

**About us**

We provide financial solutions and advice to Australian business, government and the wider community to encourage action on energy efficiency practices, cost-effective carbon reductions, and accreditation for carbon neutral products and organisations



**Independent Board with diverse business & Government experience**

Professor Robert Hill (Chairman) – former Minister for the Environment, Chancellor of the University of Adelaide and Professor of Sustainability at the United States Studies Centre at University of Sydney

Tony Coleman – Director, Lonergan Edwards Associates

Tanya Cox - Chief Operating Officer and Company Secretary, DEXUS

Don Matthews - National President of the Australian Industry Group

Linda Bardo Nicholls AO - Chair of Yarra Trams, Director, Fairfax Media, Sigma Pharmaceutical Group, and the Australian Institute of Company Directors

Martijn Wilder – Partner, Baker & McKenzie and Head of B&M’s Global Climate Change and Emissions Trading Practice



L-R: Parliamentary Secretary Dreyfus; Chairman Hill; Minister Combet, Directors Matthews, Wilder and Coleman ; and new Directors Nicholls and Cox.

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### Who are we?

Formerly Australian Carbon Trust, **Low Carbon Australia** was established by the Federal Government and commenced operations in 2010

Independent public company limited by guarantee

~\$100m initial funding

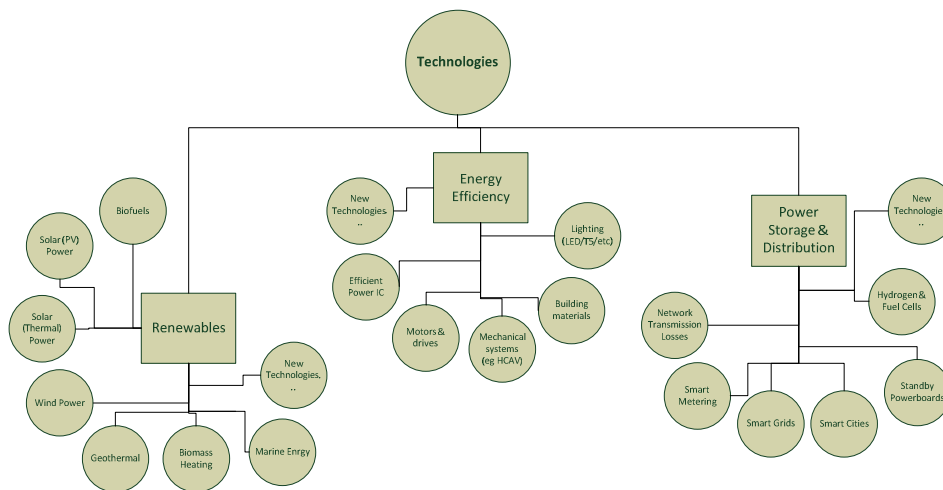
**Low Carbon Australia** manages two innovative programs:

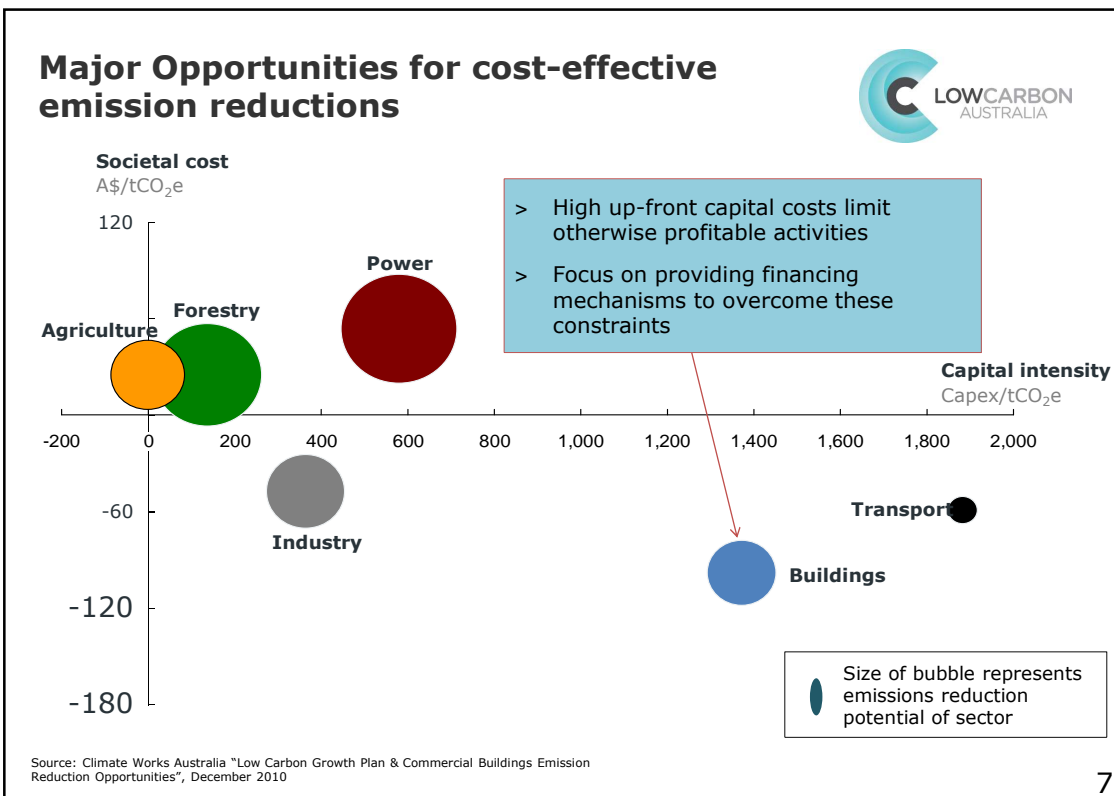
**Energy Efficiency Program** - finance and advice to business for retrofit of non-residential buildings.

**Carbon Neutral Program** - accreditation for organisations of products or operations certified as carbon neutral under the National Carbon Offset Standard (NCOS)

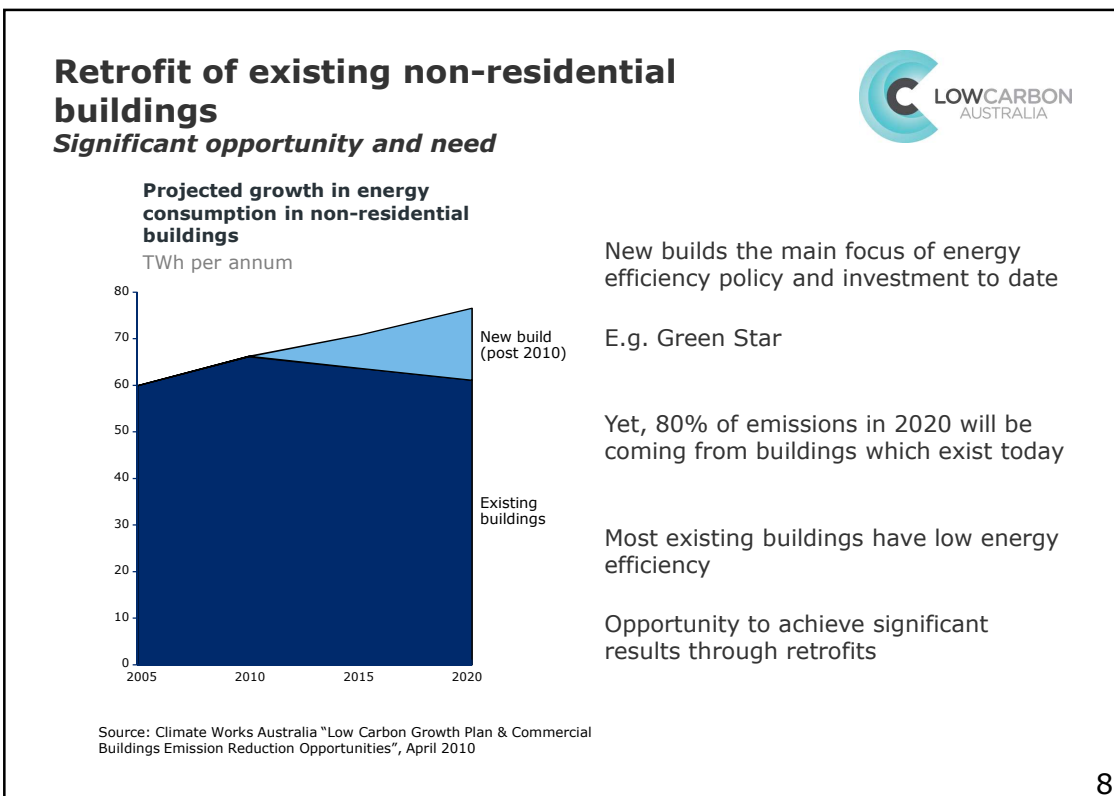


### Major existing technologies focused on carbon abatement

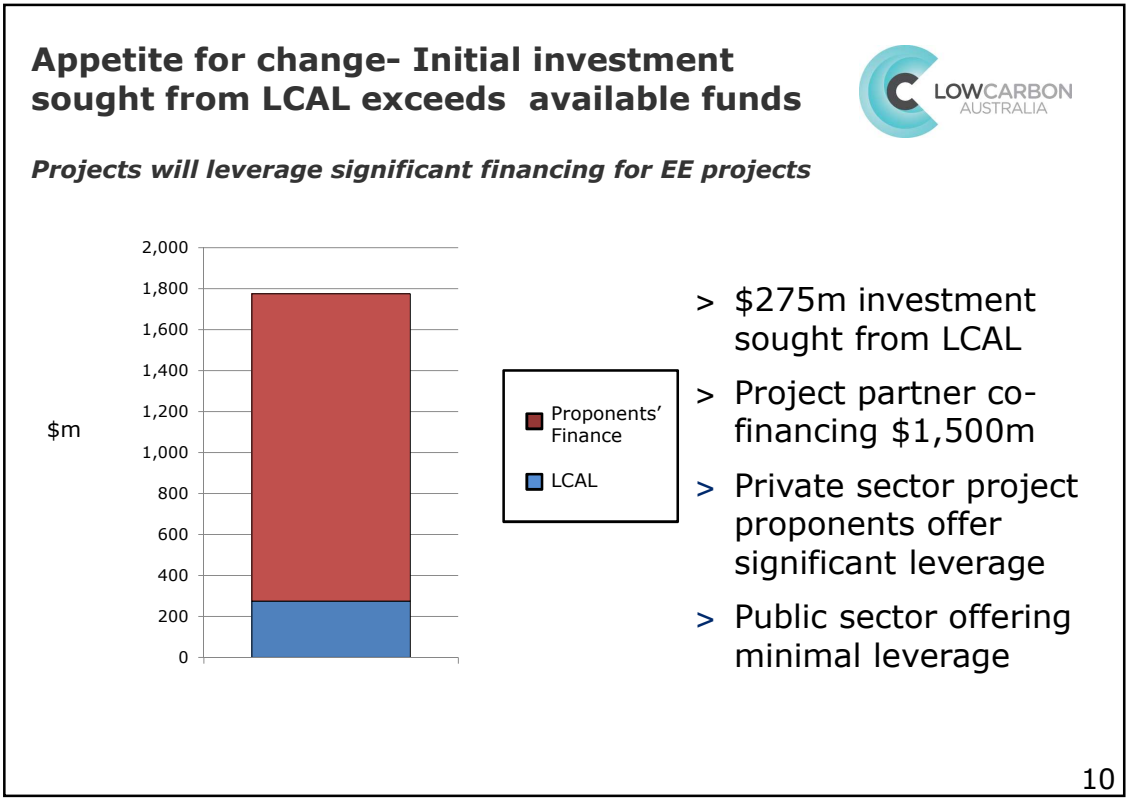
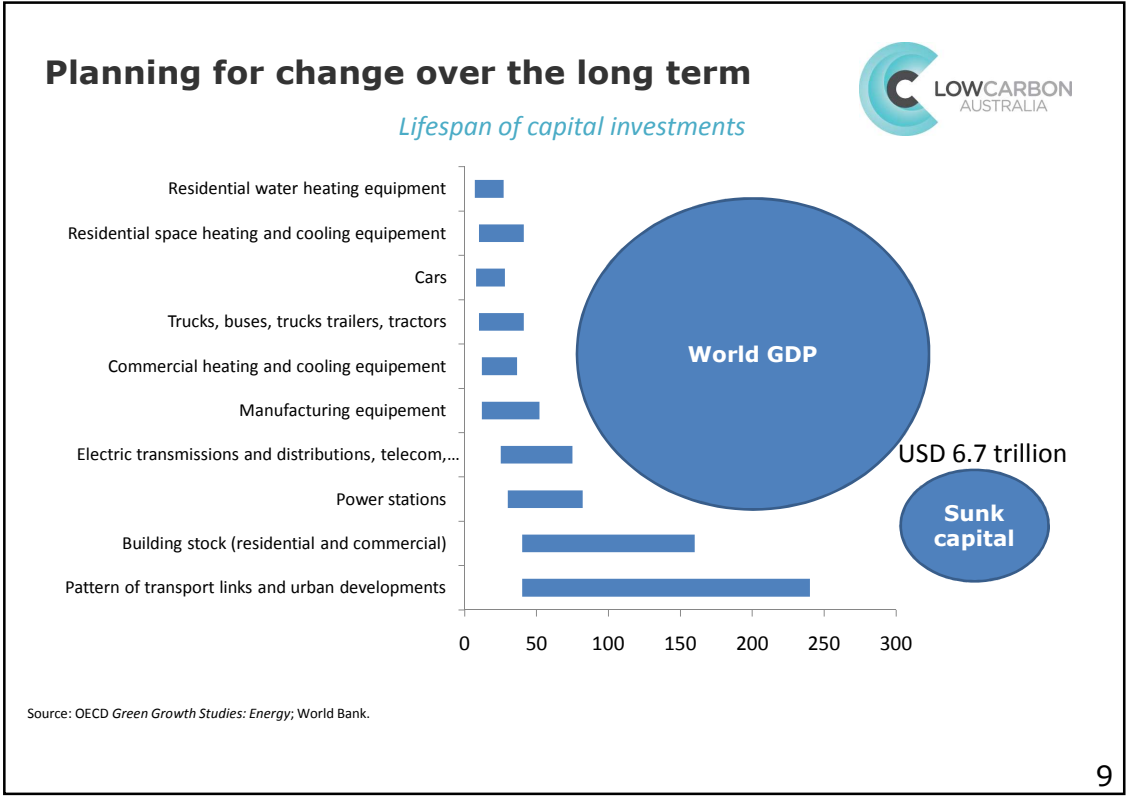





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## Significant energy savings achievable in all areas of use, with established technologies




**Electronics**




**Insulation**




**Lighting**




**Cooking**




**Heating**




**Hot Water**




**Cooling & Ventilation**



**Appliances**




**Refrigeration**



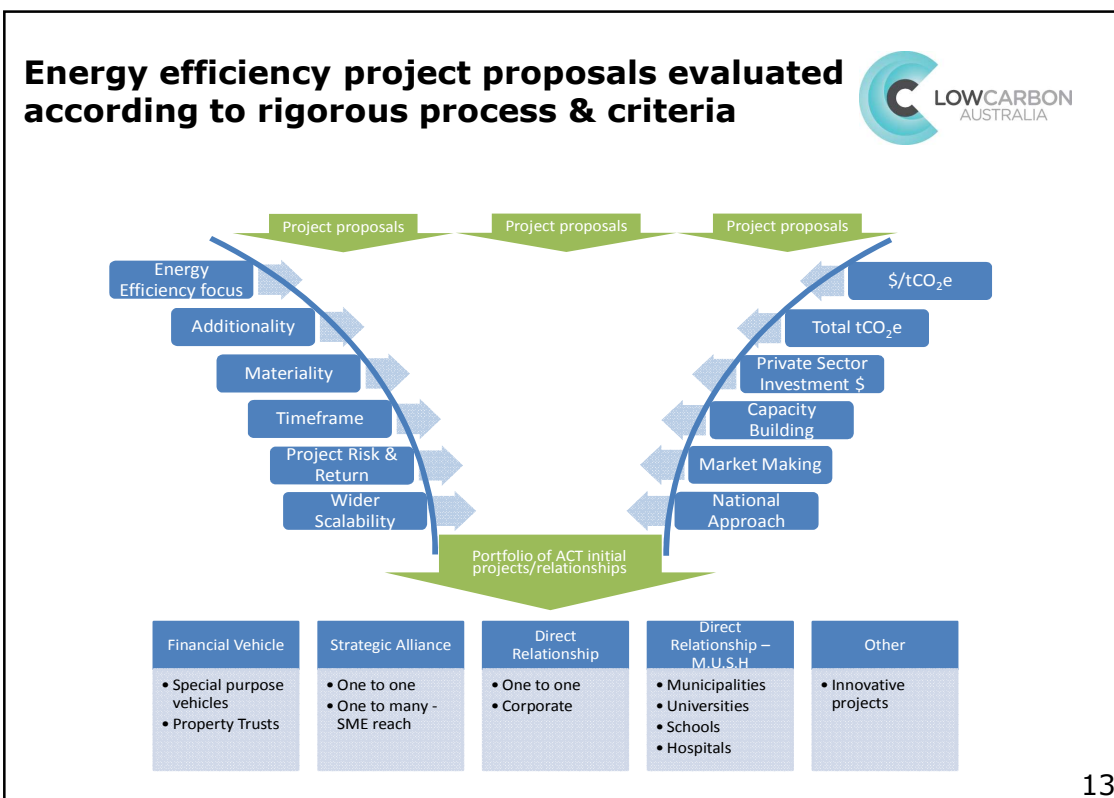
- > Largest areas of energy use:
- > Heating, ventilation & air conditioning (34% of total)
- > Appliances (19% of total)
- > Lighting (15% of total)
- > Significant energy savings can be achieved through retrofits using established technologies, e.g.
- > New elevator designs use 75% less power than those of 10 yrs ago
- > Replacing incandescent bulbs with efficient LED versions can reduce energy consumption by 75%

Source: Climate Works Australia "Low Carbon Growth Plan & Commercial Buildings Emission Reduction Opportunities", April 2010; United Technologies;

## Low Carbon Australia business model based on strategic relationships



<b>Financial vehicle</b> (banks, property funds)	<b>Strategic Alliance</b> (ESCOs, energy sector, industry association, businesses with national reach)	<b>Direct Relationship</b> (property owners)	<b>Direct Relationship</b> (M.U.S.H.)	?
Work with financial institutions to develop innovative funding models to finance energy efficiency projects in commercial retrofits	Work with companies / associations to deliver energy efficiency advice and finance to business customers / members	Work with individual businesses to develop large-scale 'flagship' energy efficiency projects	Work with local municipalities, universities, school or hospital projects to complement existing programs	<i>Alternative models which meet individual project and overall program criteria</i>
Commercial building owners	SME customers	Own facilities	Local government	?



### LCAL Offers Innovative Financing structures

Financing options under consideration include:

- > Direct risk-adjusted project loans
- > Leasing structures for energy efficiency equipment upgrades
- > Loan products offered through partner (e.g. energy retailer) to customer base
- > Dedicated fund structured to address problem of lack of co-operation & split incentives between multiple parties in building management and use
- > De-risking particular investments

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## Energy Efficiency Program..... Current financial solutions



Direct finance	Co-finance with service providers			
Loans - Energy Efficiency	Loans - Energy Efficiency	Equipment Leases - Energy Efficiency	On-bill Financing - Energy Efficiency	Environmental Upgrade Agreements (EUAs)
Direct loans to building owners, local councils and businesses to finance energy efficiency upgrades	Co-financed energy efficiency improvements for building owners and tenants. Benefits: <ul style="list-style-type: none"> <li>• Increase asset value,</li> <li>• Attract higher quality tenants</li> <li>• Better rental returns,</li> <li>• Owners and tenants realise energy cost savings opportunities.</li> </ul>	Overcome constraints to businesses of providing up front capital for energy efficiency equipment Benefits: <ul style="list-style-type: none"> <li>• Flexibility for owners and tenants to upgrade as technology improves</li> <li>• Removes residual value risk of the asset for lessee.</li> </ul>	Enables businesses to install and upgrade energy efficiency equipment, financed by a utility, with repayments through monthly utility bill. Benefits: <ul style="list-style-type: none"> <li>• Removes the requirement for upfront capital for energy efficiency equipment</li> <li>• Repayments typically equal to or less than the energy cost savings achieved.</li> </ul>	Building owners can access finance for environmental upgrades to buildings under an EUA agreement between the building owner, a finance provider and local council.. Repayments are structured through a council levy on the property, with the council forwarding payments to the finance provider. Benefits: <ul style="list-style-type: none"> <li>• Overcome difficulties for building owners in providing upfront capital</li> <li>• Allow for structured payments that remain with the property if ownership changes.</li> <li>• Building owners may pass on repayment costs to tenants who benefit from reduced energy costs and a more environmentally efficient workplace.</li> </ul>

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## Low Carbon Australia Initial Energy Efficiency Financing Programs



Planned investment of up to \$23.7 million over the next 3 years with:



Fully implemented, even these initial programs will leverage > \$300 million from private sector.

Pilot programs progressively scaled up to > 600 individual businesses and public sector organisations.

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## Projects are designed to deliver substantial energy and carbon savings



Activities	Outputs	Outcomes
>200 projects in pilot phase, growing to >600 projects with individual companies and private sector organisations at full scale	<ul style="list-style-type: none"> <li>\$23.7m invested by LCAL, up to \$150m invested by private sector</li> <li>Three innovative energy efficiency finance models delivered in marketplace</li> <li>Education materials -case studies – a range of energy efficiency technologies, sectors and organisations</li> <li>On-line Toolkit for energy efficiency savings estimation for buildings projects</li> <li>Media and on-line communication around projects</li> <li>Awareness raising campaign in marketplace of cost/benefits of energy efficiency projects</li> <li>Creation of sustainable project investment model, with recycled funding available for further investment in emission reduction energy efficiency projects.</li> </ul>	<ul style="list-style-type: none"> <li><b>\$/tCO<sub>2</sub> delivered significantly less than economy average, i.e. at \$0/tCO<sub>2</sub> or less per project</b></li> <li><b>Private Sector Financial leverage of 1:7, significantly exceeding target of 1:2</b></li> <li><b>These projects could deliver savings of 100k - 180k tCO<sub>2</sub> per annum (0.6% to 1.1% of 16.3mtCO<sub>2</sub> annual potential savings for non-residential buildings in 2020)</b></li> <li><b>Reduced market failure and barriers to private sector investment in energy efficiency projects</b></li> </ul>

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## Typical energy efficiency technologies under consideration for investment by LCAL in FY2011:



EE Technology	Cost	Savings (pa)	Additionally
Co-generation	\$4.8m	\$750,000	Below IRR for project approval
Roof paint cooling technology	\$160,000	\$30,000 (to be confirmed)	Payback for project is 5 years, but max loan term offered by bank is 3 years
Energy efficiency Lighting in cold storage (Induction and LED lighting)	\$375,000	\$50,000	Payback for project above normal criteria to investment
Chiller upgrade	\$1.5m	\$187,000	8 year ROI. Payback for project above normal criteria to investment. Peak demand savings.

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## Environmental Upgrade Agreements- NAB and Eureka Funds Management

Legislation enabling Environmental Upgrade Agreements has been enacted for the City of Melbourne and in NSW.

NAB, Eureka Funds Management and Low Carbon Australia have developed the NAB Environmental Upgrade Loan program anticipated to grow well beyond \$50 million over the next two years.

Supporting the energy efficiency retrofit of non-residential buildings in Melbourne under the \$2 billion City of Melbourne 1200 Buildings program and in Sydney and regional NSW cities

- > potential for this type of financing to be implemented Australia-wide.

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## Energy Efficiency Operating Leases - Alleasing



- > Up to \$100 million of financing available under a new Energy Efficiency Equipment Lease (E3 Lease) from Low Carbon Australia and Alleasing.
  - > Includes HVAC, LED and other lighting systems and Building Management Systems.
- > The E3 lease will benefit any business looking to reduce energy costs and GHG emissions
  - > Including REITS, private owners, office, retail, commercial, industrial, university, hospital and local government.
- > Benefits of the E3 Lease include:
  - > 100% of Energy Efficiency equipment acquisition cost with no capital outlay by end-user/lessee
  - > Flexibility to move to newer technology as it becomes available, in a rapidly evolving industry
  - > Preserves capital in the business by eliminating capital expenditure requirements
  - > May eliminate 'split incentive' issues

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## On-bill Financing - Origin Energy – Energy Savings Guarantee



- > A \$12.7 mill Energy Savings Guarantee finance program from Origin Energy and Low Carbon Australia
  - > Customers can access energy saving equipment without up-front capital expenditure
- > Provides business customers end-to-end service to reduce their energy use and costs
  - > Identify energy saving opportunities and technologies
  - > Structured finance and repayments to lower the cost of new energy efficiency technologies
- > Being marketed to Origin’s ~15,000 business customer sites in non-residential industry, distribution and infrastructure properties nationally.

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## Businesses joining the Carbon Neutral Program



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## The Future for Low Carbon Australia



- > Help business stay competitive in the face of rising energy prices and access carbon reductions at least cost
- > Create new financial vehicles to catalyse private sector investment across industry sectors and other innovative programs
- >
- > New strategic alliances and a flow of new energy efficiency project financing
- > Pipeline of project finance to help small, medium and large businesses and the public sector
- > Revolving fund approach with flexibility for tailored financial support :
  - > continuity
  - > market driven
  - > overcomes barriers that other Government interventions have not
  - > savings to business with cost effective carbon reductions
  - > capacity to expand and broaden approach for industrial and other sectors.

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