



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 source as part of the circular economy

Flexible finance

The CEFC has a flexible approach to investment finance, 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
- Via asset finance programs

CEFC finance in action



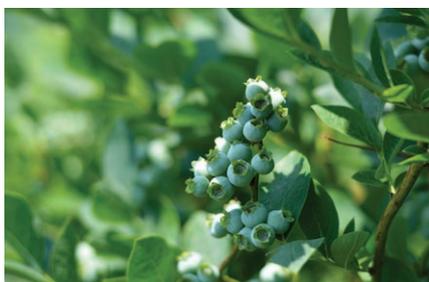
Avertas Energy **CEFC debt commitment up to \$90 million**

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 36MW of baseload renewable electricity to the grid each year, sufficient to power more than 50,000 households.



Cleanaway/ResourceCo **CEFC debt commitment up to \$30 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 debt commitment \$2.2 million (repaid)**

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 2MW 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 liquid waste is used in composting, with the waste heat supplying hothouses for blueberry production.



Asset finance programs **CEFC finance for smaller-scale projects**

The CEFC has a strong focus on extending the reach of our finance to support investment in smaller-scale clean energy projects, including those using bioenergy. Through our asset co-finance programs with the major banks, specialised lenders and funds, we deliver the benefits of bioenergy and clean energy to energy users, whether on the farm, on the road or in a factory. We are proud to have delivered almost \$1.1 billion in finance for more than 11,300 smaller-scale projects since we began investing, with projects ranging from \$10,000 to \$5 million.

About the CEFC

The CEFC has a unique role to increase investment in Australia's transition to lower emissions. With the backing of the Australian Government, we invest to lead the market, operating with commercial rigour to address some of Australia's toughest emissions challenges – in agriculture, energy generation and storage, infrastructure, property, transport and waste. We're also proud to back Australia's cleantech entrepreneurs through the Clean Energy Innovation Fund, and invest in the development of Australia's hydrogen potential through the Advancing Hydrogen 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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