

Domestic Food Waste Disposers (FWDs) Q&As

What is a domestic FWD?

It is a small device that fits under the kitchen sink and grinds food waste to small particles that are easily carried away with the household waste water and sewage directly to wastewater treatment and anaerobic digestion (AD) plants, where energy and fertiliser can be extracted.

How do they contribute to successful waste management plans?

FWDs provide the easiest, most hygienic way to separate and extract value from food waste in flats, densely populated urban areas and where people are unable or unwilling to participate in separate kerbside collection or home composting. Food waste is separated quickly at the source, which encourages citizens to capture far more of this difficult waste stream. They also remain in the property when tenants move, which is helpful when tenants move between boroughs and varying collection systems.

What other environmental benefits do they bring?

They reduce the need for separate waste collection and so reduce traffic congestion, fuel consumption and vehicle emissions. They have been proven to increase biogas yield at waste water treatment

How many UK homes already have a FWD?

FWDs are currently only used in about 6% of UK homes. People are largely unfamiliar with the role that they can play in producing an easy, hygienic and sustainable solution to food waste management.

Which items of food waste can they take?

Practically everything resulting from food preparation (e.g. vegetable peelings) and meal remnants. Exceptions might be very large bones and woody stems.

How much food waste can this remove from the waste stream?

Around 270 kilos per household per year. This significantly reduces landfill, making landfill targets more achievable for local authorities. Each tonne of food waste diverted from landfill and sent to FWDs can save the planet 1 tonne of CO₂e.

How much electricity and water do FWDs use?

Minimal amounts. Domestic FWDs use around 3 kWh of electricity per household per year. At current electricity prices this is a cost of about 45p a year. The daily water usage is around 6 litres per day, which is approximately one extra toilet flush, per household.

How about their carbon footprint?

FWDs have a good carbon footprint. Each FWD can produce 25 times the electricity that it uses. This is 76kWh of sustainable electricity. For transport and processing of waste they use existing channels and infrastructure; avoiding extra kerbside collections, traffic congestion, fossil fuel and emissions. They last for around 12 years and are 95% recyclable (mainly metal).

How do they facilitate the capture of value from foodwaste?

Because they are easy to use FWDs capture more of this waste stream, which is rich in biogas. Most sewage is processed by anaerobic digestion and increasingly both biogas and fertiliser are extracted. Food waste considerably increases the biogas/energy yield of sewage. In Surahammar, Sweden, FWDs have proved to increase biogas capture by nearly 50%.

How much do they cost?

The retail purchase price ranges from £100 - £200 depending on the model. With a 12 year life span that is around £8 – £16 p.a.

What is the buyback time for a local authority?

Assuming an estimated cost of kerbside collection plus disposal of approximately £70 per household p.a, the buyback for a local authority would be a 1 - 2 years.

Do they need expert fitters?

Fitting and even retrofitting to standard kitchen sinks is very straightforward. They do require an electricity supply.

Are they dangerous for children?

No. FWDs do not have knives or blades and comply with EU safety standards.

Do they cause pipe or sewer blockages?

No. The food waste is ground up into small particles (nearly 80% is less than 3mm) and 100% is required to be less than ½ an inch. Similar to other black water (70% is water) which is easily transported through household pipes, drains and the sewers. Concerns do arise from an assumption that FWDs could contribute to fat, oil and grease (FOG) in the sewers. Yet research has consistently demonstrated that the output of FWDs flows easily through the sewers, does not settle and does not contribute to FOG.

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