

**COMMERCIALISATION OF R&D  
FUNDING INITIATIVE PILOT**

IN COLLABORATION WITH THE CSIRO'S ON PRIME6 PROGRAM



Australian Government  
Australian Renewable  
Energy Agency

**ARENA**

## PART 1. OVERVIEW

### PURPOSE

- 1.1 The purpose of these Guidelines is to provide information to Applicants on the objectives, application process, eligibility and assessment framework for applications to ARENA's Commercialisation of R&D Funding Initiative Pilot (Funding Initiative).
- 1.2 Applicants should read these Guidelines in conjunction with any supporting information provided on ARENA's website. These resources can be accessed at <https://arena.gov.au>.
- 1.3 In the event of any inconsistency between other ARENA materials and the Guidelines, these Guidelines will prevail.

### OBJECTIVE OF THE FUNDING INITIATIVE

- 1.4 The objective of this Funding Initiative is to support the translation of Renewable Energy Technology research and development into commercial outcomes, leading to a greater number of solutions for delivering secure, reliable and affordable energy within the next 5 to 10 years.  
The provision of a Grant made through this Funding Initiative is expected to deliver the following outcomes for Renewable Energy Technologies:
  - a. early prototyping of innovative technologies, based on research results
  - b. research teams and/or individual researchers being actively engaged in commercialisation activities
  - c. research teams and/or individual researchers demonstrating increased confidence and capability in planning and carrying out commercialisation activities, and
  - d. strengthening of networks through new contacts made between researchers and commercialisation partners.
- 1.5 The total funding envelope allocated to this Funding Initiative is up to \$1 million. This amount may be reduced or increased (without notice to Applicants) at the discretion of the relevant ARENA delegate.
- 1.6 This Funding Initiative is a pilot. Depending on its success, ARENA may extend the Funding Initiative into a round-based funding program. Evaluating the success of the Funding Initiative

may include consideration of the demand for funding, the overall quality of applications, and the likely alignment of Project outcomes and objectives with those of the Funding Initiative.

### COLLABORATION BETWEEN ARENA AND THE CSIRO

- 1.7 This Funding Initiative has been designed to be delivered in collaboration with the CSIRO's ON Prime6 Program.
- 1.8 Teams that have developed a commercial idea for their research-based Renewable Energy Technology through the ON Prime6 Program, will be able to apply to the Funding Initiative for support to implement the next stage of commercialisation.
- 1.9 Applicants to this Funding Initiative must have successfully applied to, and participated in the CSIRO's ON Prime6 Program before being eligible to apply for this Funding Initiative.
- 1.10 As part of the CSIRO's ON Prime6 Program, ARENA will be conducting a Renewable Energy Commercialisation Workshop. All ON Prime6 Program Teams who are developing a Renewable Energy Technology will be invited to attend the workshop, and participation will be supported with an ARENA Travel Grant. Attendance at the ARENA Renewable Energy Workshop is an eligibility requirement of this Funding Initiative.
- 1.11 Team performance during the ON Prime6 Program will form part of the assessment of merit of applications to this Funding Initiative, as set out in Part 4.2a of these Guidelines.

## PART 2. APPLICATION AND ASSESSMENT PROCESS

### OVERVIEW

- 2.1 Applicants who intend to apply to the Funding Initiative should indicate their interest on their application to the CSIRO's ON Prime6 Program.
- 2.2 The application and assessment process under the Funding Initiative is competitive and is being conducted in a single stage.
- 2.3 Applicants must meet the Eligibility Criteria to apply for funding under the Funding Initiative, and put forward an eligible Team and Project. The Eligibility Criteria for Applicants, Teams and Projects are set out in Part 3 of the Guidelines. Applicants must also accept all requirements outlined in Part 6 of these Guidelines.
- 2.4 Applicants must submit their applications by the Closing Date and Time specified in the Key Dates table below. Any application received

after the Closing Date and Time will be treated as a late application and may be excluded from assessment, without further consideration. ARENA may, acting in its sole discretion, elect to consider a late application, but is under no obligation to do so.

- 2.5 ARENA will use the following material to assess applications:
  - a. The application submitted through ARENANet, and
  - b. References from relevant facilitators, regarding Team performance throughout the ON Prime6 Program.

Teams may be asked to participate in a question and answer session with the Funding Initiative's assessment panel (as required), to provide additional material for assessment.

### KEY DATES

Stage	Opening Date	Closing Date and Time
Application to the CSIRO's ON Prime6 Program	Monday 4 February 2019	Monday 4 March 2019 11:59pm AEDT
The CSIRO's ON 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 to the outcome of their application.	
Negotiation and finalisation of Funding Agreement	October 2019 - November 2019	

## SUBMITTING AN APPLICATION

- 2.6 All applications must be completed online using ARENA's Grants Management System, ARENANet, or as otherwise directed by ARENA. ARENANet is accessible from ARENA's website at <https://arenaomnistar.flsolutions.com.au/>. Strict word limits may apply at various fields when completing the online application and are required to be complied with.
- 2.7 Applicants should ensure they have correctly and fully completed each section of the online application form. If an application does not include the information required (and in the format set out in ARENA's prescribed online application system) ARENA may, acting in its sole discretion, decline to assess the application. Alternatively, ARENA may seek supplementary information or clarification from the Applicant.

## ASSESSMENT PROCESS

- 2.8 ARENA will assess the eligibility of Applicants against the Funding Initiative's Eligibility Criteria set out in Part 3 of these Guidelines. Applications that do not meet the Eligibility Criteria will not be assessed for merit.
- 2.9 ARENA will engage members of the ARENA Advisory Panel to assess eligible applications against the Funding Initiative's Merit Criteria set out in Part 4 of these Guidelines. Information on the members of the ARENA Advisory Panel is available on the ARENA website at <https://arena.gov.au/about/advisory-panel/>.
- 2.10 ARENA may seek further information from the Applicant, or ON Prime6 Program facilitators, in relation to any matter arising from the assessment of the application.
- 2.11 ARENA may take a portfolio approach to selecting Projects for funding; that is, it may consider how a Project will contribute to the Funding Initiative objectives, or as part of a suite of complementary ARENA projects. ARENA may elect not to fund an otherwise meritorious Project if the aims or outcomes of that Project are the same as, or similar to, the aims and outcomes of a project that has previously been funded or is currently under assessment. ARENA's current portfolio of projects is listed on its website [here](#).
- 2.12 All funding offers and any payment of funds under the Funding Initiative are conditional upon the execution of a Funding Agreement on terms and conditions acceptable to ARENA.

- 2.13 Only eligible Applicants with applications that satisfy the Merit Criteria to a high standard will be successful.
- 2.14 The decision on whether funding will be offered to an Applicant under this Funding Initiative will be made by the relevant ARENA delegate, based on the ARENA Advisory Panel's assessment against the eligibility and merit criteria, and this decision will be final. The ARENA delegate may also stipulate conditions to this funding.
- 2.15 ARENA will advise the Applicant in writing of the outcome of the assessment of its application, including the amount and nature of any funding support to be offered by ARENA and any conditions attached to the funding offer. A funding offer under the Funding Initiative may be for less or more than the amount of funding requested by the Applicant. A funding offer may exclude parts of a Project submitted by an Applicant, or include additional parts as requested by ARENA.
- 2.16 All Applicants may request a verbal debrief from ARENA on the merit of their application at the conclusion of the assessment process. Feedback on merit will not be provided for applications that are not assessed as eligible.

## PART 3. ELIGIBILITY CRITERIA

- 3.1 An application must satisfy all of the following Eligibility Criteria (to the satisfaction of ARENA) in order to proceed to merit assessment.

### ELIGIBILITY CRITERION A – ELIGIBLE APPLICANT AND TEAM

- 3.2 The Australian research institutions listed below are eligible to apply for the Funding Initiative:
- an Australian university (University)
  - the Australian Nuclear Science and Technology Organisation (ANSTO)
  - the Commonwealth Scientific and Industrial Research Organisation (CSIRO) including Data61
  - the Australian Institute of Marine Science (AIMS)
  - the Defence Science and Technology Organisation (DSTO)
  - Cooperative Research Centres (CRCs)
  - National Measurement Institute (NMI), or
  - Australian Research Council (ARC) Centres of Excellence.
- 3.3 The application must include a proposed Team that will conduct the Project, that has participated in the CSIRO's ON Prime6 Program and ARENA's Renewable Energy Commercialisation Workshop.
- Additions and changes to the Team that has participated in the CSIRO ON Prime6 Program may be accepted (at ARENA's discretion), but the proposal to use a Team with different members must be explained and justified in the Project plan.

### ELIGIBILITY CRITERION B – ELIGIBLE PROJECT

- 3.4 The Project must be developed from the Team's ON Prime6 Program participation. Significant changes to the proposed technology under development will not be accepted; however adaptations in focus that arise from changes to the original commercialisation pathway and commercial application, may be accepted.
- 3.5 The Applicant must be able to demonstrate, to the satisfaction of ARENA, that the Project described in the application:

- has aims and outcomes that will contribute to the commercial application of technology that has been developed through research and development
  - involves the development of Renewable Energy Technologies that are assessed as being at a Technology Readiness Level (TRL), as described in Part 7 of these Guidelines, of at least 4 at the time of applying, and
  - involves Renewable Energy Technologies, which may include:
    - hybrid technologies, and
    - technologies (including enabling technologies) that are related to renewable energy technologies.
- 3.6 For the purposes of the Funding Initiative, activities for commercial application:
- are characterised by their commercial focus, with the primary objective of the Project being to advance the development of a commercially viable product through the development of technology and business models
  - may include prototype development and production, prototype trials and demonstrations, techno-economic analysis, market analysis, development of commercialisation plans and go to market strategies, where they directly relate to the commercial development of the Project technology, and
  - do not include basic or applied research, or establishing proofs of concept.
- 3.7 Applicants may apply for Projects with a maximum length of 1 year. Project applications that exceed 1 year in duration will be considered ineligible.

### ELIGIBILITY CRITERION C – TAKE PLACE IN AUSTRALIA

- 3.8 The Applicant must be able to demonstrate, to the satisfaction of ARENA, that the majority of the Project activities will take place in Australia.
- 3.9 No more than 10 percent of any ARENA funds awarded to a single Project may be spent overseas, with the exception of the purchase or use of equipment and materials. ARENA may consider a specific request to increase this cap. Any such request should be made in

writing as part of the application, providing an explanation of why the Project activity conducted overseas:

- a. cannot be done in Australia, and/or
- b. would benefit from being performed outside Australia.

#### **ELIGIBILITY CRITERION D - INTELLECTUAL PROPERTY**

- 3.10 The Applicant must warrant it has ownership of, access to, or the beneficial use of, any intellectual property rights, including moral rights (IP) necessary to carry out the Project.
- 3.11 Following its consideration of an application, ARENA may request evidence or documentation supporting the Applicant's claim of access to the appropriate rights to any IP necessary to carry out the Project, or a documented plan detailing the proposed course of action to acquire such access. Evidence may include details of any patents, licences or any relevant intellectual property agreements.

#### **ELIGIBILITY CRITERION E - WORKPLACE GENDER EQUALITY**

- 3.12 The Applicant must not be named as an organisation that has not complied with the Workplace Gender Equality Act 2012 (Cth). Any Applicant so named will be excluded from further consideration.

#### **ELIGIBILITY CRITERION F - KNOWLEDGE SHARING**

- 3.13 The Applicant must agree that it will participate in any knowledge sharing events and activities related to the Funding Initiative, that are conducted by ARENA. The Applicant must agree to publicly share knowledge and information about, and resulting from, the Project described in its application.  
  
ARENA will not request the Applicant to share commercially sensitive information, and the details of the knowledge sharing obligations will be agreed by the parties and set out in the Funding Agreement.

#### **ELIGIBILITY CRITERION G - COMPLIANCE WITH OTHER REQUIREMENTS**

- 3.14 The Applicant must comply with the following requirements:
  - a. Completeness: Applicants must provide a response against all Merit Criteria and submit all mandatory attachments.

- b. Comprehensiveness: Applicant's responses to Merit Criteria must be sufficiently detailed to allow an assessment of merit to be made by an independent expert.
- c. Disclosure of legal proceedings: all Applicants must disclose any litigation, arbitration, mediation, conciliation or proceeding or any investigations (Proceedings) that to the best of the Applicant's knowledge, after having made proper enquiry, are taking place, pending or threatened, against them or a Related Body Corporate (as defined in the Corporations Act 2001 (Cth)), where such Proceedings have the potential to affect either:
  - i. the Applicant's capacity to undertake the proposed Project, or
  - ii. the Applicant's reputation.
- d. Disclosure of any Conflicts of Interest: all Applicants must disclose any Conflict of Interest and must comply with ARENA's directions for managing any Conflicts of Interest which are considered, within ARENA's discretion, to be material in nature.
- e. The Applicant must accept all requirements outlined in Part 6 of these Guidelines.

## PART 4. MERIT CRITERIA

- 4.1 Applications which ARENA determine satisfies the Eligibility Criteria will be assessed against the Merit Criteria which are equally weighted.

### MERIT CRITERION A - TEAM CAPABILITY AND CAPACITY

- 4.2 The capability and capacity of the Team to deliver the proposed Project which may include consideration of the following:
- Capability of the Team members: including technical expertise and commercial expertise and potential, drawing on feedback from the relevant ON Prime6 Program facilitators.
  - Capacity of the Team: including what Full Time Equivalent (FTE) key personnel will be devoted to the proposed Project for its duration and how personnel will be made available to ensure the proposed Project is delivered.
- 4.3 The Applicant will be assessed for merit against this criterion through the Team's performance during the ON Prime6 Program. If the Team is required to participate in a question and answer session, this will also be used to assess for merit against this criterion.

### MERIT CRITERION B - COMMERCIAL POTENTIAL OF THE RENEWABLE ENERGY TECHNOLOGY AND HOW THE PROJECT WILL HELP REALISE THAT POTENTIAL

- 4.4 The extent to which the Project will contribute to and advance the Funding Initiatives objectives and outcomes in Part 1.4 of these Guidelines.
- 4.5 Assessment of this criterion may include consideration of the following:
- The potential impact of the Renewable Energy Technology relevant to the Project on the renewable energy sector, including potential market size, and potential for transformation of the market
  - The validity of any pre-existing commercial analysis of the Renewable Energy Technology, including any developments made during the ON Prime6 Program
  - The extent to which the Renewable Energy Technology is likely to progress towards achieving commercial application during the Project, including:

- The rigour with which 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.

- 4.6 The Applicant should demonstrate merit against this criterion by providing a statement that outlines the commercial potential of the Renewable Energy Technology, and how progression towards realising this potential, will be advanced during the Project. This may include any pre-existing and/or expected results and information arising from: prototype development and trials, market research and customer analysis, techno-economic analysis, a market entry strategy, and projected basis for market uptake.
- 4.7 The stage of technical or commercial development of the Renewable Energy Technology prior to application will not affect the merit against this criterion. ARENA expects that applications will be at varied stages in terms of their development, and that this development is not necessarily a linear process.

### MERIT CRITERION C - PROJECT DESIGN

- 4.8 This Merit Criterion assesses the strength of the Project design, in terms of meeting the proposed objectives within the timeframe and budget set out in the application, and how well the Applicant has designed and planned the Project, including identifying and managing risks, in order to successfully deliver the Project.
- 4.9 This Merit Criterion assesses Project risk not identified in the assessment of the other Merit Criteria and the steps the Applicant proposes to take to mitigate those risks. It also assesses Project risk in terms of the likely success of the Project and the achievement of stated outcomes and considers the risk of negotiating and executing a Funding Agreement that is acceptable to ARENA.
- 4.10 In order to allow for conclusion of the assessment process, and negotiation and execution of a Funding Agreement, Projects cannot commence before 1 October 2019. Applicants should also allow for lead-time required to secure resources specific to the Project.

- 4.11 Applicants may apply for Projects with a maximum length of 1 year. It is expected that the duration of the Project will vary depending on the Renewable Energy Technology being developed; for example, software would be expected to achieve outcomes at a faster rate than hardware.
- 4.12 Applicants should demonstrate merit against this criterion through provision of a Project plan (10 page limit) in the context of the commercial potential outlined against Merit criterion B, which should include:
- a. a clear description of the Project
  - b. duration of the Project, including start-dates and end-dates (and each phase, if relevant)
  - c. objectively verifiable milestones and deliverables
  - d. Project phases and stage-gates (if relevant), any expected periods where the Project is dormant (for instance, because a key resource is not available)
  - e. the proportion (if any) of the Project that will take place outside Australia
  - f. any dependencies that are outside the control of the Applicant and other participating institution(s) or entity(ies), such as any resources or approvals from third parties that are needed to start the Project (other than funding from ARENA)
  - g. a summary of key personnel and technology risks to the Project, and consideration of how these will be managed, and
  - h. any other relevant information.
- 4.13 Applicants should also demonstrate merit against this Criterion through provision of a Compliance Table stating any general conditions of the draft Funding Agreement template that the Applicant does not accept, accepts in part, or does not consider to be applicable. Applicants should be aware that low compliance with the Funding Agreement template may impact on ARENA's assessment of Project risk. Strong compliance with the Funding Agreement will generally increase the merit of a Project.
- 4.14 Applicants should demonstrate merit against this criterion through provision of a Project plan (10 page limit) in the context of the commercial potential outlined against Merit criterion B, which should include:
- a. a clear description of the Project
  - b. duration of the Project, including start-dates and end-dates (and each phase, if relevant)
  - c. objectively verifiable milestones and deliverables
  - d. Project phases and stage-gates (if relevant), any expected periods where the Project is dormant (for instance, because a key resource is not available)
  - e. the proportion (if any) of the Project that will take place outside Australia
  - f. any dependencies that are outside the control of the Applicant and other participating institution(s) or entity(ies), such as any resources or approvals from third parties that are needed to start the Project (other than funding from ARENA)
  - g. a summary of key personnel and technology risks to the Project, and consideration of how these will be managed, and
  - h. any other relevant information.
- 4.15 The financial viability of the Project, including the level of co-investment and evidence of commitment, both cash and in-kind, to the Project. This criterion also assesses the extent to which the budget lends itself to meeting the Funding Initiative objective, of increased commercial capability and skills in the research sector.
- 4.16 ARENA is seeking to fund Projects that offer high value for the ARENA funding contribution compared to the total Project cost. Applicants should be aware that:
- a. Applications are expected to include In-kind Contributions from the Applicant.
  - b. Applications to this Funding Initiative are not necessarily expected to include cash contributions from either the Applicant or Project partners; however applications that do include cash contributions may be considered to be of higher merit.
  - c. Applications that include a higher financial contribution, either cash or in-kind or both, from industry partners may be considered of higher merit.
  - d. While financial contributions to applications from state and territory governments are welcome, applications that have a higher proportion of funding from government sources may be considered of lower merit.
  - e. Projects that outsource the majority of activity may be considered lower merit, if they are less likely to contribute to an increase in the commercial capability and skills in the Australian research sector.
- 4.17 Applicants should refer to the Eligible Expenditure Guidelines in Part 5 for information on what the ARENA funding may and may not be used for.
- 4.18 Applicants should demonstrate merit against this criterion through completion of the budget table template provided in the ARENANet application form, including:
- a. a breakdown of expected expenses for the Project, including any overseas expenses
  - b. the total cost of the Project
  - c. the funding sought from ARENA, and
  - d. details and amounts of cash and In-kind Contributions from the Applicant and all other sources.
- 4.19 Applicants should also demonstrate merit against this criterion through justification of the budget, provided as part of the Project plan.

#### **MERIT CRITERION D - BUDGET JUSTIFICATION**

- 4.14 All Projects must fully justify the funding amount requested. ARENA's expectation is that Project outcomes can be achieved with a Grant of around \$100,000. ARENA expects a variety of Renewable Energy Technologies to be supported through this Funding Initiative, some of which may require more than this amount.

## PART 5. ELIGIBLE EXPENDITURE

### GENERAL PRINCIPLES FOR ELIGIBLE EXPENDITURE

- 5.1 The following general principles apply in the consideration of Eligible Expenditure:
- a. Eligible Expenditure is expenditure related directly to the undertaking of the Project
  - b. Eligible Expenditure is calculated net of GST
  - c. non-cash and In-kind Contributions may be considered as Eligible Expenditure, provided that the Applicant can demonstrate to the satisfaction of ARENA that the requirements in these Eligible Expenditure Guidelines are satisfied
  - d. In-kind Contributions are non-monetary resources used on the Project where no cash has been transferred to the Recipient's account(s) for the Project
  - e. expenditure that is undertaken prior to the signing of the Funding Agreement may be eligible, if prior written approval has been granted by ARENA or ARENA otherwise agrees to its inclusion
  - f. expenditure that is incurred after the completion date for the Project specified in the Funding Agreement is generally ineligible
  - g. Opportunity Costs are not Eligible Expenditure: Opportunity Costs are any benefits or production lost due to the allocation of resources to the Project ahead of any other possible activities by the Recipient
  - h. where resources are used on a Project and on unrelated activities elsewhere in the Recipient organisation, the cost of those resources should be apportioned to the Project on the basis of the proportion of those resources that were used by the Recipient in undertaking the Project. Where it is not possible to make such a proportionate allocation, the Recipient should allocate the cost of the resources on a reasonable basis and provide information to ARENA to support this allocation of the cost of the resources
  - i. related party transactions must be treated on an at cost basis, without mark-up, unless the Recipient can demonstrate to the satisfaction of ARENA that the transaction has been calculated on an arm's-length basis, and

- j. generally accepted accounting principles are to be followed and it must be possible to track expenditure relating to the Project through a Recipient's accounting system to meet the financial reporting and audit requirements in the Funding Agreement.

### SPECIFIC ELIGIBILITY PROVISIONS

- 5.2 Eligible Expenditure includes:
- a. expenditure on the preparation of contracts entered into for the purposes of undertaking the activities required for the conduct of the Project, subject to the ineligible expenditure constraints below
  - b. labour expenditure, such as salaries and wages, including reasonable on-costs for personnel employed directly on the Project, which may be calculated as 125 per cent of salaries. Labour on-costs include: workers' compensation insurance, employer contributions to superannuation, recreation and sick leave, long service leave accrual and payroll tax
  - c. administrative expenses, including expenses incurred on communications, accommodation, computing facilities, travel, recruitment, printing and stationery, where such expenses are related directly to the Project
  - d. bench or lab access fees, directly related to the Project
  - e. expenditure on research infrastructure installed for the Project at the full delivered cost of the infrastructure
  - f. expenditure on research infrastructure including hire or lease costs, and running costs directly related to delivery of the Project
  - g. expenditure activities that directly contribute to or enable knowledge including database development, websites, applications and reports
  - h. expenditure on legal, audit and accounting costs related directly to the Project
  - i. expenditure related to the raising of funds for the Project, or the formation of consortia or joint ventures or other partnering arrangements, where such activities can be related directly to the Project

- j. expenditure such as relevant licence fees or intellectual property purchase costs, where the Recipient needs to access specific technology to undertake the Project, and
  - k. expenditure related directly to obtaining government approvals to undertake the Project.
- 5.3 Ineligible expenditure can be included in the total Project cost; however, ARENA funds cannot be used for ineligible expenditure.
- 5.4 Ineligible expenditure includes:
- a. expenditure related to the general operations and administration of the Applicant or Recipient that the Applicant or Recipient could reasonably be expected to undertake in the normal course of business, proportional to the Project
  - b. expenditure on activities that a local, state, territory or Commonwealth government agency has the responsibility to undertake, unless the Applicant or Recipient can demonstrate to the satisfaction of ARENA that the expenditure is related to a co-contribution
  - c. interest on loans for new and pre-existing capital items used for the Project
  - d. expenditure on the acquisition of land for a Project
  - e. sales or promotional activities that do not support directly the successful completion of the Project
  - f. membership fees
  - g. donations, and
  - h. expenditure that does not directly support delivery of the Project.

## LABOUR

- 5.5 Eligible labour expenditure is the gross amount paid or payable to an employee of the Applicant's or Recipient's company or organisation. Eligible salary includes any components of the employee's total remuneration package that are itemised on their Pay As You Go (PAYG) annual payment summaries submitted to the Australian Taxation Office (ATO).
- 5.6 Where personnel are already engaged by the Recipient prior to the commencement of the Project and have not been engaged specifically to work on the Project, this cost should be classed as In-kind Contributions, as opposed to cash contributions. However, where an existing member of personnel is transferred to work on the Project (for all or part of the time), then the proportion of time that is spent on the Project shall be classed as an In-kind Contribution.

- 5.7 Recipients must provide evidence to demonstrate the amount of time that an employee spent on the Project. Evidence to support Eligible Expenditure on labour could include timesheets, job cards or diaries.
- 5.8 Labour costs cannot be claimed based on an estimation of the employee's worth to the company, where no cash has changed hands.

## CONTRACT EXPENDITURE

- 5.9 Eligible contract expenditure is the cost of any activities to support the Project performed for the Recipient by another organisation. Work to be performed on a Project must be the subject of a written contract, including a letter or purchase order, which specifies the nature of the work to be performed for the Recipient and the applicable fees, charges and other costs payable. The written contract must be executed prior to the commencement of the work undertaken under the contract.
- 5.10 It is not a requirement for contracts to be in place at the time an Applicant submits an application to ARENA. However, for major items of contract expenditure, such as purchases of major items of hardware to be incorporated in the Project, Applicants will be expected to have some form of documentary evidence, such as written quotes from suppliers, to substantiate the expenditure included in the budget for the Project.
- 5.11 Where the contractor and the Applicant or Recipient are not at 'arm's-length', the amount assessed for work performed will be an amount considered to be a reasonable charge for that work and contain no unacceptable overheads and no element of 'in group profit'. Organisations considered not at 'arm's-length' include related companies and companies with common directors or shareholders.

## EXPENDITURE PRIOR TO EXECUTION OF THE FUNDING AGREEMENT

- 5.12 Expenditure incurred after ARENA has made a funding offer, but before a Funding Agreement has been executed, may be considered eligible if prior written approval from ARENA has been sought and granted. Requests must be submitted in writing after an offer of funding has been made. Note that any expenditure made before the execution of a Funding Agreement in the absence of ARENA's prior approval is done so at the sole risk of the Applicant.

## OVERSEAS EXPENDITURE

- 5.13 As set out in item 3.9 of these Guidelines, any items of expenditure incurred by the Applicant outside of Australia, other than in respect of equipment or materials, must be limited to no more than 10 percent of total ARENA funds, except in exceptional circumstances that must be justified by the Applicant and agreed to by ARENA in writing.
- 5.14 Following execution of a Funding Agreement, expenditure on goods and services overseas may be subject to approval by ARENA as specified in the Funding Agreement.

## PART 6. GENERAL FUNDING INITIATIVE INFORMATION

- 6.1 The request for applications under these Guidelines is an invitation only and no binding contract (including a process contract) or other understanding (including any form of contractual, quasi-contractual or restitutionary rights, or rights based upon similar legal or equitable grounds) will exist between ARENA and an applicant unless and until a Funding Agreement is signed by ARENA and the applicant.
- 6.2 ARENA may amend these Guidelines by providing Applicants with a timely written notice of an amendment.
- 6.3 Without limiting its rights, ARENA may, in its absolute discretion:
- suspend, defer or terminate this Funding Initiative at any time
  - extend the closing date and time
  - consider a late application
  - continue to assess an application that does not meet the Eligibility Criteria, and
  - seek clarification or improvement of any application or require additional information from an Applicant.
- 6.4 any Commonwealth agency or body, or any other organisation or individual considered by ARENA to have a need or an entitlement to know that information (including any state or territory agency or body), where that need or entitlement arises out of or in connection with ARENA's assessment, verification or due diligence of any aspect of an application or where authorised or required by law to be disclosed.

### ACKNOWLEDGEMENT AND PUBLICITY

- 6.6 ARENA requires that all Recipients (unless otherwise agreed) will acknowledge the financial and other support received from ARENA in all publications, promotional and advertising materials, public announcements, events and activities in relation to the Project, or any products, processes or inventions developed as a result of that Project. The form of any such acknowledgement will be set out in the Funding Agreement or as otherwise advised by ARENA.

### REVIEW OF DECISIONS AND COMPLAINTS

- 6.7 ARENA has in place a complaints handling policy. Information on this policy is available at ARENA's website on <https://arena.gov.au/making-a-complaint/>. Any complaints concerning assessments or processes should be discussed with the ARENA worker involved in the assessment or process in the first instance. If the Applicant is not satisfied following the discussion with the ARENA worker, a formal complaint can be made at [complaints@arena.gov.au](mailto:complaints@arena.gov.au).

### CONFLICTS OF INTEREST

- 6.8 ARENA has in place policies to manage any Conflicts of Interest that may arise with respect to the ARENA Board, personnel and ARENA Advisory Panel members.
- 6.9 Applicants must advise ARENA in writing of any actual or potential Conflicts of Interest that arises during any part of the Application process. The Applicant must comply with any directions from ARENA as to management of a material Conflict of Interest.

### WORK HEALTH AND SAFETY

### CONFIDENTIALITY AND DISCLOSURE OF INFORMATION

- 6.4 6.4. Subject to this item 6.4., information of a confidential nature which is provided by an Applicant as part of or in connection with any application or negotiation process (if any) will be treated as commercial-in-confidence information by ARENA and will only be disclosed with the consent of the Applicant.
- 6.5 6.5. Despite 6.4. above, confidential information provided by Applicants may be disclosed by ARENA to the following parties:
- the Minister and the Minister's office
  - the Parliament of the Commonwealth of Australia in response to a request by a House or a Committee of the Parliament of the Commonwealth of Australia
  - the Auditor General, Ombudsman, Information Commissioner or Privacy Commissioner
  - the Australian Energy Market Operator (AEMO)
  - ARENA workers including consultants<sup>1</sup> and advisers, or

<sup>1</sup> *Consultant* means a consultant engaged by ARENA pursuant to section 63 of the ARENA Act to provide services to assist ARENA in the performance of its functions.

- 6.10 All organisations have obligations under relevant Work Health and Safety (WHS) Law to ensure the health and safety of workers so far as is reasonably practicable and that the health and safety of other persons is not put at risk from their undertakings. This obligation includes funding Recipients ensuring that safe systems of work are in place for each of their activities. ARENA expects Applicants to be committed to health and safety management in the proposed Project.
- 6.11 ARENA also has a policy of ensuring that it enters into agreements with or provides funding to only those organisations that take a proactive approach to managing work health and safety risks in accordance with the requirements of WHS Law.

#### **OTHER APPLICABLE REQUIREMENTS**

- 6.12 A range of Commonwealth policy and legislative requirements may also affect the conduct of Projects funded through the Funding Initiative. Applicants should seek their own advice on any relevant legislation and/or policies that may be applicable to the carrying out of the Project under the Funding Agreement.
- 6.13 ARENA will not enter into a Funding Agreement with an organisation on the list of persons and entities designated as terrorists. The list and more information on the anti-terrorism requirements are available at [http://www.dfat.gov.au/icat/UNSC\\_financial\\_sanctions.html](http://www.dfat.gov.au/icat/UNSC_financial_sanctions.html)

## PART 7. TECHNOLOGY READINESS LEVEL

- 7.1 The Technology Readiness Level (TRL) index is a globally accepted benchmarking tool for tracking progress and supporting development of a specific technology through the early stages of the innovation chain, from blue sky research (TRL 1) to actual system demonstration over the full range of expected conditions (TRL 9).
- 7.2 There are various TRL rating scales that may be applicable to various technologies. For the purposes of this Funding Initiative, ARENA uses the US Department of Energy Technology Readiness Level scale.
- 7.3 It is expected that at the start of the Project research and development activities of any specific technology should be at a TRL of at least 4 to be funded under the Funding Initiative, as set out in Part 3 of these Guidelines.
- 7.4 Applicants should refer to the table below in assessing the TRL of their Project. Applicants may also wish to use the TRL calculator tool developed by the US Air Force Research Laboratory<sup>2</sup> for applying TRLs to technology development programs. In its present form, the calculator is a Microsoft Excel spreadsheet application that allows the user to answer a series of questions about a technology project. Once the questions have been answered, the calculator displays the TRL achieved. Because the same set of questions is answered each time the calculator is used, the calculator provides a standardised, repeatable process for evaluating the maturity of any hardware or software technology under development. In this way, the TRL calculator is one tool that can answer the question of how one can measure TRLs using a standardised method.<sup>3</sup>

Table 1: US Department of Energy Technology Readiness Levels<sup>4</sup>

Relative level of technology development	TRL	TRL definition	Description
Systems operations	TRL 9	Actual system operated over the full range of expected mission conditions	The technology is in its final form and operated under the full range of operating mission conditions. Examples include using the actual system with the full range of wastes in hot operations.
System commissioning	TRL 8	Actual system completed and qualified through test and demonstration	The technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental testing and evaluation of the system with actual waste in hot commissioning. Supporting information includes operational procedures that are virtually complete. An Operational Readiness Review (ORR) has been successfully completed prior to the start of hot testing.
	TRL 7	Full-scale, similar (prototypical) system demonstrated in relevant environment	This represents a major step up from TRL 6, requiring demonstration of an actual system prototype in a relevant environment. Examples include testing full-scale prototype in the field with a range of stimulants in cold commissioning <sup>5</sup> . Supporting information includes results from the full-scale testing and analysis of the differences between the test environment, and analysis of what the experimental results mean for the eventual operating system/environment. Final design is virtually complete.

<sup>2</sup> Nolte, William L., et al., "Technology Readiness Level Calculator," October 20, 2003, Air Force Research Laboratory (AFRL), presented at the NDIA System Engineering Conference

<sup>3</sup> US Department of Energy Technology Readiness Assessment Guide (DOE 413.3-4 10-12-09) <https://www.directives.doe.gov/directives/0413.3-EGuide-04/view>, page 28

<sup>4</sup> US Department of Energy Technology Readiness Assessment Guide (DOE 413.3-4 10-12-09) <https://www.directives.doe.gov/directives/0413.3-EGuide-04/view>, page 9 and 10

<sup>5</sup> Simulants should match relevant chemical and physical properties.

Technology demonstration	TRL 6	Engineering/ pilot-scale, similar (prototypical) system validation in relevant environment	Engineering-scale models or prototypes are tested in a relevant environment. This represents a major step up in a technology's demonstrated readiness. Examples include testing an engineering scale prototypical system with a range of simulants. Supporting information includes results from the engineering scale testing and analysis of the differences between the engineering scale, prototypical system/ environment, and analysis of what the experimental results mean for the eventual operating system/environment. TRL 6 begins true engineering development of the technology as an operational system. The major difference between TRL 5 and 6 is the step up from laboratory scale to engineering scale and the determination of scaling factors that will enable design of the operating system. The prototype should be capable of performing all the functions that will be required of the operational system. The operating environment for the testing should closely represent the actual operating environment.
	TRL 5	Laboratory-scale, similar system validation in relevant environment	The basic technological components are integrated so that the system configuration is similar to (matches) the final application in almost all respects. Examples include testing a high-fidelity, laboratory scale system in a simulated environment with a range of simulants and actual waste <sup>6</sup> . Supporting information includes results from the laboratory scale testing, analysis of the differences between the laboratory and eventual operating system/environment, and analysis of what the experimental results mean for the eventual operating system/environment. The major difference between TRL 4 and 5 is the increase in the fidelity of the system and environment to the actual application. The system tested is almost prototypical.
Technology development	TRL 4	Component and/or system validation in laboratory environment	The basic technological components are integrated to establish that the pieces will work together. This is relatively "low fidelity" compared with the eventual system. Examples include integration of ad hoc hardware in a laboratory and testing with a range of stimulants and small scale tests on actual waste <sup>6</sup> . Supporting information includes the results of the integrated experiments and estimates of how the experimental components and experimental test results differ from the expected system performance goals. TRL 4-6 represent the bridge from scientific research to engineering. TRL 4 is the first step in determining whether the individual components will work together as a system. The laboratory system will probably be a mix of on hand equipment and a few special purpose components that may require special handling, calibration, or alignment to get them to function.

<sup>6</sup> Testing with as wide a range of actual waste as practicable and consistent with waste availability, safety, ALARA (as low as reasonably achievable), cost and project risk is highly desirable.

<b>Research to prove feasibility</b>	TRL 3	Analytical and experimental critical function and/ or characteristic proof of concept	Active research and development is initiated. This includes analytical studies and laboratory-scale studies to physically validate the analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative tested with simulants. Supporting information includes results of laboratory tests performed to measure parameters of interest and comparison to analytical predictions for critical subsystems. At TRL 3 the work has moved beyond the paper phase to experimental work that verifies that the concept works as expected on simulants. Components of the technology are validated, but there is no attempt to integrate the components into a complete system. Modelling and simulation may be used to complement physical experiments.
	TRL 2	Technology concept and/ or application formulated	Once basic principles are observed, practical applications can be invented. Applications are speculative, and there may be no proof or detailed analysis to support the assumptions. Examples are still limited to analytic studies. Supporting information includes publications or other references that outline the application being considered and that provide analysis to support the concept. The step up from TRL 1 to TRL 2 moves the ideas from pure to applied research. Most of the work is analytical or paper studies with the emphasis on understanding the science better. Experimental work is designed to corroborate the basic scientific observations made during TRL 1 work.
<b>Basic technology research</b>	TRL 1	Basic principles observed and reported	This is the lowest level of technology readiness. Scientific research begins to be translated into applied research and development. Examples might include paper studies of a technology's basic properties or experimental work that consists mainly of observations of the physical world. Supporting Information includes published research or other references that identify the principles that underlie the technology.

## GLOSSARY

**Applicant** - an eligible institution as defined in item 3.2 of these Guidelines that has submitted an application under the Funding Initiative.

**Conflict of Interest** - a situation where there is, or appears to be, a divergence between the interests of a person and their professional responsibilities to ARENA, such that an independent observer might reasonably question whether the actions or decisions of that person are influenced by their interests.

**Corresponding WHS Law** - as defined in the Work Health and Safety Act 2011 (Cth), means each of the following:

- the Work Health and Safety Act 2011 of New South Wales
- the Occupational Health and Safety Act 2004 of Victoria
- the Work Health and Safety Act 2011 of Queensland
- the Occupational Safety and Health Act 1984 of Western Australia
- the Work Health and Safety Act 2012 of South Australia
- the Work Health and Safety Act 2012 of Tasmania
- the Work Health and Safety Act 2011 of the Australian Capital Territory
- the Work Health and Safety (National Uniform Legislation) Act 2011 of the Northern Territory
- any other law of a State or Territory prescribed by the regulations, as amended from time to time.

**Eligibility Criteria** - the Eligibility Criteria for applications listed in Part 3 of these Guidelines.

**Eligible Expenditure** - expenditure of the kind set out in Part 5 of these Guidelines.

**Full Time Equivalent (FTE)** - the ratio of the total number of paid hours during a period (part time, full time, contracted) by the number of working hours in that period Mondays through Fridays. The ratio units are FTE units or equivalent employees working full-time. In other words, one (1.0) FTE is equivalent to one employee working full-time.

**Funding Agreement** - the agreement between a Recipient and ARENA for funding under this Funding Initiative, consisting of two parts - the General Conditions and the Schedule:

**General Conditions** - the predetermined standard contract approved by ARENA

**Schedules** - the specific information and conditions that are consistent with the funding offer of one or several Projects.

**Grant** - an amount awarded for a particular Project in return for the completion of specified milestones.

A Grant is not to be confused with a gift or a loan. In the case of the Funding Initiative, the Grant is the amount identified in the Funding Agreement. Grants are subject to normal taxation treatment as income and no special taxation agreements will apply to Grants under the Funding Initiative.

**Guidelines** - these Commercialisation of R&D Funding Initiative Pilot Guidelines.

**In-kind Contribution** - non-monetary resources used on the Project where no cash has been transferred to the Recipient's account(s) for the Project.

**Merit Criteria** - the Merit Criteria listed in Part 4 of these Guidelines.

**ON Prime6 Program** - CSIRO's ON Prime Program round opening for applications in February 2019

**Opportunity Costs** - any benefits or production lost due to the allocation of resources to the Project ahead of any other possible activities by the Recipient.

**Project** - a project for commercialisation of Renewable Energy Technology research and development, submitted by an Applicant under this Funding Initiative.

**Renewable Energy Technology** - Renewable energy technologies use natural processes to generate energy such as solar, wind, water, biomass, ocean and geothermal. Under the definitions in the ARENA Act, renewable energy technologies can include hybrid technologies and technologies that enable renewable energy technologies.

**Team** - the Team that participated in the ON Prime6 Program, and is now proposing to undertake the Project in the application to this Funding Initiative.

**Technology Readiness Level (TRL)** - the level of development of a Renewable Energy Technology being investigated by a Project, as mapped on the scale described in Part 7 of these Guidelines.

**Travel Grant** - an amount awarded for travel, under specified conditions. A Travel Grant is independent of the Project Grant.

**Recipient** - An entity that has entered into a Funding Agreement with ARENA for funding of a Project.

**WHS Law or WHS Legislation** - the Work Health and Safety Act 2011 (Cth), Corresponding WHS Law or superseded work health and safety or occupational health and safety law in any jurisdiction. The WHS Law includes regulations established under the relevant Acts.

**WHSMS** - work health and safety management system.

Further information is available at  
[arena.gov.au](http://arena.gov.au)

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