

Application to connect distributed generation to Vector's electricity network (up to 10kW)

Thank you for applying to connect distributed generation (**DG**) to Vector Limited's (**Vector** or **us**) electricity network.

Please complete and return this application form by email to dginfo.applications@vector.co.nz.

Please also read the technical details in Part 2 carefully so that you know what is required when you complete the installation of your DG system.

Installers may submit this application form to Vector. However, the ICP holder needs to make the declaration in Part 5 because the ICP holder will hold the connection contract with Vector.

1. APPLICATION DETAILS

Part 1 of this application form asks you to provide the details of your proposed DG system.

A. ICP details

A DG connection is specific to an electricity ICP. That is because the ICP is the connection point into Vector's electricity network.

ICP number (from electricity bill)

Physical address

B. Generation details

Proposed connection

Proposed date of installation

Type of generation

Maximum generation nameplate capacity (in kW)

Total site maximum export power (in kW), including existing capacity (if applicable)

C. Inverter details

The type of inverter that your DG system uses, and how you set up your inverter, will affect how quickly your application is processed and the export limit that Vector offers you.

A summary is set out below, but please refer to [here](#) for information on (i) Vector's inverter requirements, and (ii) links to Vector's applicable connection and operation standards.

Inverter type

If you use an inverter from Vector's Approved Inverter List found on our website [here](#), then that inverter is pre-approved for use on Vector's network.

If you use an inverter that is not on Vector's Approved Inverter List, then as part of your application you will need to provide Vector with (i) an inverter datasheet for your inverter, (ii) a Certificate of Suitability demonstrating that your inverter complies with AS/NZS 4777.2 2020, and (iii) certification that the inverter is CSIP capable (optional - required only if the inverter is CSIP capable). Your application will take longer to process and won't be processed until these technical documents are provided. If you don't provide these documents within a reasonable period of time then we may decline your application.

Inverter setup

If (i) your inverter is CSIP communication capable and enabled from installation, (ii) your inverter will be connected to the internet, and (iii) once it is available you will let Vector connect its dynamic export management system to your inverter, then Vector will ordinarily process your application within 10 business days and offer a default **10kW dynamic** export limit (or, if your inverter's nameplate capacity is less than 10kW, then a dynamic export limit equal to that nameplate capacity).¹

If your inverter will not be CSIP communication enabled, and / or you choose not to connect your inverter to the internet, and / or you do not allow Vector's dynamic export management system to connect to your inverter, then Vector will offer a **2.5kW fixed** export limit and it will take longer to process.

Please provide details of each inverter in your DG System, including inverters that are combined with battery modules that you have (the next section asks separately for the details of those batteries).

How many inverters are there?

What is the type of inverter?

List the make of each inverter

List the model of each inverter

What is the size of each inverter
(in kW)?

¹ If your inverter has an internet connection, but after installation that connection becomes unstable or disconnects, then you will be limited to a fixed 2.5kW export limit for the duration of the disconnection.

Are all inverters entered above included on Vector's Approved Inverter List?
(Vector's approved list can be found [here](#))

Yes - all inverters are on Vector's Approved Inverter List

No - one of more inverters are not on Vector's Approved Inverter List, so I have (or will) provide relevant supporting technical documents

Are your inverters CSIP capable, or will you make your inverters CSIP capable (e.g. through retrofitting)?

Yes

No

If necessary, will you enable CSIP communication on your inverters?

Yes

No

(CSIP communication is on by default for some inverters)

Will you connect your inverters to the internet?

Yes

No

Will you allow (once it is available) Vector's dynamic export management system to connect to your inverters?

Yes

No

Please also complete Appendix 1 to show the protection settings that you will apply to your inverters (including, if applicable, battery inverters) as part of installation.

Vector expects your inverter protection settings to match what is set out in Appendix 1. Your application may be declined if you propose other settings.

D. Battery information

Are batteries being installed?

Yes Please provide details below

No Please go to **Declarations**

Number of batteries

Maximum nameplate storage
(in kWh)

Maximum charge rate for
each battery installed (in kW)

Maximum discharge (export)
rate for each battery installed
(in kW)

2. TECHNICAL INFORMATION

Part 2 of this application form provides you with technical information to be aware of and / or that should be complied with during the installation of your DG system:

- The installer of the DG system must be a Registered Electrical Worker.
- On the completion of DG installation, the installer must provide a signed Certificate of Compliance (**CoC**) and Record of Inspection (**RoI**). The CoC and RoI must include confirmation of compliance with AS/NZS 4777.1 2024 and AS/NZS 4777.2 2020.

The CoC and RoI confirm to Vector that your DG system has been installed in accordance with Vector's applicable connection and operation standards, which can be found [here](#).

- On the completion of DG installation, you will need to provide Vector with a photo of the nameplate of each inverter in your DG system showing its model details and serial number.
- All inverters on Vector's network must be setup in accordance with the protection settings in Appendix 1.

For inverters on Vector's Approved Inverter List this can be done by pre-selecting the "Australia A – AS/NZS 4777.2 2020" settings.

- If your DG system includes an inverter combined with a battery, then separate Volt/Watt control settings are also required for charging (these too are specified in Appendix 1).
- (If you would like to be eligible for a dynamic export limit, then) your inverters will need to be installed in a place where they can maintain an internet connection.

3. CONTACT INFORMATION

Part 3 of this application form asks for contact information for the person submitting this application and, if that person is not the ICP holder, the ICP holder for the DG system.

Please provide this information by completing Appendix 2.

4. ADDITIONAL INFORMATION

Part 4 of this application form gives you the chance to provide us with any other information about your DG application.

5. DECLARATION OF THE ICP HOLDER

Part 5 of this application form requires the ICP holder to provide a declaration that they have understood their application and its consequences.

I am the holder of the ICP listed in this application and I confirm with my signature that:

I / We request to connect distributed generation to Vector's electricity network.

I / We confirm that the information provided in this application is true and accurate.

I / We acknowledge that by installing a DG system I / we will be a distributed generator for the purposes of the Electricity Industry Participation Code 2010 (the Code) and will be subject to the Code's requirements.

I / We acknowledge that the export limit that Vector allocates depends on my / our compliance with the Code and Vector's standards, and it may be different from my / our DG system's full export capacity.

I/We acknowledge that (i) my / our inverters must be CSIP capable / enabled, (ii) my / our inverters must be connected to the internet, and (iii) I must agree to Vector being able to connect its dynamic export management system to my inverters, in order to be eligible for a dynamic export limit (and that a 2.5kW fixed export limit will apply if CSIP is disabled, the internet connection is interrupted or I / we do not agree to Vector connecting its dynamic export management system to my inverters).

I / We agree to inform Vector of any future changes to the distributed generation installation at my ICP.

Signature

Name

Date

Appendix 1: Required Inverter Protection Settings

Inverter voltage and frequency settings

The table below shows the inverter voltage and frequency protection settings required by Vector.

Please complete the columns on the right to show the protection settings that you will apply to your inverters as part of installation.

Parameter	Required Setting Value	Required Setting Value (1ph)	Required Setting Value (3ph)	Required maximum disconnection (trip) time	Applicants' settings value	Applicants' maximum disconnection (trip) time
a Under-voltage 2 (V <<)	0.304 p.u.	70 V	121.7 V	2 seconds	V	s
b Under-voltage 1 (V <)	0.783 p.u.	180 V	313.0 V	11 seconds	V	s
c Over-voltage 1 (V >)	1.152 p.u.	265 V	460.9 V	2 seconds	V	s
d Over-voltage 2 (V >>)	1.196 p.u.	275 V	478.3 V	0.2 seconds	V	s
e Under-frequency (F <)		47 Hz	47 Hz	2 seconds	Hz	s
f Over-frequency (F >)		52Hz	52Hz	0.2 seconds	Hz	s

Inverter Volt/Watt and Volt/VAR export settings

The tables below show the inverter Volt/Watt and Volt/VAR settings that are required by Vector for **exporting generation**.

Please complete the columns on the right to show the protection settings that you will apply to your inverters as part of installation.

Inverter Volt/Watt Settings

	Active Power (%)	Voltage	Voltage (1ph)	Voltage (3ph)	Applicants' Active Power (%)	Applicant's Voltage Setting (V)
P1	100%	1.10 p.u.	253 V	440 V	%	V
P2	20%	1.13 p.u.	260 V	452 V	%	V

Inverter Volt/VAR Settings

	Reactive Power (%)	Voltage	Voltage (1ph)	Voltage (3ph)	Applicants' Reactive Power (%)	Applicant's Voltage Setting (V)
V1	44% (Supplying)	0.900 p.u.	207 V	360 V	%	V
V2	0%	0.957 p.u.	220 V	383 V	%	V

	Reactive Power (%)	Voltage	Voltage (1ph)	Voltage (3ph)	Applicants' Reactive Power (%)	Applicant's Voltage Setting (V)
V3	0%	1.043 p.u.	240 V	417 V	%	V
V4	60% (Absorbing)	1.122 p.u.	258 V	449 V	%	V

Inverter Volt/Watt charging settings (for inverters combined with batteries)

For inverters combined with batteries, **Volt/Watt settings for battery charging** are required in addition to the Volt/Watt settings for exporting generation. The tables below show the required Volt/Watt settings for battery charging.

Please complete the columns on the right to show the protection settings that you will apply to your inverters' charging Volt/Watt settings as part of installation.

Inverter Volt/Watt charging settings for inverters combined with batteries

	Active Power (%)	Voltage	Voltage (1ph)	Voltage (3ph)	Applicants' Active Power (%)	Applicant's Voltage Setting (V)
P1	20%	0.900 p.u.	207 V	360 V	%	V
P2	100%	0.935 p.u.	215 V	374 V	%	V

Appendix 2 – Contact Information

Applicant's contact information

Role of requester

Full name

Billing address

Daytime phone number

Email address

ICP holder's contact information (if the applicant is not the ICP holder)

Full name

Company name (if
applicable)

Daytime contact number

Email address