



 **Industry webinar**

From Regulations to Implementation: A Guide to Dynamic and Flexible Exports for Solar Inverter Sales and Installation

Thursday 1 June

Brought to you by:



Empowering South Australia



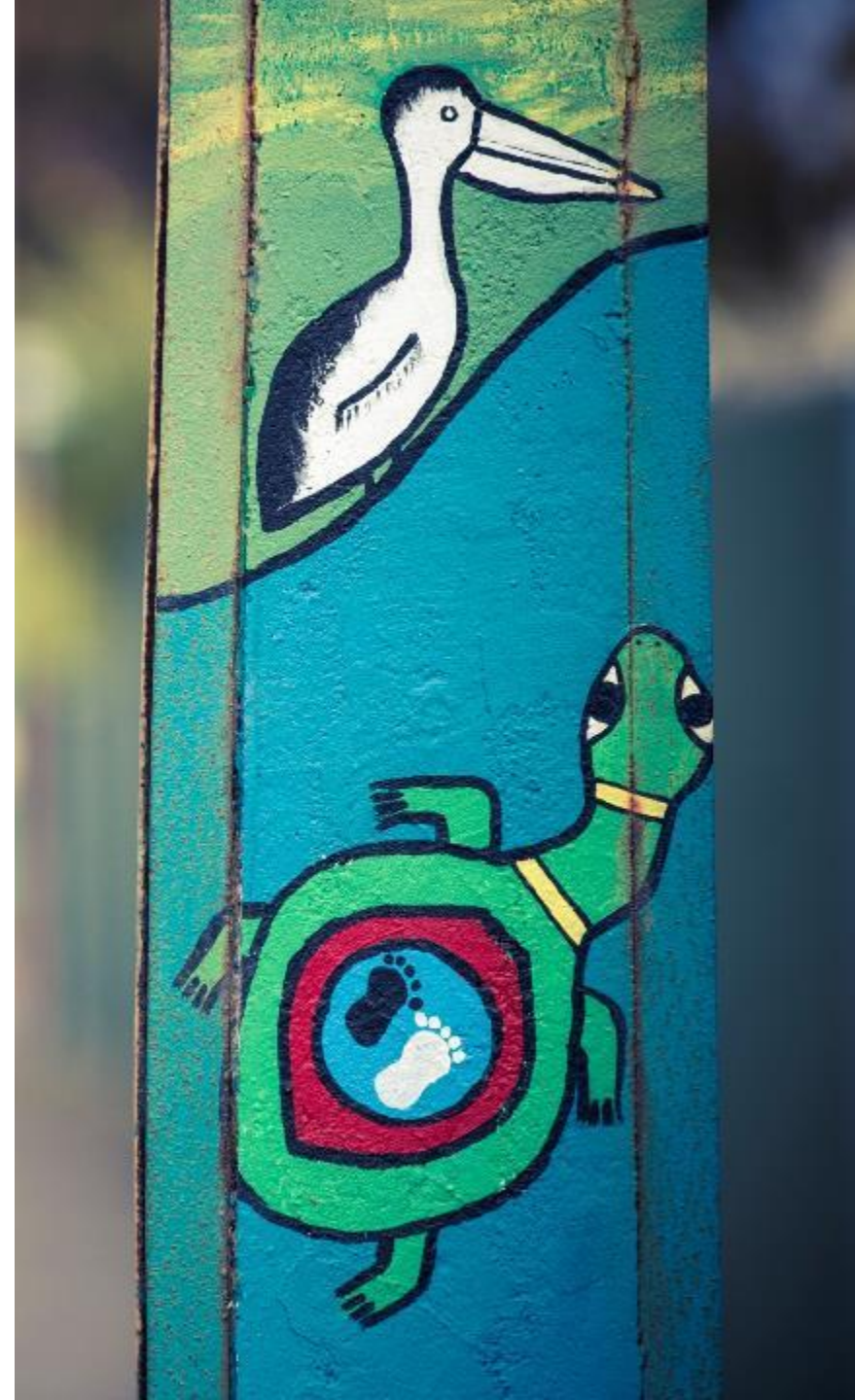
**Government
of South Australia**

Department for
Energy and Mining

Acknowledgement of Country

I'd like to begin by acknowledging the multiple Traditional Owners of the lands that host the South Australian electricity grid.

I'd also like to pay my respects to Elders past and present and acknowledge that these are living cultures by paying respect to emerging leaders.



Housekeeping

- We will be recording
- Q&A at the end of the webinar
 - Join at
 - **slido.com**
 - **#Exports**



- There will be a webinar feedback survey – would appreciate if you could take time to fill it out



Purpose

1. Increase awareness of:
 - Changes to SA Dynamic Export Regulation affecting inverter sales and installation
 - SA Power Networks' plan to rollout Flexible Exports connection option
2. Provide overview of what these requirements mean for solar retailers and installers
3. Demonstrate how to commission, register, closeout and test a Flexible Exports system



Speakers



Ian Furness
Principal Engineer, Office of the
Technical Regulator, Department
for Energy and Mining



James Brown
Strategy Lead, DER Integration
SA Power Networks



Ross Mullins
Energy Service Analyst
SA Power Networks

Agenda

- Dynamic Export Requirements Overview
**Ian Furness, Office of the Technical Regulator
Department for Energy and Mining**
- Flexible Exports rollout
James Brown, SA Power Networks
- What these changes mean for you
Ross Mullins, SA Power Networks
- Q&A - Slido
- Wrap up



Dynamic Exports Update

Ian Furness
Principal Electrical Engineer

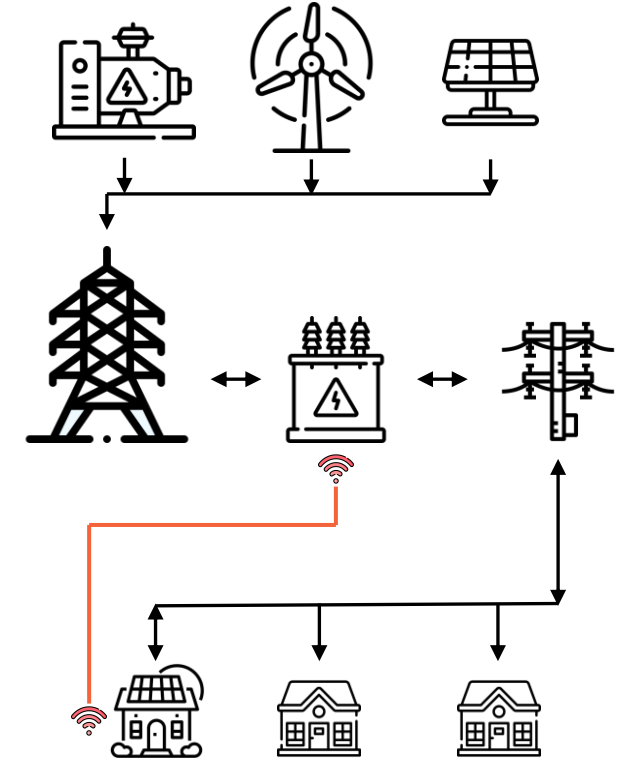
1 June 2023

www.energymining.sa.gov.au/smarterhomes



Smarter Homes Export Limit Requirements

- A range of regulatory changes around management of Distributed Energy Resources came into force in 2020 grouped together under the title: Smarter Homes
- From **1 July 2023** new/replacement electricity generating plants must be able to have their export limits set and updated remotely (dynamic export capable)
 - These requirements sit within two guidelines which provide requirements for *remote updating methods* and *export limiting methods*
- These guidelines are available on the Smarter Homes website:
www.energymining.sa.gov.au/smarterhomes



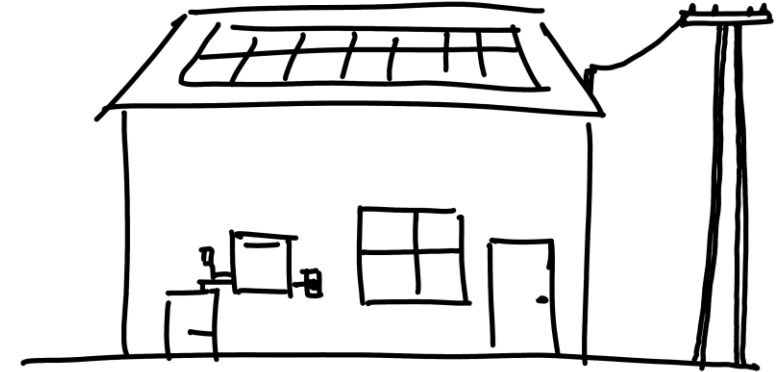
Why Dynamic Exports?

- Exports from Distributed Energy Resources have been steadily increasing.
- Our power system must operate with very high reliability.
- Static export limits need to be supported by the network at all times, meaning that they are often set by the most challenging conditions.
- Export limits that can be updated remotely will enable owners of solar to continue to earn revenue from their excess generation, while ensuring that this is managed safely across the power system in SA.
- This freedom from the export limit being set by the 'worst case scenario' should allow for rooftop solar to play a larger part in the energy transition, while ensuring the safe and reliable operation of the wider power system.



Who do the Guidelines apply to?

- All **new** solar and energy storage installations connected to the SA Power Networks distribution network
- Plants which are replacing their inverter outside of warranty
- Exceptions
 - Sites which have SCADA connections (MEG/LEG)
 - Zero Export Sites
 - SEG/MEG connection application lodged prior to 1 July 2023, and installation completed before 1 September 2023
 - Battery Compliance required from 1 March 2024



Home Battery Compliance Dates

- Batteries are not required to be dynamic export capable until 1 March 2024:

Dynamic Export Compliance Required From:	1 July 2023		1 March 2024	
Installation	Solar PV or Hybrid Inverter	Battery Inverter	Solar PV or Hybrid Inverter	Battery Inverter
New Solar PV with no Battery	Yes	-	Yes	-
New Solar PV and DC Coupled Battery with Hybrid Inverter	Yes	-	Yes	-
New Solar PV and DC Coupled Battery with separate Battery and Solar Inverters	Yes	No	Yes	Yes
New Solar PV and AC Coupled Battery	Yes	No	Yes	Yes
New Solar PV and existing AC or DC Coupled Battery	Yes	No	Yes	No
New AC Coupled Battery	-	No	-	Yes
Existing Solar PV and new AC or DC Coupled Battery	No	No	No	No
Additional Panels added to existing Solar PV	No	-	No	-
Existing Solar PV and new Solar PV and AC or DC Coupled Battery	Yes	No	Yes	Yes

Choosing the Right System

- Manufacturers of devices that have achieved full certification will appear on the Clean Energy Council list of Approved Inverters – look for the software client option
- Those manufacturers taking advantage of a transitional arrangement will be found on a list hosted by SA Power Networks
 - These are for devices which can be commissioned and operate for flexible connections but need additional time to meet all the requirements of the Standard and SAPN testing.
 - A minimum set of tests is provided in the guidelines.
- In some cases additional hardware is required, such as an energy meter or CT clamp or in other cases a gateway device.

How Can I Keep Up to Date?

- Get into contact with otr.smarterhomes@sa.gov.au and we'll ensure you receive updates as they happen
- Feedback and suggestions can also be provided to otr.smarterhomes@sa.gov.au
- Check www.energymining.sa.gov.au/smarterhomes for updates as they are published

Flexible Exports rollout

James Brown
Strategy Lead, DER Integration
SA Power Networks



What's changing 1 July – summary on a page

Dynamic export requirements go live

SA Government Requirements

- All installations in SA approved from 1 July 2023 will need to be *Dynamic Exports Capable*
- Unless they are permanently configured for zero export

What does this mean in practice?

- Any installation must only include inverters that are certified as *Dynamic Exports Capable* per the CEC list of approved inverters
- The site must have site level monitoring capability (usually achieved through an inverter meter or CT clamp)
- SmartApply will be filtering any non compatible inverter from 1 July 2023

Flexible Exports rollout begins

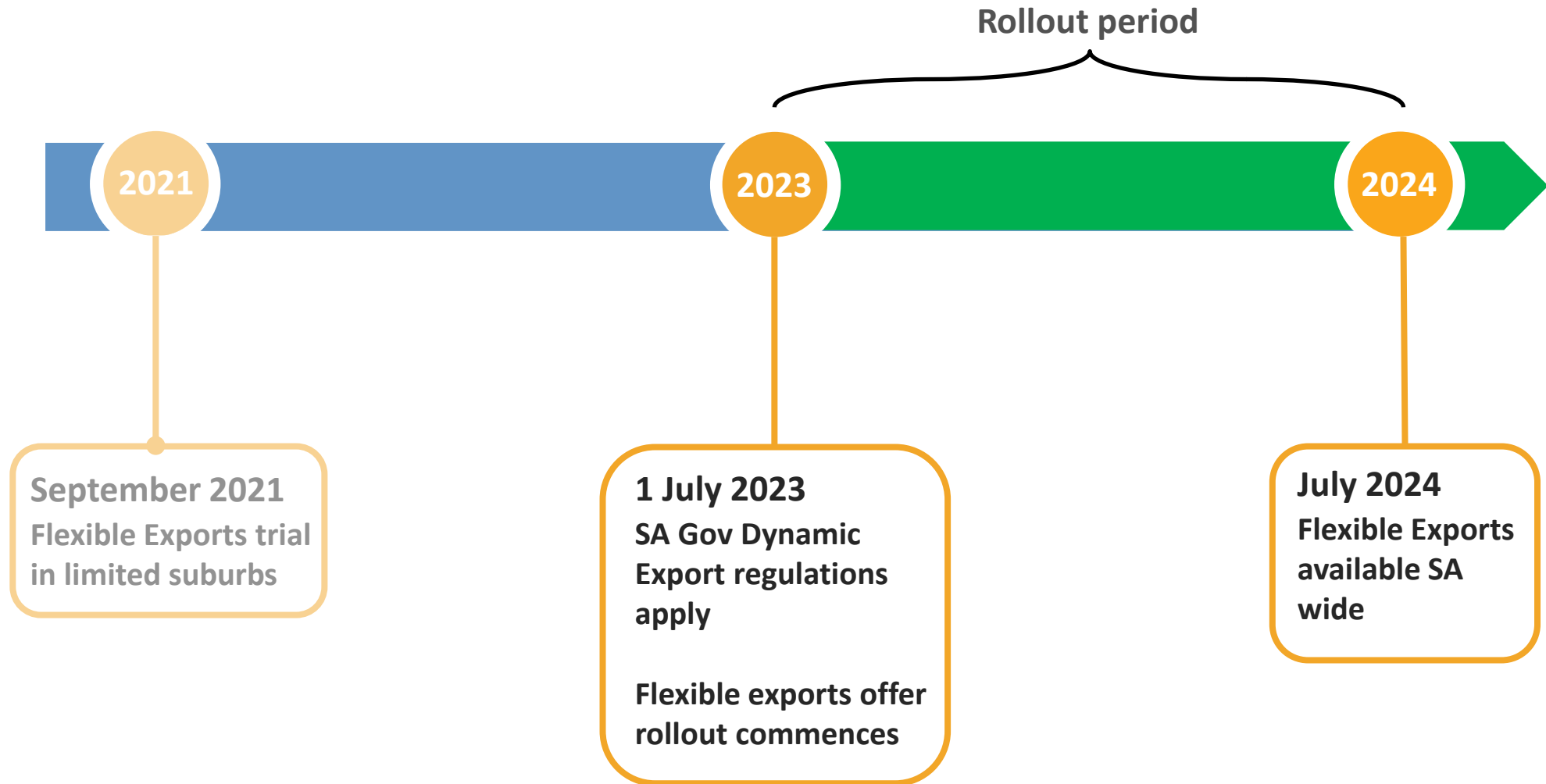
SA Power Networks Flexible Exports eligibility will be rolled out suburb by suburb

Customers with *dynamic exports capable* sites will be able to enrol in this new offer

To participate, the system must be internet connected, registered and capability tested with SA Power Networks' systems



Timing and key dates



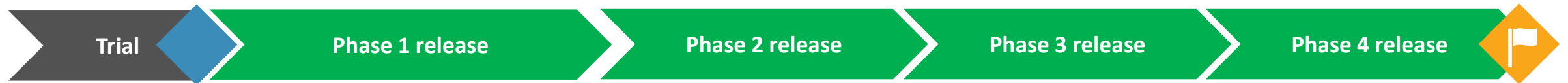
Rollout approach

Dynamic Exports Requirements

July 2023

~Q4 2023

Mid 2024



Expand to full trial suburbs:

- 7 suburbs from Mitcham
- 7 suburbs from Onkaparinga
- 5 suburbs from Holdfast Bay
- 12 suburbs from Marion
- 6 suburbs from Port Adelaide
Enfield

More suburbs in:

- City of Mitcham
- City of Onkaparinga

Suburbs prioritised based on:

- Level of solar congestion
- Starting with some areas around where trial is offered
- Geographical spread (metro and rural)

Connection options available by area

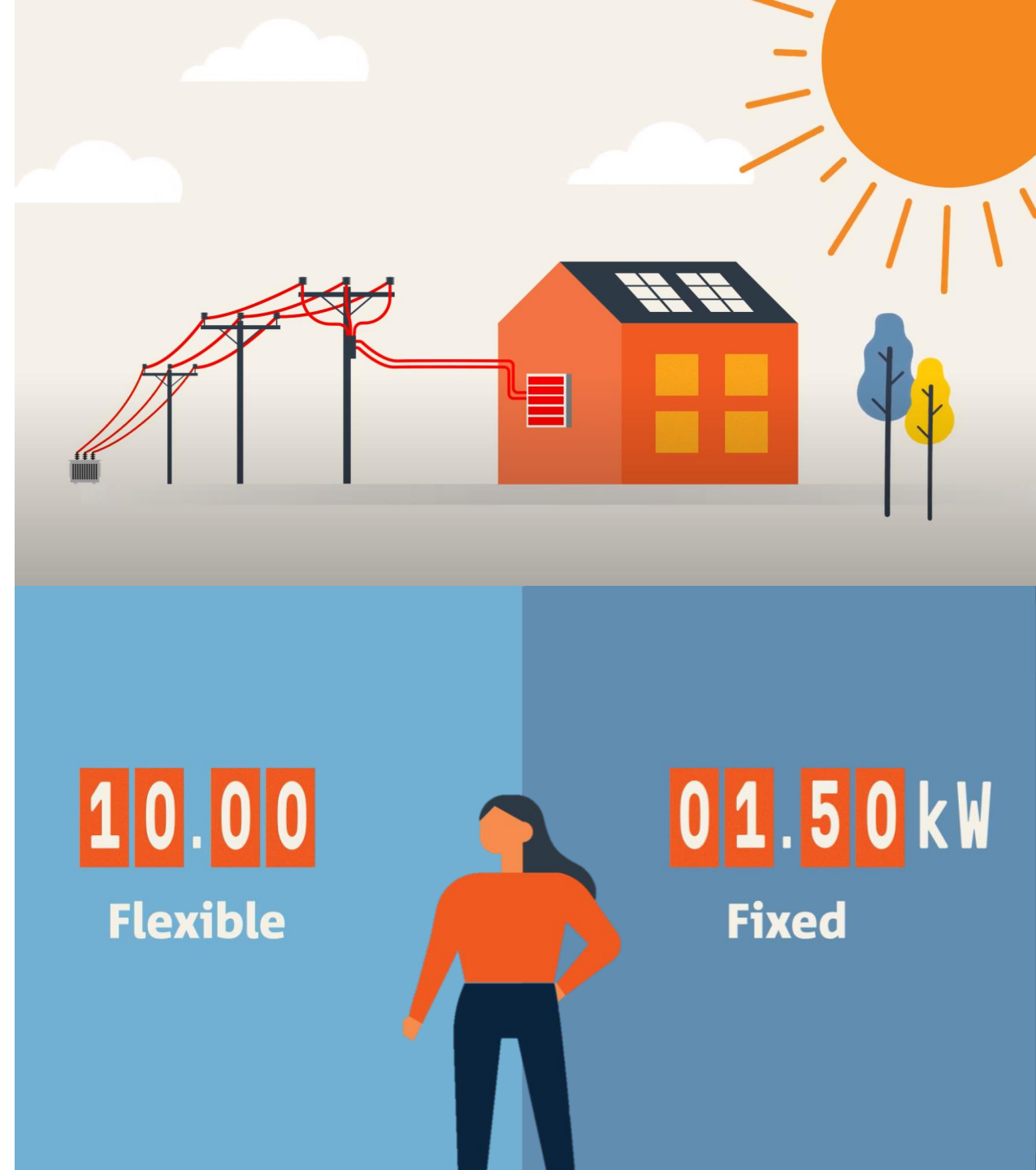
Within Flexible Exports eligible suburbs

- All exporting systems must be dynamic exports capable (ex. zero export)
- Choice between
 - Fixed export 1.5kW/phase
 - Flexible Exports 1.5-10kW*/phase

Outside of Flexible Exports eligible suburbs

- All exporting systems must be dynamic exports capable (ex. zero export)
- 5kW/phase export limits applies

*depending on network location and installed inverter capacity



Complete

Native



Gateway



(Note some still finalising paperwork for listing)

In Progress

Native



Gateway



+ more

Consult the CEC website for the most up-to-date list

SA Power Networks website will soon be updated to include inverters available under transitional arrangements

What these changes mean for you

Ross Mullins
Energy Services Analyst
SA Power Networks



Changes to the end to end process

Pre-sale

- Use the new eligibility checker to determine if Flexible Exports is available in the customers area
- Email/print the information for your sales pack

Apply

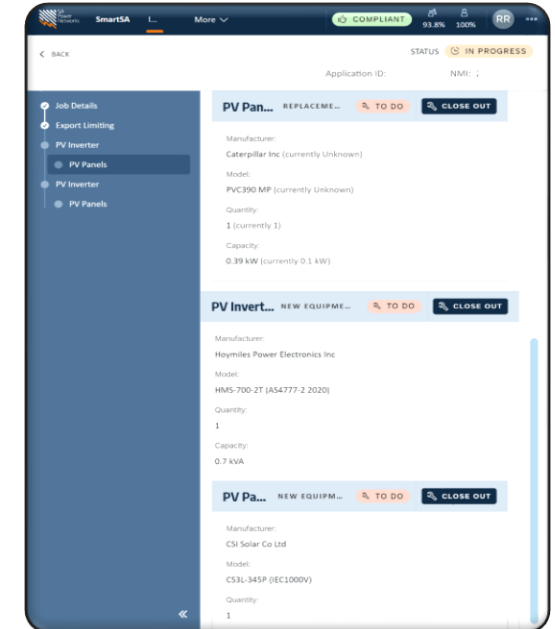
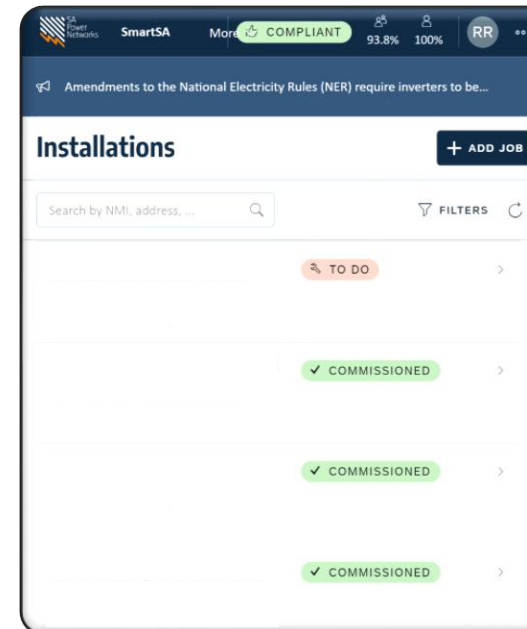
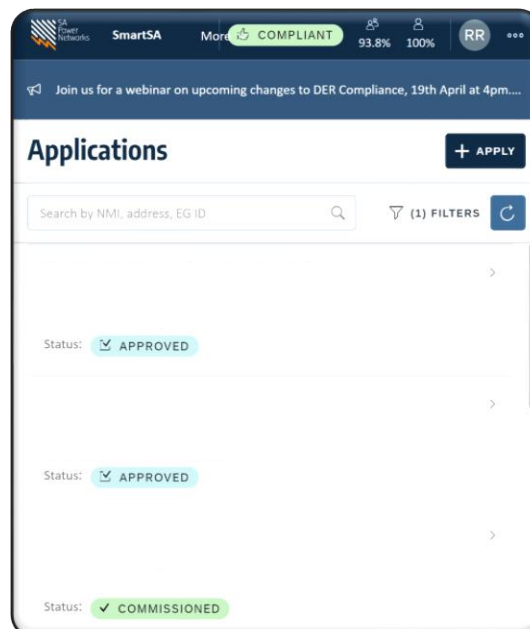
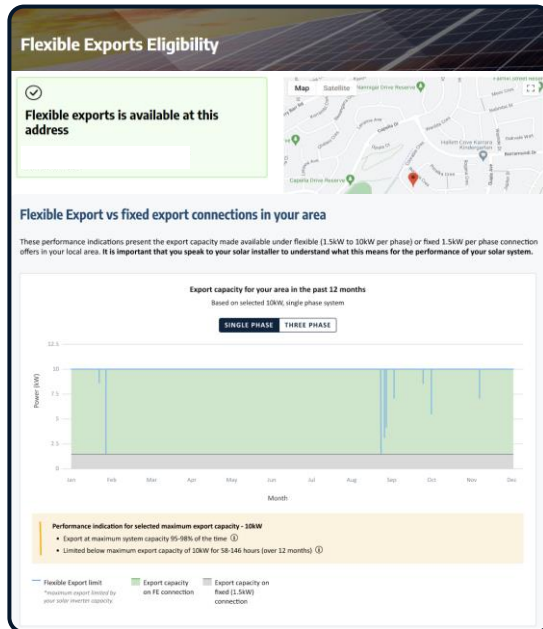
- Apply for network connection through SmartApply
- Only Dynamic Export Capable or deemed to comply inverters will be available in SmartApply

Install

- **At every site:** Install inverter and import/export monitoring device per OEM documents
- Ensure all exporting solar inverters are under site-wide export control

Commission

- **At every site:** close out in SmartInstall
- **Flexible Exports sites only:** Configure the system per OEM guides
- Register the system
- Complete the capability test



Use the eligibility checker for all solar sales

Enter the customers address / NMI to determine whether the Flexible Exports option is available

Presented information on options available

Within eligible areas:

- Flexible Exports (1.5-10kW/phase)*
- Fixed Exports (1.5kW/phase)

Outside eligible areas:

- Fixed exports (5kW/phase)

*depending on network location and installed inverter capacity

Flexible Exports Eligibility

Are you eligible to access the new Flexible Exports solar program?

Enter your address or NMI to find out

32 Alia Dr, Sheidow Park SA 5158, Australia

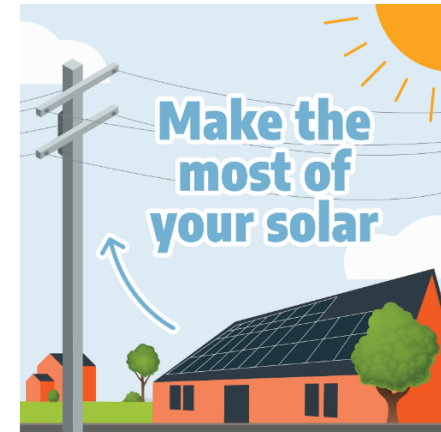
What is an NMI?

[Use my location](#)

Address not listed? Please [contact us](#) or call 13 1261.

What is Flexible Exports?

A new solar option which will allow customers to export 1.5-10kW per phase, instead of fixed export capped at 1.5kW. This will allow you to feed in the maximum amount of unused energy from your rooftop solar that



Flexible exports is available at this address

[Change Address](#)

Next steps

Ready to apply? **Contact your installer**

Ask your installer the questions from the checklist to ensure you receive a compliant Flexible Export compatible system.



Pre-sale

Apply

Install

Commission

For customers within eligible areas:

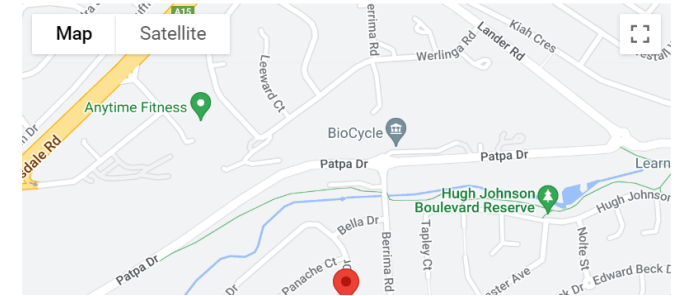
- Provides information on options available:
 - Flexible Export (1.5-10kW/phase)
 - Fixed Export (1.5kW/phase)
- View past Flexible Exports performance in the customers' area
- Print, download or email information to use as part of the sales discussion

Flexible Exports Eligibility



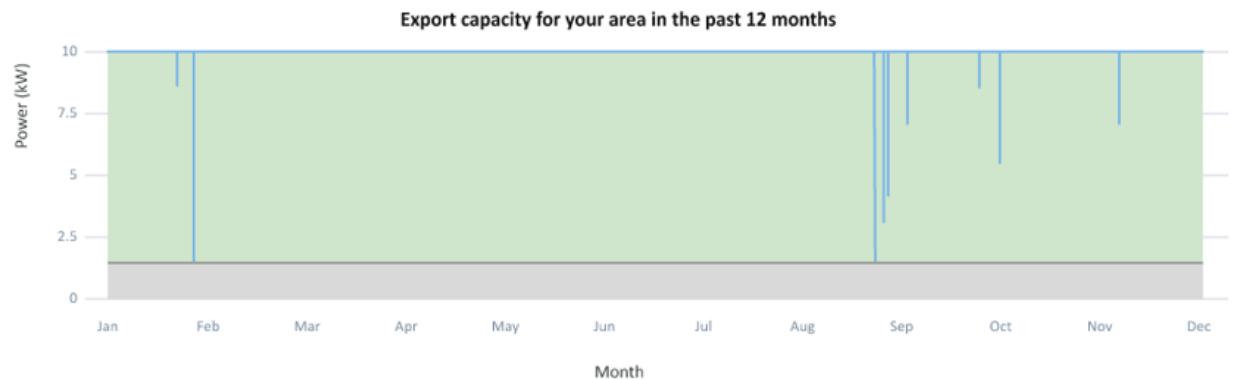
Flexible exports is available at this address

[Change Address](#)



Flexible Export vs fixed export connections in your area

These performance indications present the export capacity made available under flexible (1.5kW to 10kW per phase) or fixed 1.5kW per phase connection offers in your local area. It is important that you speak to your solar installer to understand what this means for the performance of your solar system.



Performance indication for selected maximum export capacity - 10kW

- Export at maximum system capacity 95-98% of the time ⓘ
- Limited below maximum export capacity of 10kW for 58-146 hours (over 12 months) ⓘ

Pre-sale

Apply

Install

Commission

For customers outside eligible areas:

- Fixed 5kW/phase option is available
- Customers may retrospectively opt in to Flexible Exports once available in their area
 - Ensure you discuss this option with customers during the sales process

Flexible Exports Eligibility

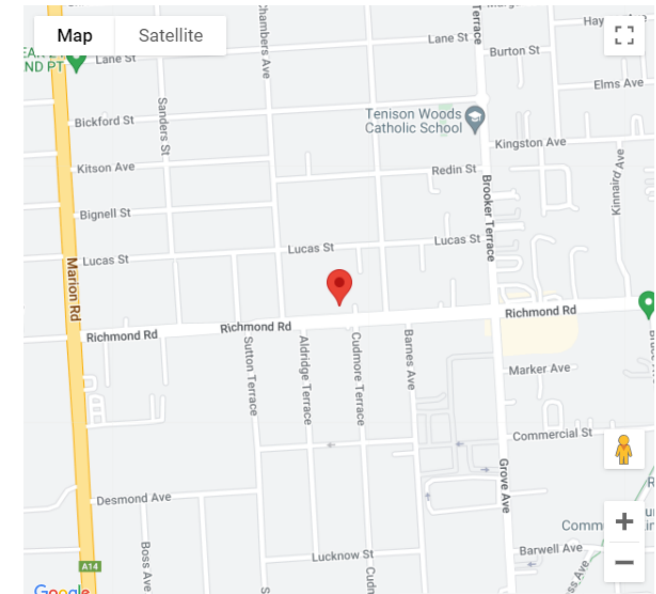
Flexible exports is not available at this address

229 Richmond Rd, Richmond SA 5033, Australia

[Change Address](#)

More Information

This address does not yet have the Flexible Exports option available. We are regularly releasing eligible suburbs, based on network changes. [Email us](#) your address and we can keep you updated when we release new suburbs.



Pre-sale

Apply

Install

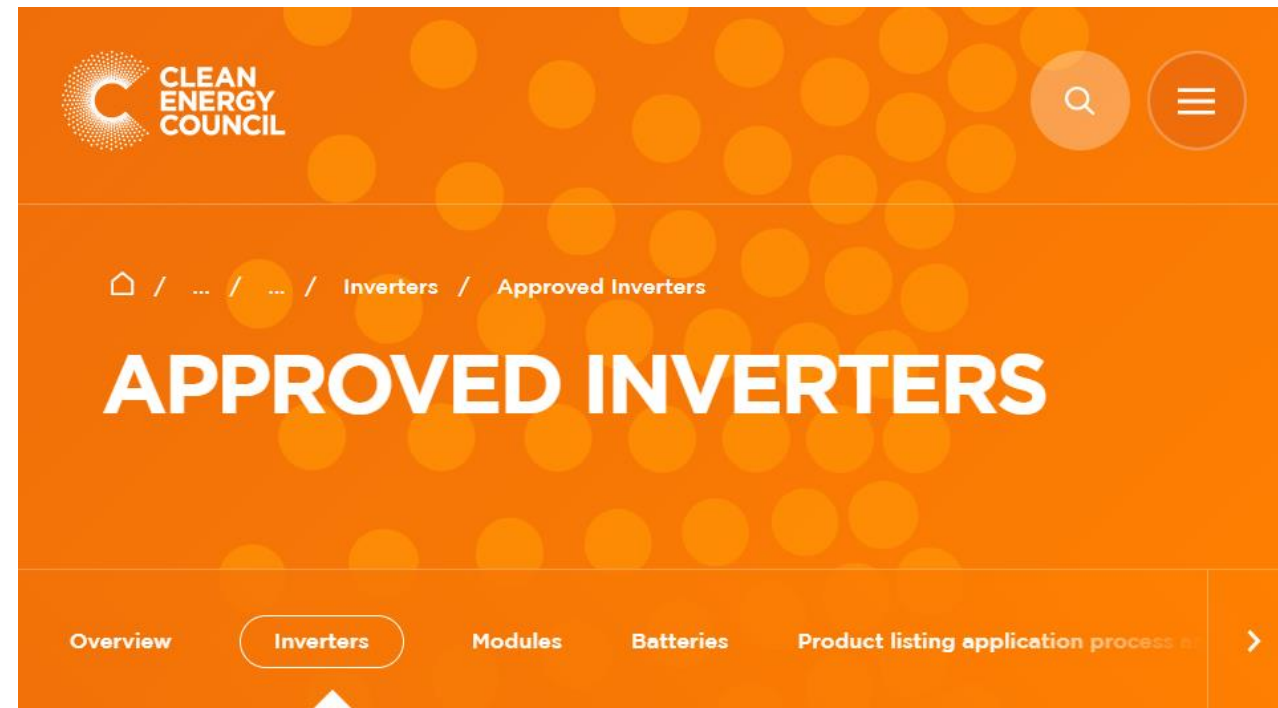
Commission

Equipment you can sell from 1 July:

- Every approved system from 1 July 2023 must be dynamic exports capable
 - This includes fixed export limit sites (1.5 & 5kW) and Flexible Exports sites
 - Sites configured for zero export are exempt
- Ensure you sell the correct system, including:
 - Certified inverter*
 - Export monitoring device
 - Gateway device (if required)
 - Internet connection (Flexible Exports sites only)

Compatible equipment

The following equipment is compatible with Flexible Exports and available now.



*SAPN compatible equipment page will be updated closer to go-live

Pre-sale

Apply

Install

Commission

SmartApply changes

- Export Options displayed at the start of application (existing feature).
- Inverter filtering for dynamic exports capable inverters in SmartApply will occur for all applications from 1 July 2023 (unless zero export option is selected)
- On the Proposed page select fixed, flexible or the zero export option.
- Application will vary depending on what export plan is selected.

The screenshot displays the SmartApply web application interface. At the top, a dark blue navigation bar contains the SA Power Networks logo and the text 'SmartSA', 'Installations', 'Applications' (highlighted with an orange underline), and 'Management'. Below this, a breadcrumb trail shows '< APPLICATIONS'. The main header area displays the address 'Lot 386, 23 Dingo Road, HALLETT COVE SA 5158'. On the left, a vertical sidebar lists the application steps: 'Location details' (checked), 'Export options' (active, highlighted in dark blue), 'Contact details', 'Current equipment', 'Proposed installation', and 'Review & submit'. Below the sidebar, a 'Total Capacity' section shows 'Incl. capacity of all NMIs in this group.' with a toggle switch between 'Current 0kVA' and 'Proposed 4kVA'. The main content area is titled 'Export options' and includes a warning: 'Please read the following carefully before proceeding to the next step.' It states that SA Power Networks has introduced new connection options. A section titled 'Your location' shows the 'National Metering Identifier (NMI)' as 20021596949 and the 'Meter Number' as N/A. A red rectangular box highlights the 'Export options' section, which lists two available options: '1. 1.5kW per phase' or '2. Flexible Export limit 1.5kW to 10kW per phase.' It also includes a note that the export limit will not change for battery or like-for-like inverter replacements, a link to learn more, and a 'SEND' button to receive an email with this information.

SA Power Networks SmartSA Installations Applications Management

< APPLICATIONS

Lot 386, 23 Dingo Road, HALLETT COVE SA 5158

Location details
Export options
Contact details
Current equipment
Proposed installation
Review & submit

Total Capacity ⓘ
Incl. capacity of all NMIs in this group.

Current 0kVA Proposed 4kVA

Export options

Please read the following carefully before proceeding to the next step.

SA Power Networks has introduced new connection options in parts of the network to enable much larger amounts of solar to be connected to the network. Initially we will b

Your location

National Metering Identifier (NMI)
20021596949

Meter Number
N/A

At this location, the following options are available for new installations and capacity upgrades:

1. 1.5kW per phase
- or
2. Flexible Export limit 1.5kW to 10kW per phase.

The export limit will not change if you are only installing a battery or a like-for-like inverter replacement.

You can learn more about these options on our website. Click [here](#) for information about equipment that is compatible with the flexible exports option.

Use the send button below to receive an email with this information that can be used to support discussions with your customer about these options.

SEND

Pre-sale

Apply

Install

Commission

Lot 386, 23 Dingo Road, HALLETT COVE SA 5158

Application ID: EG1182916 Meter Number: NMI: 20021596949

✓ Location details

✓ Export options

✓ Contact details

✓ Current equipment

Proposed installation

Review & submit

Total Capacity ⓘ

Incl. capacity of all NMIs in this group.

Current

0kVA

Proposed

4kVA

Proposed installation

NEW EQUIPMENT

NMI 20021596949

Connection Type: Three Phase

Export Plan: Flexible

Export Limit: 1.5- 10 kW / phase

INVERTER

NEW EQUIPMENT

Device	Manufacturer	Model	Quantity	Capacity
PV Inverter	Fronius Australia Pty Ltd	Primo 4.0-1 (AS4777-2 2020)	1	4 kVA
PV Panels	Guangdong Lesso Banhao New ...	530D(HPM)72(182)	10	5.3 kW

+ ADD DEVICE

Relevant Agent: SA Power Networks

+ ADD INVERTER

FLEXIBLE CONNECTION

The site requires a flexible connection to perform the capability test. Please select the connection that will be used;

Select Flexible Connection..

Fronius Cloud

Greensync Cloud

SwitchDin Droplet

The site requires an export limiting device to perform the capability test. Please select the device that will be used;

Select Export Limiting Device..

RESET

A Flexible Connection must be selected in order to proceed.

Choosing the export plan for your customer

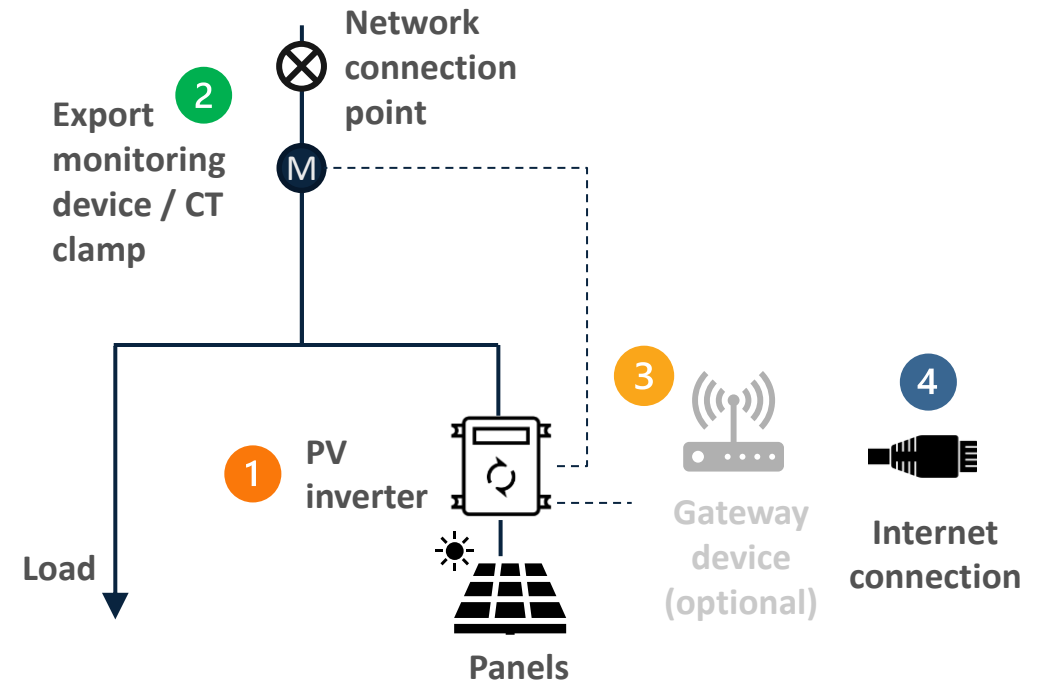
Relevant Agent defaults to SA Power Networks

Must now select "flexible connection" type for your application

Site configuration

- Ensure you install and setup site per your inverter manufacturer dynamic exports training and guides
- Important components:
 - 1 Dynamic exports capable inverter(s)
 - 2 Export monitoring device
 - 3 Gateway device (not required for native installations)
 - 4 Internet connection (not required for fixed export sites*)

Example site setup – single inverter



Consult manufacturer guides for more information, including multi-inverter setups

Pre-sale

Apply

Install

Commission

Device registration

- This step is only required for sites enrolled in Flexible Exports
- Once installed, follow the inverter manufacturer's guide (which will be centrally hosted by the CEC) to setup, connect and register the device (usually completed within the Manufacturer's commissioning application).
- Register the customer's NMI and device with SAPN to receive the flexible export limits
- ✗ If we receive notification that a Flexible installation has occurred, and the device has not been registered, the application will be flagged as non-compliant.
- ✗ Capability Test can not be completed until system is registered.



Pre-sale


Apply

Install

Commission

SmartInstall closeout

- Once the system has been installed and registered (if a flexible site), regardless of the export plan, the site needs to be closed out in SmartInstall.
- For Flexible Export sites, you must complete a 'Capability Test'
- The Capability test is a short test to confirm if the site is configured correctly for Flexible Exports and that communications to site, and site level export limiting is correct.
- Mandatory requirement of the SA Government Dynamic Export regulations

 **SmartSA** **Installations** Applications More ▾


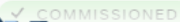
NON-COMPLIANT 79.5% 70.2% RM


Amendments to the National Electricity Rules (NER) require inverters to be connected. [Find out more](#)

Installations

🔍 FILTERS 🔄

Address	NMI	EG ID	Site size	Work status	Actions
123 Able Street, Pool SA 5222	20012345628	EG1112222	4.999 KVA	✓ COMMISSIONED	VIEW ...
12 Treble Street, Whyalla SA 5299	20012366628	EG1112555	10 KVA	✓ COMMISSIONED	VIEW ...
45 Lola Ave, Mitcham SA 5022	20012995628	EG1999222	8.5 KVA	✓ COMMISSIONED	VIEW ...
24 Tripe Ave, Mitcham SA 5022	20012995628	EG1999222	10 KVA	✓ COMMISSIONED	VIEW ...
145 Reef Ave, Salisbury SA 5444	20012995628	EG1999222	3 KVA	✓ COMMISSIONED	VIEW ...
355 Opal Crescent, Hope Valley SA 5022	20012995628	EG1999222	10 KVA	✓ COMMISSIONED	VIEW ...
66 English Ave, Keswick SA 5035	20012995628	EG1999222	5 KVA	✓ COMMISSIONED	VIEW ...
45 Lola Ave, Mitcham SA 5022	20012995628	EG1999222	10 KVA	🔧 TO DO	CLOSE OUT ...

  **VIEW** ...



Pre-sale

Apply

Install

Commission

< BACK

Lot 386, 23 Dingo Road, HALLETT COVE SA 5158

Application ID: EG1182916 NMI: 20021596949

STATUS  INSTALLED

- Job Details
- Export Limiting
- PV Inverter
-  PV Panels
-  Capability Test

Model:
Primo 4.0-1 (AS4777-2 2020)

Quantity:
1

Capacity:
4 kVA

PV Panels

 INSTALLED  Close Out

Manufacturer:
Guangdong Lesso Banhao New Energy Technology Group Co Ltd

Model:
530D(HPM)72(182)

Quantity:
10

Capacity:
0.53 kW


Capability Test

 TO DO

Once you have installed the equipment, we will test the export capability by sending an example export limit and confirming the equipment adheres to it. Successful completion will finalise your close out. Test length: Approx. 3 – 5 minutes.

Testing..



-  Sending example export limit to this equipment
- Confirming connection has been made
- Confirming adherence to export limit
- Removing example export limit
- Confirming adherence to default limit

Pre-sale

Apply

Install

Commission

< BACK

STATUS  **INSTALLED**

Lot 386, 23 Dingo Road, HALLETT COVE SA 5158

Application ID: EG1182916 NMI: 20021596949

- ✓ Job Details
- ✓ Export Limiting
- ✓ PV Inverter
- ✓ PV Panels
- Capability Test**

Primo 4.0-1 (AS4777-2 2020)

Quantity:

1

Capacity:

4 kVA

PV Panels

 INSTALLED

 Close Out

Manufacturer:

Guangdong Lesso Banhao New Energy Technology Group Co Ltd

Model:

530D(HPM)72(182)


Quantity:

10

Capacity:

0.53 kW

Capability Test


 TO DO

Once you have installed the equipment, we will test the export capability by sending an example export limit and confirming the equipment adheres to it. Successful completion will finalise your close out. Test length: Approx. 3 – 5 minutes.

Retry



Test failed. Please check the installed equipment and try again.

-  Sending example export limit to this equipment
 - Confirming connection has been made
 - Confirming adherence to export limit
 - Removing example export limit
 - Confirming adherence to default limit

Pre-sale

Apply

Install

Commission

< BACK

Lot 386, 23 Dingo Road, HALLETT COVE SA 5158

Application ID: EG1182916 NMI: 20021596949

STATUS  COMMISSIONED

- ✓ Job Details
- ✓ Export Limiting
- ✓ PV Inverter
- ✓ PV Panels
- ✓ **Capability Test**



Manufacturer:
Fronius Australia Pty Ltd

Model:
Primo 4.0-1 (AS4777-2 2020)

Quantity:
1

Capacity:
4 kVA

PV Panels

 COMMISSIONED  CLOSE OUT


Manufacturer:
Guangdong Lesso Banhao New Energy Technology Group Co Ltd

Model:
530D(HPM)72(182)

Quantity:
10

Capacity:
0.53 kW

Capability Test

 CLOSED OUT

Once you have installed the equipment, we will test the export capability by sending an example export limit and confirming the equipment adheres to it. Successful completion will finalise your close out. Test length: Approx. 3 – 5 minutes.



Test successful. This site is ready for flexible export limiting.

Site Compliance Ref Number: CT00000234

Pre-sale

Apply

Install

Commission

Training

Free CPD courses available now

- SAPN Embedded generation compliance for SA (30 Core CPD points)
- SAPN What you need to know about Flexible Exports (30 Core CPD points)
 - Links to OEM specific user guides, training materials

How to access

1. Log into the CEC's Learning Hub
2. Type in 'SAPN' in search
3. Enter enrolment key "SAPNtraining"
4. Contact education@cleanenergycouncil.org.au for support

Coming soon

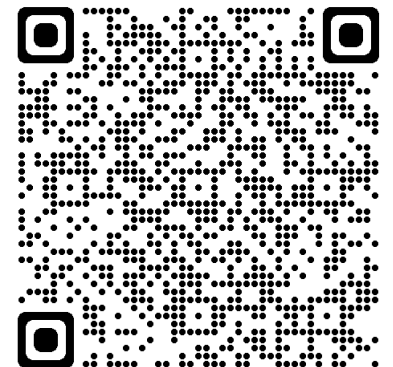
- Smart Energy Council Face-to-face OEM specific training

COURSES

TypeLocation

POINTS	LOCATION	COURSE
30 CORE	ONLINE	<div><h4>SAPN embedded generation compliance</h4><p>This course is about the importance of compliance related to embedded generation installations and the issues that non-compliance creates. Discover what solar retailers and installers can do to help safely expand solar in our state.</p><div><div>DURATION</div><div>1-3 hours</div><div>TRAINING PROVIDER</div><div>SA Power Networks</div><div>TRAINING LINK</div><div>Access training</div><div>CPD POINTS</div><div>30</div></div></div>

Clean Energy Council
Learning Hub



Q&A



slido



**Join at slido.com
#Exports**

ⓘ Start presenting to display the joining instructions on this slide.

slido



Audience Q&A Session

① Start presenting to display the audience questions on this slide.

Wrap up

1. SA Government Dynamic Export requirements come into effect from 1 July 2023
2. SA Power Networks Flexible Exports – standard connection option, rolled out from 1 July 2023 across 2024
3. Information & training available
 - Our website
<https://www.sapowernetworks.com.au/industry/flexible-exports/>
4. Reach out to our New Energy Services team via email: newenergyservices@sapowernetworks.com.au or call 1300 665 913



Flexible Exports information



Subscribe to our industry communications



Empowering South Australia