

AUSTRALIAN NATIONAL LOW EMISSIONS COAL
RESEARCH & DEVELOPMENT



anlecr&d

FUNDING PROPOSAL GUIDELINES

TARGETED RESEARCH & DEVELOPMENT
PROJECTS

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FUNDING PROPOSAL GUIDELINES

ANLEC R&D BACKGROUND

NATIONAL LOW EMISSIONS COAL COUNCIL

- Develop and implement a national low emissions coal strategy
- National strategy will cover the research and development, accelerated demonstration and early commercial deployment
- Demonstration at commercial scale from 2015 and available for commercial deployment by 2020

ANLEC R&D

- Implement a national program for low emission coal research and development to address research priorities identified in the NLECC strategy
- Applied R&D to help reduce project risk, provide independently validated cost and performance data, and identify research priorities to accelerate deployment
- Focus on R&D to assist 2015 to 2020 demonstration projects
- \$75M funding from Commonwealth and \$75M from ACALET

LOW EMISSIONS COAL TECHNOLOGIES

ANLECR&D will address those research areas that deliver highest impact for reducing the commercial risk and validating environmental and technical performance in the following power generation technologies of interest:

1. Carbon Dioxide Transport and Storage (CTS)
2. Advanced Brown Coal Technologies (ABCT)
3. Integrated Gasification Combined Cycle (IGCC)
4. Oxy-Fuel Combustion (Oxy-PF)
5. Post Combustion Capture of Carbon Dioxide (PCC)
6. Techno-Economic Analyses for Low Emissions Energy (TEA)

ANLEC R&D will address:

- The near term risk reduction and technology developments necessary for successful demonstration of LECT in Australia.
- The delivery of skills, data and knowledge to assist key stakeholders understand benefits and assess the real risks associated with the deployment of CCS in Australia.
- Support for and investigation of issues affecting the performance of the early demonstration projects.
- Our present focus supports research that accelerates CO₂ storage across three Australian geological basins:
 - Surat Basin
 - Gippsland Basin
 - Southern Perth Basin

RESEARCH INVESTMENT OBJECTIVES

TARGETED RESEARCH PROGRAM

ANLEC R&D's objectives for its Targeted Research Program are to:

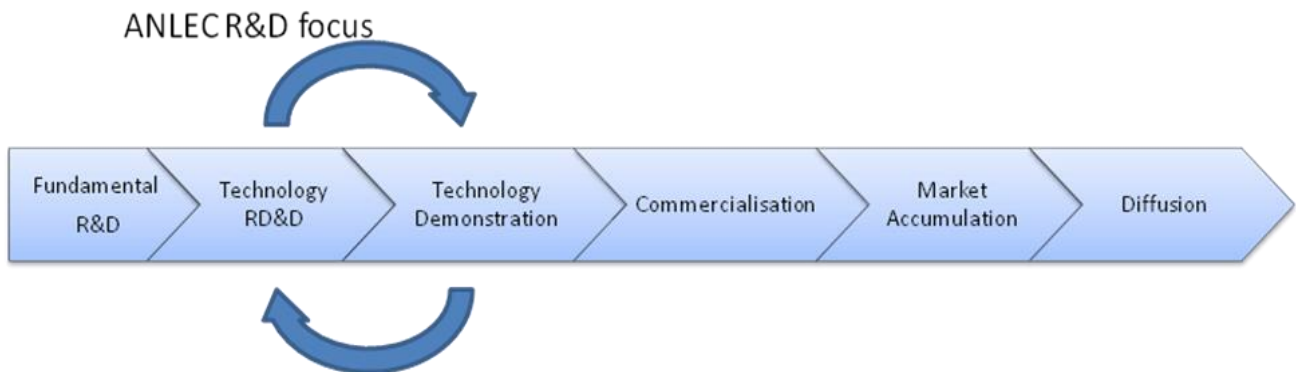
- Reduce cost and time required for project developers to take a project to pre-FEED status.
- Reduce cost and time required in permitting of projects.

- Reduce financing risk through increased knowledge and data available to owners & bankers engineers.
- Reduce capital and operating cost and increased operating flexibility through tailoring of plant specifically for Australian fuels, market requirements and environmental conditions.

CONTEXT – TARGETED RESEARCH PROGRAM

The proposed R&D program has the primary objective of providing the data, knowledge and capability to enable implementation of LECT with CCS under Australian conditions.

ANLECR&D will focus on accelerating the feedback between the early demonstration projects and the applied technology R&D, thereby mitigating risk and accelerating the technology development cycle. The ANLECR&D focus within the classic technology development pathway is illustrated with the following diagram.

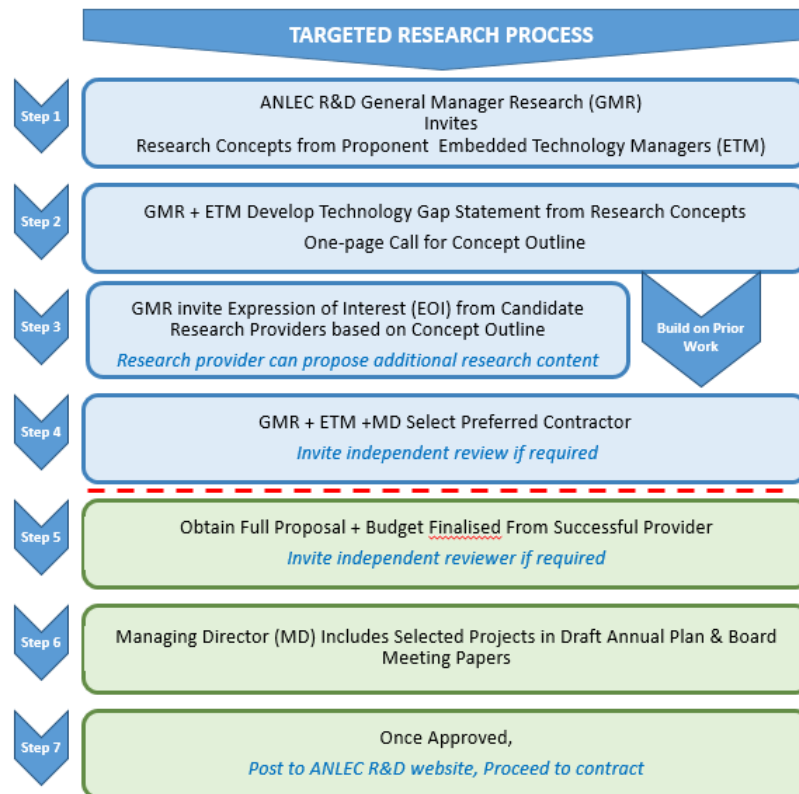


Projects are selected on the basis of an open call for research proposals to address specific technology outcomes to meet ANLEC R&D investment objectives. These are needs driven so their identified outcomes are, or will be, of practical use. ANLEC R&D's project design, selection and management processes emphasise outputs, management, relevance and coherent effort.

AMENDMENTS TO THIS PROPOSAL GUIDE

This Proposal Guide may be amended by ANLEC R&D from time to time including after it enters into a funding agreement with the Commonwealth of Australia. If the ANLEC R&D amends this Proposal Guide, it will either issue an addenda or a new version.

ANLEC R&D PROJECT PROPOSALS TARGETED RESEARCH



<http://anlecrd.com.au/funding/project-management/>

ANLEC R&D will proactively foster the development of, fund and support, excellent industrial and academic Applied Research. Applicants to the Applied and Targeted R&D should note:

Product Priority

- **Research Services must be tailored to deliver to the specific technology outcome sought and specified by ANLEC R&D**
- The Targeted Research projects are designed to service needs identified by the LECT Demonstration Proponents. In this respect scheduling and delivery may be of paramount importance to the LECT development program.
- In order for Research service providers to manage their resources effectively, delivery to the ANLEC R&D Targeted Research Program takes precedence over the ANLEC R&D Alternatives & Fundamentals research program. Therefore Service Providers who are awarded ANLEC R&D Targeted Research Projects are permitted - as part of the contractual negotiations - to rationalise their delivery and payment schedules for any ANLEC R&D Alternatives & Fundamental Research projects underway.

Communication

- All communication with the LECT Demonstration Proponents regarding the ANLEC R&D Targeted Research Projects should be undertaken with and through ANLEC R&D channels, review interfaces and systems. (Where research work is commissioned and paid for independently by the LECT Demonstration Proponents, these are not subject to ANLEC R&D conditions.)
- *The information targeted in these projects can require access to work with proprietary information that can only be made available with the co-operation of the project proponents and their respective technology vendors. ANLECR&D through its Embedded Technology Manager and research providers will need to pay particular attention to managing these relationships.*

These projects may be industry-only (sole company or consortia); industry-led (research-provider supported); research-provider led (industry supported); or research-provider only, noting that collaboration is encouraged and assessed. ANLEC R&D may also proactively commission, on a competitive basis, R&D projects that it considers are critical to the low emissions coal technology sectors in Australia.

Product Quality

- It is very important that, in developing a proposal, Research Proponents source the best expertise where it is available in Australia. Where there is opportunity for significant reduction in costs by using expertise and facilities only available overseas, these should be considered.
- There are expected to be both research and deployment tasks necessary for each project outcome. While it is recognised that the appropriate research providers will complete the research tasks, Research Project Proponents are encouraged to use where necessary sub-contracted professional technology services (SME's, Engineering Consultants etc) to address technology delivery tasks. (Eg: while models may be developed by research, if there is need for software development this should be under licence to a commercial software developer).

CONFIDENTIALITY

ANLEC R&D will require all communications relating to the Targeted Research Program to be regarded as confidential and not available to third parties without permission of the ANLEC R&D Executive.

Participation in the EOI process

Submission of an EOI application using the template located at

<http://anlecrd.com.au/funding/forms-and-manuals/>

Should provide proposal details addressing the following topics and an estimate of ANLEC cash (within 10% of successful proposal budget required with proposed in-kind contributions):

- The context (brief)
- The information gap (brief)
- The research objective (give details)
- Project outcomes targeted (give details)
- Project innovation added value (give details)

Ownership

All EOI submissions become the property of ANLEC R&D once lodged. ANLEC R&D may copy, amend, extract or otherwise deal with all or any part of a submission for the purpose of conducting the EOI process and any other of its service procurement processes.

Acknowledgment and disclaimers

ANLEC R&D, its officers, employees, advisors and agents:

- a) make no express or implied representation or warranty as to the currency, reliability or completeness of the information contained in the EOI;
- b) make no express or implied representation or warranty that any estimate or forecast will be achieved or that any statement as to future matters will prove correct; and
- c) to the extent permitted by law, expressly disclaim all liability arising from information contained in or omitted from this EOI or otherwise provided to a Respondent.

It is the responsibility of Respondents to obtain all information necessary or convenient for the preparation of their submissions. In lodging a submission, each Respondent acknowledges that it has not relied on any express or implied statement, representation or warranty as to the truth, accuracy or completeness of the information contained in this EOI, or otherwise provided to a Respondent by the ANLEC R&D.

Privacy

The ANLECR&D is obliged to protect personal information in accordance with the Information Privacy Principles in the Privacy Act 1988 (Privacy Act). The ANLECR&D reserves the right at any time not to disclose any information that is subject to, or that the ANLECR&D reasonably believes could be subject to, protection under the Privacy Act. Respondents must comply with applicable obligations under the private sector National Privacy Principles in the Privacy Act. If the ANLECR&D discloses any personal information to Respondents, they must also comply with the obligations under the Privacy Act, to which the ANLECR&D is subject, in relation to that information.

Respondent's costs

All expenses and costs incurred by a Respondent in connection with this EOI, including (without limitation) preparing and lodging a submission, providing the ANLEC R&D with further information, attending interviews and participating in any subsequent negotiations, are the sole responsibility of the Respondent.

No contract

Nothing in this EOI should be construed to give rise to any contractual obligations or rights, express or implied, by the issue of this EOI or the lodgement of a submission in response to it. No contract will be created until a formal written contract is executed between the ANLEC R&D and a Respondent.

Limited liability

By lodging a submission in response to this EOI, each Respondent agrees to limit any damages to which they might otherwise be entitled in connection with the EOI process to the reasonable costs incurred by the Respondent in preparing their submission.

ANLEC R&D's rights

Notwithstanding any other provision of this EOI, the ANLEC R&D reserves the right, at any time:

- a) to alter, amend or vary this EOI and the process outlined in this EOI

- b) if the ANLEC R&D considers that it is in the public interest to do so, to suspend or terminate this EOI process or any part of it
- c) to require additional information or clarification from any Respondent or anyone else, or provide additional information or clarification to any Respondent or anyone else
- d) to negotiate or not negotiate with any one or more Respondent, and discontinue negotiations at any time
- e) to allow, or not allow, the successful Respondent to enter into the proposed contract in the name of a different legal entity from that which provided a response to this EOI
- f) to select and negotiate with more than one Respondent
- g) to add to, alter, delete or exclude any of the requirements to be provided by the preferred Respondent under this EOI.

For the avoidance of doubt, the ANLEC R&D may exercise its rights under this clause and elsewhere in this EOI at any time and in its absolute discretion, unless this EOI expressly provides otherwise.

EOI Evaluation criteria

The ANLEC R&D will assess submissions against the following evaluation criteria. These criteria are not in any order of importance unless otherwise indicated:

Technical alignment with the scope of work provided – 50%

The estimate of effort – both quantum and capability - is fit for purpose – 25%

Value for Money – 25%

ELIGIBLE APPLICANTS

To be an eligible applicant for ANLEC R&D Project funding support, applicants must be able to demonstrate:

- They are a research institution, university and/or business that has the capability to undertake leading-edge research and development of LECT technologies in Australia;
 - Applicants must be Australian-domiciled but not necessarily Australian-owned.
- That they can fund as they fall due the costs of the project that are not met by ANLEC R&D's contribution to the total cost of the project; and
- That they have ownership of, access to or the beneficial use of any background intellectual property necessary to carry out the project.

VALUE FOR MONEY

ANLEC R&D will seek submissions from research providers to address specific outcomes to enable LECT demonstration in Australia. Value-for-money will remain an important assessment criterion in the proposals solicited from tendering research providers. While there is no minimum leverage criterion for access to ANLEC R&D funding in the targeted research program, ANLEC R&D will select those proposals that offer it high value for its contribution to the total cost of the R&D - taking account of any additional value, leverage investment or benefits offered in tendering proposals.

Potential Co-investors in the ANLEC R&D targeted research program will require approval by the relevant demonstration technology project and must be brought to the attention of ANLEC R&D Executive Management prior to commencing negotiations for co-contributions. State governments, technology vendors and other industry (apart from the coal industry) may be co-investors in these targeted research projects.

GUIDELINES FOR COMPLETING THE DETAILED PROJECT PROPOSAL

The detailed **Project Proposal** format consists of a series of questions to be answered, issues to be addressed and information to be supplied. Proponents are encouraged to seek feedback from ANLEC R&D's General Manager Research during the proposal development process in order for proponents to develop well-written and complete proposals. All questions in the proposal format **MUST** be answered fully and the requested information supplied. Failure to do so will result in the rejection of the proposal.

Our detailed proposals require proponents to plan the project carefully, define the need for the project, describe the benefits which will arise from the successful achievement of the project's objectives (assuming successful commercialisation), and justify the technological and financial base of the project.

An important part of the project development process is to verify the relationship of the proposed technology to the global state-of-the-art. This bench-marking is a requirement in ANLEC R&D's proposal format.

<http://anlecrd.com.au/funding/forms-and-manuals/>

EXECUTIVE SUMMARY

A **non-confidential** Executive Summary of the proposal is to be provided which concisely describes:

- What LECT demonstration enabling knowledge/information is this research targeting?
- Why is this necessary?
- How the project will be undertaken (i.e. the strategies); and
- What is the application outcome for this knowledge information
- What will be achieved if the project is completed successfully?

The Executive Summary is **NOT TO EXCEED ONE PAGE**. It should be written using words and concepts that can be easily understood by readers who do not have a technical or scientific background.

Why is this Research Project needed?

- i. What is the product or process to which the results of this project will contribute?
- ii. Why is this product or process needed?

For example, what is the LECT demonstration opportunity and/or the technical or commercial problem, either existing now or anticipated, which is driving the need for this project? What sections of industry and/or the community have this real or potential opportunity or problem and are therefore potential users of the project outcomes—either in Australia or overseas?

- iii. Finally, why is THIS project needed?

N.B.: The need is not the features of the technology or product (to be discussed in Section 12) nor is it the benefits to be realised (to be discussed in section 21).

What is the technical basis of the Research Project

- i. *What is the hypothesis being tested by this research project/proposal and what is the theoretical basis for it?*
- ii. Describe the technology(ies) and/or technique(s) which are the basis of the project.
- iii. What is the origin of the background technology or ideas being brought to the project?
- iv. What are the innovative or new features which are being developed to achieve the objectives of the project?

PROJECT OUTCOMES

Provide these in numbered, point form - Please provide the Research Outcomes as well as any additional Technology/Application Outcomes that should be included in the Project Plan.

Research Outcomes:

- The Outcomes of the project must be clearly defined to meet the need for the project. As far as possible, each Outcome should be: Specific, Measurable, Attainable, Results oriented and Time specific.
- Express the Outcomes concisely, using active language. *For example:*
 1. to develop a within years for use by
 2. to solve by
 3. to achieve an xx% cost reduction in years
 4. to have the project results adopted by the industry within years
- If only limited knowledge of the market for the technology or product being developed by this project is available, it is suggested that an Outcome such as:
 1. to assess the market potential of in order to ascertain

is included as one of the earliest Outcomes to be achieved in the project.

Research Application/Technology Outcomes:

These should be taken and developed from the Technology scope and specification provided by ANLEC R&D Executive Management

Tasks to achieve the Outcomes

For each outcome, list in point form the **research objectives, the tasks/strategies** which have been devised to achieve it.

N.B. This may include organisational, personnel, technical and/or commercial strategies, and should describe HOW each Outcome is expected to be achieved.

Project schedule of tasks to implement the strategies

Preferably using a Gantt chart format, *provide in a graphic form* a project schedule of the (major) tasks to be undertaken to implement the strategies above.

BUDGET

The total costing must identify *all probable known* expenses associated with the project. Justify each of the heads of expenditure costs detailed in the project budget (above) as follows:

Personnel: List as follows:

- the staff engaged or to be engaged on the project
- their salary cost to the project;
- the statutory on-costs for each;
- staff-related overheads for each; and
- recruitment and relocation costs (if applicable).

Calculate the amounts against salaries, on-costs and overheads by multiplying the full year value by the percentage of time spent on the project per year. All known OVERHEAD COSTS should be provided in detail or if using a formula justify its use and provide full details of the factors used in its derivation.

Equipment: List the cost of equipment to be used on the project as follows:

Important note:

ANLEC R&D may not be used for sourcing capital equipment without the express written permission of the Managing Director.

- New (purchase price plus delivery, installation and commissioning costs)
- Depreciation on existing equipment

- Lease costs
- Maintenance costs
- Charges for use of existing equipment

Why is this equipment needed?

Materials: List the materials which will be consumed on this project and their cost. Aggregate the costs of minor or standard materials under generic headings.

Why are these materials needed?

Subcontract: Identify all subcontractors, their role, the costs of their engagement and the subcontracting terms.

Why will the subcontractor(s) be engaged?

N.B. ANLEC's prior written approval is required for all subcontractors other than those listed here. See clause 4.4 of the Project Agreement.

Travel: List the costs for domestic and/or overseas travel by project personnel which is directly associated with the project.

Why is this travel required?

Other: List any other costs for the project which are not covered above. Of particular importance is technology adoption costs, i.e. any expected costs related to transferring the project results to the next stage towards commercialisation, or to commercialisation.

Why are these other expenses needed?

WIND UP CAP

In the event of termination, ANLEC's liabilities are limited to the Wind Up Cap, which is the maximum amount payable at any one time towards the reasonable costs of termination. The amount of the Wind Up Cap must be agreed and inserted here. The Wind Up Cap may vary for different stages of a project, but must be defined in advance.

MILESTONES

ANLEC will make payments only against the successful achievement of Milestones. The proposed Milestones MUST be measurable and MUST reflect progress towards achievement of the Outcomes of the project. Milestones are NOT the project's Outcomes, strategies, or the delivery of *progress* reports.

The first Milestone CAN be the signing of the contract upon which ANLEC R&D will typically pay up to 25% of its financial limit if required. ANLEC R&D will retain 30% of its financial limit until ALL finalisation requirements (including End of Project and financial reports) are met by the Researcher.

RESOURCING THE PROJECT

List the resources brought to the project for its successful completion. This may include names and/or positions of all personnel involved on this project and their employing organisation. Indicate the amount of each person's time which will be devoted to this project. This may be in the form of *days per month* or *percentage of working time* or *person days/weeks/months/years*.

PROPOSAL DEVELOPMENT & TIMING

ANLEC R&D in consultation with Australian Demonstration Proponents and appropriate LECT Technology Vendors the scope of desired outcomes from research will be prepared for each year.

These outcomes will be offered for research proposal development and submission by Australian Research Providers. Proposal development will commence in the preceding year with the aim to have finalised projects and budgets approved at the ANLEC Board of Management meeting held in May of each Year.

INELIGIBLE EXPENDITURE

The cost of some activities conducted as part of an agreed project may not be eligible expenditure. An applicant must ensure it has adequate funds to meet the cost of any ineligible expenditure associated with its project. Ineligible expenditure categories include, but are not limited to:

- The construction of buildings and/or cost of purchasing or improving land.
- Management studies or efficiency surveys.
- The making of donations.
- The costs of obtaining resources used on the project, including interest on loans and leases, job advertising and recruiting, and contract negotiations.
- Routine collection of information, except as part of the R&D process.
- Any activity related to the reproduction of a commercial product or process by a physical examination of an existing system or from plans, blueprints, detailed specifications or publicly available information.
- Opportunity costs relating to forgone production and downtime arising from the allocation of resources to the project.
- An activity that a local, State, Territory or Australian Government agency has the responsibility to undertake.
- Any activity that the grantee could reasonably be expected to undertake in the normal course of their business.
- Any activity that is supported by another Australian Government program which would lead to ANLEC R&D funding the same activity more than once.
- Any activity that the proponent must perform to comply with legislation.
- Interest on loans for new and pre-existing capital items utilised for the project.

This list is not exhaustive. Other specific expenditure may be ineligible because it is deemed by the Managing Director of ANLEC R&D to not directly support the achievement of the planned outcomes of the R&D project or to be contrary to the spirit and/or intention of ANLEC R&D's projects.

CONTRIBUTIONS TO THE PROJECT TOTAL COST

ANLEC R&D will make a financial contribution, within the project funding limits set out earlier in these guidelines, to meeting the total costs of the project. Participants conducting the project may make cash and/or in-kind contributions to finance the balance of the total cost of the project.

In-kind contributions are a non-cash contribution in the form of existing resources applied to the project, for example:

- Salaries and associated overheads of people working on the project, for the time they are engaged in the project;
- Access to and use of capital equipment.
- Indirect support costs such as general infrastructure costs.
- Imputed rent on buildings and equipment made available for use by the project.
- Non-salary project-specific direct costs, for example, the cost of providing consumables.
- Other costs necessary to enable project completion.

In-kind contributions must be directly attributable costs to the provider of the in-kind support and they must be auditable at a reasonable level that verifies their contribution to the total cost of the project, including overhead levels and/or formulae.

N.B.: 'In-kind' contributions do NOT include sunk costs of background technology or intellectual property being brought to the project.

TIMING FOR SUBMISSION OF R&D PROJECT PROPOSALS

R&D project proposals will be called for as deemed necessary by the Managing Director ANLEC R&D. In general, projects will be developed in the preceding year for activities commencing in the following financial year. Proposals must be submitted in their final form and will be required to allow sufficient time for our due diligence and evaluation processes to be undertaken prior to approval by the ANLEC R&D Board of Management which is expected to occur in April/May each year.

ASSESSMENT

Where necessary, proposals are assessed by a steering group that will include ANLEC R&D's Executive Management, Embedded Demonstration Technology Managers and other advisors as deemed necessary.

Any conflicts of interest that arise will be managed to ensure that member is not included in the assessment or selection processes. When necessary, additional expert advice will be sought as part of our assessment process. If ANLEC R&D does seek an external opinion on a project proposal, this will first be discussed with the proponent(s). Any external assessor will be required to sign a confidentiality agreement before any information about an application is released.

POST-SELECTION FEEDBACK

Unsuccessful applicants for R&D project funding may seek feedback from ANLEC R&D management.

Detailed scoring information will NOT be provided. ANLEC R&D management will provide qualitative feedback on why a proposal was not successful using the major assessment bands described earlier.

Unsuccessful applicants may re-submit their proposals in subsequent R&D Project funding rounds.

POST-PROJECT

End of Project Reports

ANLEC R&D's policy is to publish End of Project reports from targeted research in a manner that does not compromise the positions of the Australian demonstration proponents and their associated partners. All publications from this program will require written authorisation from the ANLEC R&D Executive.

Where appropriate, ANLEC R&D may write a non-technical summary of the project's results which will be disseminated to parties likely to be interested in the project's outcomes.

Confidential information which forms part of an End of Project Report may be attached as a separate confidential annexe. Any such confidential information will remain confidential to ANLEC R&D, and will neither be published, lodged in the National Library, summarised nor abstracted by ANLEC R&D.

END