Australian Government

cefc

Make it happen
Australia's bioenergy transformation

Bioenergy is a critical part of Australia's energy mix offering substantial benefits as an alternative fuel source.

It is one of few commercially-proven pathways to provide a diversity of renewable energy outputs, including electricity, gas, heat and biofuels. Bioenergy also offers important waste management solutions, with new and proven technologies able to recover energy from waste, reduce landfill volumes and cut emissions. The CEFC has invested in several market-leading bioenergy projects, working alongside industry to build market understanding about the potential uses and benefits of bioenergy.

A vital part of our energy mix

Bioenergy can play an important role in delivering:

1. Firming or dispatchable energy, which supports the reliability and security of our energy supply
2. Energy storage (e.g. biomass storage and biogas storage) that can be used during times of peak demand, and has the potential to be delivered at a lower cost compared with other energy storage technologies
3. Decarbonisation of the industrial and manufacturing sectors by using a range of feedstock and technology solutions to provide cost-competitive renewable heat
4. Decarbonisation of the transport sector, which is Australia's second-largest emissions sector: biofuels can derive energy from feedstocks that may otherwise be considered waste materials and replace fossil-derived transportation fuels
5. Decarbonisation of the gas grid, which currently has no renewable gas injection, and can leverage commercially proven technologies and existing gas grid infrastructure
6. Behind-the-meter energy solutions, for both heat and electricity, reducing reliance on the electricity and gas grids, particularly in fringe of grid areas.

Bioenergy benefits

Agriculture:
Biodiesel, bioethanol, biogas, biomass

Manufacturing:
Steam, hot water, process heating, fuel switching

Transport:
Low carbon fuel source for heavy freight, shipping and aviation

Waste and recycling:
Alternate fuel sources and soil carbon benefits, as part of the circular economy

Flexible investment

The CEFC has a flexible approach to investment investment, recognising the different needs of bioenergy producers, as well as end-users in manufacturing, industry, agriculture and transport. We invest:

- Directly in projects
- Through investment funds
- In green bonds
- Bespoke corporate finance facilities

Bioenergy

CEFC finance in action

East Rockingham Waste to Energy facility

CEFC commitment up to $57.5 million

The $511 million East Rockingham Waste to Energy facility in Western Australia will help tackle Australia's rising waste management problem by diverting waste from landfill. When complete, the facility will process about 300,000 tonnes of residual waste a year, reducing annual emissions by more than 300,000 tCO_2-e; the equivalent of taking about 64,000 cars off the road. It will also provide 29 MW of reliable renewable generation capacity for the South West Interconnected System, enough to power more than 36,000 homes.

Avertas Energy

CEFC commitment up to $90 million

Avertas Energy is building Australia's first large-scale thermal energy from waste facility, at Kwinana in Western Australia. The innovative project will generate clean energy by processing around 400,000 tonnes per year of household 'red bin' and commercial and industrial residual waste. The plant is expected to cut 400,000 tonnes per year of carbon emissions, the equivalent to taking 85,000 cars off the road. It will also export 36 MW of baseload renewable electricity to the grid each year, sufficient to power more than 50,000 households.

Cleanaway/ResourceCo

CEFC commitment up to $10 million

A new resource recovery facility at Wetherill Park in western Sydney is transforming commercial and industrial waste into an alternative renewable fuel source. The plant, co-owned by Cleanaway and ResourceCo, produces Processed Engineered Fuel (PEF), which is used in cement kilns, replacing fossil fuels. It is licensed to process up to 250,000 tonnes of waste a year, producing PEF and recovering other commodities such as metal, clean timber and inert materials. More than 90 per cent of waste materials that go into the facility are processed into reusable commodities.

Richgro

CEFC commitment $2.2 million

Top five Australian garden products supplier Richgro is using energy from waste technology to meet all its power needs, as well as sell surplus energy to the grid. Richgro's 2 MW anaerobic digestion plant can process more than 35,000 tonnes of commercial and industrial organic waste a year. A de-packaging and pre-processing system ensures clean feedstock goes into the plant and recyclables such as bottles and aluminium cans are sold at commercial rates. The facility outputs a bio-fertiliser to blend with existing Richgro products, improving nutritional and breakdown characteristics.

About the CEFC

The CEFC has a unique mission to accelerate investment in Australia's transition to net zero emissions. We invest to lead the market, operating with commercial rigour to address some of Australia's toughest emissions challenges. We're working with our co-investors across renewable energy generation and energy storage, as well as agriculture, infrastructure, property, transport and waste. Through the Advancing Hydrogen Fund, we're supporting the growth of a clean, innovative, safe and competitive hydrogen industry. And as Australia's largest dedicated cleantech investor, we continue to back cleantech entrepreneurs through the Clean Energy Innovation Fund. With $10 billion to invest on behalf of the Australian Government, we work to deliver a positive return for taxpayers across our portfolio.

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