



## Evaluation and Communication of the Organic Waste Management Strategy of the University of Galway

Research project for the degree of MSc Environmental Leadership by Aurora Leyton

This project seeks to evaluate the effectiveness of the university's current organic waste management strategy and determine if it presents the best option for the institution, as well as to design a communication plan to share what the university does with the community and relevant stakeholders.

Waste management is defined as the collection, transport, recovery, and disposal of waste, and traditionally it's been handled through a linear approach, meaning once collected, the waste was sent to landfills to decompose, without any sort of treatment. Nowadays, attempts to recover resources and energy from waste are more common, trying to take a more circular approach where the waste is reutilized and not discarded.

Considering waste generation has become a global issue, adopting circular strategies in waste management is now necessary to prevent further environmental impacts and health hazards. Organic waste management is extremely well poised for this, as the most common treatments (composting and anaerobic digestion) result in by-products that can be reintroduced into the supply chain, such as fertilizer or biogas.

In the case of the University of Galway, sustainability is one of the university's core values, and there are several initiatives to improve on their environmental performance. For example, when it comes to waste management, they have been certified "Zero waste to landfill" since 2018, meaning they no longer send their waste to be disposed of in landfills, which is considered the least preferred option to manage waste.

Instead, the university now takes a circular approach to their organic waste, composed of food and green waste (plant trimmings, grass cuttings), which is collected on campus in separate bins and sent to Barna Recycling. There, the waste goes through a composting process, where the waste is degraded by microorganisms generating a compost that can be used as fertilizer. This process can occur naturally, but in here it's done at a controlled industrial scale, allowing for a faster and cleaner process.

Barna Recycling then sends part of the compost back to the University to be used on campus grounds, helping improve the soil. The rest of the compost is sent to farmers to be used in agricultural land. In this way, the waste that in the past would've been left to decompose and cause harm, is now treated and reutilized.



**Links of interest:**

A Waste Action Plan for a Circular Economy. Ireland's National Waste Policy 2020-2025.

[https://www.dccae.gov.ie/en-ie/environment/publications/Documents/55/Waste\\_Action\\_Plan\\_for\\_a\\_Circular\\_Economy.pdf](https://www.dccae.gov.ie/en-ie/environment/publications/Documents/55/Waste_Action_Plan_for_a_Circular_Economy.pdf).

Whole of Government Circular Economy Strategy 2022 – 2023 'Living More, Using Less'

<https://www.gov.ie/en/publication/b542d-whole-of-government-circular-economy-strategy-2022-2023-living-more-using-less/>

Progress to EU Waste Targets

<https://www.epa.ie/our-services/monitoring--assessment/waste/national-waste-statistics/progress-to-eu-targets/>

EU Waste Framework Directive

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:312:0003:01:ES:HTML>

Romero-Hernández, O. and Romero, S. (2018) 'Maximizing the value of waste: From waste management to the circular economy', *Thunderbird International Business Review*, 60, pp. 757–764.

<https://onlinelibrary.wiley.com/doi/full/10.1002/tie.21968>

Usmani, Z. *et al.* (2021) 'Minimizing hazardous impact of food waste in a circular economy – Advances in resource recovery through green strategies', *Journal of Hazardous Materials*, 416(May), p. 126154. <https://www.sciencedirect.com/science/article/pii/S0304389421011183>

Wainaina, S. *et al.* (2020) 'Resource recovery and circular economy from organic solid waste using aerobic and anaerobic digestion technologies', *Bioresource Technology*, 301, p. 122778.

<https://www.sciencedirect.com/science/article/pii/S096085242030047X>

Zhang, N. *et al.* (2011) 'Greening academia: Developing sustainable waste management at Higher Education Institutions', *Waste Management*, 31, pp. 1606–1616.

<https://www.sciencedirect.com/science/article/pii/S0956053X11001206>