

Transforming food 'waste' into compost: reducing GHGs, landfill and fertilizers

PROJECT FACTSHEET



KEY POINTS

- **Inedible food scraps are an asset, not a waste product**
- **Composting can transform otherwise discarded organic material into a valuable resource, reducing greenhouse gas (GHG) emissions in the process**
- **We are investigating ways to (1) harness this opportunity (across various composting models and precincts) and (2) address the social challenges**

THE OPPORTUNITY / CHALLENGE

Currently, we divert much of our inedible food waste to landfill which releases around 9 million tonnes of CO₂-e p.a. Through composting this organic matter and using that compost to help grow food, there is an opportunity to improve crop production and to reduce landfill and GHG emissions. Returning carbon from food scraps to the soil via compost, can improve Australian soils while reducing water use as well as pesticides, herbicides and fertilisers.



The challenge is to get everyone involved in separating food scraps from inorganic waste materials for composting and to get food growers to use the resulting compost.

CRC for Low Carbon Living

We are a national research and innovation hub supported by the Commonwealth Government's Cooperative Research Centres programme that seeks to enable a globally competitive low carbon built environment sector.

With a focus on collaborative innovation, we bring together practitioners from industry and government with leading Australian researchers to develop new social, technological and policy tools for facilitating the development of low carbon products and services to reduce greenhouse gas emissions in the built environment. For more information visit www.lowcarbonlivingcrc.com.au/

OUR RESEARCH

We are comparing models of onsite and offsite composting across different Australian urban precincts in terms of GHG reductions, the quality of the compost product (public health and soil quality issues), and people's engagement with the composting process and compost product.

OUTCOMES

- A practical handbook of food separation and composting solutions for different types of urban form
- A national symposium tailored to waste management and sustainability areas of government and business.
- Cylibox – an in-vessel composter with a small ecological footprint



HOW YOU CAN BENEFIT

Our research can help you achieve low carbon living with respect to the management of inedible food waste. The research is unique in terms of the multidisciplinary comparison of offsite and onsite composting.

LESSONS

The production of compost from food scraps is most successful when driven by end user demand. Accordingly, we have learned that we need to ensure that the quality of this compost satisfies end users.

There is no one size fits all for successful management of food waste through composting. The human systems involved in food separation and composting are as important as the composting system, whether the context be a multi-unit residence, office block or café/restaurant.



NEXT STEPS

- Further investigation of piloting in a café precinct of a unique high-speed composter that takes paper, cardboard and food scraps (OSCA Bitesize).
- Further development, marketing and promotion of Cylibox
- Further investigation of supply chain issues in the market for compost.
- Case study of commercial composting in Australia as an example of the circular economy

PROJECT TEAM

Dr Vivienne Waller, Overall Project leader, Social research

Professor Linda Blackall, Microbiological and chemical research

Professor John Boland, Greenhouse gas accounting, Life cycle analysis

PhD students: **Charles Ling**, **Alex Jaimes Castillo**, **Katherine Thornton**

Partner universities: Swinburne University, University of SA, Melbourne University,

Industry partners: Sustainability Victoria, Urban Renewal Authority SA, City of Melbourne

PROJECT REPORT(S)

Christie, B and Waller, V (2018) City of Melbourne: Staff engagement with on-site office composting, January 2018

Christie, B and Waller, V (2018) City of Port Phillip: Staff engagement with on-site office composting January 2018

Altman, V (2016). Municipal composting schemes: International Case Studies. Swinburne University of Technology, Hawthorn,

Christie, B and Waller, V (2016) "Resident engagement with onsite composting in apartment blocks in the City of Melbourne" Swinburne University of Technology, Hawthorn, June 2016

FURTHER INFORMATION

For more information about this project, please contact:

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4. Center for Agricultural Technology Augustenberg (LTZ) (2008) Sustainable Compost Application in Agriculture. European Compost Network (ECN) Info Paper 09/17