Sample form, not for offline completion.
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Technology Commercialisation Challenge

The Technology Commercialisation Challenge (TCC), part of the India-Australia Renewable Energy Partnership, is funded by the Department of Climate Change, Energy, the Environment and Water. TCC brings together India's growing renewable manufacturing capabilities with Australia's leading R&D expertise.

Research and industry stakeholders will be supported in pursuing collaboration and technology development, aiming to establish formal relationships between Indian industry and the Australian research sector, and solving renewable manufacturing challenges.

Who should participate in the Challenge
This is a facilitated industry-research opportunity, supporting relationships between Australian Research Organisations and Indian renewable manufacturers in:

- Solar photovoltaics
- Battery technologies
- Hydrogen technologies.

Applications are currently open from Australian Research Organisations to participate in the Challenge. As this is a pilot initiative, only a limited number of places are available. We expect to support a maximum of five industry-research relationships.

More Information: For the full scope of the TCC and further details, please visit the TCC website.

Completing your application:

- All questions are mandatory unless marked as 'optional'.
- Word limits (both minimum and maximum) apply. Please be succinct in your responses.
- You can save your progress and return to edit your application at a later time. Once you submit your application form, it is final and no further changes can be made.
- You should not disclose sensitive Confidential Information in the application.
- Eligible applications will be assessed through a targeted, competitive assessment process. The information you provide in connection with your application will be shared with members of the assessment panel, both domestic and international, and TCC partner organisations. The assessment process is overseen by CSIRO.
- **Please make sure that your contact information is entered correctly, as these details will be used to reach you regarding your application.**

Applicant Name

Title

Miss

Ms

Mrs

Mr

Dr

Associate Professor

Professor

Other

Preferred Name (optional)

Email

Phone

Position/Role in Organisation

Organisation Details

Organisation Name

Australian Catholic University Limited

Australian National University

Avondale University

Batchelor Institute of Indigenous Tertiary Education

Bond University

Central Queensland University

Charles Darwin University

Charles Sturt University

CSIRO

Curtin University

...

Number and Street Name

Suburb, Town or City

Postcode

State or Territory

NSW
VIC
QLD
WA
TAS
ACT
SA
NT

Name of Faculty, Research Group, Centre, or Laboratory

Website of Faculty, Research Group, Centre, or Laboratory

- All questions are mandatory unless marked as 'optional'.
- Please note: maximum word limits apply. Please be succinct in your responses.
- Your answers will be shared with local and international assessors and TCC partner organisations.

1. Alignment with grant opportunity challenge statement/s, objectives and outcomes

Section 1/3 - This section is worth 40% of your overall assessment score.

Do not include sensitive commercial or confidential information in your answers.

Priority Areas and Challenge Statement alignment

Select the Challenge Statement/s within the Priority Area for strategic renewable energy supply chains for which you are applying for this grant opportunity (check all that apply).

a. Solar photovoltaic

The Challenge Statements listed below have been developed following consultations with a number of India's leading solar manufacturing businesses looking for solutions from Australia's world-class Solar and Manufacturing research and development (R&D) expertise.

Product performance & differentiation (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 1. Durability through materials - development of advanced materials for solar PV modules to improve reliability, reduce warranty claims, and lower total module failure rates
- [ ] 2. Durability through processes - process-level improvements for module integrity
- [ ] 3. Efficiency - enhancement through cell-to-module (CTM) integration, optical management and thermal control to maximise output from existing cell production and module assembly lines and deliver higher yield per watt under harsh real-world conditions
- [ ] 4. Functional design for aesthetics - developing module designs that meet architectural and visual requirements, enabling new deployment locations including Building-Integrated Photovoltaics (BIPV)

Manufacturing speed, flexibility and localisation (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 5. Expedited manufacturing - deployment-ready process improvements with embedded researcher or fast-turnaround formats
- [ ] 6. Supply chain alignment – to develop and improve locally scalable and high-performance materials for solar manufacturing (encapsulants, junction boxes, frames)
- [ ] 7. Localisation - to improve supply chain strength and sovereignty, increase uptime of capex-heavy facilities, and minimise retooling requirements
- [ ] 8. Differentiation - to launch next generation cell architectures, high-efficiency products without major factory reconfiguration

Knowledge transfer (optional)

- [ ] 9. Knowledge transfer - training and upskilling for efficiency improvements, supply chain strengthening, and research-industry applications

b. Battery technologies

The Challenge Statements listed below have been developed following consultations with a number of India's leading battery manufacturing businesses looking for solutions from Australia's world-class Battery, Manufacturing and Digital research and development (R&D) expertise.

Materials processing and circularity (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 1. Direct Cathode Active Material (CAM) recycling and performance retention
- [ ] 2. Mineral extraction and recovery - to develop indigenous, recyclable, or biodegradable extractants and catalysts for battery minerals (i.e. cobalt, nickel), and Rare Earth Elements (REE) recovery in hydrometallurgical and recycling systems
- [ ] 3. Recycling pathways for critical mineral extraction from spent battery systems
- [ ] 4. Rare earth recovery and magnet materials from industrial by-products
- [ ] 5. Ultra-purification of critical battery materials for high-performance cathodes

Cell chemistry and battery design (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 6. Solid-state battery innovation for enhanced energy density and thermal resilience
- [ ] 7. Next-generation cell formats for thermal safety and structural integration - to evaluate and commercialise alternative cell formats (i.e. blade, prismatic) with enhanced crash resistance, lower thermal runaway risk, and space-efficient integration

Manufacturing scale up and localisation (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 8. Physical battery line scale-up - cell manufacturing readiness and quality assurance (QA) protocols for domestic production scale-up
- [ ] 9. Localisation of supply chains and substitution of key imported battery components (e.g. semiconductors, metal-oxide-semiconductor field-effect transistors, separators)

Digital systems (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 10. Advanced diagnostics and second-life battery analytics using AI and sensors
- [ ] 11. Geographic customisation of battery User Interface / User Experience (UI/UX) and compliance frameworks
- [ ] 12. Advanced power electronics and integrated control systems for battery management - to co-develop smart battery management systems (BMS) and power conditioning units with embedded firmware, enabling seamless operation across residential, commercial, and grid-scale storage

c. Hydrogen technologies

The Challenge Statements listed below have been developed following consultations with some of India's hydrogen technology developers looking for solutions from Australia's world-class Hydrogen, Manufacturing, and Digital research and development (R&D) expertise.

Hydrogen derivative export infrastructure (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 1. Offshore bunkering platforms for green ammonia – to design, prototype, and validate single point mooring (SPM) systems for the safe, efficient offshore transfer of green ammonia at cryogenic temperatures
- [ ] 2. Spill mitigation and neutralisation systems for marine ammonia release
- [ ] 3. Cryogenic pipeline innovation – enabling long-distance offshore ammonia transfer
- [ ] 4. Vessel-platform connection systems – safe and efficient multi-vessel coupling
- [ ] 5. Advanced onshore cryogenic storage terminals – integrated ammonia buffer solutions
- [ ] 6. Discharge and control valves for cryogenic ammonia – robust, leak-proof designs
- [ ] 7. Solid-state hydrogen storage - scaling cost-effective solutions for the Indian climate

Electrolyser stack, component, and system design (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 8. Stack degradation mitigation and refurbishment – to develop predictive diagnostics and materials science strategies that minimise performance loss and enable refurbishment of AEM and Solid Oxide stacks after 3–5 years of operation
- [ ] 9. Reduce component costs membranes, catalysts, and flow plates
- [ ] 10. Electrolyser manufacturing process optimisation – accelerating scale and throughput
- [ ] 11. Modular and containerised Balance of Plant (BoP) systems – reducing deployment timelines and capex
- [ ] 12. Low-energy BoP designs – boosting overall system efficiency by 15–20%

Digital platforms (optional)

(Select relevant Challenge Statement(s) within your area of research capability)

- [ ] 13. Autonomous survey vessels – offshore logistics, seabed scanning and monitoring
- [ ] 14. AI-driven asset management platforms – to deploy advanced analytics and digital twins for real-time system health assessment, reducing unplanned outages and improving uptime in remote deployments

Priority R&D Areas 300 words

Provide an overview of your understanding of the selected Challenge Statement(s), and outline the approach you and your team would take to address them.

Related industry collaborations, projects, and key activities 300 words

Provide a description of an industry relationship or collaborative project; and/or a project or IP developed that is relevant to your selected Challenge Statement(s). Provide details that will assist us to understand your experience in industry relationships and delivering outcomes in the relevant priority area/s.

2. Capacity, Capability and Resources to Deliver the Project

Section 2/3 - This section is worth 40% of your overall assessment score.

Overview of capabilities 300 words

Describe at a high level your core research and commercialisation capabilities and strengths (you, your research group/lab and or your organisation's) against the selected Challenge Statement(s), including any new technology developments in renewable energy technology.

3. Benefits for both Australia and India

Section 3/3 - This section is worth 20% of your overall assessment score.

Previous international collaborations 300 words

Provide a brief overview of any current or past international R&D collaborations (if applicable).

Engagement with India 300 words

Please outline any current or previous engagement with India and your interest to engage with India through participating in the Technology Commercialisation Challenge (TCC).

Acknowledgement and declaration

Have you registered your intention to apply for this Technology Commercialisation Challenge (TCC) with your Research Office/Commercialisation team?

◯ Yes

◯ Yet to advise. I acknowledge the support of the Research Office, Technology Transfer and Commercialisation personnel will be required if this application is successful.

☐ **Privacy Statement & Consent**

I agree to the collection, use and disclosure of my personal information, including my sensitive information, in the ways described in the TCC Privacy Statement. I have obtained consent from any other people whose personal information is included in this application and in any documentation submitted in connection with this application, and let them know that the TCC Privacy Statement is available at https://csiro.au/en/work-with-us/International/The-Technology-Commercialisation-Challenge/Privacy-Statement

☐ I have informed all current potential members of the application team about the TCC Privacy Statement and will ensure any future team members are made aware as they join the project.

☐ I confirm I have obtained all necessary permissions, consents and approvals in relation to the information disclosed in or in connection with this application.

☐ I confirm that I and all potential participants are aged over 18.

☐ I agree to the disclosure of my personal information, including my sensitive information, to CSIRO, Creative Force (operating the Good Grants platform) and relevant Australian government entities (including AusTrade and DCCEEW), suppliers, mentors, corporates, sponsors and industry partners. I understand that disclosure to overseas suppliers, mentors, coaches, corporates, sponsors and industry partners will require disclosure of my personal information to entities based outside of Australia. I acknowledge that after being disclosed to overseas entities, my personal information may no longer be subject to the requirements of the Privacy Act 1988 (Cth).

☐ I confirm that I have read and understood the Technology Commercialisation Challenge Grant Opportunity Guidelines and the sample Participation Agreement.

The Technology Commercialisation Challenge Grant Opportunity Guidelines and the sample Participation Agreement are available to view on the TCC website.

☐ I agree to the use of images, audio and/or video recordings taken during the program being used for promotional and social media purposes.

☐ I would like to receive updates on future programs and news from CSIRO. (optional)