deX

Industry & Vendor Training
Knowledge Sharing Report to ARENA

January 2021

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This project received funding from the Australian Renewable Energy Agency (ARENA) as part of their Advancing Renewables Program.

deX

Industry and Vendor Training

i. About the project

deX is a digital platform that enables electricity grids to support more renewables, handling the growing increase in rooftop solar, electric vehicles and other distributed energy resources (DER). Not only does it give the industry a panoramic view of energy demand and supply from these DER, it also opens up new opportunities in managing energy marketplaces, trading energy services, protecting the network and more.

ARENA is contributing $10 million over three years to accelerate the development of deX through the 'deX project'. This funding contributes to the total project value of $32 million to enable scaling up of the deX platform in Australia through select partnership projects with governments, networks and technology vendors over the life of the project.

ii. About this report

The report is focussed on two key aspects:

- Training activities that were undertaken through 2020 - in Australia - with installers, retailers and technology vendors
- Relevant insights and lessons from these activities.

The report itself is brief but is supported by additional appendices and publicly accessible resources which are linked for further and deeper information for stakeholders.

iii. Executive summary

This report describes training activities undertaken through 2020 - specifically in South Australia - with installers, retailers and technology vendors to support digital device registration and enrollment into deX. We reflect on relevant insights and lessons learnt from these activities in the context of accelerated regulatory changes applied in South Australia.

1. Industry & Vendor Training

Customer and user insights and experience are a key input to the development and deployment of deX applications and tools. deX is designed to work around a 'ground-up' digital registration of devices which are supported via technology vendor integrations to deX. As such, capacity building and training support to the 'sales and installer channels' for deX integrated technologies is a key element in the deployment of deX.

During the latter half of 2020, GreenSync conducted targeted engagement with a number of innovative Retailers, Aggregators, Installers and solar Retailers operating in South Australia where there is (now) a full demonstration of deX underway through the deX South Australia project.[1]

The deX South Australia Project is supported by the Government of South Australia through the Demand Management Trials Program. The SA project seeks to unlock value from participation by increasing numbers of battery and solar owners in virtual power plants (VPPs). The SA project leverages existing deX technology vendor integrations (enabled via this ARENA project) and supports the expansion and addition of more integrations throughout the project's deployment over 2020-2021. Importantly, ensuring the registration of devices into deX is a key objective of the SA project. Consequently, capacity building and training activities - also required under the ARENA project - that focus on device registration have been expanded and accelerated.

Reporting period context

COVID

Industry capacity building and training activities were undertaken during the COVID-19 pandemic of 2020-2`1. As such, all activities were conducted remotely, materials were made available online and any follow ups were conducted via video or phone call.

REGULATORY CHANGES

In parallel to our focus on dex South Australia Project activities, a key regulatory change was mooted, announced and implemented under the Smarter Homes Program, requiring

[1] The deX South Australia project leverages the developments and features supported by this wider ARENA project.

solar products sold in the state to be able to meet minimum requirements for remote disconnection/reconnection. As deX was ready to support integrated technology vendors to enable this capability, we widened our tools and training to support existing and new vendor partners, their accredited installers and nominated Relevant Agent entities to meet the new requirements.

Capacity building (introductory) sessions

A total of 15 sessions were held with 6 Retailers and/or Aggregators, and a total of 25 sessions were held with battery and solar technology vendors.

With each, an initial one-on-one session provided:

- background on deX
- summary information on functionality being deployed in South Australia
- explanation of what it means to be involved as an ESCo or technology vendor
- requirements for deX integrated technology
- requirements for ESCos
- how registration incentives will be made available

Following on from discussions with Retailers/Aggregators and Technology Vendors, a number of Installers and solar Retailers/Distributors were also engaged to outline the solution, the project and the potential to leverage available benefits for their customers.

2. Supporting tools and training

To support customer-owned distributed energy device registration and VPP enrolment into deX, we worked on the development of training materials and tools with our existing VPPx Retail project partner, Simply Energy.

Working with Simply Energy enabled us to identify areas where digital tools and processing could assist in supporting the solar PV/battery inverter installation information capture, customer consent and VPP enrollment processes. At the conclusion of this exercise it was apparent that developing a Device Registration App would be the best way to support registration and VPP enrolment.

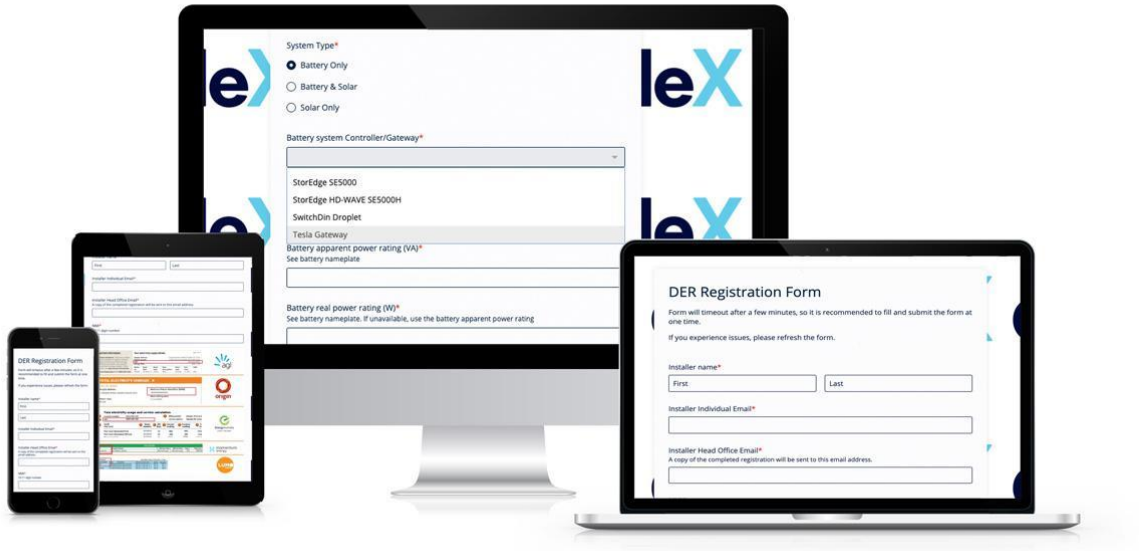
Device registration app

Working collaboratively with Simply Energy, our team developed a set of baseline requirements for a “device” registration app for distributed energy resources (DER) to:

- Be quick and simple to use
- Include structured input fields to reduce the potential for human error
- Include capability to upload images for verification and record keeping purposes
- Assume use by installers when out in the field and installing for a Retailer with an existing VPP offer in place.
- Ensure it is flexible enough to support different service providers/Retailers but use consistent underpinning architecture and fields appropriate to all of the technologies/products being installed.
- Be user-friendly
- Reduce the administrative burden on customers, installers and retailers.

Through a process of rapid prototyping, testing and deployment, the device registration app was built and released by 20 September 2020 to an initial cohort of solar and battery system installers working with Simply Energy in South Australia.

Figure 1: deX Device Registration App - example displays



Installer training

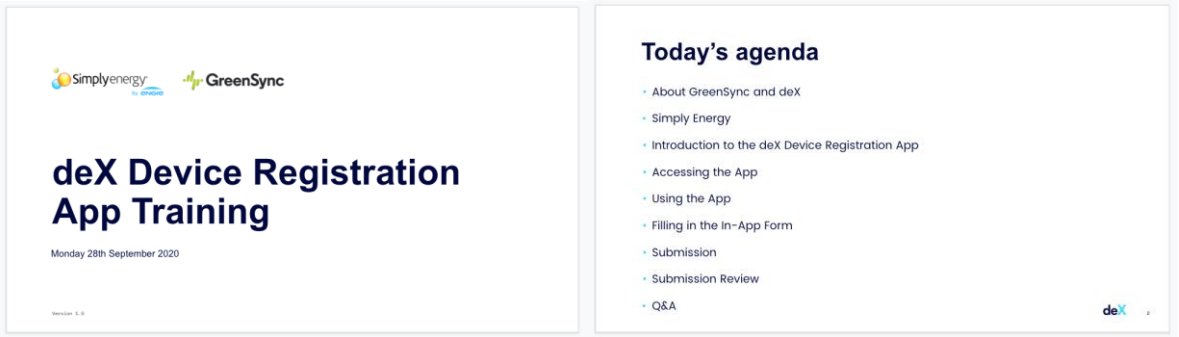
All Installer training was delivered through virtual means. Initially, via a virtual webinar and then, later on, via an 'on demand' training video. Between September to December 2020, some 47 individuals attended or viewed a training session.

September 2020

Nine individuals from the following companies completed the Simply-VPP device registration app training session:

Adelaide Solar Safe	Energyplex	Solar Warehouse Australia
All State Solar	Sharp	Tindo Solar
Class A Energy Solutions	Solarspot	

Figure 2: deX Device Registration App - Installer training (example presentation deck)



October-November 2020

Installer training during this period included an introduction to the deX solution for registering specified solar inverters for SA Smarter Homes program compliance. A total of 32 attendees from 22 companies attended one of our webinars:

Ausuntech	Samar Tech	Solar Secure	Transformed Energy
EcoSouth	SA Power Networks	Sunboost	Wattwatchers
Electra (NZ)	Smart Energy Group	Sunselect	Westside Group
Energyplex	Solar Analytics	Sungrow	Yates Electrical
Greener Housing	Solargain	Sustainable Energy	
LS Power Solutions	Solar Power Direct	SwitchDin	

December 2020 and beyond

The installer training webinar was refined down to a 15 minute, on-demand webinar and included contact details for GreenSync for any questions or ongoing support when using the Device Registration App. Since we moved to this delivery mode, the webinar has been accessed by a further six attendees.

GreenSync also participated in SAPN Smarter Homes webinar in December attended by over 200 solar installers and related industry stakeholders. The forum provided a further opportunity to explain the role deX plays in supporting Smarter Homes compliance and VPP participation.

User guide and follow-up

Following each webinar, attendees were sent a link to the Device Registration App and a detailed User Guide, explaining how to register different inverter brands for Simply Energy's VPP initiative, for other SA project aligned retailers and for the SA Smarter Homes program.

A recorded webinar link was shared with those registered, but unable to attend.

Follow up advice and support was offered and taken up by a number of installers and is being provided on an ongoing basis.

Figure 1: deX Device Registration App - User Guide


deX

Device Registration App

- SA Smarter Homes

User Guide for Installers

Version	Approved	Released
1.0	Matt Coleman	2 October 2020
1.1	Ann Southall	5 October 2020
1.2	Ann Southall	4 November 2020

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3. Insights and lessons learnt

During the numerous capacity building and training sessions that were held a number of useful insights and feedback from users was obtained.

Relevant insights

Capacity building activities

- Technology vendor APIs have varying levels of maturity. Many tech vendors were interested in better understanding more about the capabilities required in order for their customers (device owners) to be able to participate in a VPP via deX.
- Several retailers were in the early stages of VPP offer formation, and expressed strong interest in participating in the future, particularly once additional brands have been integrated to deX.
- Several retailers expressed interest in the potential to dispatch solar only devices during negative price events in order to create a financial benefit for these customers.
- A large proportion of both retailers and technology vendors engaged saw significant value in the deX Registration App, given some of the practical challenges associated with device identification and registration across proprietary systems.

Installer training activities and device registration app

- Installers and retailers had similar and persistent issues with data quality and manual processing, highlighting the value in a simple app to improve this process and minimise the manual handling of data and associated potential for human error.
- Spending time at the outset of the training session providing context improved understanding.
- Providing an outlet for follow up queries was important and useful as some queries were received once installers were using the App in the field.

User experience and feedback

As installers began to attend training sessions, and access and use the App and User Guide, we received some feedback regarding areas that could be improved upon and implemented much of these iteratively. Key observations and changes made to training, guidance and/or the device registration app are outlined below:

User observations or questions	**Change made**
Questions about NMI and NMI checksum	Allowed more time in training sessions to explain these fields in detail with examples. Training sessions for SA specifically were changed as SA commonly have checksum appended to NMI.
Questions about the new South Australia Relevant Agent	Added a new section at the start of the training session to introduce the Agent before training demo.
General questions at the end of the training which took the session over the time limit	Increased the question time from 10 to 15 minutes.
Disconnect between Installers, Retailer partner and GreenSync registration process	Added section at the start of training session to introduce GreenSync and the registration process connecting us to Retailers and networks.
Confusion between registration platform for different Vendors	Implemented specific sections in both the training sessions and user guide with instructions on which vendors are accepted by the Registration App, and which must go through a vendor specific App, along with a note in the App itself to guide the User.
Installers unclear why new app is required	Allowed more time in training sessions to explain the benefits to Installers and improved process with Retailers.

Lessons learnt

The context of 2020 pushed us to reorient our approach to engagement with industry and training delivery modes. We pursued a remote and digital first strategy which aligns well with the ethos of deX. Offering the on-demand training webinar enabled installers to watch at their own convenience, consequently increasing awareness and subsequent adoption of the Device Registration App.

We see an ongoing need for industry capacity building, support for installers, and opportunities to improve upon with our tech vendor partners. Primarily, there are remaining areas where installers and back-office admin staff are duplicating efforts to meet state and agency requirements. We have reduced some of this burden, but there are gaps remaining to be addressed where feasible. We are also aware that there are areas where we can, in collaboration with networks and vendor partners, further refine and improve on data processing and data quality.

It has been increasingly clear, also, that our software-to-software integrations approach is effective in solving challenges of 'DER integration' at scale. We are continuously improving and reinforcing our practices at an accelerated pace.

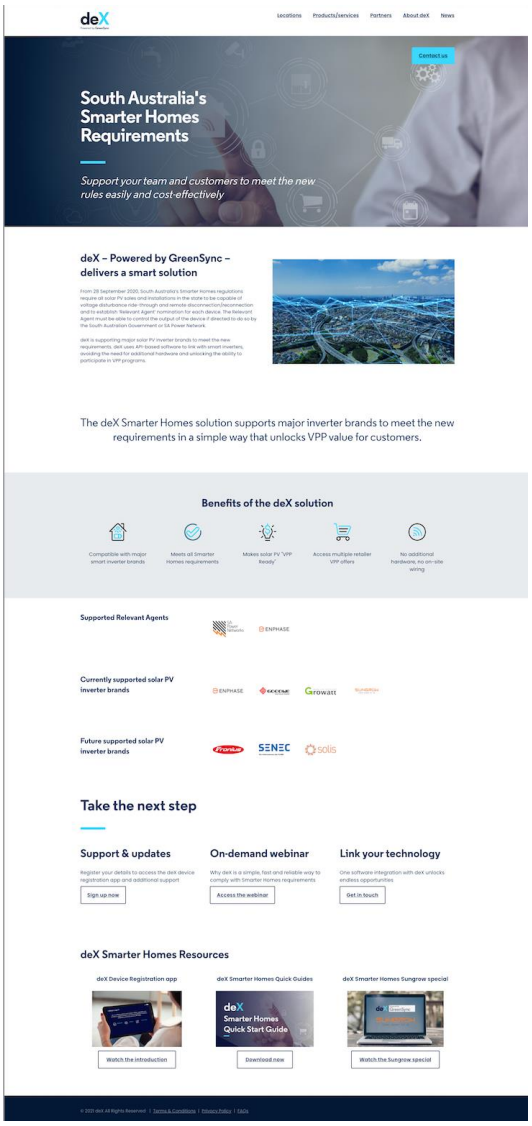
The scale that is now being pursued via the SA compliance requirements is building a path for controllable solar playing an active (in market) role in addressing minimum demand via VPPs in South Australia and in other jurisdictions. Digital, scalable registration via deX makes this potential far more likely to be commercially viable.

Appendix

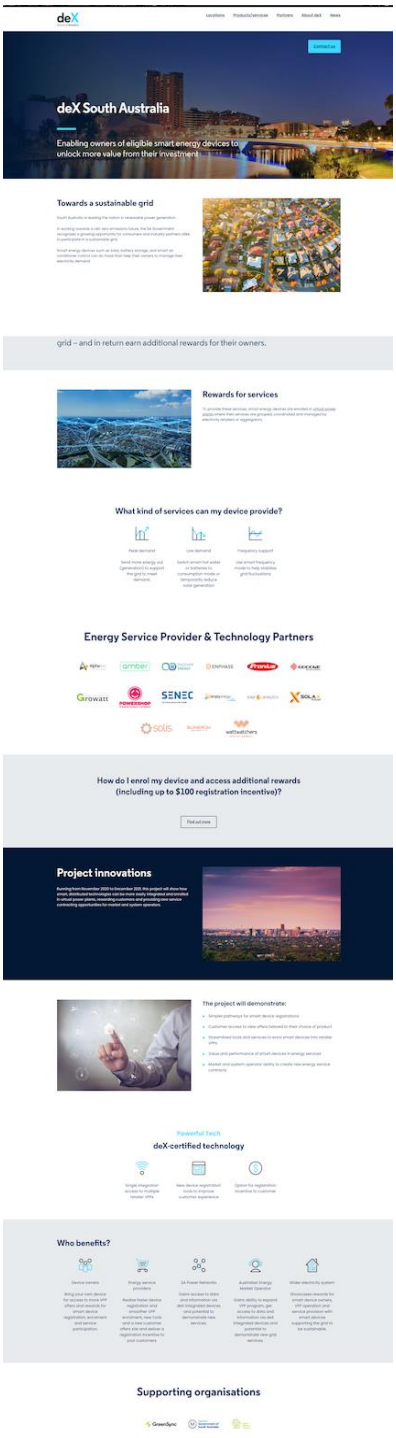
A: Supporting Materials

Marketing materials

Webpages



Dedicated South Australia Smarter Homes Info & Resources Page



deX South Australia project info page

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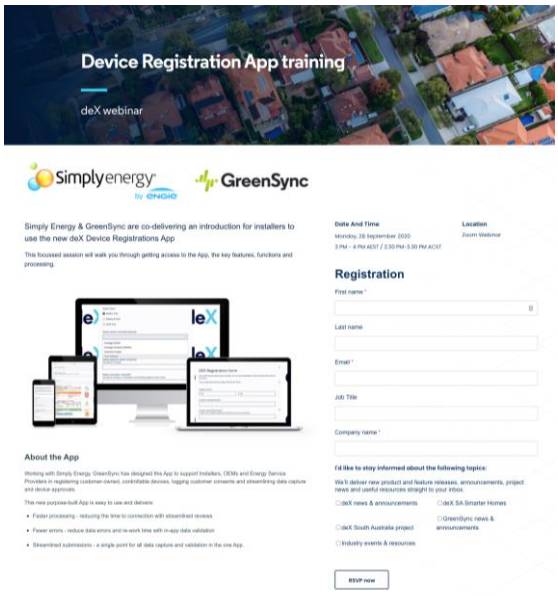
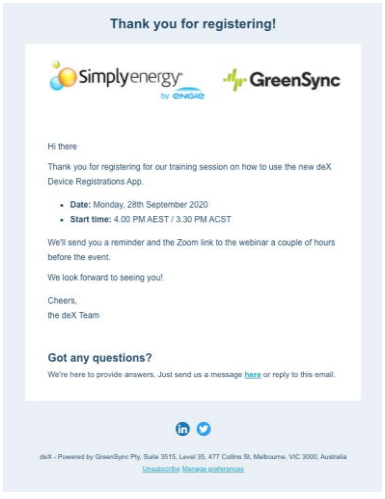
Flyers and forms

A small number of training related marketing materials were created including a Retailer-deX branded flyer, webinar slide deck, webinar sign-up form and email/web-based registration follow up comms. Examples of these are shown (in small format) below:

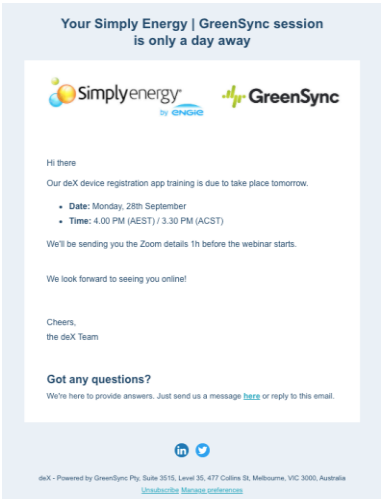
Overview flyer for Simply Energy Device Registration & VPP Enrolment tool



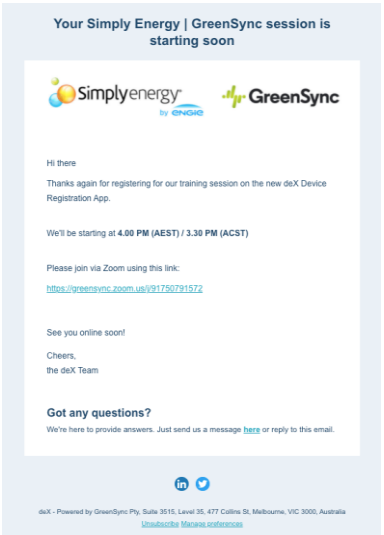
Registration form for Simply Energy Installer Training webinar



Registration confirmation

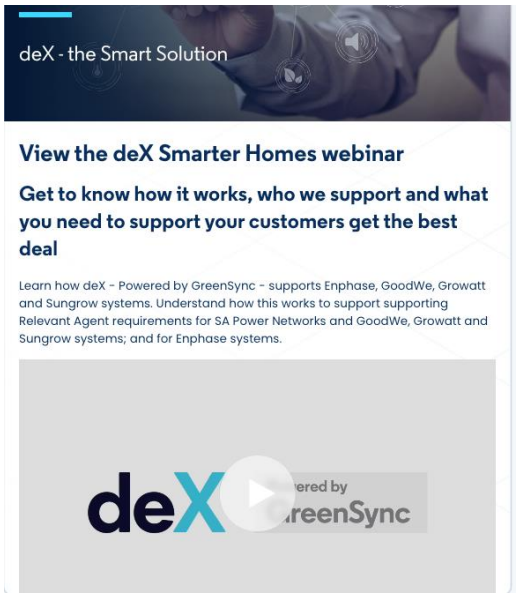


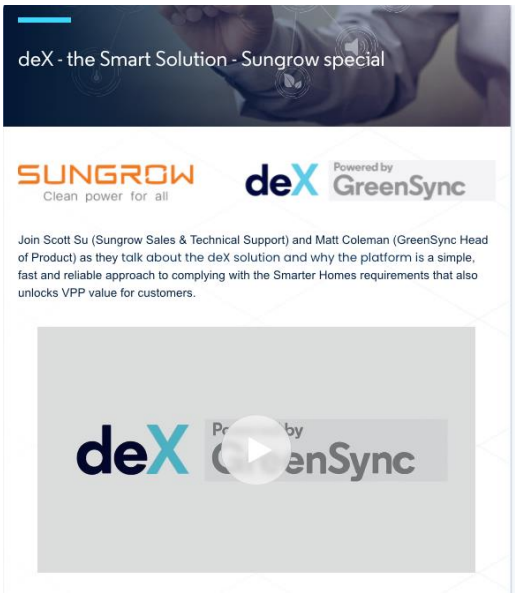
Webinar reminder



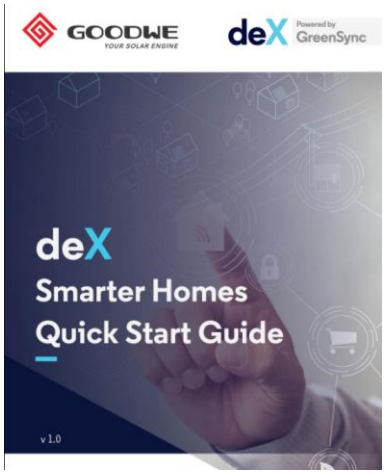
Starting soon reminder

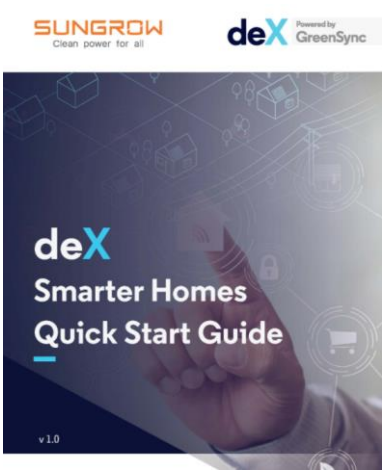
Webinar recordings



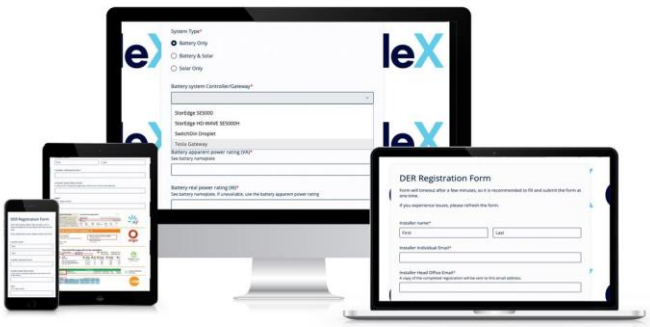


User Guides





Device Registration App



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B: South Australia's Smarter Homes Program

The South Australia Smarter Homes program came into effect on Monday 28 September 2020 in parallel to our existing Installer and OEM training and capacity building activities.

The specific requirements under this new regulation have seen an increased level of interest in our device registrations tool and tech integration capabilities. As such, we are now supporting SA Power Networks and a number of inverter brands to enable advanced communications capabilities and control to meet the new compliance requirements.

As such, there has been some overlap with training and installer engagement due to the practical need to support our participating vendors in meeting immediate compliance requirements, and in progressing discussions with them for participation in the deX South Australia project.

A dedicated webpage was created to house resources and information here:

https://dex.energy/locations/south-australia/smarter-homes/