OVERCOMING ENERGY MARKET BARRIERS TO ENSURE UPTAKE OF NEW ENERGY TECHNOLOGIES

ALL ENERGY CONFERENCE

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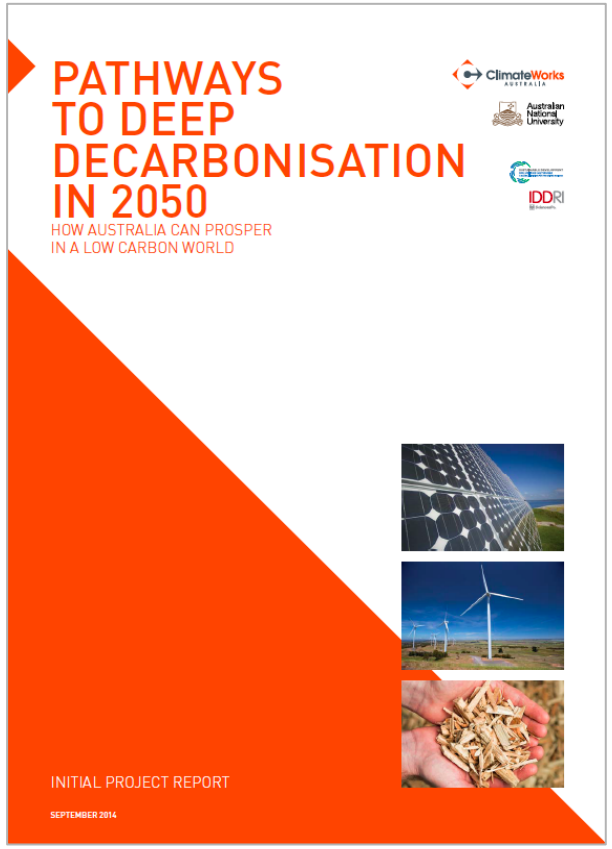
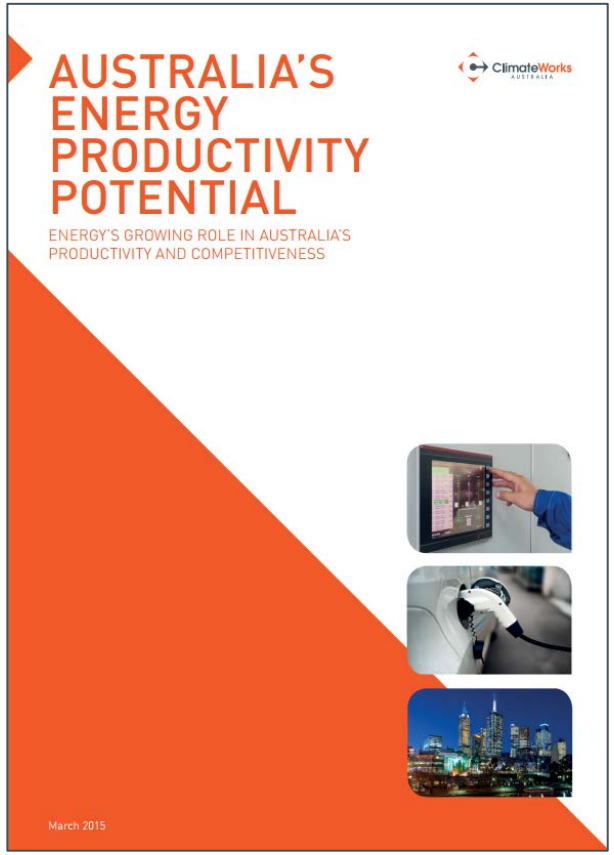
As a signatory to the Paris Agreement, Australia has now committed to a global transition to net zero emissions

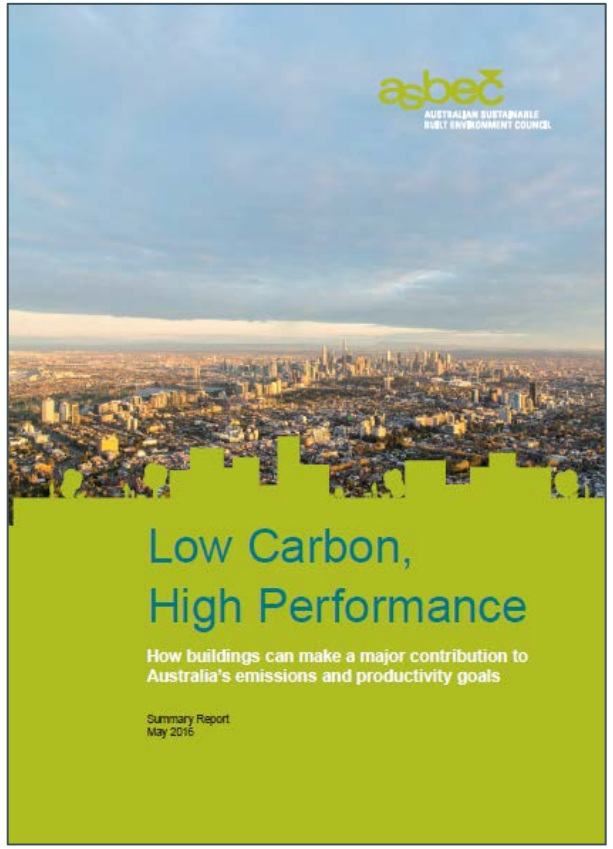
What the Paris agreement means:

- Commits all countries to keep global warming well under two degrees, and to strive for under 1.5 degrees
    - This means net zero emissions by the second half of the century
    - For Australia this means net zero emissions by mid-century
- Urges all countries to develop mid-century decarbonisation strategies
- Commits countries to review/upgrade their national pledges of emissions reductions targets every five years, with transparent reporting

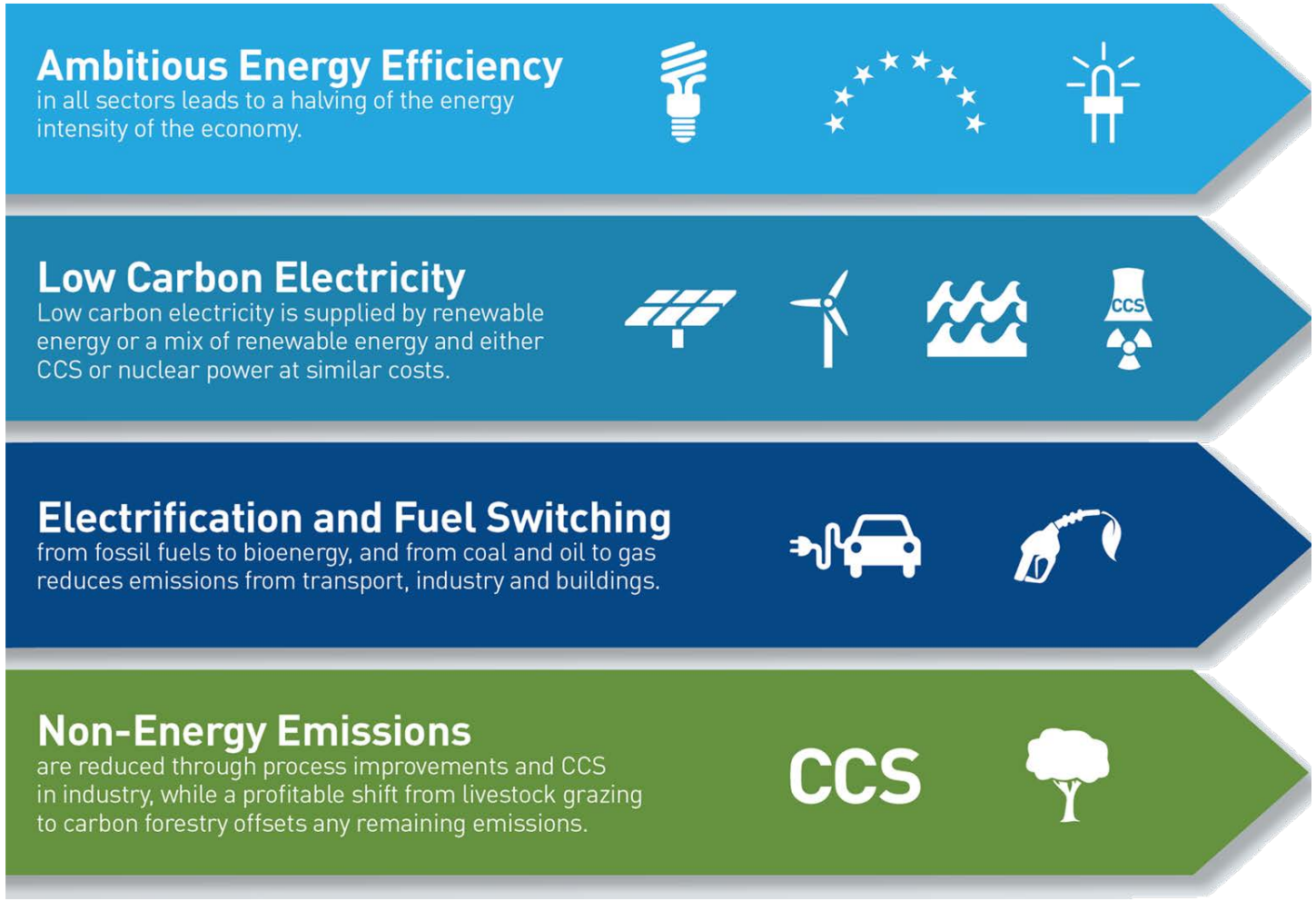
Our previous research has shown that Australia can meet its Paris commitment and achieve zero net emissions by 2050 while the economy still grows





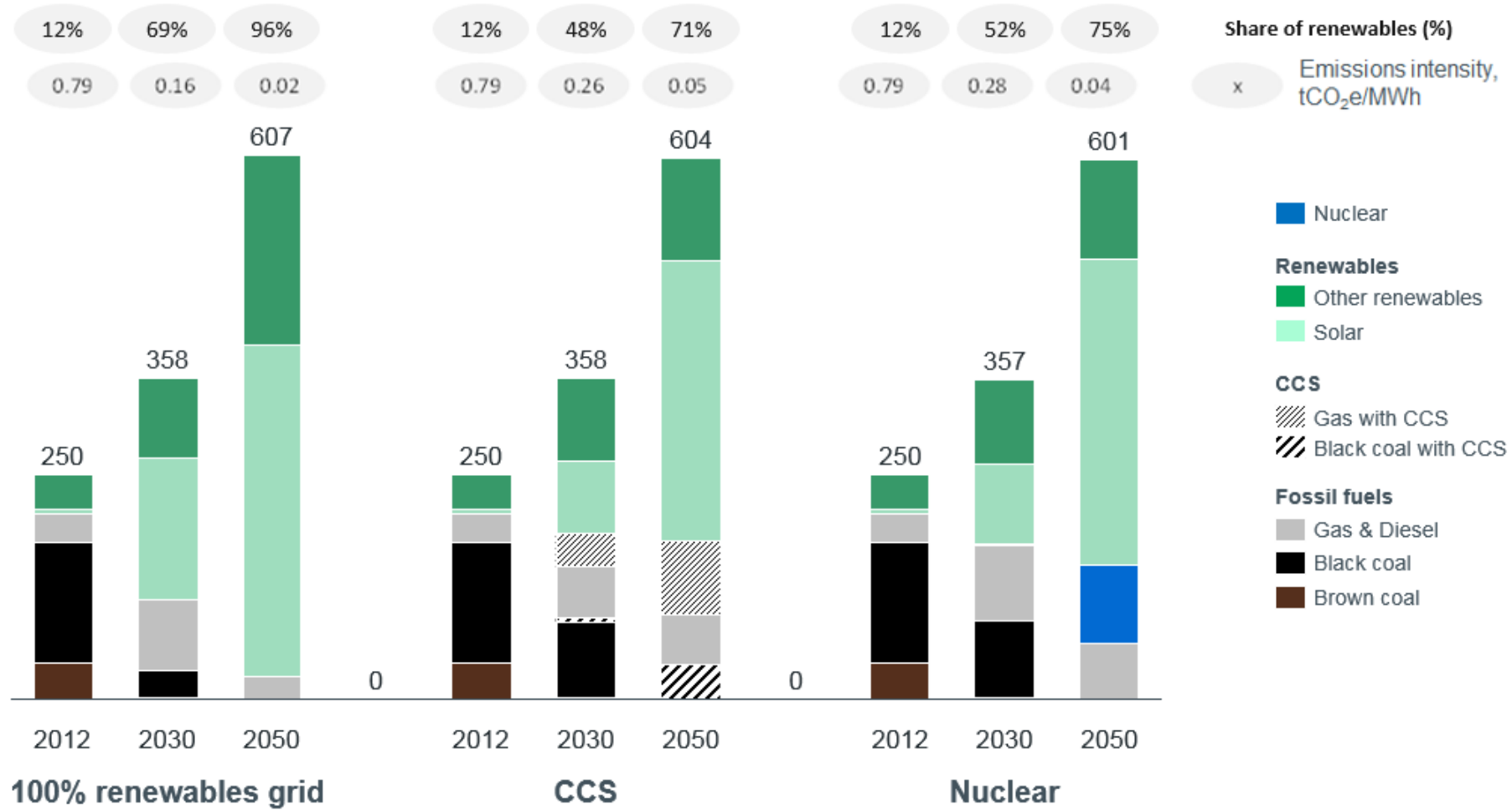


Zero net emissions can be achieved through four “pillars” of decarbonisation across the economy



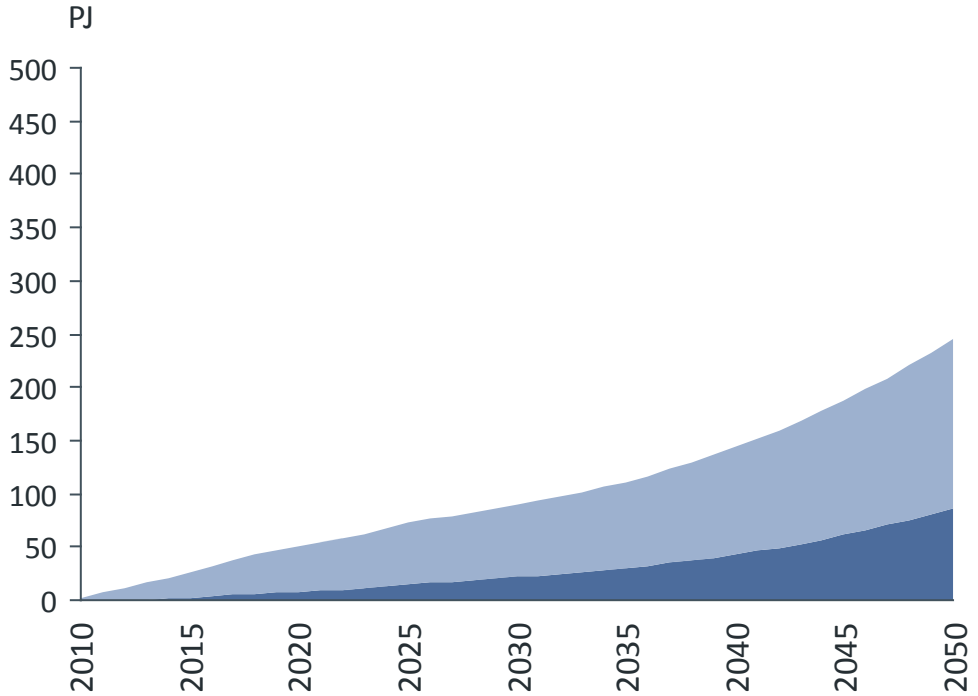
We modelled a range of scenarios for decarbonising Australia's electricity grid, which highlighted the significant role for renewables – at least 50% renewable generation by 2030

Generation mix in three scenarios analysed, TWh



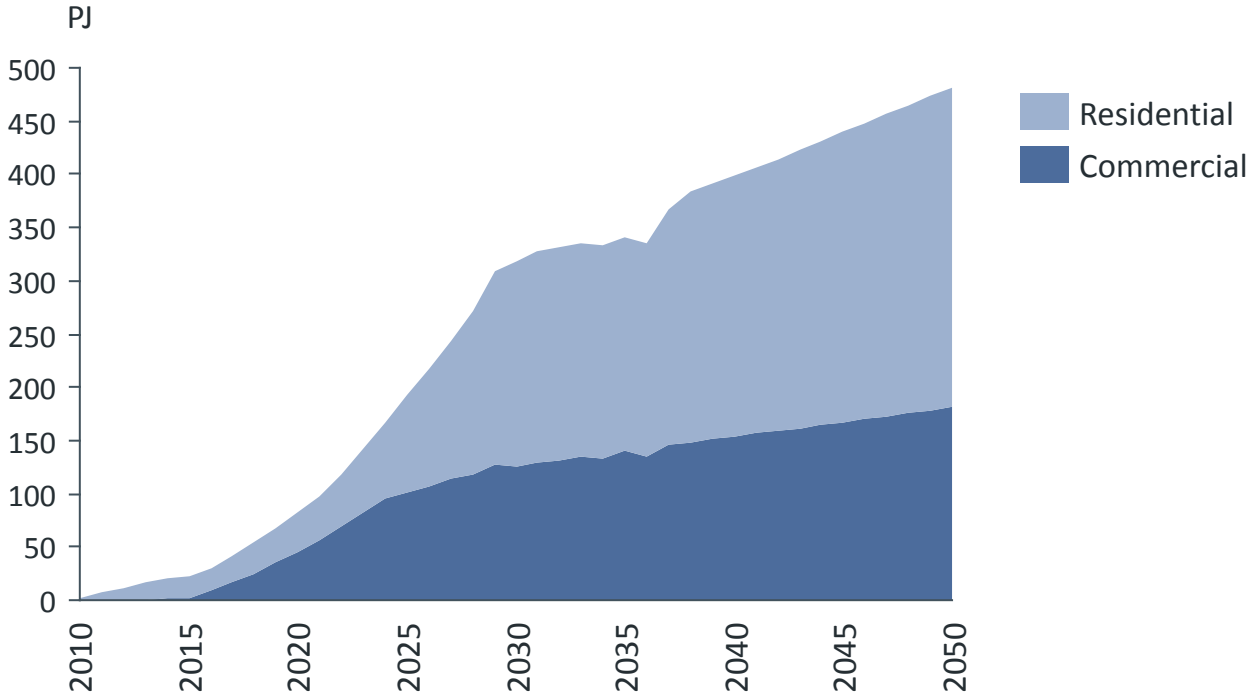
Commercial solar currently contributes to a small proportion of total installations although has great potential should barriers be overcome

Example of a business as usual solar PV projection (AEMO)



Source: AEMO (2015), Emerging Technologies Information Paper

Example of a projection with a high solar uptake (Rise of the prosumer scenario, Graham et al, 2015)



Source: Graham el al. (2015), Electricity Network Transformation Roadmap, Future Grid Forum – 2015 Refresh

Stakeholder experience points to a range of barriers imposed by current connection standards and processes

- Lack of clear and transparent technical requirements for larger scale and non-standard connections;
- Inability to achieve efficiencies of scale (for example, across property portfolios) due to differing requirements imposed by different DNSPs;
- Inconsistency in protection equipment requirements for the same installation, and unreasonable costs due to overly conservative and variable assessments of risk; and
- Delays in processing applications for connection increasing project costs.

These barriers translate into higher costs, and effects innovation and competition.

- Increased costs to proponents:
  - Higher transaction costs
  - No ability to leverage efficiencies of scale
  - Project delays
- Reduced competition and product availability in the Australian market
  - Fragmented market
  - Unclear specifications
  - Divergence from relevant international standards

Based on our preliminary engagement, there are a range of considerations for any proposed solutions to address these barriers

- Minimising up front and transaction costs of installation as far as practical for all installations moving towards consistent, clear and transparent national access arrangements.
- Ensuring that costs to consumers and the economy are adequately considered in any solution.
- The process for setting standards needs to provide transparent competitive neutrality between regulated networks, networks' unregulated businesses and other market participants.
- The future process for setting standards needs to be able to adjust to rapidly changing technology.

FOR FURTHER INFORMATION:

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