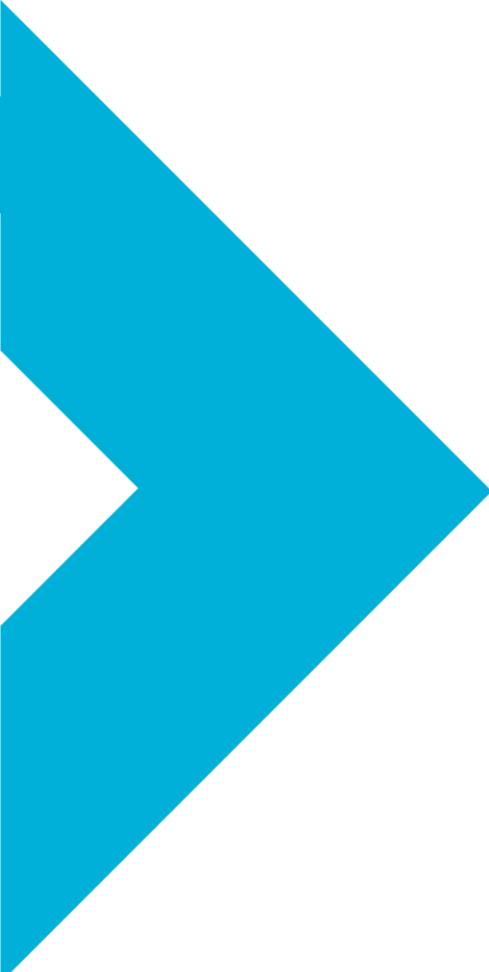


Commercialisation of R&D Funding Initiative Pilot

In collaboration with the CSIRO's ON Prime6 Program





Agenda

1. Introduction and strategic context
2. CSIRO ON Prime Program
3. Application and assessment process
4. Open Q&A

ARENA'S Purpose

ARENA was established by the Australian Government in 2012 to improve the competitiveness of renewable energy technologies and increase the supply of renewable energy in Australia.

Our purpose is to accelerate Australia's shift to affordable and reliable renewable energy.



ARENA AT A GLANCE

\$1.28B INVESTED

432 PROJECTS

\$4.96B VALUE

\$3.68B INVESTMENT LEVERAGE

SOLAR PV
\$635M

SOLAR THERMAL
\$145M

GRID INTEGRATION
\$123M

HYBRID
\$100M

BIOENERGY
\$96M

STORAGE - BATTERIES/
PHES
\$63M

WAVE/TIDAL
\$48M

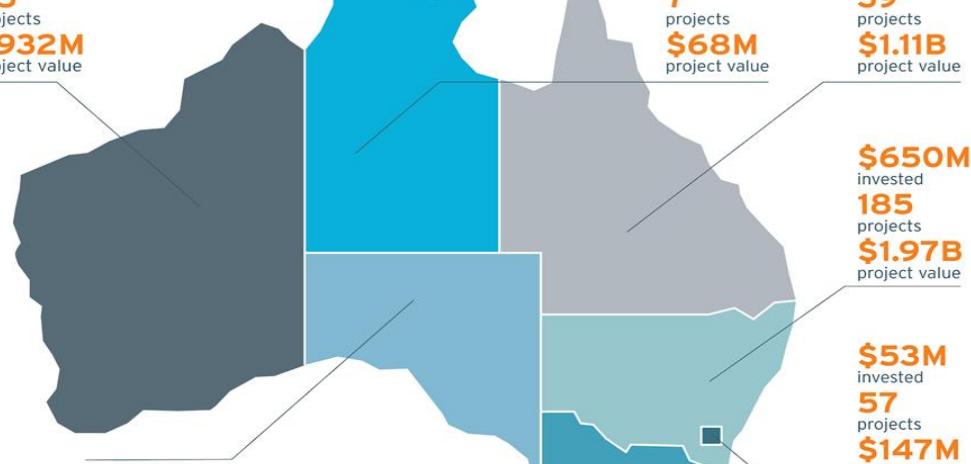
GEOTHERMAL
\$41M

HYDROGEN
\$28M

\$107M
invested
25
projects
\$932M
project value

\$32M
invested
7
projects
\$68M
project value

\$180M
invested
39
projects
\$1.1B
project value



55 demonstration or deployment projects that have, or have the potential to, generate electricity



1066MW
Total capacity created through investment



4000 direct jobs created through ARENA's regionally funded projects



2:1 return on investment for R&D projects leading to GDP increase > \$500M (NPV) over the long-term



19 projects announced Q3 2018 including:
\$23M for energy-from-waste project
\$10.6M to trial use of sodium ion batteries
\$7.5M for hydrogen-to-gas project
\$6M for ultra-fast EV charging network



A-Lab
15 collaborative events attended by 400 individuals
15 Ideas funded

Commercialisation of R&D

ARENA'S INVESTMENT ACROSS THE INNOVATION CHAIN 2017-18
FUNDS COMMITTED TO NEW OR ONGOING PROJECTS DURING 2017-18

RESEARCH AND DEVELOPMENT

DEMONSTRATION

DEPLOYMENT

FULLY COMMERCIAL

ARENA FUNDING

\$178.3 million

55 projects
12 PhD scholars & post-doctoral fellows

ARENA FUNDING

\$379.6 million

76 projects
40 studies

ARENA FUNDING

\$408.8 million

28 projects

Early stage research

Development

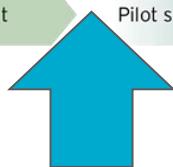
Pilot scale

Large scale

Pre-commercial

Commercial

Fully commercial



Gap in the focus of funding between R&D
and commercial outcomes

Barriers to commercialisation of R&D

-  Development stage is high risk for investors, and not funded by research programs
-  Next stage in the innovation chain requires both technical demonstration and commercial analysis
-  Most research is not well connected with industry and potential end users
-  Most researchers do not have commercialisation experience, skills and/or time

Objective of the Funding Initiative

Support the translation of renewable energy technology R&D into commercial outcomes, leading to a greater number of solutions for delivering secure, reliable and affordable energy within the next 5 to 10 years.



Idea development and validation

ARENA

Connections and insights workshop, with travel grants to participate

+
Funding opportunity to kick-start learnings

Expected outcomes of the Funding Initiative



Early prototyping of renewable energy technologies



Researchers actively engaged in commercialisation



Researchers who are better at commercialisation, and more likely to commercialise in the future



Strengthened networks between researchers and commercialisation partners

Overview of Commercialisation of R&D Funding Initiative Pilot

Apply to the CSIRO's Prime6 Program
+ check box for Renewable Energy
Technology



4 February to 4 March 2019

Participate in CSIRO's Prime6
Program



May to August 2019

Apply to ARENA's \$1 million
Commercialisation of R&D Funding
Initiative
(\$100,000 per project)



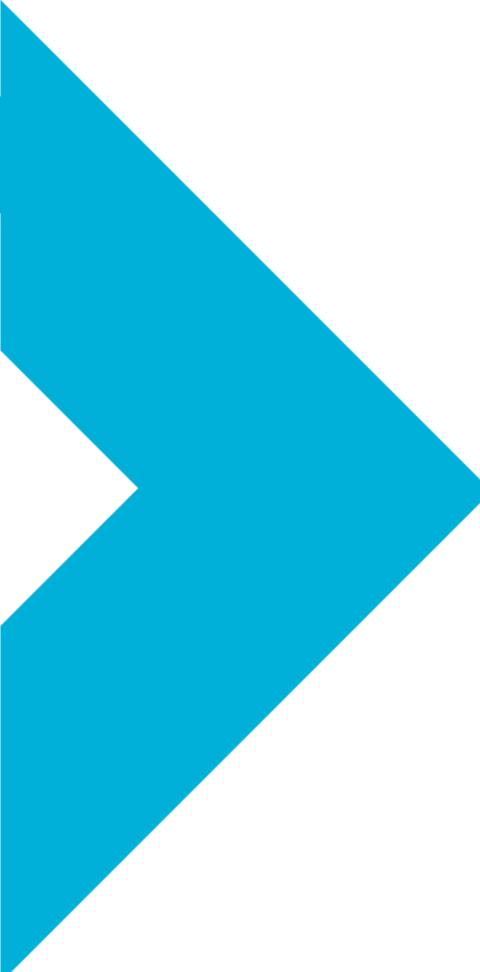
5 August to 2 September 2019



ARENA's Renewable Energy Commercialisation Workshop
with travel funding to participate

ARENA

18 June 2019 (provisional date)



Agenda

1. Introduction and strategic context
2. **CSIRO ON Prime Program**
3. Application and assessment process
4. Open Q&A

ON

ON Prime

Empowering Australian researchers to attract the resources they need to create impact.

February 2019

POWERED BY



The changing research landscape



Funding becoming much more competitive

Increasing focus on 'impact' and
'benefit to Australia'¹



Career pathways less clear

0.45% of PhD students
make it to professor²



Many academics uncertain about industry engagement³

Want to see your research make a difference in the world?

[1] <https://www.smh.com.au/politics/federal/researchers-must-show-benefits-to-australia-under-government-s-new-grants-test-20181127-p50iq3.html>

[2] https://royalsociety.org/~media/royal_society_content/policy/publications/2010/4294970126.pdf

[3] <https://www.sciencedirect.com/science/article/pii/S0048733312002235>

ON Prime is a hands-on learning program which supports Australian researchers to navigate the changing research landscape

Purpose built for researchers, the program provides you with the skills to take your projects and career forward by building evidence for real-world applications for your research.

Eligibility

- Researchers at any Australian university or publicly funded research organisation (see website for details)
- Teams of 2-6 people
- We work with researchers at any stage of their project, in any discipline

POWERED BY



The Experience

During the **eight weeks** of ON Prime, you will develop a deeper understanding of the people who could benefit the most from your research and sharpen skills to communicate with that audience.

Across **six full-day sessions**, expert facilitators and mentors will support you to build evidence for the impact of your research, so you can make a difference in the world and attract the resources you need along the way.

A performance bonus of up to **\$3000** is available for every team at the completion of the program. Teams who really excel have an opportunity to gain an extra **\$2000** to further their project.

POWERED BY



Every team's pathway is different.

Past outcomes from 253 teams in the past 2.5 years include:

- Attracting new funding sources
- Establishing new partnerships
- Increasing industry engagement
- Improving clarity around the impact and focus of your research
- Increasing confidence communicating your research
- Forming team bonds in a new project group
- Licensing IP or creating a new startup venture (ON provides additional free programs and support for people on these pathways)

POWERED BY



Benefits for participants

- Support and guidance from expert facilitators
- 400+ strong national network of mentors
- Develop cross-discipline network amongst peers, stakeholders or industry
- Straightforward application process (average time to prepare and complete application is one hour)
- Potential access to significant follow-on support
- All ON programs are free and do not take any equity from your project
- All Intellectual Property (IP) remains with you or your institution

POWERED BY



Feedback from our alumni

“To be completely honest, I didn’t think we would get much benefit. But it’s really changed what we’re doing now.”

“I strongly encourage anyone at any career stage to go.”

“Don’t think that your project is too early for ON Prime, I wish we had done it right at the start – it’s really helped clarify the direction and saved us loads of time in the long run.”

“It’s completely changed the way I think about my research and its role in society. I can’t recommend it highly enough.”

“It’s given our team a massive confidence boost.”



POWERED BY

Dates for 2019

Winter session

- Applications open 4 February – 4 March
- Program runs for eight weeks between May – July

Register interest here: bit.ly/OPWP19

Locations

- Face-to-face sessions are offered at several ‘hubs’ across the country
- Hubs are set up based on locations of successful applicants (6-10 teams per hub)
- Some travel funding is available for successful teams to travel to their closest hub. If your team is geographically spread out, we can also support people to travel interstate to join their team.

POWERED BY



Our partners



POWERED BY



ON

ON Prime

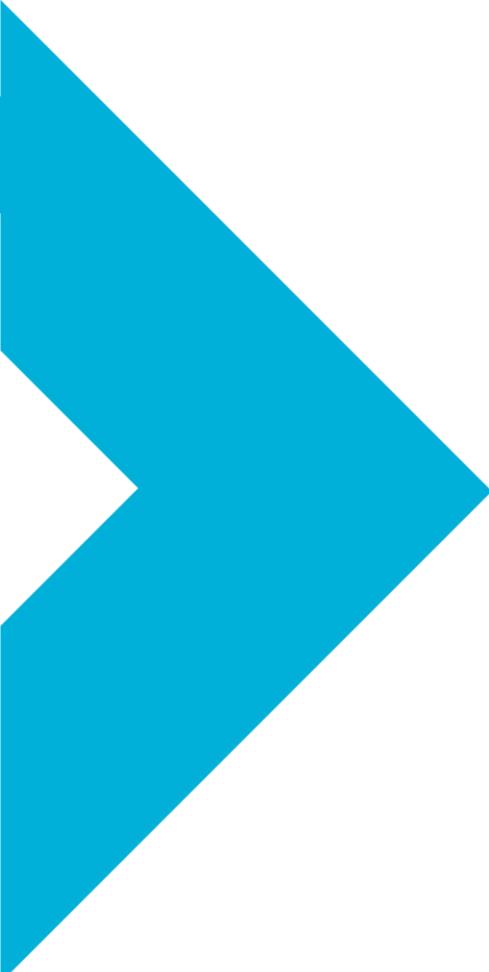
Empowering Australian researchers to attract the resources
they need to create impact.

Send questions to on@csiro.au – we're happy to help.

Register interest here: bit.ly/OPWP19

POWERED BY





Agenda

1. Introduction and strategic context
2. CSIRO ON Prime Program
- 3. Application and assessment process**
4. Open Q&A

Overview of Commercialisation of R&D Funding Initiative Pilot

Apply to the CSIRO's Prime6 Program
+ check box to indicate Renewable Energy Technology



4 February to 4 March 2019

Participate in CSIRO's Prime6 Program



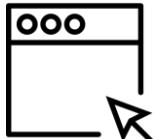
May to August 2019

Participate in ARENA's Renewable Energy Commercialisation Workshop



18 June 2019 (provisional date)

Apply to the Commercialisation of R&D Funding Initiative



5 August to 2 September 2019

Application outcome



October 2019

Negotiation and finalisation of Funding Agreement



October to November 2019

Eligibility and merit criteria

All eligibility criteria must be met.

Applications that do not meet the eligibility criteria will not be assessed for merit.

- ✓ Eligibility criterion A - eligible applicant and team
- ✓ Eligibility criterion B - eligible project
- ✓ Eligibility criterion C - take place in Australia
- ✓ Eligibility criterion D - intellectual property
- ✓ Eligibility criterion E - workplace gender equality
- ✓ Eligibility criterion F - knowledge sharing
- ✓ Eligibility criterion G - compliance and other requirement

✓ **Eligibility criterion A - Eligible Applicant and Team**

- Applicant is the lead research institution
- Team must have participated in the CSIRO ON Prime6 Program and the ARENA Renewable Energy Commercialisation Workshop
- Additions and changes to Team may be accepted at ARENA's discretion

✓ Eligibility criterion B - Eligible project

- Developed through the Team's CSIRO's Prime6 participation
- Involves a technology with Technology Readiness Level of at least 4
- Involves a renewable energy technology, which includes hybrid and enabling technologies
- 1 year maximum length
- Does not include basic or applied research, or establishing proofs of concept
- Aims and outcomes that contribute to the commercial development of technology developed through R&D, including:
 - prototype development and production
 - prototype trials and demonstrations
 - techno-economic analysis
 - market analysis
 - development of commercialisation plans and go to market strategies

✓ **Eligibility criterion C - Take place in Australia**

- No more than 10% of ARENA funds spent overseas (equipment and material excepted)

✓ **Eligibility criterion D - Intellectual Property**

- Warrant ownership of, access to, or the beneficial use of any IP necessary to carry out the Project.

✓ **Eligibility criterion E - Workplace Gender Equality**

- Applicant not be named as an organisation that has not complied with the Workplace Gender Equality Act 2012 (Cth)

✓ **Eligibility criterion F - Knowledge sharing**

- Agree to participate in any knowledge sharing events and activities related to the Funding Initiative, that are conducted by ARENA
- Not related to IP
- Based around general lessons learnt and connecting with potential commercial partners

✓ **Eligibility criterion G - Compliant with other requirements**

- Complete and comprehensive application
- Disclose legal proceedings
- Disclose conflicts of interest
- Accept other requirements in Part 6 of the Guidelines

Merit criteria

Applications will be assessed based on the application submitted through ARENANet and references from relevant facilitators, regarding Team performance throughout the CSIRO's Prime6 Program.

Applicants may be asked to participate in a Q&A session with assessors, if required, to provide additional material for assessment.

- Merit criterion A - Team capability and capacity
- Merit criterion B - Commercial potential
- Merit criterion C - Project design
- Merit criterion D - Budget justification

Merit Criterion A - Team capability and capacity



- Capability of the Team members
Including technical expertise and commercial expertise and potential, drawing on feedback from the relevant CSIRO's Prime6 Program facilitators.
- Capacity of the Team
Including Full Time Equivalent (FTE) key personnel and how personnel will be made available to ensure the proposed Project is delivered.
- Assessed through the Team's performance during the CSIRO's Prime6 Program

Merit Criterion B - Commercial potential of the Renewable Energy Technology and how the Project will help realise that potential



- How the project will contribute to and advance the objectives and outcomes of the Funding Initiative
- Assesses the potential impact of the Renewable Energy Technology on the renewable energy sector e.g. potential market size or potential for transformation of the market
- Assesses the validity of any pre-existing commercial analysis of the Renewable Energy Technology, including any developments made during the CSIRO's Prime6 Program
- Assesses the extent to which the Renewable Energy Technology is likely to progress towards achieving commercial application during the Project, including:
 - if potential barriers to the commercialisation of the Renewable Energy Technology (such as prohibitive manufacturing costs) have been identified; and
 - the extent to which the Project will address them.
- Assess progress towards commercial outcomes, rather than absolute level of development

Merit Criteria C - Project design



- Assesses how the proposed objectives will be met within the timeframe (max 1 year) and budget set out
- Assesses the identification and mitigation of project risks
- Project plan should include:
 - a clear description of the Project
 - duration of the Project, including start-dates and end-dates (and each phase, if relevant)
 - objectively verifiable milestones and deliverables
 - project phases and stage-gates (if relevant), any expected periods where the Project is dormant
 - the proportion (if any) of the Project that will take place outside Australia
 - any dependencies that are outside the control of the Applicant that are needed to start the Project (other than funding from ARENA)
 - a summary of key personnel and technology risks to the Project, and consideration of how these will be managed; and
- any other relevant information.



Merit Criteria D - Budget justification

- Expectation for grant requests is \$100,000 per project
- May be higher or lower depending on technology type
- In-kind contributions are expected
- Cash contributions are not necessarily expected, although they would increase the application's merit
- Outsourcing may be considered lower merit, if it reduces the likelihood of the project contributing to an increase in the commercial capability and skills in the research sector
- Eligible expenditure is listed in the Guidelines

Key Dates

Stage	Opening Date	Closing Date and Time
Application to the CSIRO's Prime 6 Program	Monday 4 February 2019	Monday 4 March 2019 11:59pm AEDT
The CSIRO's Prime6 Program runs	Monday 6 May 2019	Friday 2 August 2019
ARENA's renewable technology workshop	18 June 2019 (provisional date)	
Application to this funding initiative	Monday 5 August 2019	Monday 2 September 2019, 9:00am AEST
Application outcome	Notification is expected to take place in October 2019. ARENA will advise all Applicants in writing as the outcome of their application.	
Negotiation and finalisation of Funding Agreement	October 2019 - November 2019	

For More Information

ARENA Website on Commercialisation of R&D Funding Initiative Pilot:

<https://arena.gov.au/funding/programs/commercialisation-of-rd-funding-initiative-pilot/>

CSIRO ON Prime Program

<http://www.oninnovation.com.au/en/Programs/ON-Prime>

Contact us

Questions on CSIRO's ON Program

Please email: on@csiro.au

Register interest here: bit.ly/OPWP19

Questions on ARENA's Commercialisation of R&D Funding Initiative Pilot

Please email: commercialisation@arena.gov.au