

CASE STUDY *Amager Bakke, Denmark*

This is one of many case studies similar to the Western Sydney Energy and Resource Recovery Centre proposal.



Amager Bakke is a combined heat and power, Energy from Waste plant, that opened in 2017. The facility is supported by five council areas in the Greater Copenhagen area. This multi-purpose, state-of-the-art plant sets new standards for environmental performance, energy production and waste treatment. It has won awards for its architectural design and for providing leisure facilities and local activities for the community.

How does the community benefit?

Copenhagen's citizens benefit the most from this facility. They receive cheap and sustainable electricity, district heating and recycled materials.

The facility's roof has been designed as a public park space and operates as an artificial ski slope in winter and an activity park in summer, providing visitors with hiking trails, playgrounds fitness structures, climbing walls, trail running and more.

What sort of waste is managed?

The facility converts thousands of tonnes of residual household and business waste into energy, which otherwise would have gone to landfill.

What happens on site?

When the waste arrives, it is weighed, mixed and maintained in a storage pit under negative air pressure (this means waste odours cannot leak out).

The combustion process produces steam to create electricity using a turbine generator on site. The facility produces electricity and district heating.

It produces more clean water than it uses. Water is recovered from the flue gas (condensation), resulting in more than 100 million litres of water re-use. The ash and metal products remain at the end of the combustion process. 90% of the metal is reused, and the ash is reused for road and similar construction material.

Key Statistics:

Material to be processed

Household and business waste.

Waste management capacity

560,000
tonnes per year



Energy produced

The facility produces up to 63 MW of electricity directly exported to the local grid, and 157 MW heat production.

Electricity:

62,500 homes

Heat:

140,000 homes

Water:

100 million litres
of spare water



Reporting of emissions data

Emissions are recorded at every half hour interval over 24-hour period, with an average measure published monthly.

Meeting European standards

Amager Bakke will contribute to Copenhagen's ambitious goal of becoming carbon-neutral by 2025 in a safe manner.



Proximity to residential areas

The nearest apartment is approximately 200 meters from the site in the area of Margretheholm, a high-density apartment area, shown below.



The facility is located on the outskirts of Copenhagen, near the airport and 3.5km from Copenhagen's Town Hall Square.