

ENERGY-FROM-WASTE FACTSHEET –

Energy-from-waste around the world

Energy-from-waste plants have been operating since the 1950's. Over time, these have been upgraded to ensure compliance with more stringent emissions requirements. The number of energy-from-waste plants in Europe, the UK, US and Asia continues to increase.

In 2017, there were 492 energy-from-waste facilities operating in Europe (not including hazardous waste incineration plants).

In 2018 in the UK there were 43 energy-from-waste plants with a further 22 either planned or under construction. In 2018 France had 126 facilities and Germany had 83 facilities.

The world's best practice energy-from-waste facilities combust the residual waste, at temperatures greater than 850°C. These centres have equipment that clean the emissions.

Waste management and Western Sydney

Households across NSW recycled 42% of their waste in 2017/2018. Business recycled 53% of their waste in 2017/2018.

In 2017/2018, Western Sydneyⁱ households and businesses produced more than 1,600,000 tonnes of non-recyclable, or red bin, waste.

Every year, Western Sydney produces enough red bin waste to fill Bankwest Stadium 27 times.ⁱⁱ

The proposed energy-from-waste centre will divert up to 500,000 tonnes of this red bin waste, or less than one third of Western Sydney's total red bin waste, from landfill and convert it to energy.

This will reduce greenhouse gas emissions from landfill by approximately 450,000 tonnes per year which is the equivalent of taking almost 100,000 cars off the roads.

Proposed Western Sydney Energy and Resources Recovery Centre

Located at 339 Wallgrove Road, Eastern Creek, next to the M7 Motorway, the proposed Western Sydney Energy and Resources Recovery Centre is in the middle of an industrial area surrounding by waste and recycling facilities. The nearest residents are more than one kilometre away.

The Centre represents an investment in Western Sydney of approximately \$500 million, creating 800 jobs during construction and 50 local highly skilled jobs during operation.

The proposed Centre will use the world's best practice energy-from-waste processes and technology. Hazardous material will be carefully sorted out of the feedstock prior to combustion. The Centre will have equipment that cleans the emissions.

The proposed emission scrubbers and other technology to treat the flue gas will take up at least 50% of the plant footprint.

The Centre will only accept red bin waste from homes and businesses that cannot be recycled. Hazardous waste, demolition and construction waste will not be accepted at the Western Sydney Energy and Resource Recovery Centre.

Subject to planning approval, approximately 150 trucks per day would visit the site to deliver 500,000 tonnes of non-recyclable, red bin waste from homes and businesses each year.

The Centre will use high-temperature combustion technology to create an estimated 45 MW of electricity per hour, up to 360 GWh of baseload power per year.

This is enough electricity to power 65,000 homes for one year, or all of the Christmas lights between Parramatta and Penrith during December.

Half of the energy created by the Centre is renewable. Energy produced from plant-based materials, including paper, cardboard, wood, garden waste and food waste is renewable. Energy produced from plastic, synthetic textiles and other fossil-fuel derived materials is non-renewable.

The renewable power generated would be equivalent to 0.5% of Australia's current Renewable Energy Target of 33 GWh.

Depending on the mix of waste used, total ash and residue is 20 to 25%. Around 10% of the ash is recoverable metals.

In other countries, the remaining ash is used for things such as road base. Sustainable uses for the bottom ash in Western Sydney are being investigated.

Our aim is to reduce the volume of waste going to landfill by at least 95%.

ⁱ Western Sydney is defined as the following LGAs: Blacktown, Blue Mountains, Camden, Campbelltown, Canterbury-Bankstown, Cumberland, Fairfield, Hawkesbury, Liverpool, Parramatta, Penrith and Wollondilly.

ⁱⁱ Bankwest Stadium has a volume of 567,000 m³.