



Waste to Energy – Frequently Asked Questions

What is Waste to Energy?

Waste to energy (sometimes known as energy recovery) is a proven technology that recovers the energy from waste that can't be recycled or composted. For households, this is the contents of your general waste (red lidded) bin. The waste is heated to very high temperatures (at least 850°C) in a controlled process to extract energy. In WA, this energy (in the form of steam) is used to generate base load electricity for the South West Interconnecting System (SWIS).

There are over 520 waste to energy plants operating in Europe including some near the centre of cities such as London, Paris and Copenhagen, and in residential areas.

What happens to waste at a waste to energy plant?

When waste arrives at the facility, it is inspected to make sure it contains nothing that could damage the facility. If it is suitable is deposited in a bunker where it is mixed by a grapple to ensure a homogeneous waste supply. The waste then enters a boiler for combustion and the resultant energy is recovered to create heat. The heat energy is converted to steam which powers a turbine and generates electricity.

Remnant ash produced during this process is then treated and metals are removed for recycling and re-use. Any emissions are also treated to remove pollutants.

Do waste to energy plants cause pollution?

99.9% of emissions from Waste to Energy plants are components of normal air such as steam, oxygen, nitrogen and carbon dioxide. The remainder go through sophisticated treatment processes using filters and scrubbers to ensure emissions are well below limits set by the Department of Water and Environmental Regulation (DWER).

The Western Australian Waste to Energy plants will be continuously monitored and will operate within strict limits that match the European standards and are among the most stringent in the world.

How is waste to energy good for the environment?

The process reduces carbon emissions in three ways:

1. It **reduces landfill**, which means less greenhouse gases being released into the atmosphere from decomposing waste
2. It **generates green energy** which is exported to the power grid. This means less energy needs to be produced by fossil fuel sources such as coal or gas.
3. It **extracts any remaining recyclable materials**, eg. metal scrap, which is reclaimed. The ash created through the combustion process can be used in construction.

WMRC Member Councils

Is it still worth recycling?

Yes. It is much better to process products into new products than into energy. Separating the five main recyclable materials (paper, cardboard, cans, glass and plastic containers) for recycling in your yellow-lidded bin gives them a second life and reduces the demand for new materials. Waste to energy facilities are not licensed to take recyclables or organic materials.

If you want more recycling information check out the [Recycle Right website](#).

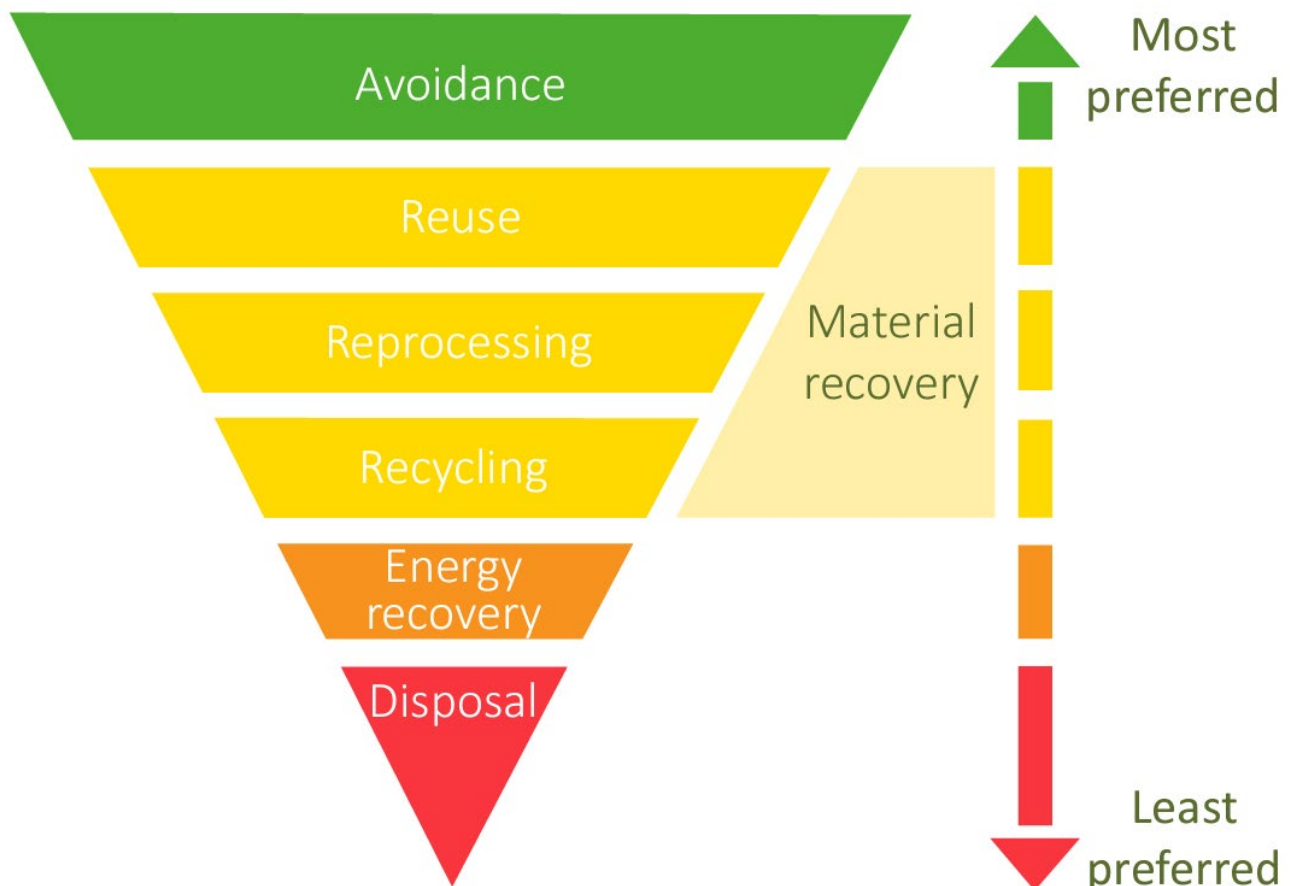
Is it still worth using FOGO bins for garden waste and food waste?

Yes. It is much better to process waste organics into soil products than energy. Garden waste and food scraps in FOGO bins are processed into compost which you can use on your garden. The compost is also used in agriculture, horticulture, civil works and parks.

Is Waste to Energy better than landfill?

Waste to energy is a better form of waste management than landfill as it recovers energy from the waste in a controlled environment. It avoids generation of methane, a powerful greenhouse gas, which occurs when organic material is buried. Waste to energy also recovers other inert materials and metals.

The Waste Hierarchy is a useful way to understand which the better ways are to manage waste. It shows that recovering the materials in waste is preferred to recovering just its energy content.



Why do we need Waste to Energy? What's the difference between Waste to Energy and the old incinerators?

Unlike the waste incinerators used in the early twentieth century, Waste to Energy plants are specially designed to recover energy safely and efficiently. They work at very high temperatures to exacting pollution control standards set by the [Environmental Protection Authority](#) within the Department of Water and Environmental Regulation (DWER).

What happens to the ash from the process?

The ash is solid residue discharged from the bottom of the furnace. It has 10% of the volume of the original waste, is inert and contains metals which can be recovered and recycled. The remainder of the ash can be used in construction.

Is WMRC committing a set amount of waste to the Waste to Energy plants?

No. Our contract with the successful Waste to Energy plant is only on a 'waste arising' basis, with no minimum commitment. This leaves us free to help the community minimise waste that ends up in general waste bins. It also presents no barrier to rolling out a FOGO waste collection service with our councils as soon as is practical. This is aligned with the [State Waste Strategy 2030](#).

Is it still worth taking hazardous waste like batteries and chemicals to the West Metro Recycling Centre?

It is more important than ever! Household hazardous materials are not accepted by Waste to Energy plants. Such materials should never go into your general waste bin. Details of what you can take to the [West Metro Recycling Centre](#) for responsible processing or disposal are here.

What else can I take to the West Metro Recycling Centre?

The WMRC operates the [West Metro Recycling Centre](#) in Shenton Park, open to the public 7 days a week. Most of our comprehensive range of recycling services are free to residents. We do charge for some waste types. [You can find out more here](#).

Where can I find out more?

The WMRC runs regular workshops on all things [waste and waste reduction](#) and we publish a [monthly newsletter](#). We also have active Facebook and Instagram communities. And for specific queries you can contact us on the Recycling Hotline - 9384 6711.