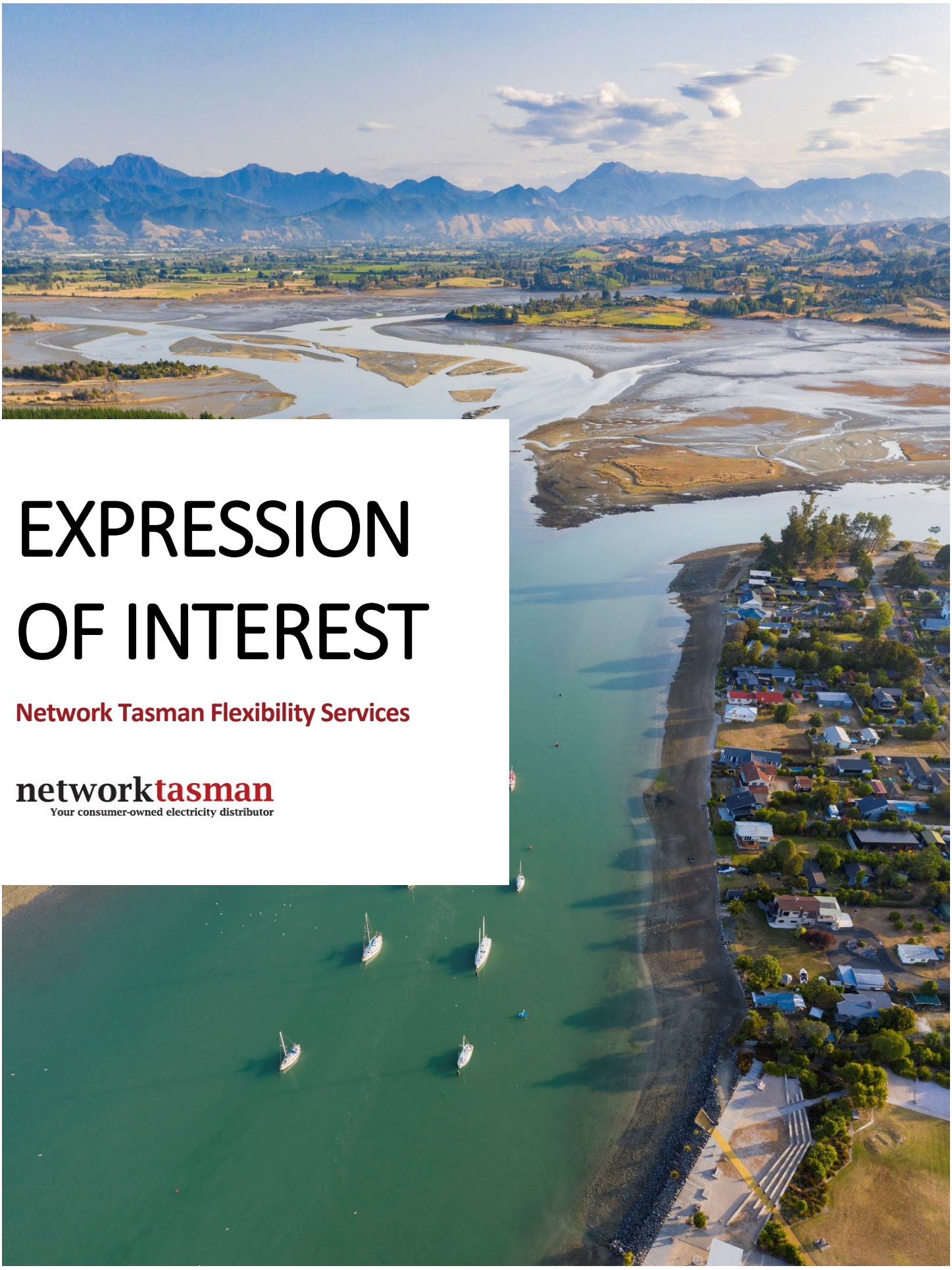


EXPRESSION OF INTEREST

Network Tasman Flexibility Services

networktasman
Your consumer-owned electricity distributor

Contents

1. Overview

What we need

Network Tasman Ltd is considering a major capital expansion project to develop a second grid exit point (GXP) in Brightwater, Tasman. This investment is required as the current Stoke GXP reaches the firm capacity limit and to accommodate future load growth for the region which is currently averaging 1.3MW per annum.

This project can be deferred by:

- the provision in annual increments of 1.3MW of on-demand generation into its network or
- the annual provision of 16MWh of stored energy that can be injected into the network as electrical energy at 1.3MW for periods of up to 12 hours at a time.

Expressions of interest in providing solutions to defer the capital development project are invited from reputable energy supply companies.

Network Tasman seeks proven solutions from providers with experience delivering similar projects and demonstrated financial capability.

Basic explanations of the proposed methodology and indicative costs should be included in the responses. Network Tasman is not seeking to expand into other areas of the electricity market.

Please submit your interest by email to the following address: Murray.Hendrickson@networktasman.co.nz

EOI Released:	20 December 2022
Deadline for Questions:	20 January 2023 (4 PM)
EOI Closing:	1 February 2023 (4 PM)

Background

Network Tasman owns and operates the electricity distribution network in the wider Nelson and Tasman areas in the northwestern corner of the South Island. Network Tasman's major load region, containing approximately 29,000 consumer connections are supplied from Transpower's Stoke Grid Exit Point (GXP). In addition 9,000 customers within Nelson Electricity's network are supplied from this site. The Stoke GXP is nearing the firm capacity limit for electricity supplied at 33kV.

The load characteristic has a continuous base load resulting from the 24-hour-a-day operation of a large industrial customer. A mix of other industrial/commercial and domestic load is superimposed on this. The peak load period occurs in June and July.

2. Key Information

Context

a. This Expression of Interest (EOI) is an invitation to submit an expression of interest in the Electricity Peak Load Constraint contract opportunity.

b. This EOI is the first step in a possible multi-step procurement process. After evaluation, Network Tasman may proceed to an RFP proposal with shortlisted respondent/s invited to participate.

Our timeline

The timeline for this EOI is as follows (all are New Zealand times and dates):

EOI Released:	20 December 2022
Deadline for Questions:	20 January 2023 (4PM)
EOI Closing:	1 February 2023 (4PM)
Shortlisted Respondents will be notified by:	31 March 2023
Indicative contract start date:	1 May 2025

Respondents should note this timetable is indicative only and Network Tasman may amend this timetable from the published timetable. All dates and times are dates and times in New Zealand.

Network Tasman reserves the right to accept late Expressions of Interest at its sole discretion.

How to contact us

a. Contact us through our Point of Contact via email.
b. Our Point of Contact:

Name: Murray Hendrickson
Title/role: Network Manager Strategy & Development
Email address: Murray.Hendrickson@networktasman.co.nz

Developing and submitting your Registration

a. This is an open process and we are open to all technology solutions.
b. Take time to read and understand the EOI. In particular:
   i. understand our requirements. These are in Section 2 of this document
   ii. understand how your Registration will be evaluated. See our Evaluation Approach in Section 3 of this document.
c. If you have any questions, contact our Point of Contact before the Deadline for Questions.
d. Submit your Registration before the EOI closing date.

Address for submitting your Registration

Submit your Registration by email to the following address: Murray.Hendrickson@networktasman.co.nz

We will not accept Registrations sent by post or delivered to our office.

Later changes to the EOI process

After publishing the EOI, if we make changes or provide additional information, we will inform all Respondents by updating the notice on Tender Link, reference: #NZ-1045509.

3. Our Requirements

Background

Nelson and Tasman's major load region, containing approx. 38,000 consumer connections is supplied from Transpower's Stoke Grid Exit Point (GXP). There are two direct supply 33kV consumers being Nelson Electricity Ltd (35MW) and Nelson Pine Industries Ltd (20MW). The main urban townships in this region are Nelson and Richmond.

The GXP is at Transpower's Stoke substation from which a load of 129MW is supplied at 33kV. This figure includes Nelson Electricity's load which is supplied from this substation as well as Network Tasman's. The firm capacity of this GXP is currently 141MVA. Network Tasman demand from the substation is 96MW. Nelson Electricity's coincident peak demand from Stoke is 33MW. Stoke is the only GXP in the area from which this load can be served.

The load characteristic has a continuous base load resulting from the 24-hour-a-day operation of the Nelson Pines Industries MDF Plant. A mix of other industrial/commercial and domestic load is superimposed on this. The peak load period is driven by winter domestic space heating with a peak period occurring in June and July.

Network Tasman is seeking solutions to defer investing in a major capital project to increase the capacity of load able to be supplied at 33kV from the National Grid.

Network Tasman's forecast for load on the Stoke GXP

The prudent forecast load allows for incidents of extreme cold weather. The prudent load forecast meets the firm capacity of the GXP in 2025 as shown in the figure below.

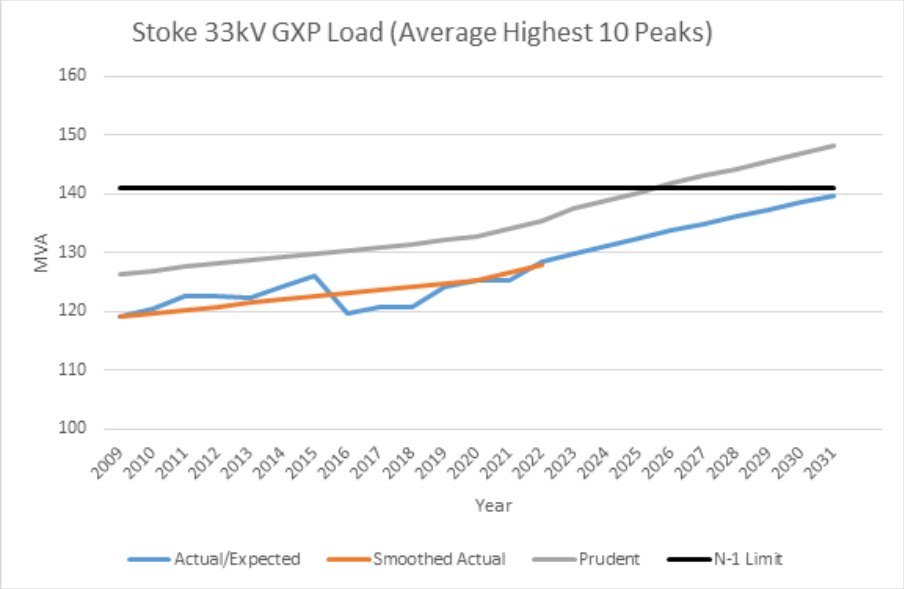
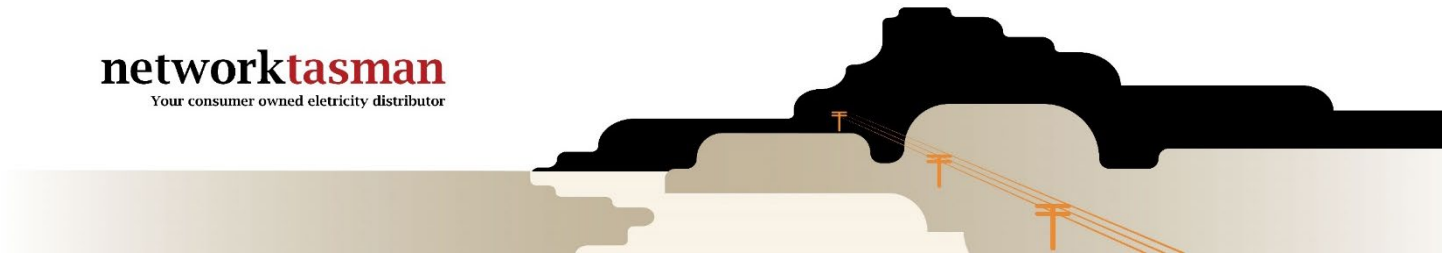


Figure 1 Stoke 33kV GXP load

Typical Load Profile

Network Tasman manages the load on the Stoke GXP using ripple control of domestic water heaters. The chart below shows a typical winter peak day load profile and the effect of load management using ripple controlled domestic storage water heaters.



The water heater storage available for control is approximately 120MWh. This storage can be accessed twice per day for up to 5 hours at a time. Using this storage optimally results in the 12-hour-long peak load. The solution must complement this profile without increasing the peak. It is intended that a solution would prevent the peak electricity demand from exceeding the target load as demand increases by 1.3MW per annum.

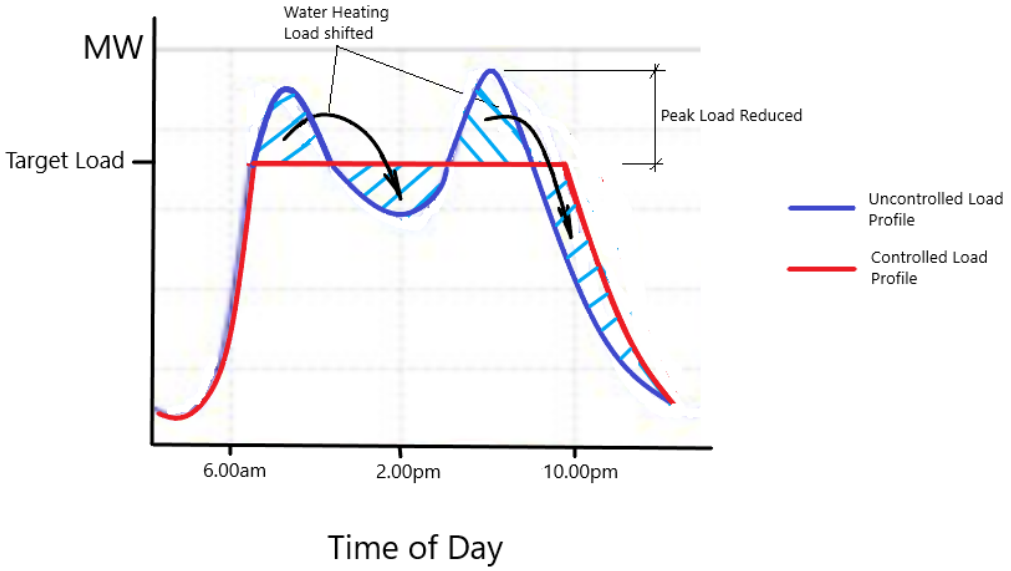
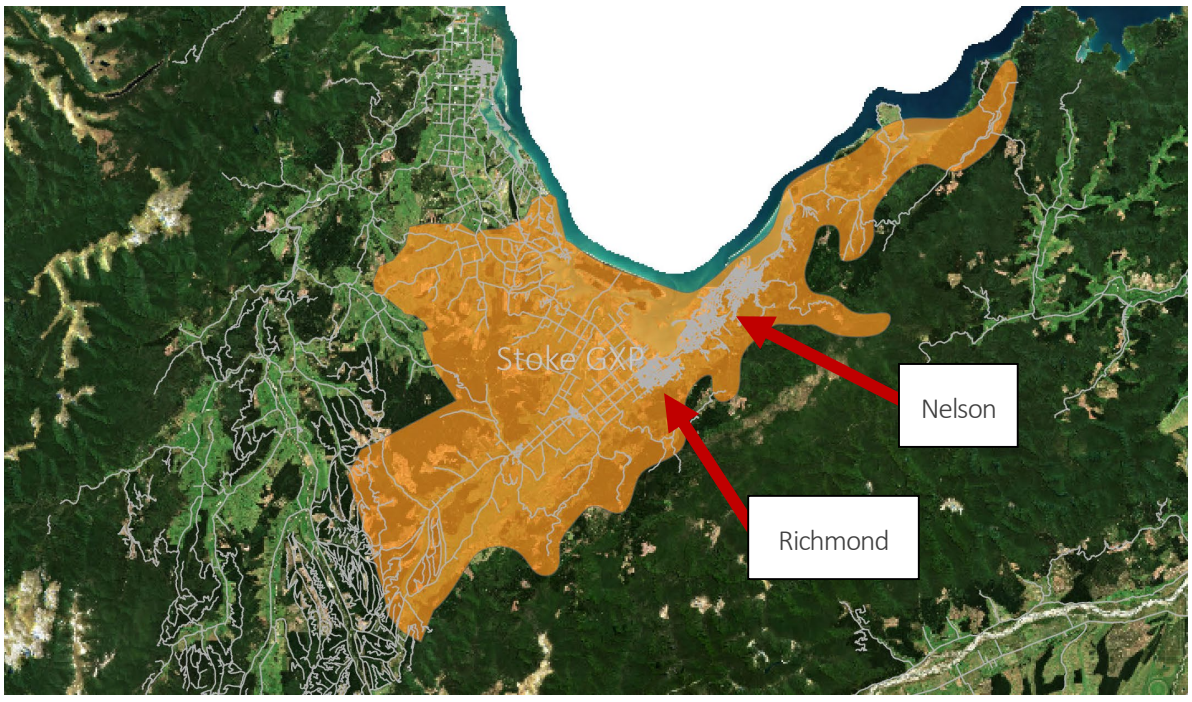


Figure 2 Typical peak load profile

Area reaching load constraint

The area served by the Stoke GXP is highlighted by the figure below. The solution will need to be geographically located within the area highlighted in orange.



Solutions Options

Network Tasman is open to all solutions; these could include one or more of a range of potential options such as:

a) Photovoltaic electricity generation (PV) or other electricity generation
b) Battery storage system
c) Aggregated generation / energy storage system
d) Aggregated loads such as heating, cooling or industrial load

Reliability and response time

The solution will ideally be activated without advance notice and able to respond in real time. The solution must be available to Network Tasman to use for peak load reduction on the highest load days of the year.

Respondents to the EOI should specify what lead time for notice of operation is required, however note that Network Tasman's preference is for shorter periods over longer periods.

Any solution must respond with sufficient capacity whenever required and without exception.

The potential contract to be signed with the Successful Respondent(s) will include a penalty for non-delivery which will reflect any costs incurred by Network Tasman and Network Tasman's customers. More details of this will be available at the RFP stage.

Key outcomes

The solution must provide up to 1.3MW of electricity injected into Network Tasman's constrained area, increasing by the same quantity annually. This can include:

- providing 1.3MW of generation/load-reduction in its network and/or
  - i.e. year 1: 1.3MW, year 2: 2.6MW, year 3: 3.9MW
- provisioning 16MWh of stored energy that can be injected into the network as electrical energy at 1.3MW, for periods of up to 12 hours at a time.
  - i.e. year 1 = 16MWh/1.3MW, year 2 = 32MWh/2.6MW, year 3 = 48MWh/3.9MW
  - For storage based systems, they can charge up during the night (11pm to 7am) and then discharge at the rate of 1.3MW for up to 12 hours through the following day, typically between 8am and 10pm.

An 11kV connection is preferred and Network Tasman may have land available for the proposed contract period.

Network Tasman is not seeking to expand into other areas of the electricity market. Network Tasman reserve the right to control the release of energy/demand reduction, but income will accrue to the Respondent.

Basic explanations of the methodology employed and the indicative costs should be included in responses.

System Integration

Network Tasman must have confidence that any solution can be controlled appropriately and reliably.

Successful Respondents will need to provide and operate a suitable communications interface, which must interface with Network Tasman's systems so that the solution can be directly or indirectly managed from Network Tasman's control room– ideally via Network Tasman's SCADA system. The interface will need to provide Network Tasman with visibility into the status of the solution and their available capacity and/or storage. It must be able to receive event notifications, event instructions or urgent instructions. Other interfaces and data may be required dependent on the type of solution provided. Successful Respondents will be required to work with Network Tasman to establish operational requirements of the interface(s).

The interface should be an interface that can be, or is, widely used in the industry and is not bespoke. Network Tasman is open to ways in which an event instruction, and information on solution status, is communicated between parties and is willing to consider all international smart grid standards and communication protocols (such as the IEC standards), including ripple, if they comply with Network Tasman's connection and protection standards.

If the proposed solution is a distributed resource (e.g. home storage batteries), the Respondent must provide aggregation capability to ensure efficient coordination between all distributed resources.

Contract term

The commercial model would be a short term equipment lease for five months each year (May to September inclusive) for an initial term of three years.

Respondents are to comment on their proposed basis of pricing in their EOI responses. For example, pricing could be based on a fixed monthly or annual fee (an availability payment) and/or a charge per kW available and kWh delivered (a usage payment).

4. Our evaluation approach

Our Evaluation Approach, used to assess and shortlist Respondents to this EOI, will consider how well responses meet our Requirements as set out in Our Requirements, as well as meeting other Network Tasman objectives such as broader social, environmental, governance, cultural, and economic outcomes.

Network Tasman will evaluate responses to this EOI on several criteria including, but not necessarily limited to:

1	Track record	previous projects where the Respondent has supplied solutions
2	Capability of the Respondent to deliver	technical competencies, specialist/appropriate equipment and demonstrating an understanding of all aspects of a project of this type. This includes Health and Safety management
3	Capacity of the Respondent to deliver	the technical and financial resources available to complete the project as well as resources to address any issues and challenges
4	Proposed solution	how the Respondent proposes to structure their solution and what are their plans for delivery and technology integration
5	Price	both the quantum of payment and the pricing structure (e.g. availability payment vs usage payment)
6	Reliability	how confident Network Tasman is that the proposed solution will meet Network Tasman's reliability and operational requirements
7	Broader Outcomes	how are non-operational factors for the project managed for the best outcomes for all stakeholders.