



Reducing greenhouse gas emissions

How Averta Energy reduces greenhouse gases

Reducing greenhouse gases

Over the 30-year lifespan of our facility, Avertas Energy will reduce greenhouse gas emissions by the equivalent of between 4 million and 20 million tonnes of carbon dioxide.

This means less impact from waste on the environment, less reliance on coal-fired power stations for WA's electricity, and a more sustainable future for Western Australia.

Find out how we achieve it.



**4 to 20 million
tonnes CO₂**

Reduction in greenhouse gas
emissions over 30 years

Why reducing greenhouse gases is important

Greenhouse gases are components of normal air that contribute to the greenhouse effect by absorbing solar energy from the Earth's surface that is radiated back into the atmosphere as heat.

Greenhouse gases include:

CO_2 Carbon Dioxide

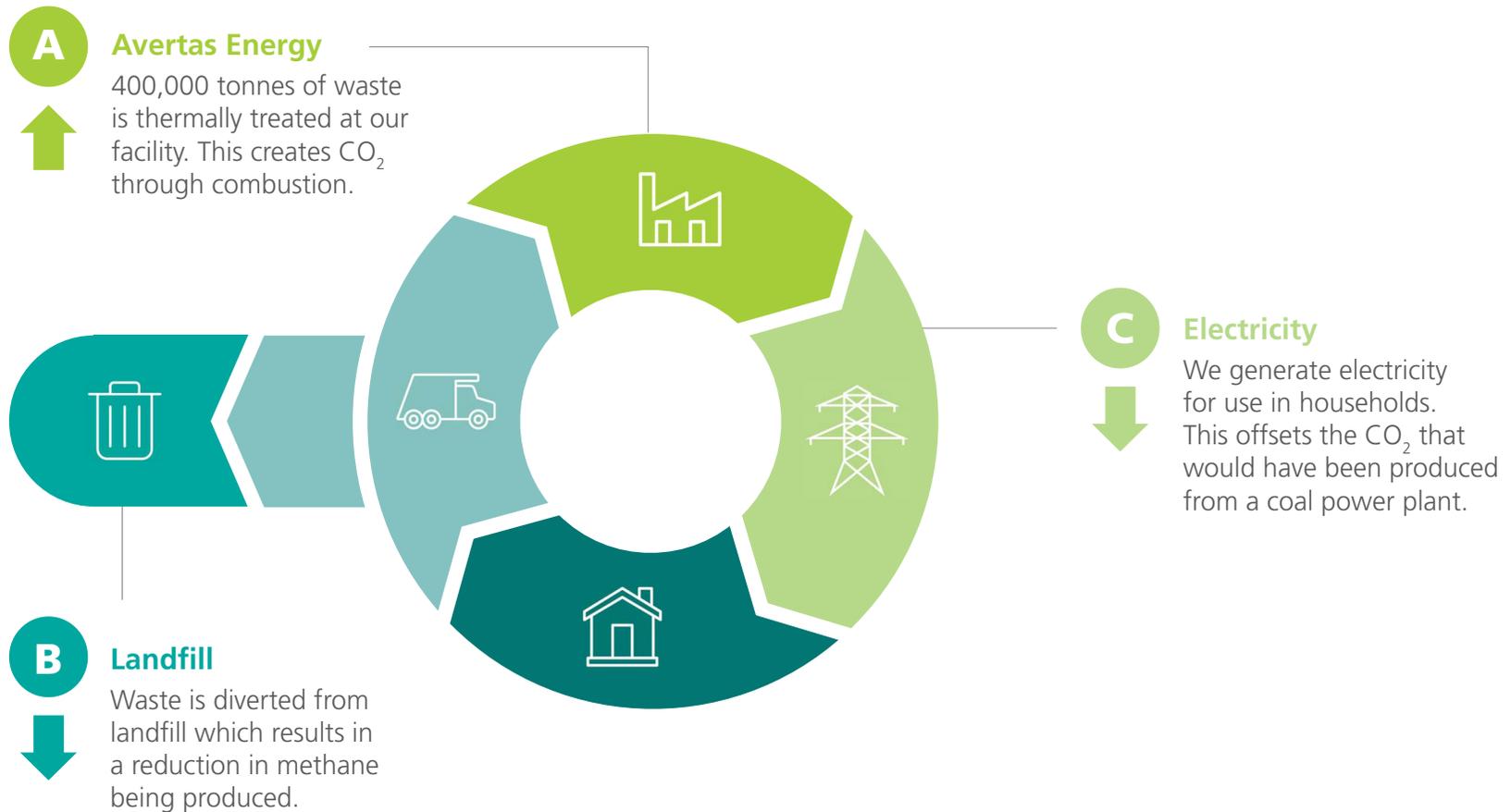
CH_4 Methane

N_2O Nitrous Oxide

O_3 Ozone

The impact of greenhouse gases is measured as an equivalent of the CO_2 . Some gases, like methane, have a greater capacity to absorb solar energy than CO_2 , so have a bigger impact on the greenhouse effect.

How we reduce greenhouse gases



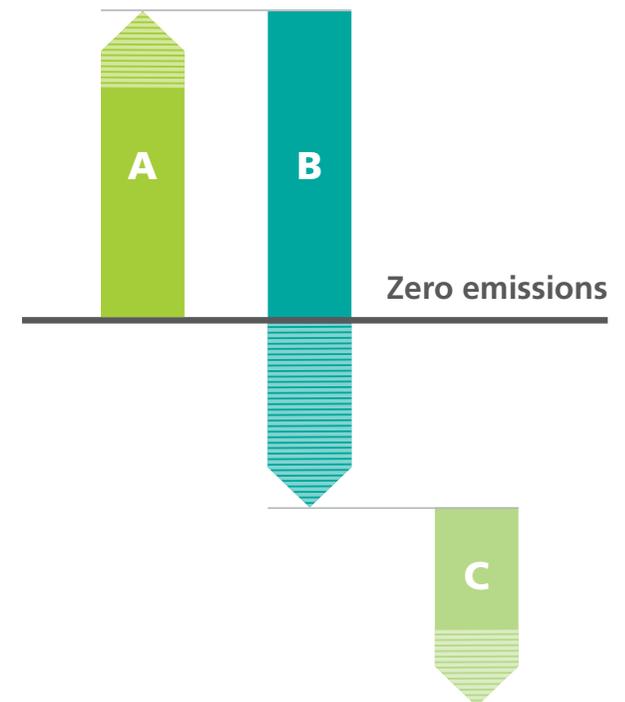
A net reduction in greenhouse gas emissions

Our activities result in an overall net reduction in greenhouse gas emissions of **between -500 and -2400kg** of CO₂ equivalent per Megawatt hour.

The overall figure varies because each component is affected by different factors, which are explained in the next few slides.

The net reduction is calculated using the following values:

- Avertas Energy: 1300 to 1600kg per MWh
- Landfill: -1300 to -2400kg per MWh
- Power generation: -800 to -1300kg per MWh



- A** Avertas Energy
- B** Landfill
- C** Power Generation

A Avertas Energy

We create some greenhouse gas emissions

Thermally treating waste does create greenhouse gases.

The amount will vary depending on the type of waste people have put in their bins. Our greenhouse gas emissions are estimated to be between 1300 and 1600kg per MWh.

This is why recycling is so important because keeping wastes like plastics out of our bins will result in a lower overall net reduction.



B Landfill

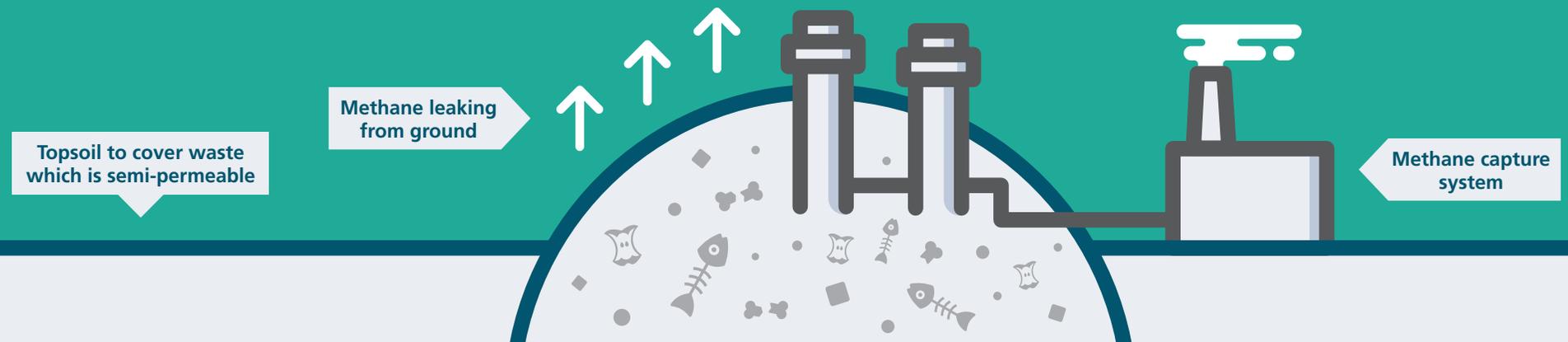
We reduce methane emissions

The waste that produces methane in landfills are non-recyclable items such as cardboard, soiled paper, nappies, napkins and tissues. Methane is at least 28 times more damaging than carbon dioxide.

Methane reduction varies because:

- Landfill waste emits methane, which may or may not be captured in a methane capture system
- Methane capture systems cannot capture all methane and are variable in effectiveness
- The landfill is covered with soil that may not seal in the gas.

Diverting waste to the Avertas Energy facility from landfill reduces CO₂e emissions from between -1300 and -2400kg per MWh.



Electricity

We avoid carbon emissions from coal

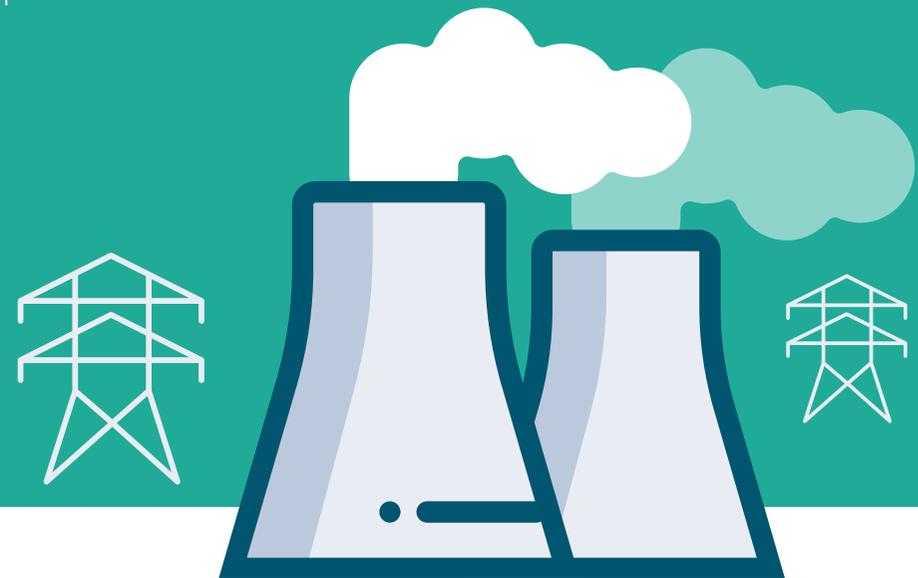
Avertas Energy will generate 38MW of instantaneous power output.

Over a year, this is a total of 290GWh, or enough to power about 52,000 households.

This is power that does not need to be produced by coal, resulting in a reduction of CO₂e emissions.

Coal emissions can vary depending on the type of coal used, and the age and efficiency of the power plant

Reducing the amount of energy coal-fired power stations need to produce reduces CO₂e emissions between -800 and -1300kg per MWh.



What this means for the environment





If you are interested in Avertas Energy please visit:

www.avertas.com.au