

Reliable Affordable Clean Energy

RACE
for 2030 CRC

COOPERATIVE RESEARCH CENTRE

INFORMATION BROCHURE

INTRODUCTION

Energy is an essential input to all businesses and homes. The price of energy and effectiveness of its use heavily impacts the overall productivity and competitiveness of our industries.

Australian businesses are currently facing a number of significant energy-driven challenges impacting on their ability to remain competitive in the global market including:

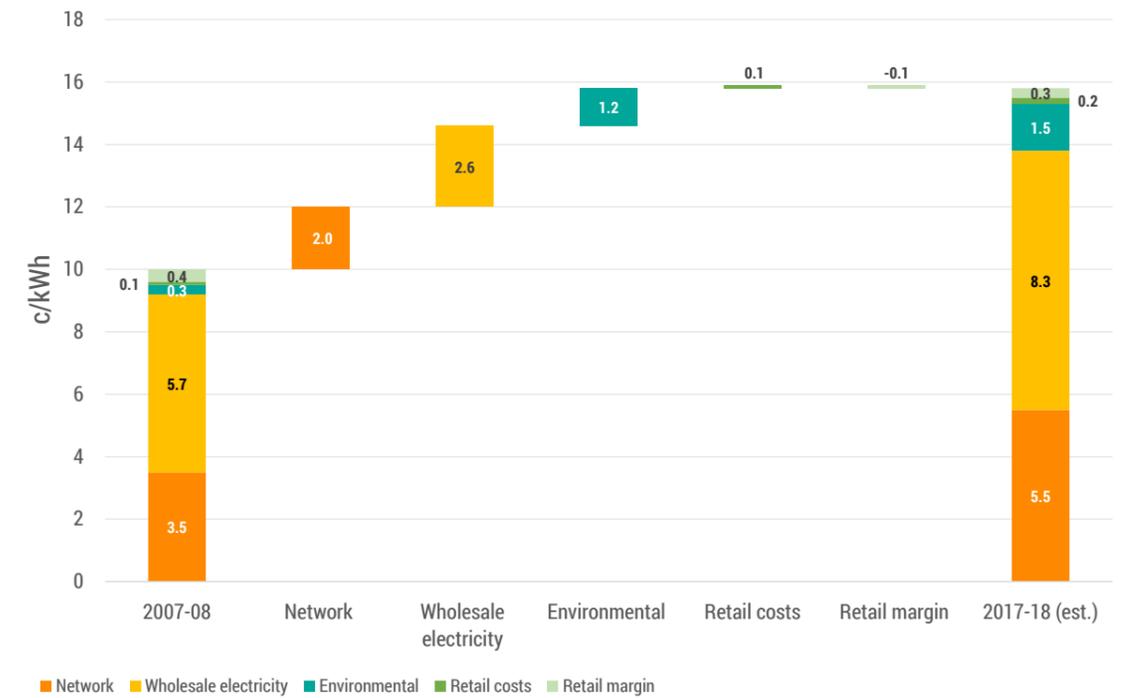
- The doubling of nominal electricity and trebling of gas prices within the last decade, combined with low energy productivity and poor rates of improvement have resulted in a dramatic loss of energy competitiveness for Australian industry.
- Slow uptake of digital and energy technologies that offer major energy productivity gains. Australian businesses are struggling to adapt to the pace of change, are often unaware of new development, and are relatively risk averse.
- The transition towards de-carbonisation requires the adoption of cost effective new technologies and supporting policy.

“Electricity prices and energy policy are the top two challenges currently facing Australian businesses.”

- Australian Institute of Company Directors (2018)

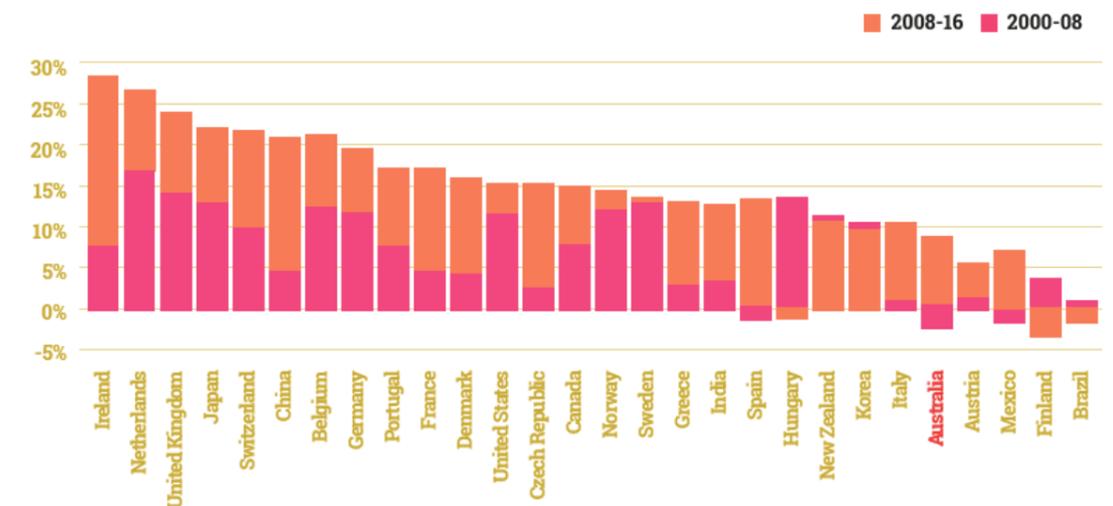
Energy prices are rising sharply.

Change in business energy prices (c/kWh) since 2008
(NEM-wide, real \$2016-17, excl. GST)



Source: ACC analysis based on retailers' data

Australia's energy productivity performance is lagging.



Sources: Adapted from IEA (2017), Energy Efficiency Indicators (database), www.iea.org/statistics/topics/energyefficiency/; Timmer et al. (2015)

OUR VISION

A customer-centred clean energy transition.

OUR MISSION

To cut energy bills and carbon emissions of Australian business and households by integrating clean, distributed energy.





ABOUT RACE FOR 2030

The Reliable, Affordable, Clean Energy for 2030 Cooperative Research Centre (RACE for 2030 CRC) is an industry led collaboration working to boost energy productivity in Australia through the delivery of research and innovation to produce reliable, affordable and clean energy for industry and consumers.

The focus will be on the integration of new digital, generation and storage technologies into industry innovation programs as part of a cross-industry program ensuring opportunities along the supply chain are captured.

With strong support from our foundation partners the RACE for 2030 is now in the process of establishing a large consortium of industry participants, government organisations and research providers to deliver on its objectives.

THE CRC PROGRAM

Government funding is being targeted through the CRC Program, the largest and most sought after grant funding program by industry in Australia. It is a significant component of the national innovation system supporting medium to long-term collaboration between the producers and end-users of research.

The aim of the CRC Program is to build critical mass in research ventures between industry and researchers which tackle clearly articulated, major challenges that deliver significant economic, environmental and /or social benefits to Australian industry.

Funding typically ranges between \$10M to 55M for each CRC. With more than 221 CRCs being funded since the program's commencement, the Australian Government has committed more than \$4.4B in CRC program funding.

PARTICIPANT BENEFITS

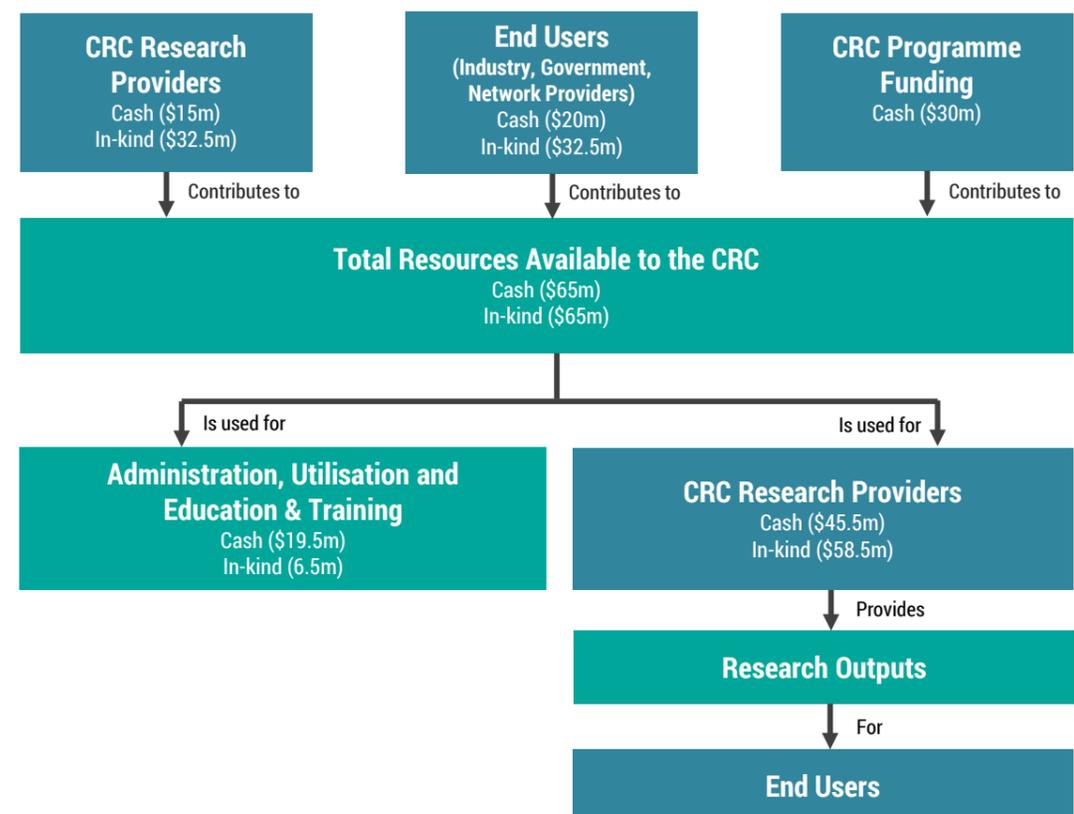
By participating in the CRC you will be able to:

- Be at the forefront of developments in the energy sector and have access to a pool of Australia's leading researchers focussing on the major energy challenges facing your industry.
- Have access to a network of the industry's leading organisations that are actively engaged in innovation (private and government).
- Enhance credibility with customers and be recognised as an organisation that supports and delivers significant benefit to Australia.
- Have access to cost effective applied research, that is heavily subsidised by the Commonwealth and other participants.
- Tackle large problems that can make a measurable impact on your organisation's ability to benefit from the renewable and smart energy transition.
- Influence the skills and training for our future workforce in the energy industry
- Leverage post graduate and PhD students to support your organisation through co-working and potential future staff members.

THE CRC FUNDING MODEL

The pooling of funds provides an opportunity to chorale large resource reservoirs necessary to tackle the major outcomes targeted by the RACE CRC. Different contributors realise different degrees of leverage as a result of the pooling of funds (refer figure 1).

Figure 1: Example of CRC Funding Model



OUR RESEARCH PROGRAMS

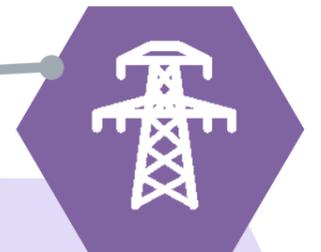


RACE FOR BUSINESS

Boosting business energy productivity and cutting costs via digitalisation, electrification and value chain optimisation.

Potential areas of focus:

Value chain optimisation ♦ industry 4.0 accelerator for energy productivity ♦ high efficiency thermal electrification (HETE) ♦ flexible demand, demand control technology development and renewable PPA's ♦ measure to manage ♦ best practice technology demonstration and diffusion ♦ low energy content building materials.



RACE FOR NETWORKS

Optimising Australia's electricity grid through customer distributed energy resources and network integration.

Potential areas of focus:

Assess & increase distributed energy hosting capacity of networks ♦ cost effective micro-grid investment, operation and demonstration ♦ smart tariffs and dynamic pricing ♦ increasing efficiency of network demand management projects ♦ enhance regulatory processes for DM assessment and approval ♦ from DNSP to Distribution System Operator.



RACE FOR HOMES

Developing and applying new energy technologies and solutions to lower costs and improve comfort for households.

Potential areas of focus:

Residential solar pre-cooling (communications, pricing, standards, engagement) ♦ homes as energy storage ♦ optimising control and communications for smart inverters ("DREDS 2.0") ♦ customer friendly Time of Use tariffs ♦ algorithms for optimising home energy supply and use ♦ energy Made Easy & Green Button integration (CDR- Consumer Data Right).



RACE FOR EVERYONE

Accelerating the customer-centered energy transition via fore-sighting, stakeholder engagement with the innovation ecosystem, capacity building, training and education.

Potential areas of focus:

Engagement on customer expectations ♦ understanding industry trends ♦ assessing the potential for distributed energy ♦ business distributed energy technology capacity building ♦ networks demand management skills & capacity building within ♦ flexible demand stock-take and technology accelerator ♦ fostering the start up ecosystem, PhD program.



JOIN OUR TEAM

RACE for 2030 will support an innovation ecosystem for energy productivity which will provide stimulation and cross-fertilisation of knowledge benefiting all participants. In this rapidly changing environment, your collaboration and participation is key to success.

FOR INDUSTRY - Participation in the CRC will ensure you have Australia's best researchers solving your organisation's energy challenge. Instead of investing tens of millions of dollars into developing solutions to reduce that energy bill, you will be spending one tenth of the amount to generate the outcomes you are after.

FOR NETWORK PROVIDERS - Australia is in the midst of an intensifying energy transformation that is set to change the way the industry operates. Participation in the CRC will assist you in navigating through the transition involving: greater reliance on renewable energy, the relocation energy generation and distribution and new technological developments; and re-align your organisation to meet the needs of industry and consumers.

FOR GOVERNMENT - Clean distributed energy is the way of the future. The CRC will contribute to number of Australia's national energy goals, initiatives and priorities including the National Energy Productivity Plan, the Paris Climate Agreement and the National Energy Guarantee.

FOR RESEARCHERS - Participation in the CRC will allow the CRC to fund research aligned to your areas of expertise. It will help build capability, critical mass and prominence for your organisation in the energy sector and provide you with valuable industry networks and opportunities for collaboration with researchers at the forefront of their field.

NEXT STEPS

If you are interested in participating in the RACE for 2030 CRC please contact us to register your interest. We are working toward the following key dates for our submission to Round 21 of the CRC Program:

February - April 2019:

Partner engagement and consultation.

April - June 2019:

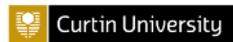
Establish CRC collaboration framework and detailed research program.
 Finalise CRC application for submission to the Commonwealth Government.

May - June 2019:

Confirmation of partner participation including contributions and participant declarations.



OUR RESEARCH PARTNERS



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