

CLEAN ENERGY FINANCE CORPORATION

Presentation to Bioenergy Conference of Australia
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CEFC Mission

Accelerate Australia's transformation towards a more competitive economy in a carbon constrained world, by acting as a catalyst to increase investment in emissions reduction

“Bioenergy: A Growing Role in Australia’s Energy Future”

Outline

1. Role of the Clean Energy Finance Corporation
2. Potential for growth in Australian bioenergy market
3. CEFC finance opportunities for bioenergy projects
4. Case studies of CEFC finance in bioenergy
5. Summary



CEFC's role – partnering with the private sector to encourage investment

Dedicated resources

- Private sector finance expertise with public purpose – to pursue energy efficiency and renewable energy across the economy
- Invest the time and resources to understand the project, technology, the potential wider impact and develop innovative financing structures

Flexible and persistent

- Loans can be tailored to suit business and life of project
- Can work on projects that are smaller, more complex or new to the Australian market

Paving the way for others

- Operate as a co-financer to encourage greater bank participation in the sector

How the CEFC Works ...

- Adopts a commercial approach - with tight criteria and filtering of investment projects
- Seeks investments with externalities that benefit the economy:
 - Assisting technologies to move down the cost curve
 - Building skills and supply chain capacity
 - Providing a demonstration effect
 - Emissions reduction
- Co-financing & private sector leverage is integral to CEFC strategy



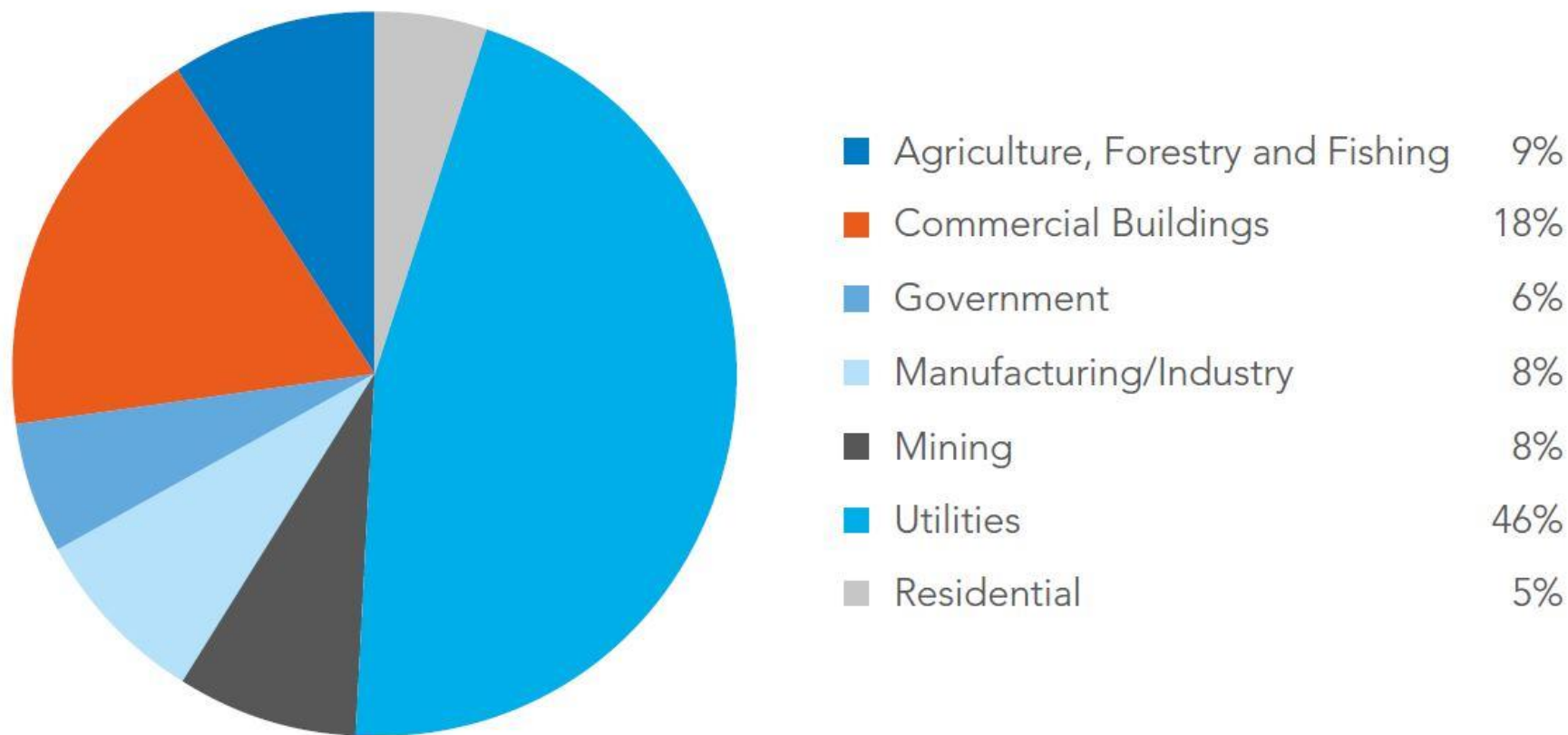
Outcomes after 18 months in operation

- Contracted investments of over \$900 million in projects with a total value of over AUD\$3 billion
- These projects are helping deliver:
 - Lower energy costs for businesses, thereby improving competitiveness
 - 700MW of clean electricity generation capacity
 - Emissions reductions of 4.2 million tonnes CO₂e annually (once projects are constructed)
 - Low cost abatement– positive return of AUD\$2.40 p/tonne of carbon saved by these projects



CEFC is working right across the economy

CEFC portfolio by sector type (CEFC AUD\$ funded in %)



Types of bioenergy projects the CEFC can finance

LOCAL COUNCILS

Municipal waste- to-
energy

MINING

Bioenergy to power mine
sites using crops &
waste-water

MANUFACTURING

Biogas using meat-
processing waste &
processed food

AGRICULTURE

Biogas in piggeries &
poultry using waste
products

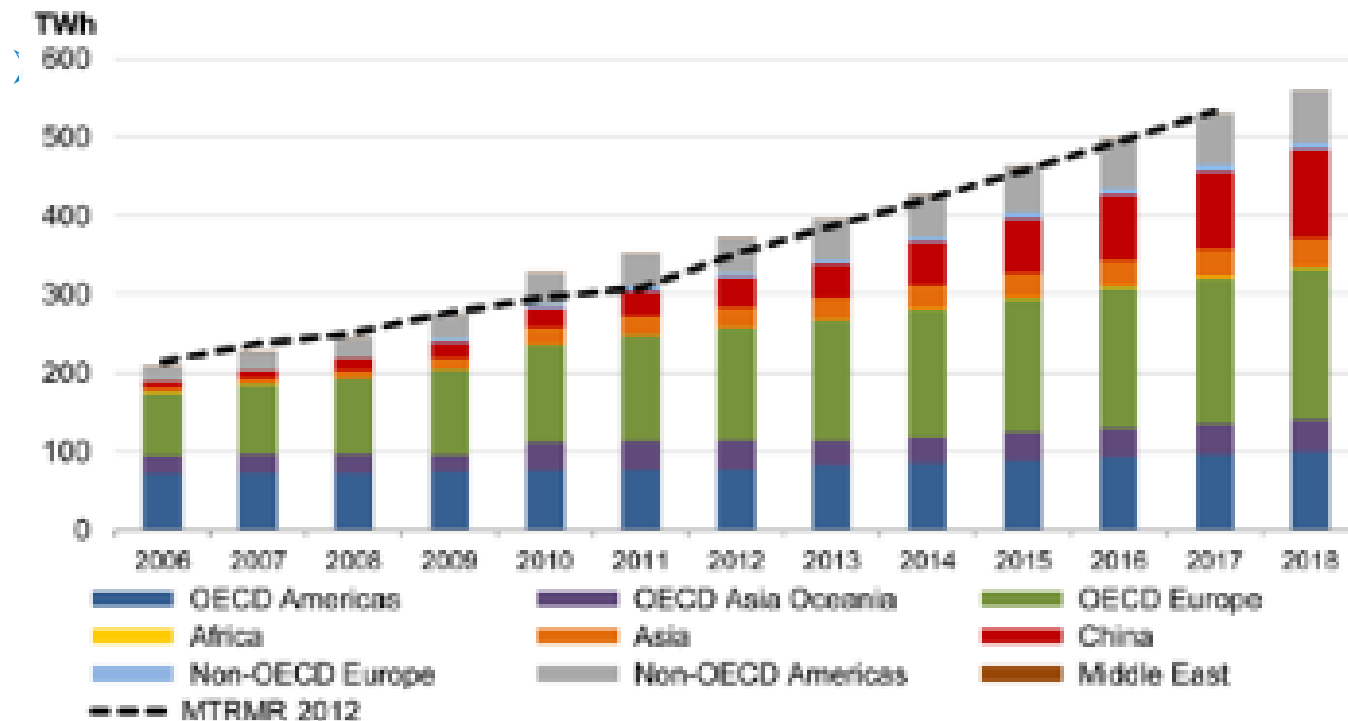
TRANSPORT

Biofuels for trucks &
commercial vehicle fleets

Global bioenergy market

- Bioenergy is the single largest renewable energy source today, providing 10% of world primary energy supply.
- 1.5% of world electricity generation comes from bioenergy

Bioenergy generation and projection by region (Source IEA 2013)



Huge potential for growing bioenergy market

- There is huge potential for a growing Australian bioenergy market for domestic consumption and export
- Favourable market conditions including: high gas, electricity and oil prices; changing consumer preferences; and greater knowledge spill-over from growing international bioenergy market
- Opportunity to position Australia at forefront of new bioenergy technologies
- Potential to diversify our domestic energy sources and energy exports, contribute to economic growth and demand for agricultural inputs.



Opportunities from a growing bioenergy sector

- Better access to and lower cost of energy through on-site generation;
- Lower waste and energy costs can improve business productivity & competitiveness
- Can provide energy security in remote areas and diversify our energy mix
- Significant emission reduction potential
- Can create new areas of economic growth, particularly in rural Australia, with potential opportunities in technology development



But there are challenges in financing bioenergy projects

- A lot of the bioenergy market (particularly biogas and biofuel) in earlier stage of development than some other renewable technologies like wind & solar PV
- Bioenergy technology often more complex process, conversion of source to energy can be up to 7-step process
- Limited projects developed in Australian market compared to overseas (e.g. biofuel market in US and Brazil, waste-to-energy in Europe)
- Technology and fuel source differ substantially from application to application
- Complexity of the project & the number of parties involved
- Different sizes of projects



How the CEFC can assist bioenergy projects

- Providing finance for a project or corporate loan to enable the roll-out of a number of bioenergy projects
- Providing technical advice around structuring finance
- Building a consortium and bringing in new co-financiers to partner with the CEFC
- Helping to attract and work with equity partners
- Finance to support R&D
- Share learning with other financiers



Types of finance structures available for bioenergy projects

- **Project Finance:** for larger scale renewable projects as well as smaller projects that have specific features that may make them harder for commercial banks to finance alone
- **Corporate Loan:** for creditworthy corporates that may have one or more clean energy or efficiency projects of various sizes
- **Aggregation funding:** to provide finance for a number of smaller projects in conjunction with commercial banks or other service or finance providers



Case study: improving productivity by turning waste into energy

- Garden products supplier is turning organic food waste into energy through a \$4 million anaerobic digestion plant with a capacity of up to 2MW
- Plant will produce sufficient energy to power all equipment & vehicles, reducing waste and energy costs for the business
- Divert 35,000 tonnes commercial & industrial waste from landfill



Case study: municipal waste-to-energy

- Turning municipal waste into energy can significantly improve local government energy productivity
- Example is the new waste-to-energy plant in the Pilbara utilising Australian gasification technology
- Pilbara facility can process 75% of all waste generated by Port Hedland & East Pilbara Council areas and convert non-recyclable components of this waste to base load renewable energy.
- Capacity of 16.6MW, saving 135,000 tonnes of CO₂-e p.a.



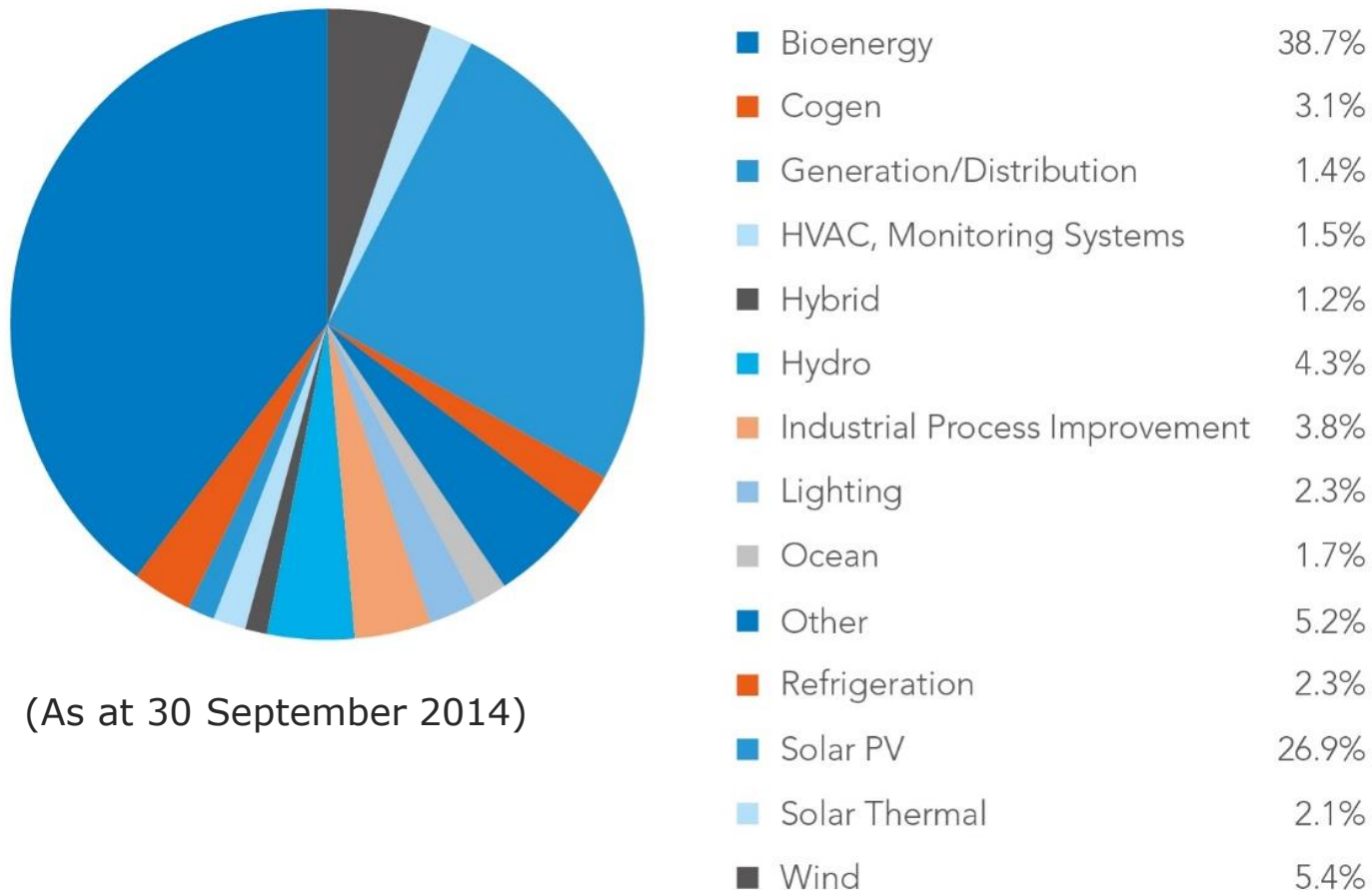
Case Study: Meat processing bioenergy

- Corporate loan facility of up to \$15 million for the installation of a biodigester and energy efficient rendering facilities at Bindaree Beef
- Halve power bills
- Boost competitiveness
- Reduce annual carbon emissions by 75%



The Future

- Strong pipeline: Over 80 proposals seeking CEFC finance of almost \$3 billion for a total project value of over \$9 billion
- Nearly 40% of these proposals are in bioenergy i.e. around \$950 million in CEFC finance




(As at 30 September 2014)


Summary


- There is a large portfolio of potential bioenergy projects in Australia
- Yet there are still hurdles to financing bioenergy projects
- CEFC is here to help unlocking the potential of the bioenergy market in Australia
- Want to be a financing leader in the bioenergy space and work with industry to see bioenergy make an increasing contribution to Australia's future energy mix



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