



Expression of Interest

The EMC's Energy Storage Challenge



**Invitation for
Expression of
Interest on behalf
of the participants
in the Electric
Mine Consortium**

Date of issue
1 September 2022



1. Introduction

The Electric Mine Consortium (“the Consortium”) invites one or more Invitees to provide an Expression of Interest (“EOI”) for the provision of the goods or services outlined in clause 4 in accordance with this Invitation for Expression of Interest (“Invitation”) and the Terms and Conditions set out in clause 12.

2. Background

The Electric Mine Consortium has the ambition to accelerate progress towards the fully electrified zero CO2 and zero particulates mine by:

- Resolving technology choices
- Shaping the supplier ecosystem
- Influencing policy makers, and
- Communicating the business case

Many of the mines within the consortium group are off grid and rely on onsite thermal generation from gas or diesel for electricity. The miner’s transition to renewable energy remains reliant on thermal generation to ensure supply security. Zero emissions for remote sites requires continuous access to dispatchable renewable energy to fully displace this thermal generation and the ability to store and dispatch vast amounts of energy will allow miners to achieve this goal. The participants will conduct proof of concept projects of Long Duration Energy Storage (LDES) solutions that provide appropriate expressions of interest at the sites listed in section 4. The projects require mine site scale storage, to enable shifting of renewable energies from peak production times to cover the entire low renewable generation period overnight.

The members have the intention to utilise the EOI responses to identify the most suitable energy storage technology or vendor for their application and will likely directly engage with the supplier following the EOI to understand the commercial viability of the technology at the given site. For large scale installations there may also be the opportunity to conduct trial demonstrations of the technology at particular sites. The members require the Invitees to have a defined road map to achieve appropriate scale of solutions for the sites or regions of interest, to enable confidence in the ability to deliver the storage technology and identify commercially acceptable pathways

Mine site conditions are expected including weather extremes, dust, salt and corrosive environments in remote locations and off grid (microgrid) power system conditions.

Expressions of interest should identify technology vendor and product suites to suit applications, should clarify the use of vendor technology at scale and how this looks in the mining context. It would be useful to include modelling of power flows and inertia requirements at scale to meet the case study parameters. Further research will be undertaken to understand the integration capability with broader energy system (including electrified mining fleet) and results/data from the trials will be shared amongst consortium members and academic partners to further the research and understanding.

Learnings from the studies will be used to further understand the near term and long-term commercial viability of storage solutions and shared with the mining and other industries as seen to be appropriate by The Consortium.

The EMC consortium and this EOI presents an opportunity for proponents to showcase their developing technologies and demonstrate their commercialisation pathway.

Funding for the implementation of any proposed LDES projects/pilots/trials are expected to be collectively supported by the proponent, end user and, subject to meeting investment criteria, Australian government agencies. Our EMC industry partners have a vested interest in supporting the technology development required to meet their net zero commitments. The Australian government through the Australian Renewable Energy Agency (ARENA) is also a supporter of the development of large scale energy storage projects. The Consortium can help in facilitating access to alternate funding sources.

The impacts of local manufacturing on local economies and skills development are recognised by the EMC. Manufacturing capabilities are also known to drive technical innovation and growth, LDES providers capable of delivering local manufacturing within respective jurisdiction will be considered favourably by the EMC in assessment of the EOI responses.

3. EOI objectives

The objective of this EOI for The Consortium is:

- To gain a detailed understanding of the technical and commercial readiness of LDES options for use in mining, utility, and other industrial applications.
- To ascertain the willingness of LDES providers to invest in the technology development and showcasing.
- To provide LDES OEM's with mining sector use cases to grow interest in developing and/or applying solutions aligned with the vision of The Consortium and its member companies.
- Furthermore, to demonstrate that there is a consolidated demand for LDES solutions in regional Australia.
- To facilitate collaboration in the mining and power services industries to accelerate decarbonisation solutions in the mining industry
- To accelerate adoption of LDES solutions within EMC member companies

The Energy Storage EOI will be deemed successful if;

- The process identifies three or more energy storage opportunities which are considered suitable to proceed to preliminary design for deployment and COD at scale (140 – 280 MWh) within three years.
- The EOI process unearths storage technologies which may provide an economically viable alternative solution to existing known technologies, available for commercialisation within a three-year period.

4. Description of Goods and / or Services - The Scope

The Invitee is invited to submit an EOI which includes all proposed rates in delivering the operational expenses (OPEX), capital expenses (CAPEX) and quantities and includes all applicable information identified in schedule 5 for the provision of LDES solutions across the member sites (refer to clause 5).

This must include as a minimum:

1. Vendor capability statement and
2. Technology technical specification and details outlined in schedule 5 (Energy storage proposal)
3. Design to meet the future state for relevant case studies.
4. Commercial proposal for technology solution or relevant case studies.
5. Risk assessment of technology in mining context and against jurisdictional regulations.
6. Forecast technology learning curve and details on current hurdles to commercialisation (and to meet the future state).
7. Carbon footprint of energy storage development and installation, and circular economy opportunities.
8. Potential for capability, skills, manufacturing and economic development in represented jurisdictions beyond trial.
9. Maturity curve self-assessment.

It is requested that EOI's contain pricing for a lease type arrangement of the storage medium and a "purchase" price at the end of successful demonstration and achievement of agreed KPIs. Please indicate which case studies you consider your energy storage solution would be suitable or adaptable too.

5. Use Case Sites

Multiples sites and regions within the Consortium members have application for LDES solutions. These sites are located across states in Australia. Consortium member companies are interested in all solutions that could be applied at one or all of their sites.

Six use cases have been provided to demonstrate sites that have specific interest and opportunity for implementation of storage solutions in the near term. These six sites are:

1. Agnew Gold Mine – Gold Field Australia
2. Narngulu - Iluka Resources
3. Jacinth Ambrosia Mine Site - Iluka Resources
4. Worsley Alumina – South 32
5. Hillside Smelter – South 32
6. Cosmos Nickel Operation – IGO

Detailed use case data may be requested via EnergyStorageEOI@stateofplay.org following submission and acceptance of schedule 1.

Consortium member mining and contracting companies with Australian sites include:

- Evolution Mining
- Gold Fields
- IGO
- Iluka
- Newcrest Mining
- OZ Minerals
- South 32

Figure 5.1 – Map of Electric Mine Consortium company sites across Australia.



The high-level parameters of each use case site are listed below. Further details information including load, generation and spilt energy annual profiles is available, subject to necessary Non-Disclosure Agreements (NDA). Please contact EnergyStorageEOI@stateofplay.org to submit an NDA application for the detailed data.

6. Estimated Date

The Company estimates that the LDES projects will commence COD 2024. Expressions should indicate any expected time frames for solutions that are outside of this range.

7. Duration

The duration of the site lease demonstration of LDES are expected to be in the order of 6 months to complete the proof of concept for our operations and associated conditions (environmental and other).

8. Expression of Interest Timeline

The indicative timeline for the EOI and potential selection process is set out in Table 8.1.

Table 8.1 Indicative Expression of Interest Timeline

Description	Date
Issue invitation for EOI	1 September 2022
EOI briefing session (if required)	15 th September 2022 (or week of)
EOI submission closing date	13 October 2022
Review and evaluation of Invitee's responses	27 th October 2022
Intended commencement date for next stage of selection process	3 rd November 2022

9. Form of Acknowledgement

The Invitee is requested to complete and return the Form of Acknowledgement set out in Schedule 1 within three (3) days of receipt of this Invitation for Expression of Interest to indicate whether it will submit an EOI.

10. Closing Date for Expression of Interest

The Company must receive the Invitee's EOI by 1700 (WST) 13th October 2022.

11. Expression of Interest Submission

11.1 Price

The Invitee must submit a proposal which is inclusive of all proposed rates (OPEX), CAPEX and quantities necessary for the Invitee to complete the Scope as requested in clauses 4 and 5. All rates and prices must be in Australian Dollars and exclusive of any applicable Goods and Services Tax ("GST").

11.2 Form of Expression of Interest

The Invitee must submit the EOI by the Closing Date via email to EnergyStorageEOI@stateofplay.org

11.3 Expression of Interest Information Requirements

The Invitee must submit the EOI to the Company in writing as specified in clause 4.

The EOI must include:

- a) all completed Schedules;
- b) the Invitee Company Information (Schedule 2); and
- c) Capability (Schedule 3);
- d) Commercials (Schedule 4);
- e) Energy Storage Proposal (Schedule 5);
- f) the date the EOI was submitted.

11.4 Verbal Communications

The Consortium will not accept a verbal response to this Invitation for Expression of Interest.

12. TERMS AND CONDITIONS

12.1 Invitation

This Invitation is not an offer. It is a formal request for Invitees to submit a response for the provision of goods and / or services set out in clause 4. Nothing in this Invitation is to be construed as creating any binding contract for the provision of goods and / or services (express or implied) between the Company and any Invitee. In consideration of being invited to submit an EOI for the supply of goods or services to the Company, the Invitee is deemed to agree to and be bound by the terms and conditions of this Invitation for Expression of Interest upon submission of an EOI to the Company.

12.2 Accuracy, Release and indemnity

The Company does not warrant the accuracy of the content of this Invitation for Expression of Interest and will not be liable for any omission from the Invitation documents. The Invitee releases from and indemnifies and holds harmless the Company, its officers, servants and agents against any claim, demand, debt, accounts, expenses, costs, liens, actions and proceedings of any kind (“Claim”), by the Invitee or any person claiming through the Invitee in any way relating to this Invitation for Expression of Interest.

12.3 Amendment

The Company reserves the right to revise, amend, or revoke this Invitation for Expression of Interest by notice to the Invitee/s at any time prior to the Closing Date.

12.4 Late Invitee’s response

If an Invitee’s response is lodged after the Closing Date, it will be disqualified from the EOI process and will be ineligible for consideration unless: a) the Invitee can clearly document to the satisfaction of the Company that an event of exceptional circumstances causes the Invitee’s response to be lodged after the Closing Date; and b) the Consortium is satisfied that accepting a late submission would not compromise the integrity of the EOI process.

12.5 Next Stage of the Expression of Interest

Process After evaluating all of the Invitees' responses, the Company may without limiting other options available to it, do any of the following:

- a) prepare a shortlist of Invitees and invite further offers from those invitees;
- b) conduct a subsequent procurement process calling for the goods and / or services or any similar or related goods and / or services;
- c) enter into pre-contractual negotiations with one or more Invitees;
- d) decide not to proceed further with the EOI process or any other procurement process for the goods and / or services; or
- e) commence a new process for calling for Invitee's responses on a similar or different basis to that outlined in the original Invitation for Expression of Interest.

12.5.1 No legally binding contract

The Consortium's:

- a) advice to an Invitee that it has been shortlisted by the Company,
 - b) advice to an Invitee that it is the preferred Invitee, or
 - c) commencement of pre-contractual negotiations with any Invitee,
- does not give rise to a contract (express or implied) between the Invitee and the Company. No legal relationship will exist between the Company and an Invitee relating to the provision of the goods and / or services unless and until such time as a binding contract is executed by both parties in writing.

12.6 The Consortium's Rights

Notwithstanding anything else in this Invitation, and without limiting its rights at law or otherwise, the Consortium reserves the right, in its absolute discretion at any time, to:

- a) vary or extend any time or date specified in this Invitation for all or any Invitees;
or
- b) terminate the participation of any Invitee or any other person in the EOI process.

12.7 Confidentiality

The Invitee acknowledges that:

- a) all drawings, specifications and other information whether oral, printed, electronic or graphic contained in this Invitation for Expression of Interest or obtained by the Invitee from the Companies of the Consortium (hereafter

referred to as “Information”) is proprietary, confidential and commercially sensitive information of the Companies of the Consortium.

- b) in consideration of the Company providing the Information to the Invitee to enable the Invitee to submit an EOI, the Invitee undertakes:
- i. to keep the Information strictly confidential;
 - ii. not to use or apply the Information for any manner or any purpose other than for the purpose of providing the EOI; and
 - iii. not to disclose the Information to any third party without the prior written approval of the relevant Company; provided that the Invitee may disclose the confidential Information to its employees, officers, agents, advisors, contractors and sub-contractors who are necessary to enable the preparation of its EOI and who are advised of the confidential nature of the Information.
- c) the Invitee must promptly and fully disclose to the Company any development or modification to the Information. All developments or modifications the Invitee makes to the Information will, upon inception, become the proprietary, confidential and commercially sensitive Information of the Company.
- d) the Invitee must not record the Information in any way other than to permit the Invitee to prepare its EOI. If the Invitee elects not to submit an EOI, upon submission of the EOI, or upon the Closing Date, whichever is earlier, the Invitee must immediately destroy the Information (including any copies).
- e) the Invitee must ensure that any of its employees, officers, agents, advisors, contractors and sub-contractors, or any other person to whom it discloses the Information will be bound by terms no less onerous than those contained in this Confidentiality clause.

SCHEDULE 1

FORM OF ACKNOWLEDGEMENT

The Invitee must complete this Form of Acknowledgement and return by email:

Email: EnergyStorageEOI@stateofplay.org

EXPRESSION OF INTEREST – Long Duration Energy Storage

With reference to the above Expression of Interest, we acknowledge receipt of the Expression of Interest Documents issued on 1st September 2022.

- We intend to submit an Expression of Interest for this scope and we acknowledge that we have checked the contents of the Expression of Interest Documents provided and confirm receipt of the complete package*
- We do not intend to submit an Expression of Interest for this scope and herewith return the complete Expression of Interest Documents*

* Delete whichever is not applicable.

Company Name and ABN

Contact Name

Contact Position Title

Contact Telephone Number

Signature

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SCHEDULE 2

INVITEE COMPANY INFORMATION

Invitee Company Name _____

[Invitee to complete and return via email]

Company Information	
Information about the company/entity submitting the Quotation.	
Company Name	
ABN	
ACN	
Street Address	
Mailing Address	
Telephone Number	
Authorised Signatory	
Information about the person/s authorised to bind the Invitee	
Name	
Position Title	
Telephone Number	
Email Address	
EOI Contact	
Information about the point of contact during the EOI process (if different to authorised signatory)	
EOI Contact Name	
EOI Contact Position Title	
EOI Contact Telephone Number	
EOI Contact Email Address	

SCHEDULE 3

CAPABILITY

Invitee Company Name _____

[Invitee to prepare documentation requested below as applicable]

INFORMATION REQUIRED	MINIMUM DETAILS
Financial Details	<ul style="list-style-type: none"> • A copy of your most recent Annual Report (if applicable)
Health, Safety & Environment (HSE)	<ul style="list-style-type: none"> • Provide copy of your HSE policies and an overview of how these areas are managed whilst undertaking work at various work sites (minesite and offsite). • Provide HSE statistics for the last 12 months which include LTI and MTI frequency rates. • Provide environmental management statistics (if available) • Demonstrate any previous experience in managing environmentally and culturally sensitive projects
Personnel	<ul style="list-style-type: none"> • Provide a high-level organisation chart which indicates personnel location. • Provide total work force numbers organised by relevant trades, professions and management positions and locations.
Local Workforce Participation	<ul style="list-style-type: none"> • Provide details on how to maximise the use of local resources across states in Australia where your solution is either sourced or is proposed to be deployed
Indigenous Workforce Participation	<ul style="list-style-type: none"> • Provide details on how to maximise the employment of Indigenous personnel (either directly or indirectly) via your proposal
Fleet and Equipment	<ul style="list-style-type: none"> • Provide details of current major fleet, charge infrastructure and renewable energy equipment

	including quantity, age and technology employed (as applicable)
Previous Experience	<ul style="list-style-type: none"> • Provide details of similar scopes / projects undertaken, including: <ul style="list-style-type: none"> o location; o industry / commodity; o scale / project value; o term; and o dates. • Specifically demonstrate an ability to execute projects within / under budget and within schedule requirements.
Current Projects/ Demonstrations	<ul style="list-style-type: none"> • Provide details of current projects/demonstrations and forecast completion dates
General	<ul style="list-style-type: none"> • Provide any additional information that will assist you to progress to the next stage, including <ul style="list-style-type: none"> o Vendor technology solution o Risk assessment of technology (including against jurisdictional regulations) o Forecast technology learning curve and details on current hurdles to commercialisation (to meet the future state)

SCHEDULE 4

COMMERCIALS

Invitee Company Name _____

[Invitee to prepare documentation requested below as applicable, to the Long Duration Energy Storage proposal.]

INFORMATION REQUIRED	MINIMUM DETAILS
Capital costs	<ul style="list-style-type: none"> • Capital costs to be incurred by the EMC member company to establish technology solution on a site and as provided by the Invitee <ul style="list-style-type: none"> ○ Including details on quantities required and capital cost per unit ○ Including all interfaces required, and to be provided by the EMC member company
Operating costs	<ul style="list-style-type: none"> • Operating costs (per unit) across all operating elements provided by the Invitee

SCHEDULE 5

ENERGY STORAGE PROPOSAL

Details of energy storage proposal to be submitted via the link below.

<https://form.jotform.com/222049209190047>