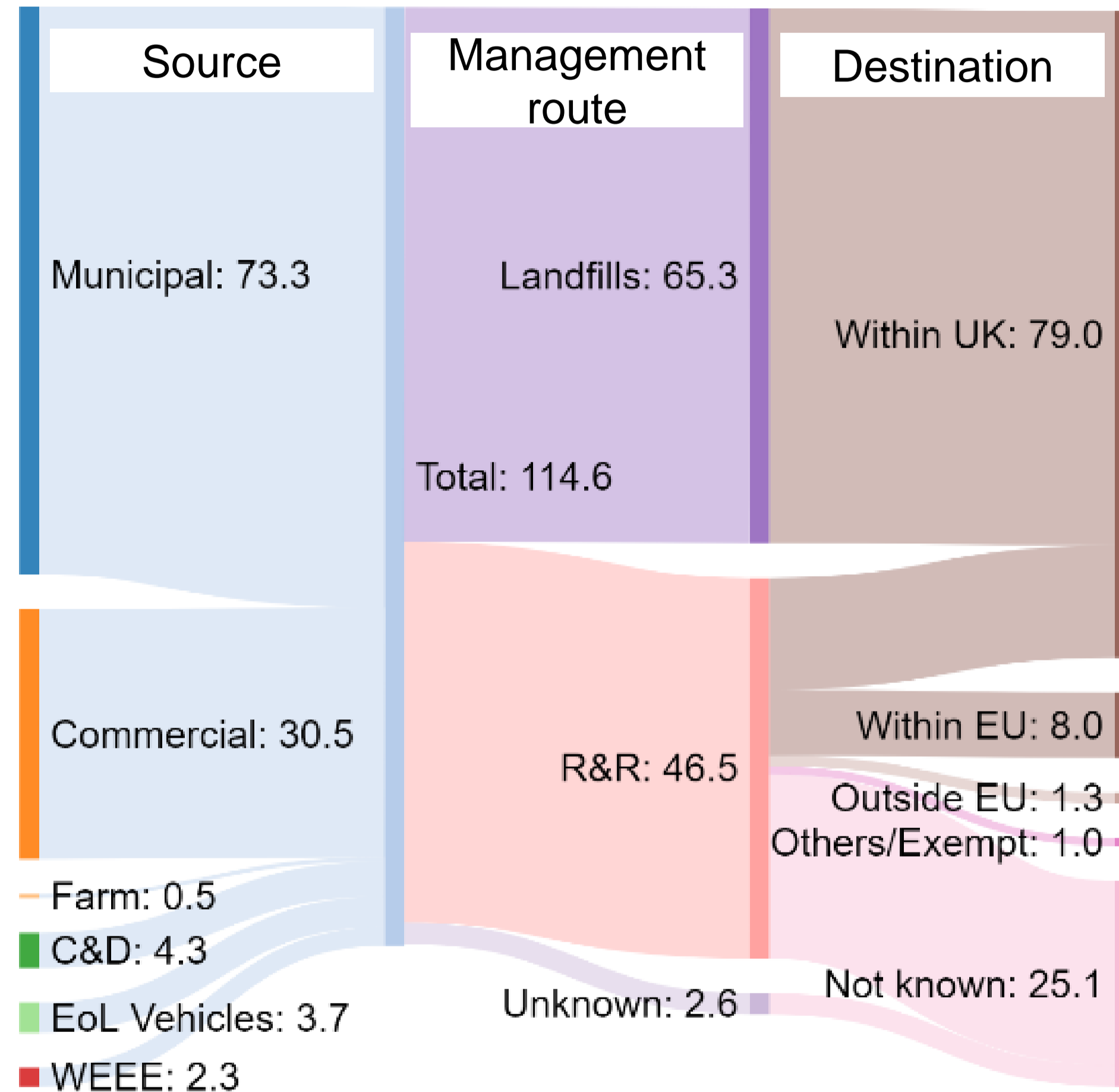
## Our work

Plastics are used in a variety of applications because of durability and versatility. Plastics consume 7% of world oil production and put pressure on resource supply. While estimations vary, researchers predict complete depletion of petroleum resources within 50-150 years. Moreover, the majority of conventional plastics do not degrade biologically resulting in waste management issues. Our group focuses on:

- ❖ Mapping of plastic waste flows across Northern Ireland.
- ❖ Extraction of biopolymer building blocks including cellulose and protein.
- ❖ Life cycle analysis of alternative plastics.



**Fig. 1. Biopolymer development cycle**



**Fig. 2. Plastic waste flows in tonnes in Northern Ireland (2017)**

The plastic waste arisings quantities presented in the figure are retrieved from: RX3 project report. <https://www.dccae.gov.ie/documents/The%20Irish%20Recycled%20Plastic%20Waste%20Arisings%20Study.pdf> and WRAP Report on commercial waste in North Ireland. [http://www.wrapni.org.uk/sites/files/wrap/Northern\\_Ireland\\_CI\\_waste\\_estimates\\_2009\\_v4\\_1.4bb45bd7.11553%5B1%5D.pdf](http://www.wrapni.org.uk/sites/files/wrap/Northern_Ireland_CI_waste_estimates_2009_v4_1.4bb45bd7.11553%5B1%5D.pdf)



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## Looking for

1. Opportunity to discuss findings & processes with chemical and biochemical engineers.
2. Shared contact details for surveys on plastic waste.
3. Collaborators to explore circular economy approaches to plastic & food waste.



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