Demand Side Engagement Strategy

1 July 2019
1. About Energy Queensland

Energy Queensland Limited (Energy Queensland) is a Queensland Government Owned Corporation that operates a group of businesses providing energy services across Queensland, including:

- Distribution Network Service Providers (DNSPs), Energex Limited (Energex) and Ergon Energy Corporation Limited (Ergon Energy);
- a regional service delivery retailer, Ergon Energy Queensland Pty Ltd (Ergon Energy Retail); and
- affiliated contestable business, Yurika Pty Ltd (Yurika), which includes Metering Dynamics Pty Ltd (Metering Dynamics).

Energy Queensland’s purpose is to “safely deliver secure, affordable and sustainable energy solutions with our communities and customers” and is focused on working across its portfolio of activities to deliver customers lower, more predictable power bills while maintaining a safe and reliable supply and a great customer service experience.

Our distribution businesses, Energex and Ergon Energy, cover 1.7 million km² and supply 37,208 GWh of energy to 2.1 million homes and businesses. Ergon Energy Retail sells electricity to 740,000 customers.

The Energy Queensland Group also includes Yurika, an energy services business creating innovative solutions to deliver customers greater choice and control over their energy needs and access to new solutions and technologies. Metering Dynamics, which is a part of Yurika, is a registered Metering Coordinator, Metering Provider, Metering Data Provider and Embedded Network Manager. Yurika is a key pillar to ensuring that Energy Queensland is able to meet and adapt to changes and developments in the rapidly evolving energy market.

**NOTE:** This document is relevant to Ergon Energy and Energex only as DNSPs.
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Our service area

- Regional network - Ergon Energy Network
- Isolated supply - Ergon Energy Network
- Ergon Energy Retail
- South East Network - Energex

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- 7,247 employees
- 34 network control centres
- 2.3 million connected customers
- 34,500GWh electricity delivered a year
- 1.7 million power poles
- 220,000km powerlines
- 4,920MW South East Queensland peak demand
- 2,601MW Regional Queensland peak demand
- 513,200 solar energy systems connected
- 2,360MW renewables connected

Our service area
2. Purpose of this document

This Ergon Energy and Energex Demand Side Engagement Strategy (DSES) communicates how we intend to engage with customers and non-network providers on the supply of credible demand side solutions to address system limitations and lower costs for customers in the network distribution areas.

To assist our stakeholders, non-network providers and customers, this document provides information on:

- How to get informed of non-network opportunities (Section 5)
- What are non-network solutions (Section 6)
- Submitting a non-network solution proposal (Section 7)
- How we pay for preferred solutions (Section 10)
- Our process for assessing non-network solutions (Section 11.4)
- Implementing and verifying solutions (Section 11.5 and 11.6)

3. Introduction

Ergon Energy and Energex are obligated under their Distribution Authorities to ensure that they meet reliability and performance standards and have sufficient capacity to meet electricity demand.

When it is efficient to do so, the implementation of non-network solutions will replace or complement the need for network investment. This involves working with our customers and industry partners to reduce demand to maintain system reliability in the short term and over the longer term provide secure, affordable and sustainable energy solutions across Queensland.
4. Demand Side Engagement Strategy

Ergon Energy and Energex’s DSES seeks to inform and include customer and non-network service provider participation to address any limitations in their distribution networks.

Ergon Energy and Energex’s DSES objectives are to:

- embed demand side engagement and non-network screening of network limitations into the distribution planning process;
- identify and transparently provide details of Ergon Energy and Energex network limitations to customers and non-network service providers in consistent, simple and easy to understand terminology;
- identify and incentivise non-network solutions for broad based and targeted areas, engaging stakeholders and third party providers, as outlined in Ergon Energy and Energex’s Demand Management Plan;
- provide adequate time, support and mechanisms for stakeholders to engage, respond and participate in non-network solutions; and
- deliver and report non-network solutions that prevent, reduce or delay the need for network investment.

5. How do I get informed of non-network opportunities?

Ergon Energy and Energex’s DSES advocates for co-operative, proactive and effective engagement with customers and non-network providers. We have a variety of facilities in which stakeholders can discover network limitations, provide expressions of interest and indicate ability for participation on non-network solutions.

Our demand side engagement facility includes:

- A dedicated Demand Management Team to support enquiries and applications for non-network solutions;
- Publishing Non-network Option Reports (NNOR) for network limitations on the Ergon Energy and Energex websites;
- Providing incentive maps that identify target areas for network limitations which provide a price signal to the market for implementation of non-network solutions; and
- Maintaining a Demand Side Engagement Register* (DSER) of interested parties for Ergon Energy and Energex non-network notifications. Customers, non-network providers, private companies, government departments and individuals interested in keeping up to date on demand side opportunities can register their details by contacting our Demand Management Team.

Enquires can be directed to:

<table>
<thead>
<tr>
<th>Energe</th>
<th>E: <a href="mailto:demandmanagement@energex.com.au">demandmanagement@energex.com.au</a></th>
<th>P: 13 12 53</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ergon Energy</td>
<td>E: <a href="mailto:demandmanagement@ergon.com.au">demandmanagement@ergon.com.au</a></td>
<td>P: 13 74 66</td>
</tr>
</tbody>
</table>

*Refer Appendix A for description of how parties may be listed on this register.
6. What are non-network solutions?

When Ergon Energy or Energex identify a network limitation, non-network options are considered as an alternative to the preferred network option. The implementation of a non-network alternative is commonly referred to as demand management (DM). Effective investment in these types of non-network solutions can offer credible alternatives to network infrastructure and lead to lower costs to maintain network reliability and lower costs for customers.

DM involves working with our customers and non-network providers to reduce demand to maintain system reliability in the short term and over the longer term, defer the need to build network. DM solutions can be in front or behind the meter and can include:

- direct load control;
- distributed generation, including standby generation, embedded customer generation and co-generation;
- demand response;
- energy efficiency;
- fuel substitution;
- interruptible loads;
- load shifting;
- power factor correction;
- pricing/tariffs; and/or
- reactive/voltage support.

**NOTE:** A non-network solution may involve one or more DM option that either reduces or fully services a network limitation.

7. How do I submit a non-network solution and what are the requirements?

Ergon Energy and Energex encourage customers and non-network providers to submit non-network solutions via the online application process. Online submissions can be submitted here:


Applications typically capture customer site information, proposed project details, hardware required, cost and completion time. Other requirements may include:

- Details about the party submitting the proposal;
- A description of the proposed demand management product to be deemed credible;
- The time, duration and expected output of peak load (kVA per year) expected to be managed;
- Relevant technical information such as capacity of generators, dispatch details (e.g. notification times, frequency and duration) and proposed connection points;
- A reasonable estimate of costs (+/- 40%), including incentive payments;
- Development status (if applicable);
- Any market benefits the proponent is aware of with any methodology to calculate those benefits clearly stated; and
- Evidence the proponent has customer authorisation to recover bill/data/site information from the DNSP; and
- Any items other items deemed relevant to the non-network solution proposal.

On occasion the DNSP may also request specified response criteria unique to the identified limitation. For assistance please contact our DM Team (see Section 5).

An example of a best practice non-network submission is included in Appendix B.
8. How do I know if my non-network solution is successful?

All non-network enquiries and proposals will receive a response from Ergon Energy or Energex’s DM Team directly or via correspondence. If a proposal is being assessed, proponents will be advised of the status of the assessment at intervals as agreed with the proponent. Non-network reporting is also published via each DNSP website (Ergon Energy and Energex). Parties registered on the DSER will be notified of publications.

9. How am I paid, if my non-network solution is successful and what are the current incentive schemes?

Incentives for customers and/or non-network providers are determined by the type of non-network solution offered, value of the project deferral and rate as negotiated. In most instances incentives are capped at an allocated maximum $/kVA, $/kvar or fixed price contract. Maximum $/unit incentives, current schemes and incentive maps can be found at:
10. How are network limitations identified and non-network solutions assessed

Ergon Energy and Energex’s process to identify network limitations and assess non-network solutions may vary slightly dependant on type, time, cost and size of network limitation.

This process is outlined in Figure 1 and 2. Further explanation is provided through the remainder of Section 10.

**Figure 1. Non-Network Assessment Process for expenditure <$6M**

**Figure 2. Non-Network Assessment Process for expenditure >$6M (RIT-D)**

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10.1 Identify Network Need

Ergon Energy and Energex undertake a comprehensive and clearly defined annual planning process to identify network limitations and operational constraint areas based on network forecasts. The outcomes of this process are defined in the Distribution Annual Planning Report (DAPR) and published on our websites.

A copy of the latest DAPR and supporting information for Ergon Energy and Energex can be found at:


10.2 Screen Test

DNSP system planning tools compare network and non-network solutions for each DAPR constraint. Referred to as a screening test, a desktop study is carried out to determine if DM solutions offer credible options in parallel to network options.

Non-network screen tests study impending limitations identified first via the DAPR including the relevant security standards, load forecasts, load profiles, project timing, load at risk and an estimate of the project deferral value. The project deferral value is determined by modelling the savings derived through postponing or deferring capital investment.

Screening of non-network solutions relies on information from past non-network projects, non-network service provider input and customer data. To ascertain if a non-network solution is likely to secure a program of work deferral the likely load reductions from non-network options are assessed given the deferral savings available.

10.3 Market Engagement and Investigate Options

Where a screening test finds that a non-network option may provide an efficient alternative solution, market engagement and investigation of possible DM solutions is initiated.

‘In-market’ engagement activity depends upon forecast expenditure, size and timing of the constraint. Where total capital expenditure (including augmentation expenditure and replacement expenditure) of the most expensive credible option is greater than $6M, a Regulatory Investment Test for Distribution (RIT-D) is undertaken. The RIT-D process is prescribed under Chapter 5 of the National Electricity Rules (NER). A NNOR is published to the market via our website and the DSER invites a Request for Proposals (RFP) for demand side solutions.

Where the forecast capital expenditure for the most expensive credible option is less than $6M, opportunities for credible non-network solutions are developed by gauging interest and ability of both non-network service providers and customers to participate. This can be done by the DNSP publishing network limitations online using incentive maps or inviting proponents to respond to a RFP. Smaller constraints are often in market consultation for shorter periods (1-2 months) whereas constraints identified to be far-off can be offered as an incentive scheme and left open for market engagement and participation.

The location, problem statement and incentive on offer are published via our website and also sent in periodic notifications to registered industry partners. The use of online incentive maps help to highlight specific limitations in each DNSP area.

NOTE: A non-network solution may still be deemed credible even if it partly reduces the network limitation.

RIT-D information for Ergon Energy and Energex and can be found at:

10.4 Assessment of Credible Options

Non-network solutions are assessed when they have been developed to a point where it is commercially and technically feasible in addressing an identified network limitation. RFP’s submitted in response to a NNOR or in a market incentive scheme will be assessed according to the following mandatory criteria:

- Ability of the proposed solution to meet the technical requirements for addressing the identified network limitation;
- Ability of the proponent to deliver the solution in sufficient time to meet the identified need;
- Ability of demand reduction outcomes to be measured and verified;
- The costs, market benefits (where applicable) and risks of the solution compared to other options (i.e. NPV outcomes).

For RIT-D situations, whether non-network options are found to be viable or not, Ergon Energy or Energex will publish the outcomes in the corresponding Project Assessment Report(s) as part of the RIT-D process. Smaller projects not subject to a RIT-D will have outcomes published in a manner appropriate to the size, timing and cost for the project.

See Appendix C for an example of a non-network assessment.

10.5 Implementation of Solution

Where a non-network solution has been selected Ergon Energy or Energex will commence a procurement process. This process negotiates terms and contracts the preferred non-network solution to ensure both probity and prudent purchasing practice. The negotiation of cost, time and quality in contractual terms will vary depending on the network risk, size, cost, location and availability of non-network solutions.

10.6 Measurement and Verification

Ergon Energy or Energex will apply best practice and cost-effective Measurement and Verification (M&V) to determine the demand reductions achieved by non-network solution projects. M&V will ensure the energy/demand savings meet contract terms and reporting requirements.
11. Connection agreements with embedded generators

Ergon Energy and Energex encourage customers and non-network providers to submit applications for embedded generators via online application process. The online application process assists to assess and negotiate connection agreements plus consider requirements for setting charges, terms and conditions. These conditions typically consider customer site information, tariff class, proposed project details, connection type, generation size, export requirements, cost, completion time and any specified generation authorities.

Further requirements on connection agreements, lodging applications and the Connection Team contact details can be found online at:

12. Avoided customer Transmission Use of System (TUOS) charges

Ergon Energy and Energex are required to calculate avoided charges for the locational component of prescribed TUOS services for embedded generators. This is done by first determining the prescribed designated pricing proposal charges (DPPC) payable by Ergon Energy or Energex without the embedded generator injecting energy and crediting the difference of its actual DPPC payable back to the embedded generator account.

Links to the calculation methodology can be found in each DNSP’s Annual Pricing Proposal at:
13. Appendices

13.1 Appendix A: Demand Side Engagement Register Example Listing

<table>
<thead>
<tr>
<th>Submission type</th>
<th>Business/Company name</th>
<th>Individual name</th>
<th>Business contact name</th>
<th>Best contact number</th>
<th>Alternative contact number</th>
<th>Email address</th>
<th>Address</th>
<th>Registration type</th>
</tr>
</thead>
</table>

13.2 Appendix B: Example of a Best Practice Non-network Proposal

**Energex Project:**
Upgrade A Bulk Supply Substation

**Date:** 10/06/2019

**Non-network Provider (Proponent) Details:**
Company: Company name supplied
Contact Name: Name supplied
Phone: Phone number supplied
Email: Contact email supplied
ABN: ABN supplied

**Customer Details:**
Name: Customer name supplied
Supplied Address: Address supplied
ABN: ABN supplied
NMI: NMI supplied

**Technical Details:**
Demand Management Product: Load Curtailment
Site Peak Demand: 9MVA
Site Operation Times: 24 hours per day, 7 days per week
Load Curtailment Available: 2MVA per production line (up to 3 production lines available). Total 6MVA
Load Curtailment Duration: Up to 12 hours
Maximum Dispatch Events: 8 per annum
Annual Load Curtailment Available: 48MVA per annum

**Summary:**
The customer has a total peak demand of approximately 9MVA and runs four production lines for up to 24 hours per day for seven days per week. Each production line requires a demand of greater than 2MVA. The customer is able to curtail load with a 20 minute notification period for up to 12 hours. Up to three production lines can be curtailed at any one time. The maximum number of dispatches per annum is eight. This matches seasonal requirements as prescribed by the DNSP.

**Cost Estimate:**
Availability fee: $ x per KVA per annum (+/-20%)
Dispatch fee: $ x per KVA per dispatch (+/-20%)

**Customer Authorisation:**
Customer Authorisation: Signed letter of authorisation supplied
13.3 Appendix C: Example Non-network Assessment

Ergon Energy Project:
Network Limitation – Feeder ‘X’.

For a non-network option to be considered a credible option it must:
• Address the identified need;
• Be technically and commercially feasible (e.g. cost below defined value); and
• Be implemented in sufficient time to meet the identified need; and
• Rank a NPV rating.

In this example, a non-network option to deploy energy efficiency (EE) measures failed to meet technical requirements to address the identified need in its own right. The load reductions possible from the EE measures (1MVA) were insufficient to address the load at risk corresponding to the network limitation (6MVA). It is however possible that a combination of the EE measures and a network solution is possible and should be further evaluated.

All other options were considered credible and so were submitted to be ranked according to their net economic benefit (NPV).

<table>
<thead>
<tr>
<th></th>
<th>Meets technical requirements</th>
<th>Ability to deliver and timing</th>
<th>Ability of solution to be measured and verified</th>
<th>NPV ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Network option 1:</strong> Upgrade feeder</td>
<td>✓</td>
<td>✓</td>
<td>N/A</td>
<td>2</td>
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<tr>
<td><strong>Network option 2:</strong> Install transformer</td>
<td>✓</td>
<td>✓</td>
<td>N/A</td>
<td>3</td>
</tr>
<tr>
<td><strong>Non-network option 1:</strong> Energy efficiency measures</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Non-network option 2:</strong> Customer load curtailment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 1. Assessment of options to solve a network limitation

In the example above, the option presenting the highest net economic benefit is the preferred option: Non-network option 2 - customer load curtailment.
### 13.4 Compliance with National Electricity Rules

Table 1: Demonstrated compliance with schedule 5.9 of the NER

<table>
<thead>
<tr>
<th>Clause</th>
<th>Demand Side Engagement Document Requirement</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>A description of how the Distribution Network Service Provider will investigate, develop, assess and report on potential non-network options.</td>
<td>10, 10.1, 10.2, 10.3, 10.4, 10.5 and 10.6</td>
</tr>
<tr>
<td>b</td>
<td>A description of the Distribution Network Service Provider's process to engage and consult with potential non-network providers to determine their level of interest and ability to participate in the development process for potential non-network options.</td>
<td>5 and 10.3</td>
</tr>
<tr>
<td>c</td>
<td>An outline of the process followed by the Distribution Network Service Provider when negotiating with non-network providers to further develop a potential non-network option.</td>
<td>5, 7, 8 and 9</td>
</tr>
<tr>
<td>d</td>
<td>An outline of the information a non-network provider is to include in a non-network proposal, including, where possible, an example of a best practice non-network proposal.</td>
<td>7 and Appendix B</td>
</tr>
<tr>
<td>e</td>
<td>An outline of the criteria that will be applied by the Distribution Network Service Provider in evaluating non-network proposals.</td>
<td>10.4</td>
</tr>
<tr>
<td>f</td>
<td>An outline of the principles that the Distribution Network Service Provider considers in developing the payment levels for non-network options.</td>
<td>9</td>
</tr>
<tr>
<td>g</td>
<td>A reference to any applicable incentive payment schemes for the implementation of non-network options and whether any specific criteria is applied by the Distribution Network Service Provider in its application and assessment of the scheme.</td>
<td>9</td>
</tr>
<tr>
<td>h</td>
<td>The methodology to be used for determining avoided Customer TUOS charges, in accordance with clauses 5.4AA and 5.5.</td>
<td>12</td>
</tr>
<tr>
<td>i</td>
<td>A summary of the factors the Distribution Network Service Provider takes into account when negotiating connection agreements with Embedded Generators.</td>
<td>11</td>
</tr>
<tr>
<td>j</td>
<td>The process used, and a summary of any specific regulatory requirements, for setting charges and the terms and conditions of connection agreements for embedded generating units.</td>
<td>11</td>
</tr>
<tr>
<td>k</td>
<td>The process for lodging an application to connect for an embedded generating unit and the factors taken into account by the Distribution Network Service Provider when assessing such applications.</td>
<td>11</td>
</tr>
<tr>
<td>l</td>
<td>Worked examples to support the description of how the Distribution Network Service Provider will assess potential non-network options in accordance with paragraph (a).</td>
<td>Appendix C</td>
</tr>
<tr>
<td>m</td>
<td>A link to any relevant, publicly available information produced by the Distribution Network Service Provider.</td>
<td>9, 10.1, 10.3, 11 and 12</td>
</tr>
<tr>
<td>n</td>
<td>A description of how parties may be listed on the demand side engagement register.</td>
<td>Appendix A</td>
</tr>
<tr>
<td>o</td>
<td>The Distribution Network Service Provider's contact details.</td>
<td>5</td>
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</table>