From: Dee Fernandes <dfernandes@bfipr.co.uk>
Sent: Monday 7 June 2021 16:04
To: circulareconomy
Cc: Ashley Munden (ashley.munden@emerson.com)
Subject: InSinkErator submission to public consultation on the Whole of Government Circular Economy Strategy
Attachments: InSinkErator Submission Circular Economy Strategy Consultation 07 June 2021.pdf

Follow Up Flag: Follow up
Flag Status: Completed

To whomsoever it may concern

Please find attached the submission from our consultancy client InSinkErator to the Department's Consultation on the Whole of Government Circular Economy Strategy. If you have an questions on the attached please do not hesitate to contact me. We would also be grateful if you could acknowledge receipt.
With thanks and best wishes,
Dee

On behalf of InSinkErator
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07 June 2021

InSinkErator submission to public consultation on the Whole of Government Circular Economy Strategy

Dear Sirs,

This submission is being made by InSinkErator to the Department's consultation process on the above strategy. InSinkErator is a leading manufacturer of kitchen sink appliances, including in-sink food waste disposers (FWDs). It is a division of Emerson Electric Co, a global technology and engineering company, which serves industrial, commercial and consumer markets.

Food waste disposers are small appliances that fit under the kitchen sink and grind unavoidable food waste to minute particles that flush easily through the waste pipe to wastewater treatment. Here increasingly biogas, vital nutrients and fresh water are recovered.

InSinkErator has been engaged with domestic food waste management since 1928 when the company founder invented the first food waste disposer. The company welcomes the opportunity to bring to this consultation the role that innovation in domestic food waste management is contributing to the application of the European Circular Economy model.

FWD are increasingly recognised as having a positive and constructive role in resource recovery from food waste, in circumstances where reducing this waste stream is not possible.

FWD and kerbside collection schemes

Working alongside kerbside food waste collection schemes, FWD use has been demonstrated to make a positive contribution to the sustainable treatment of food waste, the avoidance of food waste going to land fill and enabling resource recovery from food waste. FWD use is complementary to kerbside collection schemes, can ensure that food waste is not sent to landfill and is instead captured as a recovered resource through the wastewater system.

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Recognition is growing among municipal authorities and national governments that FWD use can co-exist alongside other systems for organic food waste management and play a positive role in supporting a Circular Economy.

High rise and high-density living

While FWD use has benefits for all residential properties, the benefits are particularly noted for multi-occupancy or high rise buildings where it is proving more challenging to establish waste segregation. Separation of food waste is a particular problem in high rise flats and high-density housing due to issues with space and concerns over contamination and odour. These problems are not unique to Ireland which is moving towards increased high rise and higher density housing. In the Netherlands for instance, it is estimated that high rise buildings contribute only 1.5% to the national waste separation figures (VANG 2020. Improving waste separation in high-rise buildings), despite nearly 32% of city populations living in flats (Eurostat 2019).

Food waste and sewer blockages

There has been limited uptake of FWD technologies in some European countries due to concerns about plumbing and sewer blockages. However recent research studies have demonstrated that material from ground food poses a minimal risk of blockages. One study in the Netherlands (KWR, 2020, the impact of food waste disposers on the indoor sewer system), which focused specifically on the application of in-sink FWDs in high rise flats, showed no long-term blockage problems due to the size of the ground particles and the fact that any accumulations were flushed clean by subsequent water use at the sink or dishwasher. The KWR study has been supported by subsequent research by the University of Sheffield (Legge et al, the characteristics and in sewer transport potential of solids from domestic FWD, Water Supply and Technology, 2021).

Food waste and Wastewater Anaerobic Digestion

The emerging evidence suggests that the carbon contributed from food waste in the wastewater system is recoverable, as an additional energy source from anaerobic digestion, at the wastewater treatment works, with an energy boost of up to 70% achievable in some studies (eg: Local Government Association 2012 , the potential of food waste units to reduce costs).

Some studies (KWR 2020) have indicated that two thirds of the carbon associated with food waste can be converted into energy, which is a significant recovery rate. The remaining portion of carbon and other nutrients from food waste can also help beneficial impacts by altering the nutrient ratios towards a more favourable composition for biological treatment (KWR 2020).

The ethos of the circular economy increasingly views wastewater treatment as a production line for energy and nutrient recovery, as encapsulated in 'The Emerging Era of Wastewater Valuables' Ambulkar A. (2018). The EU LIFE programme is current supporting ZERO WASTEWATER to expand this concept as part of the EU Action Plan for the Circular Economy.

Food Waste Disposers and the Circular Economy

In Belgium, the Netherlands and Sweden several innovative circular urban developments, that attracted EU funding, included FWDs to close the loop on recovery of energy and nutrients from residents' unavoidable food waste. These award-winning projects, from EU programmes such as Run4Life and SuperLocal, are already providing the blueprint for circular cities and neighbourhoods that heat their homes, deliver green energy, soil nutrients and water conservation with the help of finely ground food scraps and wastewater treatment.

A 2020 study specifically examined the life cycle carbon impact calculation to understand the impact of FWD using the latest advances in life cycle inventory databases. The study found that the carbon impact of FWD is heavily influenced by the mix of electricity sources – with the percentage of electricity generated from renewables in Ireland increasing, this will boost the positive carbon benefits potentially derived from FWDs.

FWD use brings significant positive carbon impacts where it results in food waste being diverted away from landfill. Water and wastewater treatment uses include the production of protein, animal feed, and plant based human food products. Additionally, ammonia which is naturally found in wastewater is a cost effective and highly feasible carrier of hydrogen to support a hydrogen economy. These circular economy benefits from wastewater, together with increased energy recovery through anaerobic digestion are all enhanced by the addition of carbon and nutrients from FWD, while mitigating the significant impacts of food waste.

We wish you the best with the conclusion of this consultation process and hope that the positive contribution that FWD can make to the achievement of the Circular Economy will be facilitated in the final Strategy produced by the Government.

Yours sincerely,

Ashley Munden
GM - Managing Director EMEA