

Invitation for Expression  
of Interest ( EOI )

**Access to capacity of the  
Deer Park BESS for market  
services** July 2021

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# Important notice

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You must read the following notice before reading or making any use of this document, including any information contained in this document and any related discussion or information provided as part of, or in connection with, the processes contemplated in this document (together, the EOI Material). By continuing to read, use or otherwise act on the EOI Material, you agree to be bound by the Conditions. You consent to submit to the laws and courts of Victoria, Australia in respect of any proceedings arising out of or relating to the EOI Material, the Tender Process or the Project.

## Interpretation and application

Capitalised terms used in this document are defined in **Section 6** of this document. This important notice applies to all recipients of this document, regardless of whether they participate in the Tender Process.

## No reliance and no claim

The information in this document has been compiled on behalf of Lumea for the guidance of entities or consortia interested in participating in the Tender Process for the Project. Neither this document nor any other EOI Material constitutes an offer or recommendation by Lumea or any other Lumea Entity in relation to the Tender Process or the Project. Neither the provision of any EOI Material by Lumea nor the lodgement of any EOI by any Participant is intended to, nor will constitute, any contractual or other legal relationship between Lumea and any Participant (whether about the carrying out of the Project or the Tender Process (including the process for the invitation or selection of Participants, Shortlisted Participant(s), Preferred Participant(s) or Successful Participant(s))).

This document does not purport to contain all the information that Participants may require in assessing the Project or deciding whether to participate in the Tender Process.

To the maximum extent permitted by law, no Participant has any claim of any kind whatsoever against Lumea or any Lumea Entity (whether in contract, tort (including negligence), equity, under statute or otherwise) arising from or in connection with this document, any other EOI Material, the Tender Process or the Project.

## Participation at Participant's cost and risk

Neither Lumea nor any Lumea Entity is liable for any costs incurred by a Participant in reviewing this document or preparing or submitting an EOI or any other bid, proposal or offer. Participation in the Tender Process is at the sole cost and risk of each Participant.

No legal or other obligation will arise between any Participant and Lumea or any Lumea Entity in connection with the carrying out of the Project unless and until a formal project contract document(s) has been signed by the relevant parties.

Except to the extent required by law, the rules of any stock exchange, any applicable accounting standards or order of any court, a Participant must not make any announcement or public statement in relation to this document, the Tender Process (including the status of the Tender Process or details of its discussions or negotiations with Lumea), the Project or any other matter referred to in this document without the prior written consent of Lumea.

## Other conditions

This important notice must be read in conjunction with the matters set out in **Section 4** of this document under the headings 'Notice and disclaimer', 'Purpose and intended recipients', 'Information', 'Rights', 'Liability' and 'Confidentiality, ownership and use of information'.

# 1 Introduction

Lumea is the commercial arm of TransGrid that focuses on new and innovative energy projects and is a trade mark of TransGrid Services Pty Limited [ACN 626 136 865] as trustee for TransGrid Services Trust [ABN 94 121 353 950]. Lumea is investigating the opportunity for a Battery Energy Storage System (BESS) located at Deer Park substation (Deer Park) west of Melbourne. Lumea is pleased to invite selected parties (Participants) to express their interest in entering a contract for access to capacity of the Deer Park BESS for market services as outlined below (Project).

This document sets forth the procedures and requirements for the BESS market service tender process. Participants are advised that the contents of this document and the information provided as part of this invitation for Expression of Interest (EOI) are confidential.

## Timetable and process

Lumea intends to conduct a three-stage tender process comprising an EOI, a Request for Proposal (RFP) and contracting for access to capacity of the Deer Park BESS for market services. The Closing Date and Time for the EOI is 5pm AEST, Friday 6 August 2021. Further details on the EOI requirements are set out in

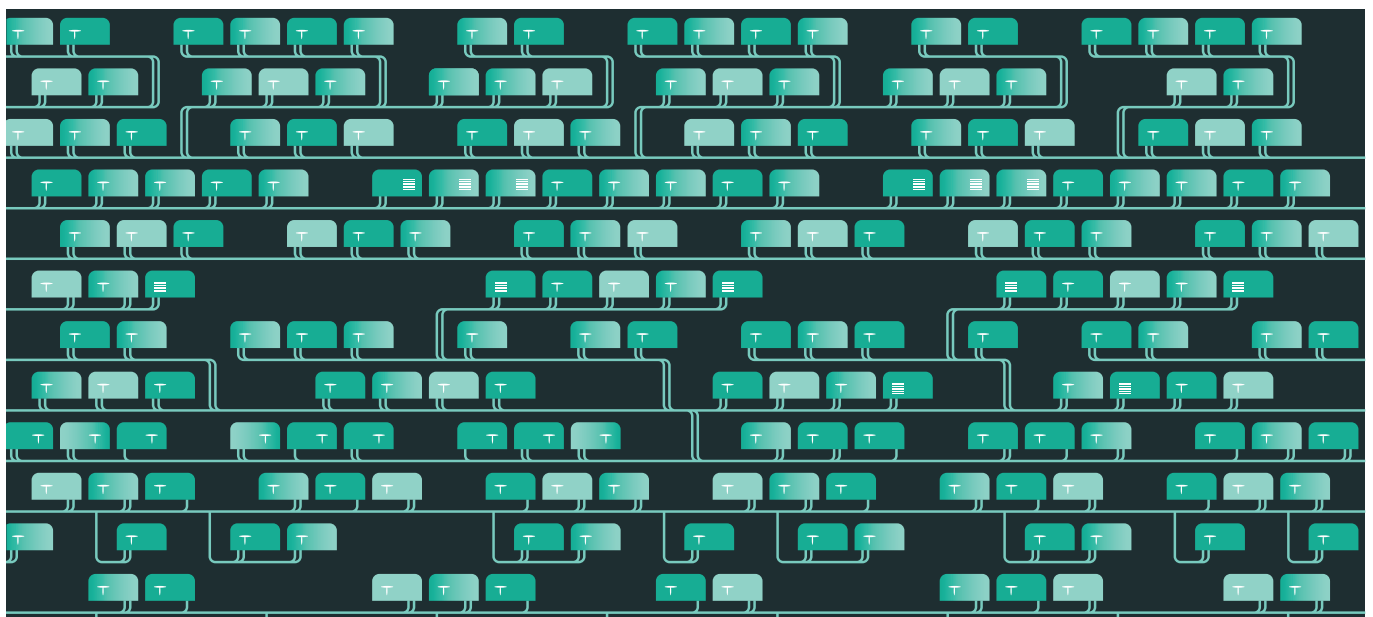
**Section 4.**

## Communication

All communications, inquiries and requests for information should be directed to the Lumea representatives set out below.

**Helen Gough** Deer Park BESS Project Director  
[Helen.Gough@lumea.com.au](mailto:Helen.Gough@lumea.com.au)  
**0456 081 099**

**Mark Gould** Senior Proposal Manager – Victoria  
[Mark.Gould@lumea.com.au](mailto:Mark.Gould@lumea.com.au)  
**0408 507 982**



## 2 Opportunity

Lumea recently conducted a preliminary assessment of the opportunity to build and own a grid scale battery (BESS) at Deer Park. The release of this EOI invitation follows discussions with a number of market participants and increased unsolicited interest from such parties for locating a BESS at Deer Park.

**In a first for Australia**, this large scale battery storage system (up to 300MW) is intended to be fully financed from private sector market participants without utilising government funding. The Deer Park BESS will enable optimisation of renewable energy in Victoria and across the National Electricity Market.

Lumea, as TransGrid's commercial arm, has a substantial land asset at Deer Park with available bays and adequate network capacity. TransGrid is the transmission network service provider for NSW and the ACT and a declared transmission system operator in Victoria and with that has generations of experience in both owning and managing large electrical infrastructure and their associated balance of plant equipment.

As TransGrid's commercial arm, Lumea is scheduled to complete the first grid-scale battery in NSW, at Wallgrove, in October 2021 to further test the use of synthetic inertia and fast frequency response services.

**Section 5** provides key characteristics of the current Deer Park BESS configurations under consideration. Lumea is also open to consideration of modifications for alternate duration, size or staging, subject to market interest. Based on initial modelling, the Deer Park BESS could consist of:

- 280 MW / 560-840 MWh (2-3hrs) / 20 year asset life.
- 140 MW / 280-560 MWh (2-4hrs) / 20 year asset life.
- Another size / duration or staging subject to market interest.

In return for a regular payment, the Successful Participant(s) will contract for access to the battery capacity for operation in the following markets:

- spot energy market,
- contingent frequency control ancillary service (contingent FCAS) markets,
- regulation frequency control ancillary services (regulation FCAS) markets.

The Deer Park BESS will have communications enabled to provide the Successful Participant(s) (or its nominated trader) with data (telemetry, state of charge) over SCADA, allowing the BESS to be bid into AEMO's NEMDE. The communications will also be used to receive AEMO dispatch and enablement instructions for energy and frequency control services. Local frequency monitoring will be used for the delivery of FCAS services, and high speed metering (AEMO MASS) will be used for its validation.

The Successful Participant(s) would ultimately be the registered market participant for both load and generation under the National Electricity Rules.

**Lumea would remain the asset owner**, with responsibility for operation and performance of the Deer Park BESS. Lumea is responsible for supply and performance of the BESS, compliance with Generator Performance Standards and connection to the network.

# 3 Tender process

Lumea will adopt a three-stage process to finalising the choice of market participant for the Deer Park BESS.\*

**In the First Stage: Lumea will invite selected parties**

(Participants) to express their interest in entering a contract for access to capacity of the Deer Park BESS for market services. Parties interested in participating in the tender process are invited to submit an EOI to Lumea by **5pm AEST, Friday 6 August 2021**.

The EOI process will confirm market interest and determine the optimal size and duration of the battery. It may also inform whether there are further opportunities to supply system reliability services to the grid, as the energy economy transforms towards greater renewable generation.

Participants who respond to this EOI will be assessed against defined evaluation criteria as set out in **Section 4**. Based on responses received a shortlist of market participants (Shortlisted Participants) will be created and a preferred BESS configuration(s) will be determined in consultation with the Shortlisted Participants.

**In the Second Stage: Lumea will invite Shortlisted Participant(s)** to the next stage of the process – a Request for Proposal (RFP) Shortlisted Participants will be asked to competitively bid via a follow up final request for proposal stage.

**In the Third (Final Stage): Lumea will identify** the Preferred Participant(s) to proceed to the contracting stage in which the Successful Participant(s) will enter a contract for access to capacity of the Deer Park BESS for market services.

\* Please see following page for a timeline of the three stages.



## Q & A

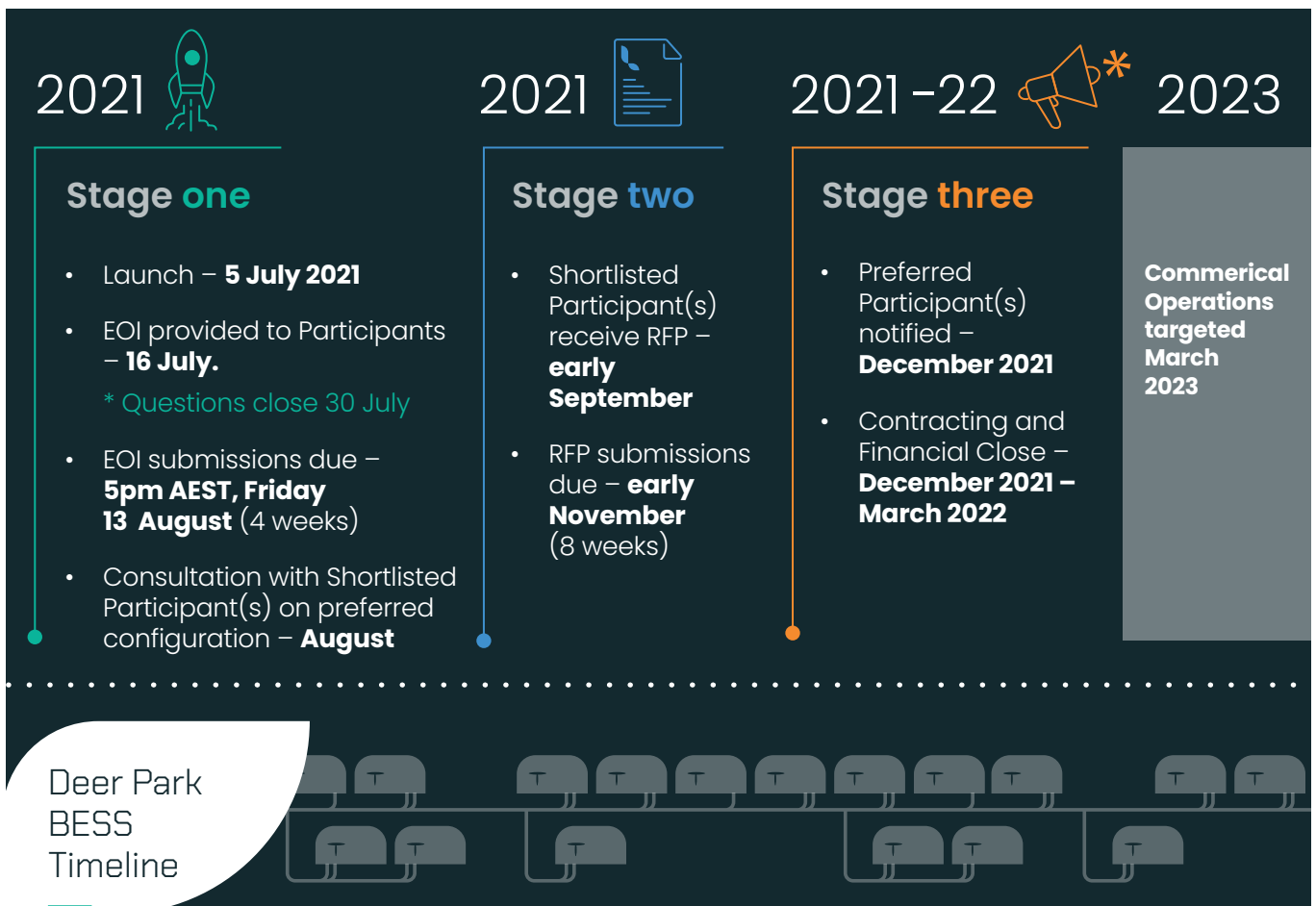
The EOI process provides for question and answer interaction between each Participant and Lumea. Participants will be required to submit all questions in writing to the Lumea representatives set out in **Section 1**.



## Contact details

All communication and enquiries in relation to the Deer Park BESS should be directed solely to the Lumea representatives set out in **Section 1**.

# Deer Park EOI



\* Note the above timeline is subject to change. Lumea will advise Participants in a timely manner in the event of modification to the timeline.

# 4 EOI Response

## Requirements

Lumea requires that all Participants provide, as part of their EOI:

### 1. A description of the Participant, including:

- a Experience and track record as a market participant in the NEM/internationally;
- b Strategic partnership approach;
- c Ownership structure of the Participant;
- d Financial capability of the Participant;
- e Where part of a consortium, respective roles and responsibilities; and
- f Any other relevant information outlining the Participant's capabilities in the sector.

### 2. Proposed contractual arrangements based on the Deer Park BESS Key Characteristics provided in Section 5, including:

- a A nominated regular payment to Lumea, this may be sculpted or flat over the duration of the contract;
- b Contract duration (10 to 15 year period);
- c Assumptions regarding access & control for market services (spot energy market, contingent FCAS markets and regulation FCAS markets);
- d Assumptions regarding BESS availability and any limitations on use for complementary network services;
- e Credit support arrangements; and
- f Any other assumptions that may impact the risk profile of the contract.

### 3. Participants are also invited to offer variations (to the Key Characteristics set out in Section 5) based on alternate, clearly specified technical assumptions, for example:

- a capacity of the battery in either, or both, MW and MWh basis; and/or
- b throughput use of the battery in excess of one cycle per day on average per annum.

## EOI Evaluation Criteria

In the EOI phase, Participants will be assessed against the following evaluation criteria:

- Proven track record in Australia/internationally and partnership approach.
- Financial and technical capability to participate as market participant for the contract duration.
- Commerciality of proposed regular payment(s).
- Compliance of response to Deer Park BESS Characteristics as provided in **Section 5** and/or ease of interpretation of alternative variations.

## Notice and disclaimer

The following conditions under the headings 'Purpose and intended recipients', 'Information', 'Rights', 'Liability' and 'Confidentiality, ownership and use of information' should be read in conjunction with the Important Notice on page 1 of this document. These conditions (including the Important Notice on **page 3** of this document) prevail over any other provision of this document or any information provided by Lumea in connection with this document.

As a condition of a Participant's participation in the Tender Process, Lumea may require that the Participant executes a deed (on terms and conditions acceptable to Lumea) under which the Participant acknowledges and accepts the terms and conditions of the Participant's participation in the Tender Process (including as to confidentiality and acceptance of the Conditions).



## Purpose and intended recipients

The EOI Material has been prepared by Lumea solely to assist recipients to decide whether to submit an EOI to Lumea (the Purpose). The intended recipients of the EOI Material are persons who have an interest in submitting an EOI. If you are not an intended recipient of the EOI Material, you must either:

1. return it immediately to Lumea at 180 Thomas Street, Sydney, NSW, 2000, if you received a physical copy; or
2. if you received the EOI Material by email, delete the EOI Material immediately and email confirmation of that deletion to the Lumea representatives set out in **Section 1**.

## Information

The content of the EOI Material is high level and based on information from sources Lumea believes to be reliable but which independently verified. Lumea may have relied on forecasts and assumptions about future events which, by their nature, are not able to be verified. Actual results in the future may vary and these variations may be material.

Lumea reserves the right, but is under no obligation, to review or amend the EOI Material to account for any additional information not reflected in this document, whether in existence on or after the date of this document.

Neither Lumea nor any Lumea Entity makes any warranty or representation (express or implied), as to the currency, accuracy, adequacy, suitability, reliability or completeness of the information contained in the EOI Material.

## Rights

Notwithstanding any provision of this document, Lumea may conduct the Tender Process in such manner as it thinks fit. Without limiting the foregoing and in addition to its rights set out elsewhere in this document or any other EOI Material, Lumea may (in its absolute discretion) at any time and without giving reasons;

- 1 alter the terms of participation in the Tender Process;
- 2 shortlist one or more Participants;
- 3 reject any or all EOI responses;
- 4 not accept any EOI response;
- 5 allow further entities or consortia to participate in the Tender Process (whether the EOI or any subsequent stage(s) of the Tender Process), whether or not they have submitted an EOI or RFP response;
- 6 negotiate a private agreement with one or more Participants or any other person at any time rather than shortlist one or more Participants or proceeding to any subsequent stages of the Tender Process;
- 7 enter into a contract with one or more Participants or any other person at any time;
- 8 request one or more Participants to review, improve and/or enhance any or all part(s) of its EOI or RFP response;
- 9 request any Participant to submit an offer;
- 10 request further information from any Participant and/or question any Participant, including to invite presentations from any Participant or engage in interviews with any Participant (including to clarify or provide further information on any matter relating to a Participant's EOI or RFP response, any evaluation criteria for the assessment of an EOI or RFP response, or a Participant's ability to complete and fulfil its obligations under its EOI or RFP response);

- 11 conduct due diligence investigations in respect of any Participant;
- 12 amend, suspend, discontinue or terminate the process set out in the Conditions by notice in writing to one or more Participants whose EOI response(s) have been excluded from further evaluation and assessment;
- 13 provide additional information or clarification to Participants;
- 14 not proceed with this EOI, the RFP or any other stage of the Tender Process, whether in the manner set out in the Conditions or at all;
- 15 vary or amend any evaluation criteria for the assessment of an EOI or RFP response without notification, take into account any information from its own and other sources in evaluating any EOI or RFP response, give preference to any one or more of the evaluation criteria over other criteria and consider relative trade-offs between criteria;
- 16 terminate a Participant's involvement in the EOI or RFP process and/or discontinue the evaluation and assessment of an EOI or RFP response where Lumea determines that the EOI or RFP response is unsuitable, unsatisfactory, substantially incomplete or clearly uncompetitive and without first evaluating and assessing all of the evaluation criteria;
- 17 not proceed with the Project either at all or in the manner outlined in the EOI Material or any draft project contract document(s) or terms sheet issued by Lumea;
- 18 negotiate with one or more Participants or any other person, and enter into formal project contract document(s) with any one or more Participant(s) or other person;
- 19 terminate a Participant's involvement in the EOI process where Lumea has determined to exclude that Participant's EOI response from further evaluation and assessment; or
- 20 accept or reject any EOI or RFP response which
  - a. is late;
  - b. is in any way incomplete or irregular; or
  - c. does not comply with any requirements of the Conditions.

Lumea's decision to exercise (or not exercise) any or all of the rights in these Conditions is final. Neither Lumea nor any Lumea Entity will be liable to any Participant because Lumea has exercised (or not exercised) any or all of its rights in these Conditions.

Lumea may exercise its rights in these Conditions with respect to one Participant only or with respect to multiple Participants at the same time.

To the maximum extent permitted by law, any obligation or liability which may otherwise be implied or imposed on Lumea or any Lumea Entity under contract, at law or in equity in connection with this document, any other EOI Material, the Tender Process or the Project is excluded.

## Liability

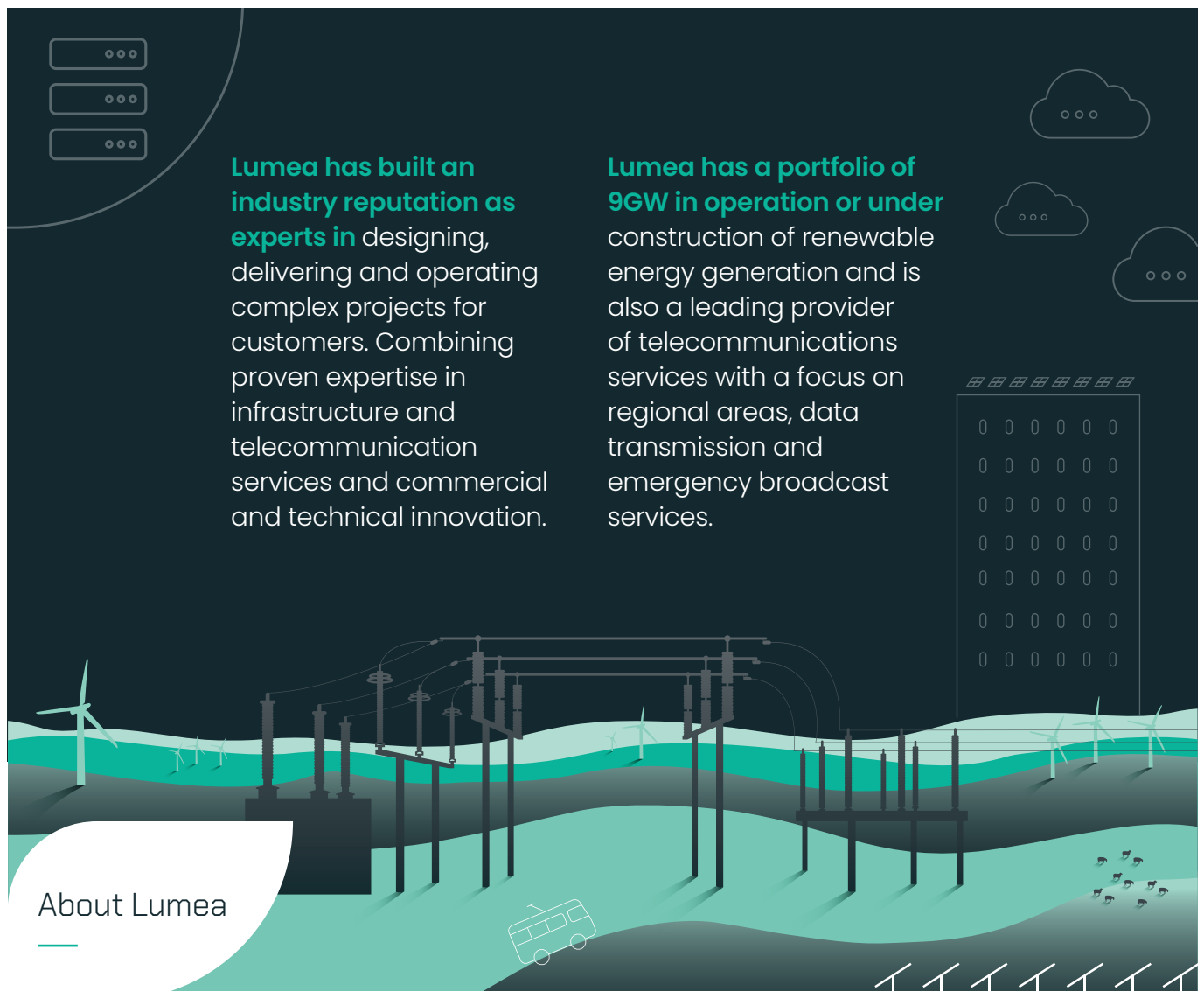
Each Participant is solely responsible for making its own independent appraisal of and investigations into the opportunity referred to the EOI Material. A Participant should not rely on any information in the EOI Material as constituting investment advice or a recommendation to invest. Neither Lumea nor any Lumea Entity will be liable to any Participant for errors or omissions from the EOI Material, whether in contract, tort (including negligence), equity, under statute or otherwise.

The EOI Material does not constitute an offer to invest or the solicitation of an offer to invest in any jurisdiction.

## Confidentiality, ownership and use of information

The EOI Material and all other information made available to a Participant in connection with the EOI Material, the Tender Process or the Project is strictly confidential, may only be used for the Purpose, and remains the sole and exclusive property of Lumea. The EOI Material may not be reproduced in whole or in part. Its content may not be disclosed to any other person for any purposes whatsoever. Upon request, a Participant must promptly return the EOI Material to Lumea and confirm that it has destroyed all information derived from it to the address set out in this **Section 4** under the heading 'Purpose and intended recipients'.

Lumea will treat information provided in response to this document as confidential where it is expressly identified by a Participant to be confidential (and is not otherwise in the public domain or already in the possession of Lumea or any Lumea Entity). Lumea may use and disclose such confidential information to any Lumea Entity for purposes related to the Tender Process. Unless otherwise required by law, the rules of any stock exchange, any applicable accounting standards or order of any court, Lumea will not disclose that confidential information to other third parties without the Participant's prior consent.



# 5 BESS Key Characteristics

|  | Battery A – Participant Proposed  | Battery B – Nominal 280MW   | Battery C – Nominal 140MW                                   |
|--|---|---|---|
| <b>Location</b>  | <b>Deer Park Substation, Melbourne</b>  |   |   |
| <b>Expected Latitude and Longitude</b>   | <b>-37.77, 144.73</b>   |   |   |
| <b>Transmission Use of System Charges (TUOS)</b>                               | No TUOS expected to be applicable to the BESS in either Dispatched Load or Scheduled Generator mode – in any event, any changes will be dealt with via change in rule/law clauses and in any event, any such charges will be passed on to the Successful Participant(s) |   |   |
| <b>Distribution Use of System Charges (DUOS)</b>                               | No DUOS expected to be applicable to the BESS in either Dispatched Load or Scheduled Generator mode – on this basis any changes will be dealt with via change in rule/law clauses and in any event, any such charges will be passed on to the Successful Participant(s) |   |   |
| <b>Expected Connection Voltage (kV)</b>  | 220kV   |   |   |
| <b>Nameplate Charge / Discharge Power (MW)</b>                                 | Proposed by Participant   | Nominal 280 MW at point of connection   | Nominal 140 MW at point of connection                       |
| <b>Nameplate Energy Storage Capacity (MWh)</b>                                 | Proposed by Participant   | Nominal 560–840 MWh at start of life at point of connection   | Nominal 280–560 MWh at start of life at point of connection |
| <b>Minimum annual agreed energy storage capacity</b>                           | Proposed by Participant   | TBC but expected to be circa 65% of start of life capacity by year 15 based on annual throughput limit                        |   |
| <b>Duration of full Discharge at Nominal Power Rating at beginning of life</b> | Proposed by Participant   | 2–3 hr (MWh / MW)   | 2–4 hr (MWh / MW)   |
| <b>Battery and Inverter Parameters</b>   |   |   |   |
| <b>Battery Chemistry</b>   | Lithium Ion   |   |   |
| <b>Ambient Temperature Range</b>   | -10°C to 50°C   |   |   |
| <b>Thermal Power Rating</b>  | Proposed by Participant   | Nominal Power Rating for Ambient Temperature  |   |
| <b>Expected Annual Battery Availability</b>                                    | Proposed by Participant   | 98%, outside of scheduled maintenance periods nominated by Lumea (Participants can also provide proposed availability target) |   |
| <b>Depth of Discharge (DoD)</b>  | Proposed by Participant   | 100%  | 100%  |

|  | Battery A – Participant Proposed   | Battery B – Nominal 280MW | Battery C – Nominal 140MW |
|--|--|---------------------------|---------------------------|
| Reactive Power Capability                                  | Meets automatic access standard  |                           |                           |
| Short-term ratings   | No short-term rating for charge or discharge   |                           |                           |
| Design Life  | Proposed by Participant  | 20 years                  | 20 years                  |
| Definition of a cycle                                      | Energy discharge throughput equivalent to a full discharge of the system (noting that the full discharge energy of the system degrades over time)                  |                           |                           |
| Throughput Limit   | Annual throughput limit is equivalent to a 365 cycles per annum use case. Higher duty cycles may be negotiated subject to pricing and adjustments to contract life |                           |                           |
| <b>Control Interfaces</b>                                  |  |                           |                           |
| External Control Interface                                 | SCADA and EMS integration available via common protocols   |                           |                           |
| Control Interface to Retailer's 3rd Party Bidding Platform | SCADA and EMS integration available via common protocols   |                           |                           |
| Control Interface to AEMO's NEMDE (via AGC)                | SCADA and EMS integration available via common protocols   |                           |                           |

# 6 Interpretation

| Term                         | Definition  |
|------------------------------|---|
| <b>AEMO</b>                  | Australian Energy Market Operator.  |
| <b>BESS</b>                  | Battery Energy Storage System.  |
| <b>Closing Date and Time</b> | Has the meaning given in <b>Section 3</b> .   |
| <b>Conditions</b>            | The conditions for this tender process as set out in the Important Notice on <b>page 3</b> of this document and <b>Section 4</b> of this document under the headings 'Notice and disclaimer', 'Purpose and intended recipients', 'Information', 'Rights', 'Liability' and 'Confidentiality, ownership and use of information', as may be amended from time to time. |
| <b>Deer Park</b>             | The Deer Park substation west of Melbourne.   |
| <b>DUOS</b>                  | Distribution Use of System Charges.   |
| <b>EOI</b>                   | Expression of interest.   |
| <b>EOI Material</b>          | This document and any related discussion or information provided as part of, or in connection with the processes contemplated in this document including the Tender Process.  |
| <b>FCAS</b>                  | Frequency control ancillary services.   |
| <b>kV</b>                    | Kilovolt.   |
| <b>Lumea</b>                 | Lumea is the commercial arm of TransGrid that focuses on new and innovative energy projects and is a trade mark of TransGrid Services Pty Limited (ACN 626 136 865) as trustee for TransGrid Services Trust (ABN 94 121 353 950).   |
| <b>Lumea Entities</b>        | Lumea, TransGrid and their respective related entities, directors, employees, advisors, representatives or shareholders.  |
| <b>MASS</b>                  | Market ancillary services specification.  |
| <b>MLF</b>                   | Marginal Loss Factors.  |
| <b>MW</b>                    | Megawatt.   |
| <b>MWh</b>                   | Megawatt hour.  |

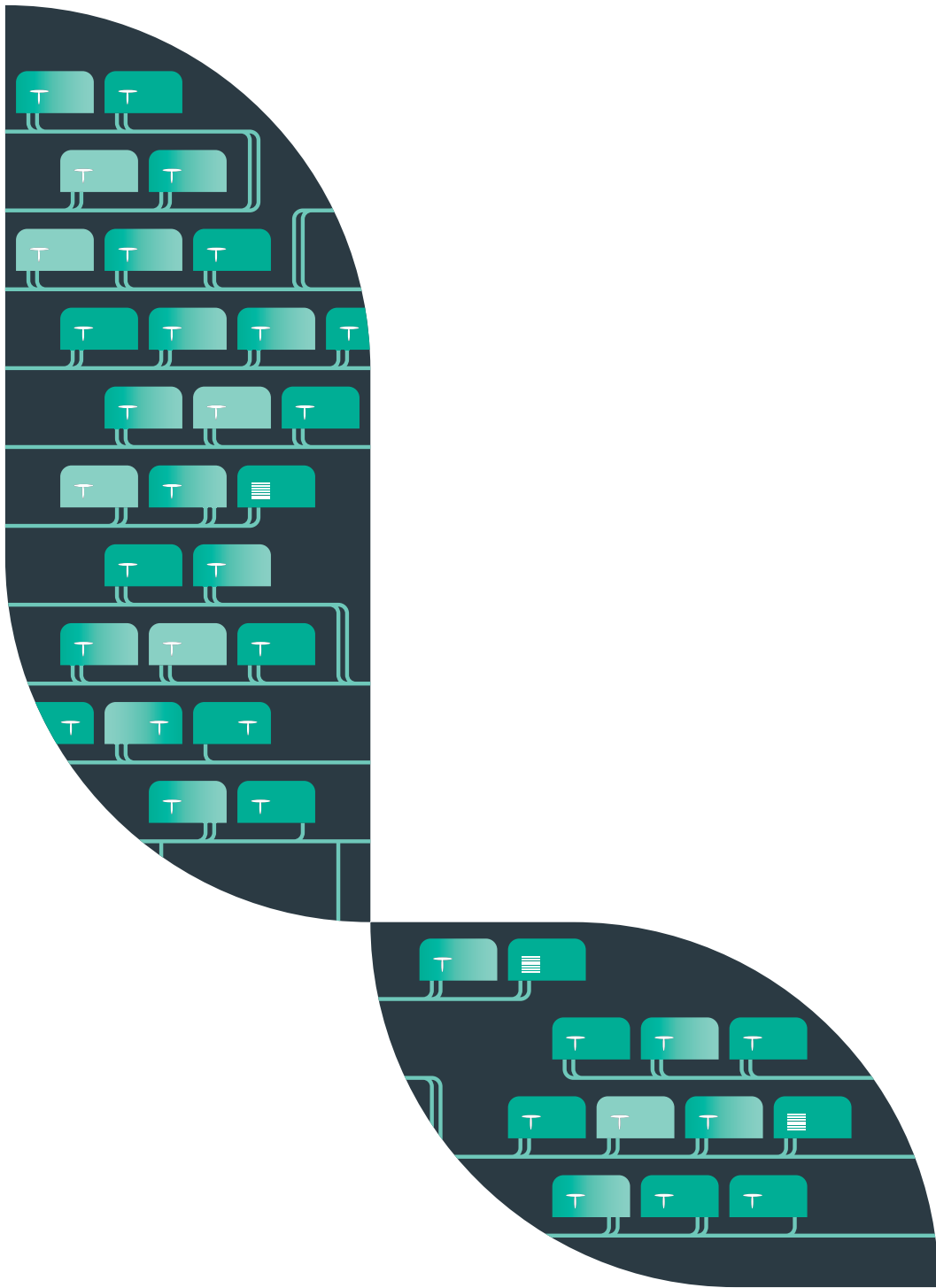
## Term

## Definition

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|                                   |  |
|-----------------------------------|--|
| <b>National Electricity Rules</b> | The National Electricity Rules as defined in the National Electricity Law set out in the Schedule to the National Electricity (South Australia) Act 1996 (SA) as they apply to Victoria. |
| <b>NEM</b>                        | National Electricity Market.   |
| <b>NEMDE</b>                      | National Electricity Market Dispatch Engine.   |
| <b>Participant</b>                | A recipient of this document.  |
| <b>Preferred Participant(s)</b>   | The Participant(s) who are selected to proceed to the contracting stage of the tender process for the Project.   |
| <b>Project</b>                    | A contract for access to capacity of the Deer Park BESS for market services as outlined in this document.  |
| <b>Purpose</b>                    | Has the meaning given in <b>Section 4</b> of this document under the heading 'Purpose and intended recipients'.  |
| <b>RFP</b>                        | Request for proposal.  |
| <b>SCADA</b>                      | Supervisory control and data acquisition.  |
| <b>Shortlisted Participant(s)</b> | The Participant(s) who are shortlisted to participate in the RFP stage of the tender process for the Project.  |
| <b>Successful Participant(s)</b>  | The successful Participant(s) for the Project.   |
| <b>Tender Process</b>             | The tender process for the Project as may be amended from time to time.  |
| <b>TransGrid</b>                  | NSW Electricity Networks Operations Pty Limited (ACN 609 169 959) as trustee for NSW Electricity Networks Operations Trust (ABN 70 250 995 390) trading as TransGrid.                    |
| <b>TUOS</b>                       | Transmission Use of System Charges.  |

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