

CEFC finance for Bindaree Beef biogas and rendering upgrade

Up to \$15 million co-finance to create on-site energy from waste

SUMMARY

The Clean Energy Finance Corporation (CEFC) has agreed to co-finance a major on-site energy project that will deliver a significant boost to the competitiveness of the operations of Bindaree Beef Limited (Bindaree Beef), one of Australia's largest meat processors.

Bindaree Beef will install a biodigester to produce biogas, an electricity generation facility using biogas as fuel, and a new more energy efficient rendering plant to replace the existing coal-fired plant and eliminate the use of coal. The new equipment will halve power bills and reduce annual carbon emissions by three quarters, making the business more competitive and creating the opportunity for a boost in production. The new plant will also create a new business revenue stream through sales of organic fertiliser that is a by-product of the energy conversion process.

"Again we are demonstrating how waste can be transformed to real value. The project will lead to increased market capacity and specialist skills in the biogas sector and expands on the technologies being implemented at other meat processing facilities."

Oliver Yates
CEO, Clean Energy Finance Corporation

The company installed a pilot plant in November 2012 and, following its success, now plans to extend this to a full-scale plant.

Bindaree Beef is one of Australia's largest meat processors. A family owned business in Inverell, New South Wales, it employs 830 people and is a major regional employer. The business has an annual turnover of over \$400 million and an estimated market share of between 2.5 and 3 per cent.

Bindaree Beef's Inverell plant is capable of processing 1,200 cattle per day. This operation is strategically located to ensure that Bindaree Beef can source cattle 12 months of the year.

CEFC finance for biogas projects in the meat industry are accelerating investment in the biogas sector to assist these businesses maintain competitiveness. Gaining control over rising energy costs helps the sector take advantage of



growth opportunities in the beef export market and to offset the cost impacts of the continued high Australian dollar.

Bindaree Beef is funding the project using CEFC finance of up to \$15 million, as well as co-finance from the company's bank and an Australian Government grant of around \$20 million.

PROJECT IMPACT

Reducing costs

Installation of an energy efficient render/digester plant at Bindaree Beef will slash operating costs, increase profit margins and make the company better able to compete on the global market.

Bindaree Beef expects the project to cut its energy bills by 50 per cent and eliminate 7,300 tonnes per annum of coal use. By generating a significant proportion of its power needs on-site from organic waste products, the company will have greater control over its power costs and be less vulnerable to future electricity cost increases. With generation expectations of 1.2 MW to 1.6 MW for the plant, there is also the potential to sell the excess power generated back to the grid.

The project also promises to enhance productivity of the operations through Bindaree Beef's ability to avoid shut downs due to power fluctuations.

While cutting the meat processor's grid energy use, the upgraded facilities will

also reduce the impact of price increases for externally sourced water because it recycles existing waste water. This waste water and gas produced by effluent will be used for steam generation and the creation of hot water for sterilisation purposes.

The improvement in global competitiveness through this investment will help Bindaree Beef provide increased job security for its 830 employees, 200 of whom are in new permanent positions.

Reducing emissions

In total, the project is estimated by Bindaree Beef to reduce annual GHG emissions by 76 per cent or 32,720 tCO₂-e pa with estimated lifetime savings of around 654,400 tCO₂-e.

This carbon abatement is associated with reduced energy use, reduced methane emissions from effluent ponds, replacement of coal fired boilers with renewable biogas fired boilers and the replacement of grid based electricity with renewable electricity.

Creating a biogas source from organic waste reduces fugitive methane emissions which are 21 times more potent a greenhouse gas than

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Project Impact continued...

carbon dioxide. With methane from livestock representing 12 per cent of the nation's greenhouse gas emissions, there is significant potential for biogas technology in Australia to make inroads into emissions reduction at a broader scale.

The new process helps improve local air quality as it eliminates the smoke from burning coal. The biogas plant effectively eliminates Bindaree Beef's need to burn about 7,000 tonnes of coal per annum.

According to BioEnergy Australia, anaerobic digestion emits only 11 grams of Co₂ per kWh. As a comparison, this is about two percent of the emissions for natural gas (443grams per kWh) and one per cent of the emissions for unscrubbed coal (over a kilogram per kWh).

"We've proven the potential with the pilot plant. Now we're looking forward to seeing the benefits of the full-scale plant with reduced operating costs and increased profit margins.

The new biodigester is a win-win for the business and the environment. We'll be capturing the methane from our operations and using it to replace our coal-powered boiler and generate electricity. It means we'll have lower emissions and lower costs."

John Newton
Director, Bindaree Beef

It is estimated that using biogas, Australia's agriculture and meat processing industries alone could abate over two million tonnes of greenhouse gas emissions a year for an aggregate capital investment of around \$300 million.

Demonstrating the potential

The CEFC's investment in this project is further developing the biogas sector, which is still in its early development in Australia, although strongly established overseas.

CEFC involvement helps increase market capacity and develop specialist skills in the sector, as well as expanding the range of technologies being implemented within the Australian meat processing sector.

The CEFC has built expertise in finance for relevant renewable and energy efficiency technologies, and is working with the private sector in financing such projects.

Australia's agrifood sector has experienced a challenging global competitive environment in recent years due to a high Australian dollar, labour availability, regulation and cost, inadequate infrastructure and rising input costs.

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Project Impact continued...

The red meat processing sector contributes about \$16.2 billion to Australia's gross domestic product (1.3 per cent) and \$5.8 billion in exports when flow-on effects are taken into account. The industry accounts for nearly 150,000 full-time equivalent jobs and many of these are in rural and regional areas.¹

The Australian Meat Processor Corporation (AMPC) sees future growth opportunities for the Australian export industry, due to demand caused by declining global red meat supplies. It says that even with economic uncertainty, meat prices have been trending higher over the past decade.

The CEFC's finance is helping the meat processing sector improve its energy productivity and international competitiveness by accelerating investment in equipment that will help take advantage of these growing export opportunities through gaining better control over rising energy costs and exchange rates.

The CEFC has worked with Bindaree for almost two years (initially as Low Carbon Australia) as they first developed a pilot facility, then sought the grant component from AusIndustry. Following the award of the Clean Technology Investment Program grant, the CEFC worked with Bindaree to develop a tailored financial solution that fitted both the project and the business.

"The CEFC has been crucial in getting private sector finance for our project and making sure we could proceed. With the biodigester on site, we'll have increased our energy independence and have greater certainty about our energy costs. The company will be better able to compete on the global market and, in turn, able to pass on benefits to the community through increased job security for our employees."

John Newton

Director, Bindaree Beef

FINANCE

The total Bindaree Beef project is estimated at \$40 million with \$19.7 million to be funded by an Australian Government CTIP grant announced in July 2013.

The CEFC will provide up to \$15 million finance towards the project costs, which is also being co-financed by Bindaree Beef's own bank. The CEFC's finance is on commercial terms with no concessionality.



¹ Australian Meat Processor Corporation (APMC), www.ampc.com.au

THE POTENTIAL

The CEFC has experienced strong interest from the market for bioenergy and biogas projects and has invested \$30 million in the sector which has catalysed a further \$61 million investment from the private sector.

The CEFC's near-term pipeline includes proposals in the bioenergy space for projects valued over \$1 billion. The majority of these represent biomass or waste to energy projects using abattoir waste streams, sugar cane bagasse, algae, municipal waste, with over \$100 million specifically biogas projects in the agribusiness sector.

The CEFC's finance is helping the meat processing sector improve its energy productivity and international competitiveness

The Clean Energy Finance Corporation (CEFC) invests using a commercial approach to overcome market barriers and mobilise investment in renewable energy, energy efficiency and low emissions technologies.

As at 30 June 2014, the CEFC has contracted investments of over \$900 million in projects with a total value of over \$3 billion. The CEFC invests for a positive return, with its more than 40 direct investments and 25 projects co-financed under aggregation programs expected to achieve an average financial yield of about 7 per cent.

These CEFC investments are expected to achieve abatement of 4.2 million tonnes of CO₂e per annum with a positive net benefit to the taxpayer in the order of \$2.40 per tonne CO₂e. They help to improve energy productivity for businesses across Australia, develop local industries and generate new employment opportunities.

The CEFC operates under the *Clean Energy Finance Corporation Act 2012*. More information is available on our website www.cleanenergyfinancecorp.com.au

Clean Energy Finance Corporation

Suite 1702, 1 Bligh Street
Sydney, NSW 2000 Australia
ABN: 43 669 904 352

e info@cleanenergyfinancecorp.com.au
t 1300 002 332
i +61 2 8039 0800
cleanenergyfinancecorp.com.au