

DER Register overview & Solar Installer Requirements

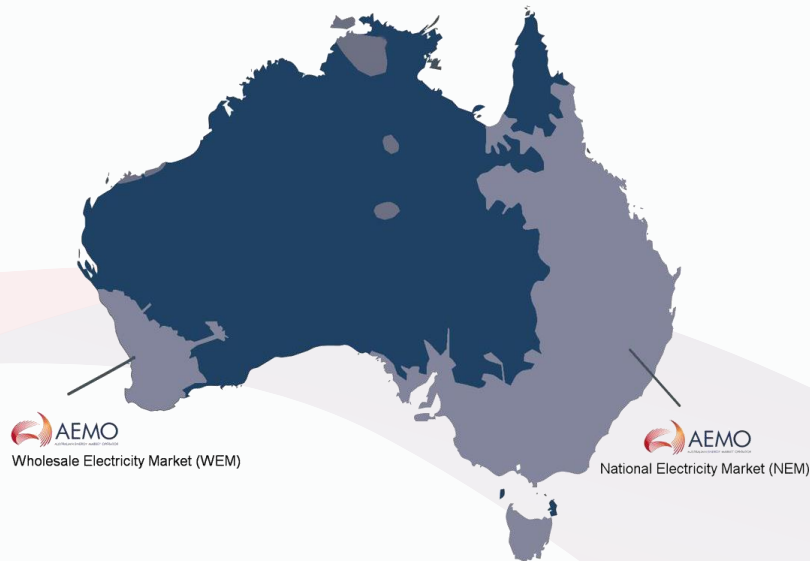
Victorian Smart Energy Technical Workshop
3 March 2020

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture.

We pay our respects to their Elders past, present and emerging.

About AEMO

Shaping a better energy future for all Australians



We operate Australia's National Electricity Market and power grid in Australia's eastern and south-eastern seaboard, and the Wholesale Electricity Market and power grid in south-west WA.



Both markets supply more than 220 terawatt hours of electricity each year.



We also operate retail and wholesale gas markets across south-eastern Australia and Victoria's gas pipeline grid.



Collectively traded more than A\$20 billion in the last financial year.



Ownership

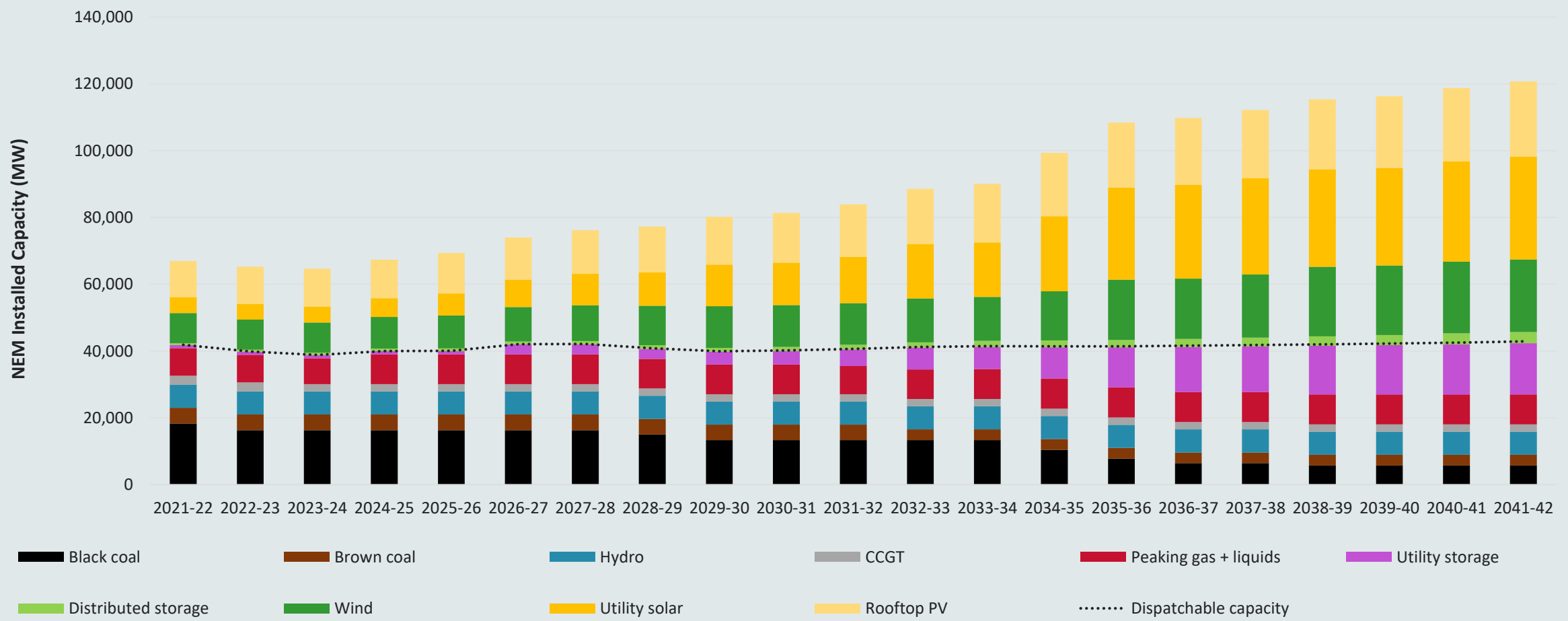
40%

Market participants

60%

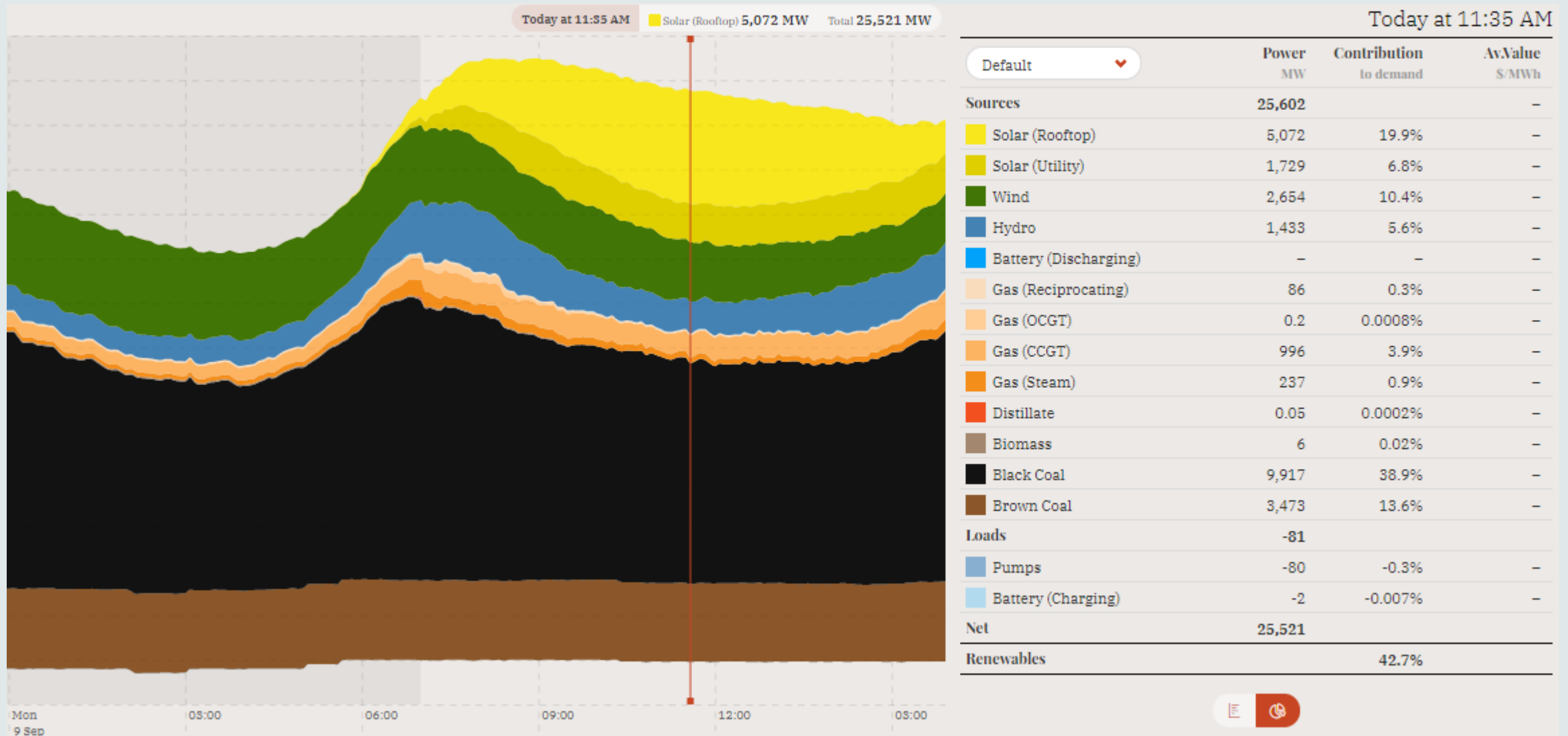
Governments of Australia

The growing level of consumer choice



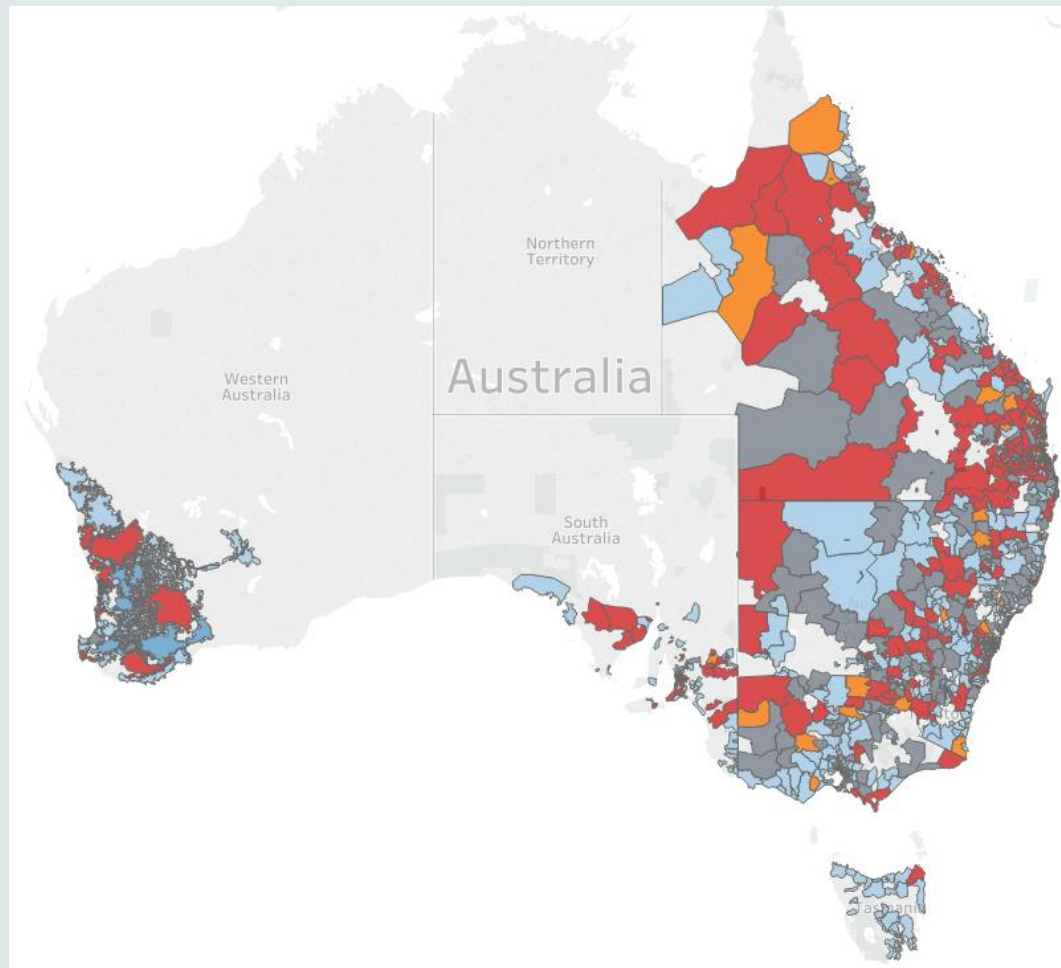
Source: AEMO 2019 ISP Insights, neutral scenario

High rooftop PV in the operational domain

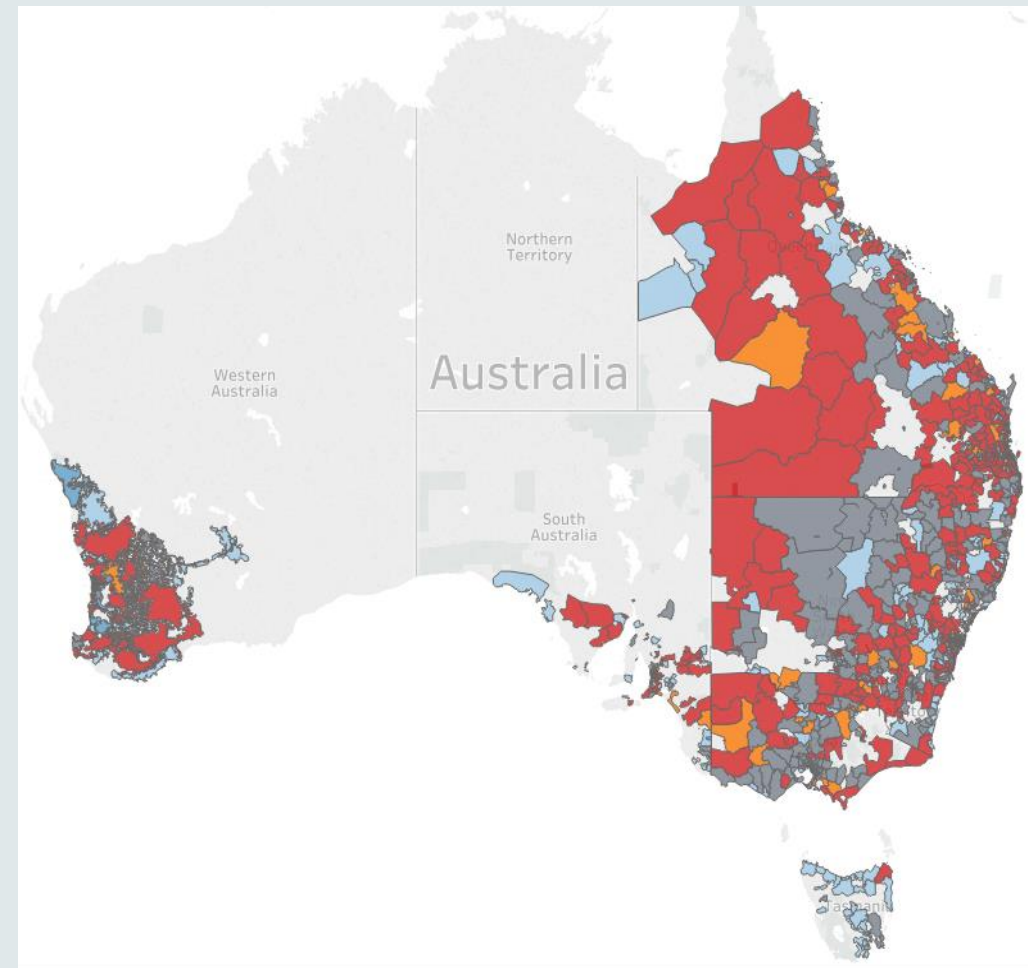


Reversing the distribution network

Forecast 'reverse electricity flows' across Australia's distribution networks



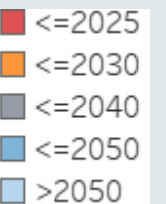
Slow DER scenario



Fast DER scenario

Source: CSIRO 2019

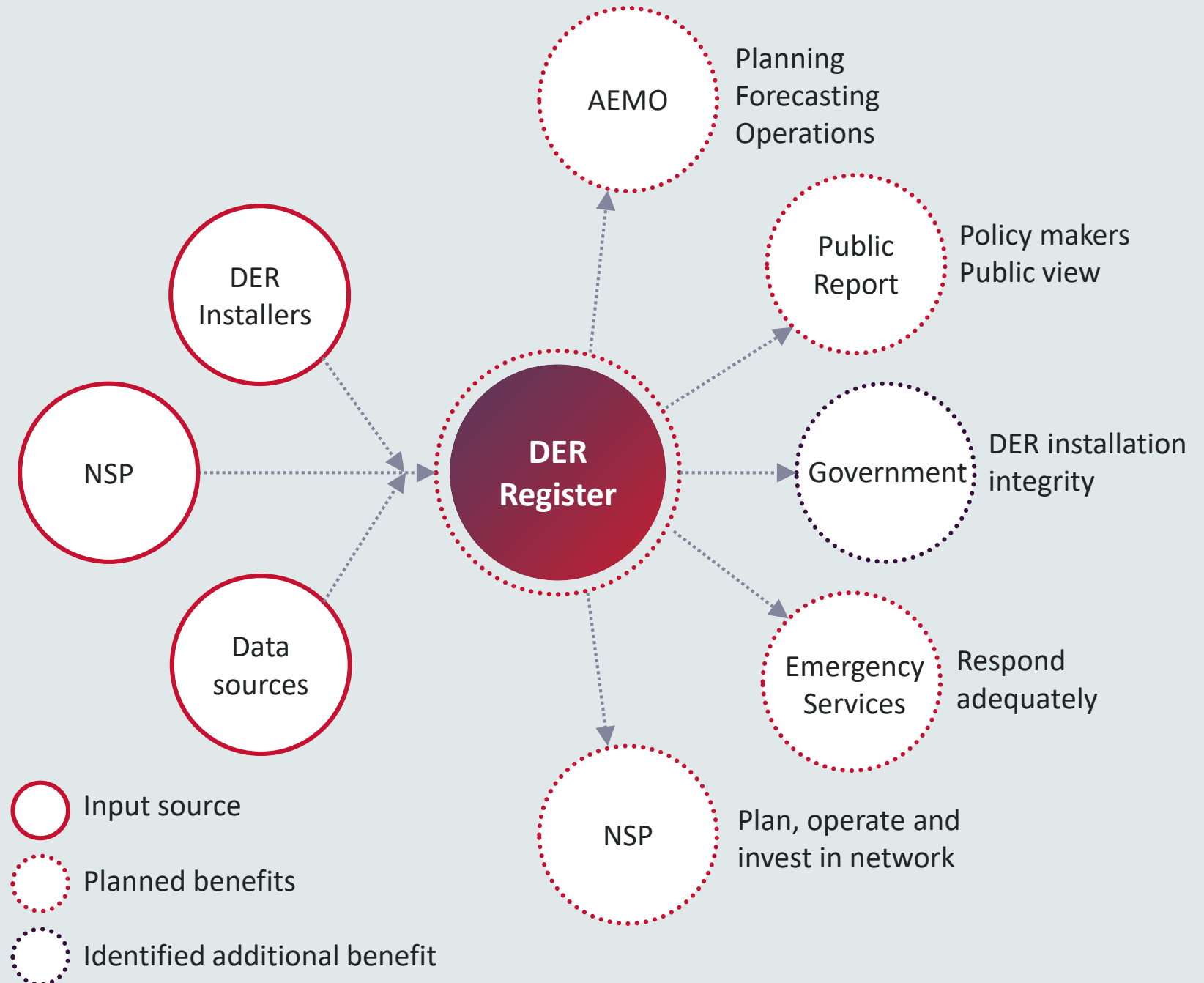
Years










AEMO's DER Register

DER Register

- *Required to be implemented by the National Electricity Rules*
- *A national database of DER assets to enable the realisation of consumer value and enhance power system reliability via DER installed in homes and businesses across Australia*
- *Launched on 1 March 2020*



What kinds of data?

Level	Data types	Expected source of data	
		Network	Installer
Installation	Approved capacities, technologies and central control/protection (e.g. export limits)	✓	
	Installer licence number / ID		✓
AC interface	Inverter or generator manufacturer, model, serial number and capacities, and numbers of installed units		✓
	Inverter control modes and settings (e.g. volt-watt etc)	✓	
	Non-inverter generation control modes, settings and protection	✓	
	Date of commissioning		✓
Device	Device (e.g. solar PV panels or battery) manufacturer, model and capacities, and numbers of installed units		✓

Data source



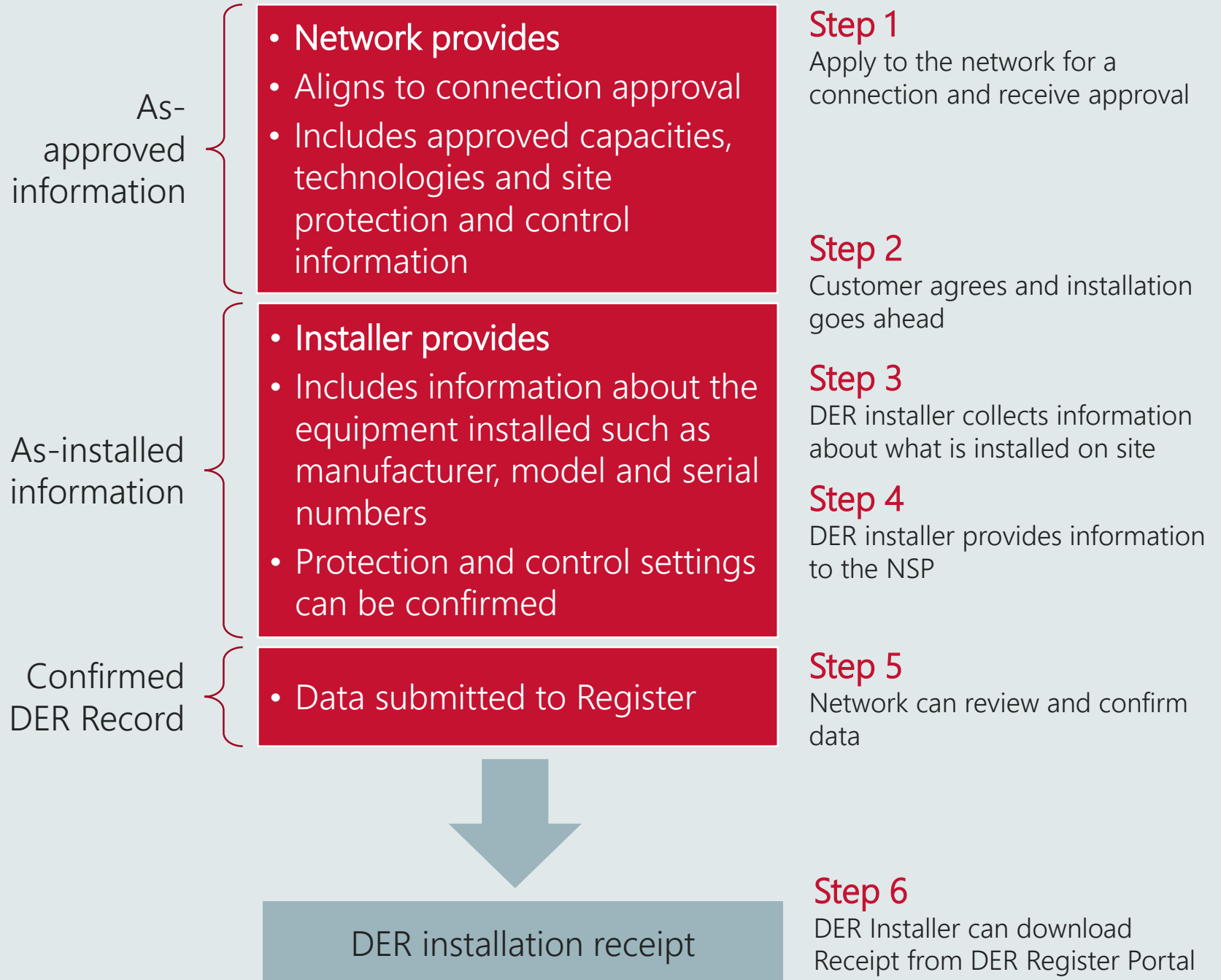
Review



The Process Workflow

Workflow

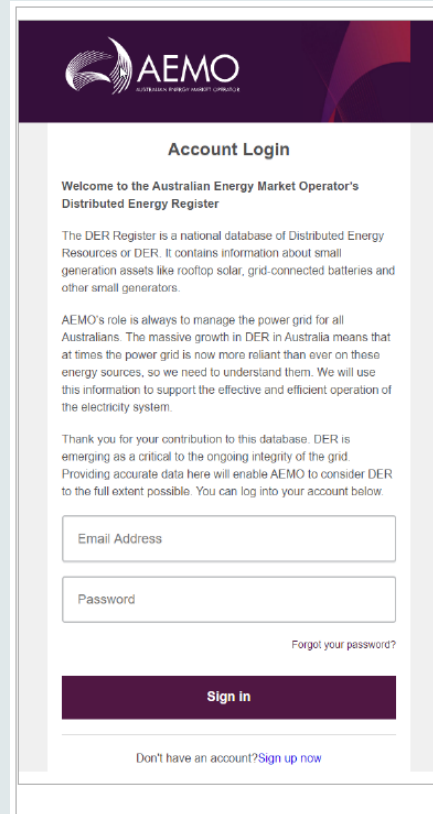
From 1 March 2020 a condition of the connection of all small generator and battery installations to the network will require DER installers and electrical contractors to provide information for the DER Register



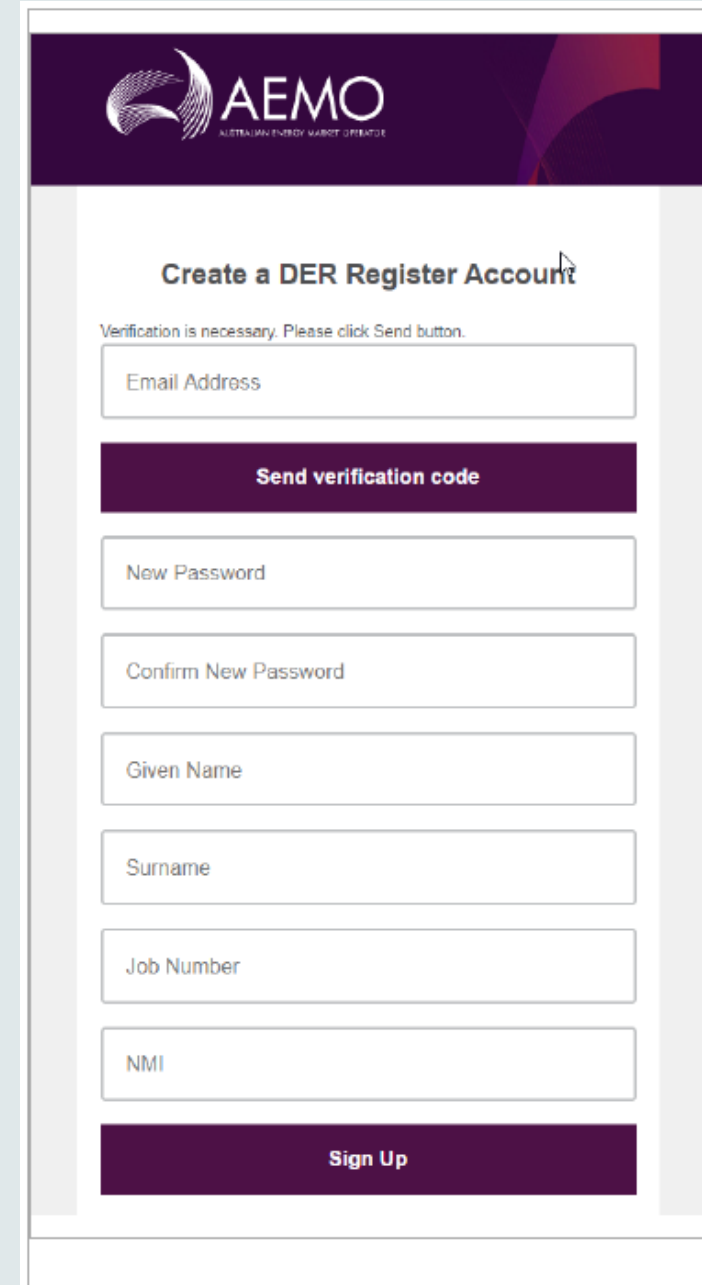
Accessing the DER Register Portal

1. **Create account**
2. Access records

Step 1: Create an account with AEMO



The image shows the 'Account Login' page of the AEMO DER Register. It features the AEMO logo at the top. Below the logo, the text reads: 'Welcome to the Australian Energy Market Operator's Distributed Energy Register'. It then provides a brief description of the DER Register as a national database of Distributed Energy Resources or DER. A paragraph follows, explaining AEMO's role in managing the power grid and the importance of DER. Another paragraph thanks the user for their contribution and mentions that providing accurate data will enable AEMO to consider DER to the full extent possible. At the bottom, there are input fields for 'Email Address' and 'Password', a 'Forgot your password?' link, a 'Sign in' button, and a link to 'Don't have an account? Sign up now'.



The image shows the 'Create a DER Register Account' page of the AEMO DER Register. It features the AEMO logo at the top. Below the logo, the text reads: 'Create a DER Register Account'. A note states: 'Verification is necessary. Please click Send button.' Below this, there is an input field for 'Email Address', a 'Send verification code' button, an input field for 'New Password', an input field for 'Confirm New Password', an input field for 'Given Name', an input field for 'Surname', an input field for 'Job Number', an input field for 'NMI', and a 'Sign Up' button.

- An account can only be created if you have an active NMI and job number
(ie. create an account after approval for installation)
- Once an account has been created, only email address and password is required for log in

Accessing the DER Register Portal for receipts

1. Create account
2. Access receipts

Step 2: Access to Receipts

[Access Job](#) [Receipts](#) [LOGOUT](#)

Download Receipt

Please input your NMI and Job Number details to access the Receipt details. If you don't have these details, please contact the NSP

NMI

Job Number


Installer ID

Get Receipt

Further Information

Further Information

- Installers and electrical contractors should progress DER connection approvals with their local network as per current processes
- Your local distribution network can provide information on how to update the DER Register specific to your area.
- Details about the DER Register can be found:
<https://aemo.com.au/energy-systems/electricity/distributed-energy-resources-register>



DER Register: Information for Installers in Victoria and Tasmania

Fact Sheet

How can DER installers access information about the new requirements?

Before 1 March 2020, AEMO is liaising with stakeholders and will have information available on the AEMO website to ensure a seamless transition to the new requirements.

Your NSP also has more information available on its website.

How does the new system change the DER connection process?

The connection process will remain unchanged for customers, and the local network service provider should always be the first place to go to get connected. But the local network will be required to provide information into the DER Register, and will ask, qualified electrical contractors and/or DER installers to provide information about what is installed on site into the DER Register.


AEMO will generate a confirmation receipt once the DER installation is registered in the DER Register. This confirmation receipt will be issued to the network within 20 business days of the installation being turned on.



Legend:
Information provided by installer
Network DER connection
AEMO DER Register

Want more information?
Ask your local network service provider, or check the [DER Register](#) for more information. You can also email us at DERRegister@aemo.com.au.

© AEMO (DER) Fact Sheet - DER Register: Information for installers



What is AEMO's DER Register?

Fact Sheet

New Rules require a register to be created

The Australian Energy Market Operator (AEMO) is on track to launch Australia's first database of distributed energy resources (DER) at the start of December 2019.

AEMO is responsible for operating Australia's energy market and power system, including the delivery of affordable, secure and reliable energy to consumers, whilst pursuing new data-driven solutions to help shape a better energy future for all Australians.

In late 2018, the Australian Energy Market Commission (AEMC) amended the National Electricity Rules enabling AEMO to establish a DER Register to improve visibility and access to essential device information across Australia.

AEMO has worked with stakeholders across the electricity sector to design the DER Register, agree on DER data sets and data collection processes into the register.

The comprehensive DER data held securely in the DER Register database will enable AEMO to:

- Forecast, plan and operate the grid more efficiently, ensuring the system and market can deliver energy at an efficient price for all customers.
- Be more prepared for major disruptions to the system with a greater understanding of how DER assets will behave during these events.
- Prepare the grid for major innovations with DER such as virtual power plants, enabling customers to consider and participate in new markets with their DER, and
- Allow networks to make better informed decisions about network investment options in the future as demand changes and DER increases.

From 1 December 2019 the new rules mandate NSPs to provide information on every small generating or battery system within 20 days of the system commissioning or activation, which will feed into AEMO's DER Register.

Why Distributed Energy Resources?

Australian homes and businesses are global leaders in exercising choice by installing generation, such as rooftop solar, and battery storage and electric vehicles that can act as generators are also emerging.

While there isn't much of this generation capacity on the grid to date, but DER is on track to be the largest installed capacity of any generation technology by 2023. The AEMC made their rule to give AEMO better visibility of this capacity so we can run the grid well for the benefit of all Australians.

The DER Register will provide this visibility as it will include all forms of small grid-connected generation and storage.

Although the DER Register holds technical rather than personal information, some information is held on electrical contractors and DER installers when they provide the information. This information will be collected in line with appropriate privacy policies.


A critical requirement for a quality data set is that it captures information on the equipment installed on site. This information can be provided through existing processes or straight into AEMO's portal. AEMO systems are also enabling mobile applications DER installers already use to support data provision. The systems AEMO has developed are designed to minimise the effort from DER installers and electrical contractors.

The new system and approach represent a change to the way small-scale solar, batteries and other forms of DER are deployed in Australia, but the benefits for all Australians will be large.

* Generation or batteries that are only used as standby or back-up power, and generation or storage that registers with AEMO for market participation are exempt.

* <https://www.aemo.com.au/energy-systems/electricity/DER-Register/implementation>

© AEMO 2019 | What is AEMO's DER Register?



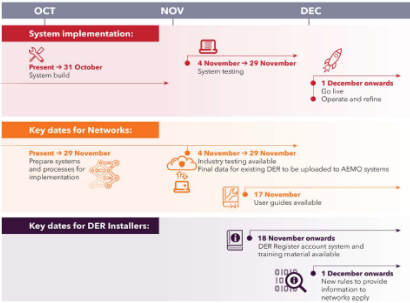
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Fact Sheet

The DER Register system is designed to draw information from available data sets, such as the Clean Energy Council's approved product databases, to streamline data provision. Installers will be mostly be asked to confirm information, rather than enter it.

With better knowledge and visibility of DER, AEMO can better manage the grid and ensure that consumer-led energy investments can deliver their expected value to consumers and the energy system.

What is happening in the lead up to and after 1 December?



System Implementation:

- Present → 31 October: System build
- 4 November → 29 November: System testing
- 1 December onwards: Operate and refine

Key dates for Networks:

- Present → 29 November: Prepare systems and processes for implementation
- 4 November → 29 November: Industry testing available
- 17 November: User guides available

Key dates for DER Installers:

- 18 November onwards: DER Register account system and training material available
- 1 December onwards: New rules to provide information to network supply

Want more information?

For more information and resources, visit [AEMO's website \(https://www.aemo.com.au/energy-systems/electricity/DER-Register/implementation\)](https://www.aemo.com.au/energy-systems/electricity/DER-Register/implementation)

Email questions to: DERRegister@aemo.com.au



AEMO DER Register launching in December

Small generators, like rooftop solar, have been so successful that AEMO needs visibility of these devices to operate the grid securely for all Australians.

Consultation and information sessions are ongoing with networks, installers and other key stakeholders across Australia.

Electrical contractors and solar installers should ask their local network operator for details of changes required to provide data to the DER Register.

The world's first DER Register will launch on 1 December 2019, giving AEMO visibility over small-scale solar, storage and other energy generation across Australia.

Stakeholders can also check out AEMO's project site for FAQs and more information <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/DER-program/DER-Register-Implementation>

Where can I find more information? Check the [AEMO website](https://www.aemo.com.au) for more background on the DER Register or email your query to: DERRegister@aemo.com.au

