

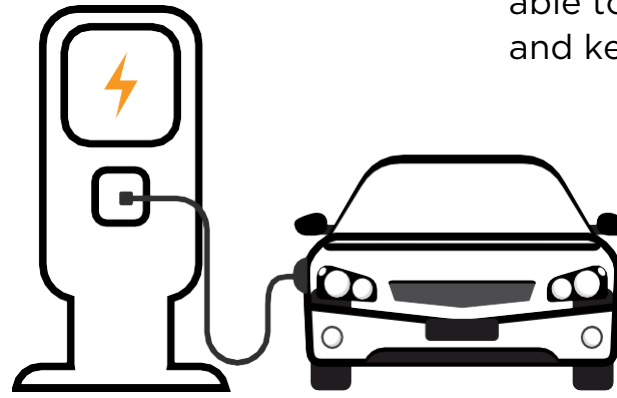
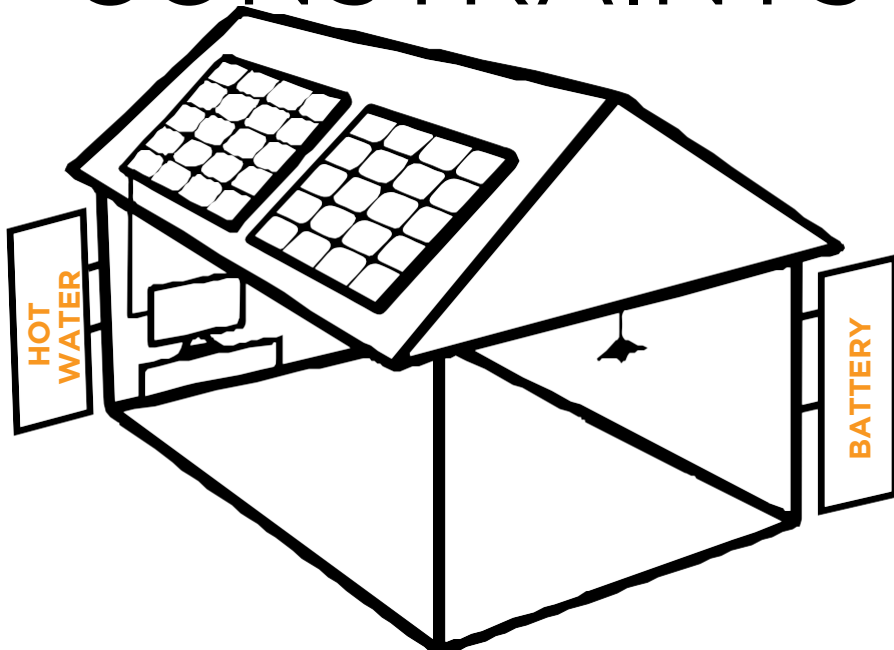


# FLEXIBILITY SOLUTIONS

A GUIDE FOR OWNERS OF DERs, FLEXIBLE DEMAND,  
DISTRIBUTED GENERATION AND FLEXIBILITY SERVICE  
PROVIDERS



# PROVIDING FLEXIBILITY SOLUTIONS TO HELP MANAGE NETWORK DEMAND AND VOLTAGE CONSTRAINTS



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ARE YOU AN OWNER OF  
DISTRIBUTED ENERGY  
RESOURCES, OR LOOKING  
TO ENTER THE FLEXIBILITY  
SOLUTIONS MARKET?

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If you own a large battery or distributed generation system, or if you have distributed energy resources like an electric vehicle, a solar-battery system, a hot water or irrigation system, or can provide demand profile management or demand reduction, you may be able to provide Aurora Energy with additional capacity support.

This easy-to-follow guide will help you with everything you need to know about Aurora Energy's non-network capacity support process, and how you may be able to help us manage peak demands and keep our network safe and secure.



# A BACKGROUND SNAPSHOT AND WHY WE'RE SEEKING FLEXIBILITY SOLUTIONS

AURORA ENERGY IS LEADING THE SECTOR BY EXPLORING NEW WAYS TO MANAGE OUR NETWORK AND SUPPORT AOTEAROA'S DECARBONISED ENERGY FUTURE.

The way communities are using technology is evolving fast, with an increase in electric vehicles and more people generating their own electricity. That means companies like Aurora Energy need to ensure our network and systems can adapt to enable new technologies and integrate them to support Aurora Energy's network, and the wider power system.

Electric vehicles, solar power, batteries, hot water systems, and smart controlled technologies—collectively known as Distributed Energy Resources (DER)—are crucial to an efficient power system that supports electrification of the economy, as well as large distributed generation (DG). There is also flexible demand, where customers' non-essential load can be shifted away, reduced, or turned off during peak periods.

Collectively called Flexibility Solutions, these provide capacity and voltage support.

By exploring ways to defer infrastructure investment and optimise flexibility solutions, we can deliver cost-effective solutions for our communities, meet future growth needs and support a net-zero carbon future.

We're seeking a range of flexibility solutions from multiple participants to achieve the firm service requirement, encourage diversity and participation. These solutions can be across on different voltage levels (e.g Grid Exit Point, Subtransmission, Substation, Distribution feeders and at some stage the low voltage network).

As part of our broader network strategy, we are looking for opportunities to extend our use of flexibility solutions to help manage growth on our network. We are calling on all distributed energy-resource providers, owners, flexibility service providers, and new market entrants to get involved and contribute to our decarbonised energy future.



# OUR FUTURE ENERGY SYSTEM EXPLAINED AND THE ROLE OF FLEXIBILITY SOLUTIONS

The contribution of non-network solutions to help manage electricity demand needs will require the development of new market players and industry roles. Here we have summarised how the future energy system could work with the use of non-network resources, the roles of the market players needed to help, and what they will be responsible for.



## WHO DOES WHAT? ROLES & FUNCTIONS

### FLEXIBILITY RESOURCE OWNERS

Flexibility Resource Owners are those that physically own the Distributed Energy Resources (DER) that can be controlled - solar-battery systems, hot water systems, battery systems, EV chargers, heating/cooling systems (or other systems that can be controlled), or large distributed generation resources and large customers that can reduce load. Owners might be residential and commercial customers, large industrial customers, distributed generation companies and could even be Flexibility Service Providers.

### FLEXIBILITY SERVICE PROVIDERS

Flexibility Service Providers manage a portfolio of DER resources that can be dispatched to respond to network demand needs and allocate them to their highest value use (this is referred to as "value stacking", rather than dedicating them for single use). Flexibility Service Providers work with Flexibility Buyers to provide what's needed. Flexibility Service Providers could be new market entrants or existing retailers growing their capability to manage flexibility resources for the benefit of their customers.

### FLEXIBILITY BUYERS

Flexibility Buyers are often companies like us. They may want to use the flexibility resources to help manage demand, respond to network constraints, or to defer investment. Flexibility Buyers could also be the Transmission System Operator (to help manage system stability, voltage and frequency), the Grid owner or another Electricity Distribution Business. Retailers may also offer a discount for customers with flexibility resources.

OUR PROCESS FOR SEEKING NON-NETWORK SOLUTIONS

# IT'S SIMPLE, FAIR AND OPEN TO ALL



## WE'LL CALL ON YOU TO REGISTER YOUR INTEREST

We will put out an open-call to the market, seeking registrations from Flexibility Service Providers interested in offering non-network solutions. We'll let you know what's required, where we need support, and the capability we need.



## YOU CAN REGISTER ONLINE

If you have access to Distributed Energy Resources, are a Flexibility Service Provider, or you're hoping to extend your offering into this new market, then get in touch! Simply complete our registration form online to kick-start the pre-qualification process. Your registration will help us to review your capability and experience against our requirements. We'll keep the pre-qualification period open until capacity needs have been met, so everyone gets a fair chance to register their interest.



## WE'LL INVITE PROPOSALS AND ENTER AGREEMENTS

We'll assess your registration information against our evaluation criteria, and if it meets our requirements, we'll send you the Request for Proposal that includes specific requirements and seeks your commercial offer. Aurora Energy may partner with more than one supplier to meet our capacity requirements.

# FIVE SIMPLE STEPS TO PROVIDE FLEXIBILITY SOLUTIONS

## STEP 1

### REVIEW THIS GUIDE & OUR OPEN CALL REGISTRATION INFORMATION

If you are, or intend to be, a Flexibility Service Provider and you've got flexibility solutions that may be of use to US in helping to manage our network, then review this guide and our open call request information as part of the pre-qualification process.

For everything you'll need to know as part of your registration, go to <http://www.auroraenergy.co.nz/flexibility-solutions>

## STEP 2

### REGISTER ONLINE

Registrations can be made at <http://www.auroraenergy.co.nz/flexibility-solutions>

Simply complete the online form to let us know you're keen to be involved. The registration process will stay open until we're satisfied our capacity requirements will be met.

## STEP 3

### WE REVIEW YOUR REGISTRATION

We will assess your registration against our evaluation criteria, as set out in the online form. The registration period will stay open until we have the capacity required in the area we are requesting additional support for, meaning there could be a number of providers selected to help.

## STEP 4

### REQUEST FOR PROPOSAL IS ISSUED

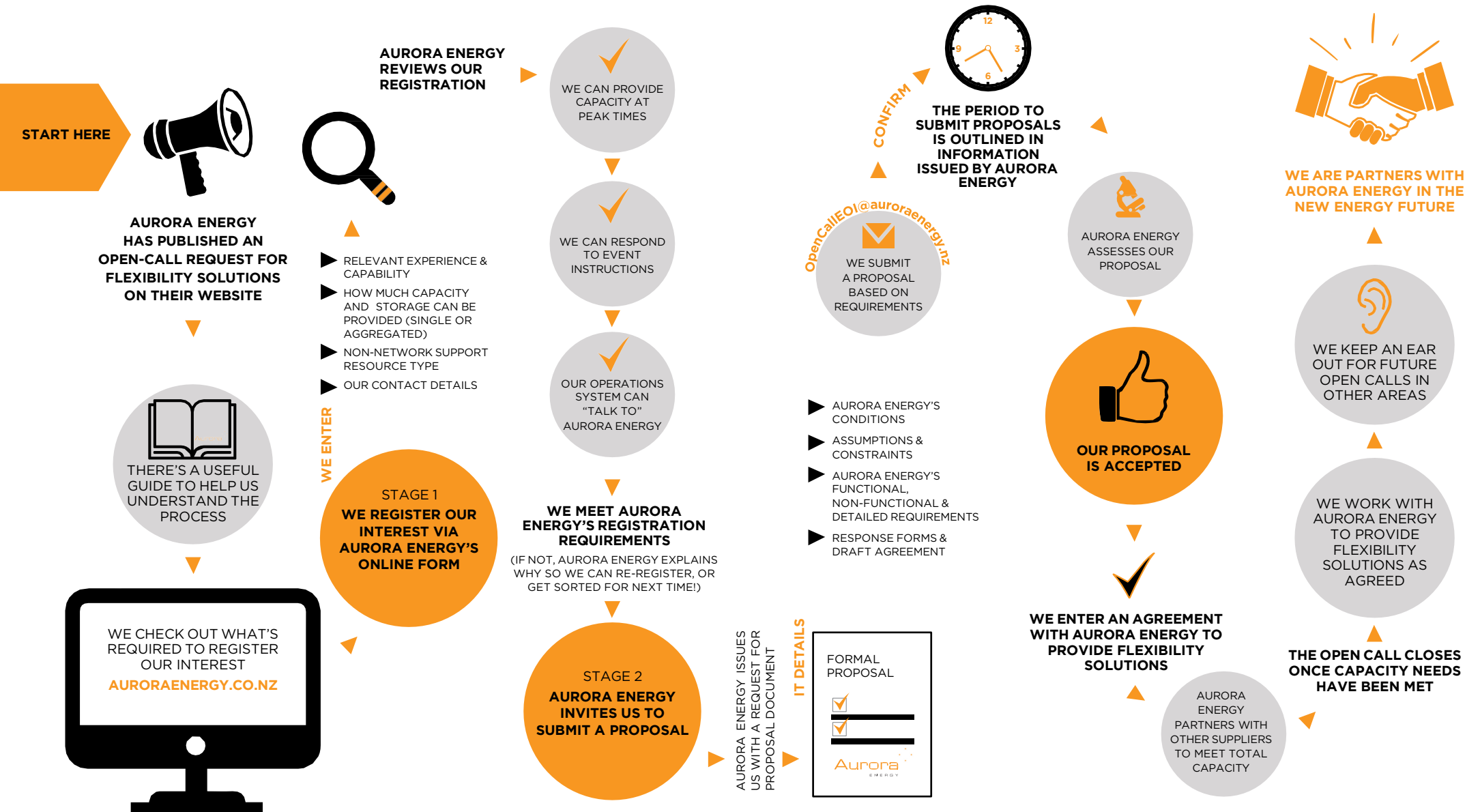
For all those who are shortlisted, we will issue a Request for Proposal (RFP) document. This would include details of the capacity support, together with technical and operational requirements, and seeking your commercial proposal.

## STEP 5

### YOU'RE SELECTED TO PROVIDE AURORA ENERGY WITH FLEXIBILITY SOLUTION

We will review all proposals against price and non-price requirements. Those selected to provide non-network capacity support will enter into contractual arrangements with us. Once the agreements are confirmed, you're all set to go. You will partner with us to help manage the network in new ways.

# PROVIDING FLEXIBILITY SOLUTIONS: THE END-TO-END PROCESS





# GOT QUESTIONS? WE'VE GOT YOU COVERED

WE KNOW INTRODUCING NEW  
WAYS OF MANAGING THE NETWORK  
WILL BRING WITH IT NEW  
QUESTIONS TOO.

HERE, WE COVER OFF SOME OF  
THE MORE FREQUENTLY ASKED  
QUESTIONS.

HOWEVER, IF YOU HAVE A  
QUESTION NOT ANSWERED HERE,  
PLEASE DON'T HESITATE TO GET IN  
TOUCH. YOU CAN EMAIL US AT

[OPENCALLEOI@AURORAENERGY.NZ](mailto:OPENCALLEOI@AURORAENERGY.NZ)

WE ARE LEARNING TOO, SO WOULD LOVE TO  
HEAR FROM YOU! YOUR IDEAS AND INNOVATION  
WILL HELP SUPPORT OUR TRANSITION TO A NEW  
ENERGY FUTURE.

## WHY IS AURORA ENERGY USING FLEXIBILITY SOLUTIONS?

We believe the future for our energy system will see many players working together to contribute to, and manage, the electricity needs of our communities. Sharing available resources means we may be able to delay or even avoid building more costly infrastructure, and instead, create new partnerships to help manage the electrification growth of our communities. We see our role as fundamental to helping drive Aotearoa's decarbonisation goals, and to enabling the use of new technologies to support customer choices and innovation in the energy sector.

## WHAT EXACTLY IS MEANT BY NON-NETWORK CAPACITY SUPPORT?

Flexibility Solutions are non-network solutions that are alternative to network solutions such as poles and wires. They are DERs, large DGs, and flexible demand that can provide services such as capacity support and voltage support to EDBs like Aurora Energy and provide support to Transpower such as demand response and instantaneous reserves for the national grid stability.

## WHAT IS MEANT BY DER?

DER refers to Distributed Energy Resources. Those are small-scale, distribution-embedded assets that either reduce load or inject more power like EV chargers, solar panels, batteries, or automated load management devices.

## OK, BUT WHAT ABOUT "CONTROLLABLE DER"?

Controllable DER is where the output or consumption can be turned up or down based on demand – for example, batteries, hot water and EV chargers can be controlled. Renewable generation like wind or solar is not normally considered controllable without a battery, but in some situations voltage control or generation curtailment can be considered as controllable DER.

## WHAT TYPE OF RESOURCE CAN PROVIDE FLEXIBILITY SOLUTIONS?

A number of resources can be called on to provide Flexibility Solutions. Existing household systems (like hot water) that can be controlled to reduce demand, or DERs such as solar-battery systems, battery systems or electric vehicle chargers. Flexibility Solutions can be provided by commercial, dairy and industrial customers that can reduce or shift demand such as operational processes, irrigation, cold storage, among others. Flexibility Solutions could also be provided by large-scale distributed generation.



## HOW WILL FLEXIBILITY SOLUTIONS BE USED BY AURORA ENERGY?

Flexibility Solutions will usually be used to coincide with peak electricity demand, a network event in an area and/or during low demand. It is often a more cost-effective alternative to building a network solution as it can be flexible to uncertain increases in demand, can delay investment in network infrastructure, or can avoid it altogether. It also increases the utilisation of assets.

## WILL AURORA ENERGY RUN MORE OPEN CALLS FOR FLEXIBILITY SOLUTIONS IN THE FUTURE?

Yes, we see the use of non-network solutions as a critical part of our future network strategy. Therefore, where there are parts of our network that would benefit from the use of non-network alternatives, we will run an open call process to seek registrations, and proposals. We will open and close each process as capacity needs are met.

## WHY ARE FLEXIBILITY SOLUTIONS REFERRED TO AS FLEXIBILITY SERVICES OR NON-NETWORK SUPPORT?

The flexible nature of non-network support has led to it also being referred to (internationally and locally) as Flexibility Services.

## CAN A FLEXIBILITY RESOURCE OWNER, ALSO BE A FLEXIBILITY SERVICE PROVIDER?

In short, yes, provided the total solution meets Aurora Energy's requirements in terms of capacity support, communications interface, and data capture. It is important all potential parties have the opportunity to get involved, and to help grow this new market offering.

## IF WE HELP AURORA ENERGY BY PROVIDING EXTRA CAPACITY SUPPORT, CAN WE OPERATE IN OTHER MARKETS?

Flexibility Service Providers can participate in other markets that require non-network solutions, provided Aurora Energy's requirements can still be met as agreed. This maximises value to those offering non-network solutions and increases the attractiveness of entering the market with demand flexibility.

## WHAT ARE FLEXIBILITY MANAGEMENT SYSTEMS?

A Flexibility Management System (FMS) or Distributed Energy Resource Management Solution (DERMS), refers to a system that allows the Flexibility Buyers to forecast and respond, procure, manage, contract for, issue instructions to, and pay Flexibility Service Providers.

## WHAT IS A FLEXIBILITY MARKET PLATFORM?

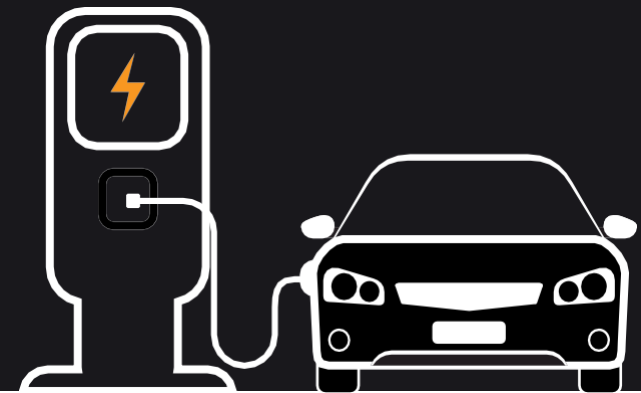
A market platform allows Flexibility Buyers and Flexibility Service Providers to interact. Flexibility Buyers register their need e.g. capacity, when and where, while Flexibility Service Providers can register and offer their flexibility solutions.

## HOW WILL PRICING STRUCTURES BE DETERMINED FOR NON-NETWORK SOLUTIONS, AND THOSE OFFERING THEM?

Aurora Energy's standard distribution pricing includes Time-of-Use (ToU) tariffs that enable retailers to offer night rates and peak demand prices to incentivise efficient DER management. We intend to complement standard distribution pricing with additional payments to Flexibility Service Providers who can discharge batteries, run distributed generators, or shift peak demand in response to our requests for network support during critical peaks on the system.

## Still have questions?

If you have a question not answered here, please don't hesitate to get in touch by emailing us at [opencalleoi@auroraenergy.nz](mailto:opencalleoi@auroraenergy.nz)





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**Aurora**  
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