



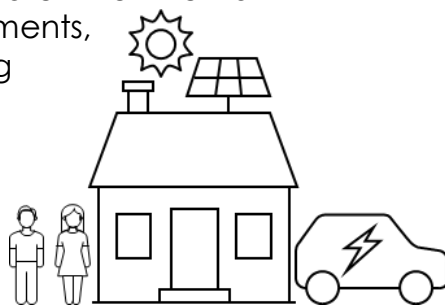
Project Fact Sheet

Introducing the first ever energy marketplace trial giving Australian consumers the edge.

Australia is leading the world in the installation of rooftop solar and has a growing appetite for other Distributed energy resources (DER) including battery storage and electric vehicles.

The energy systems which exist today were designed for the one-way flows of electricity from large-scale generators to consumers. In recent years, increasing DER installations have resulted in energy flowing back from the household into the grid.

In order for Australian households and businesses to fully realise the financial and environmental benefits of their DER investments, energy systems and trading frameworks must adapt to facilitate dynamic bi-directional trade and flows of Electricity.



DER aggregation

When DER are grouped together to operate and deliver services as a single entity, we call this 'aggregation'. For example – a single household solar + storage system only generates a very small amount of electricity in comparison to a large power station, however, if hundreds or even thousands of households combine their output they could provide some services similarly to a traditional large scale power station.

We call the organisation that manages the aggregated DER an 'Aggregator'.

What does "DER" mean?

DER is the name given to devices commonly located at houses or businesses that produce electricity or actively manage consumer demand. Another name for DER is "behind the meter" resources because electricity is generated or managed 'behind' the electricity meter in the home or business.

Common examples of DER include rooftop solar PV, battery storage, thermal energy storage, electric vehicles and chargers, pool pumps, and home energy management technologies.

Project Partners

Get Involved:

Visit: Mondo's [Project EDGE website](#)

Visit: AEMO's [Project EDGE website](#)

Contact: EDGE@aemo.com.au



Project Introduction

Project EDGE (Energy Demand & Generation Exchange) aims to demonstrate how a proof-of-concept DER Marketplace would work. This includes enabling aggregated DER to provide efficient, secure, and coordinated wholesale and local network support services at the grid edge.

What are “wholesale” and “local network” support services?

AEMO operates the wholesale energy market, and in doing so, obtain services from energy generators that serve the broader, or wholesale, network (potentially across states and jurisdictions).

The Distribution Network System Providers (or Distributed System Operators) require services for their own local areas or jurisdictions – these are the local network support services.

The design of this project builds on previous theoretical studies that provided a basis for how AEMO, the distributed network service providers, and aggregated DER could operate efficiently.

In collaboration with AusNet Services and Mondo, with funding from the Australian Renewable Energy Agency (ARENA), AEMO will develop and publish learnings from this project that will inform, alongside other projects, the future design of the two-way energy market and system. A key focus of the future energy system is to maximise outcomes for all Australian energy consumers.

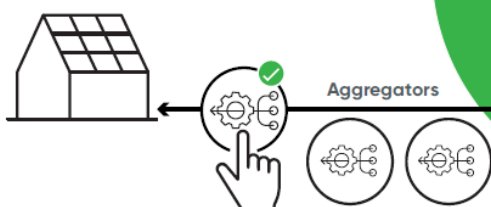
Figure 1: So how do consumers access the DER Marketplace?



DER Marketplace enabling aggregators to access and deliver electricity services using customer's DER

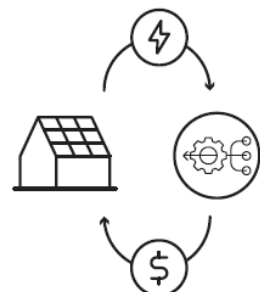
Individual homes and businesses

Customer make the choice to engage an aggregator, allowing the aggregator to deliver electricity services using the customer's DER in the marketplace.



The customer is in control of how their DER is used by choosing which aggregator to engage.

Aggregators will only use DER in the way agreed to by the customers.



The aggregator will provide value to the customer based on how their DER is used in the marketplace.



Key Objectives

What does Project EDGE aim to achieve?

1. Demonstrate how DER fleets could participate in existing and future wholesale energy markets at scale.
2. Demonstrate different ways to consider distribution network limits in the wholesale dispatch process.
3. Demonstrate how to facilitate standardised, scalable and competitive trade of local network services.
4. Demonstrate how data should be exchanged efficiently and securely between interested parties to support delivery of distributed energy services.
5. Develop a proof of concept, integrated software platform to facilitate delivery of objectives 1-4 in an efficient and scalable way.
6. Develop a detailed understanding of roles and specific responsibilities that each industry actor should play.
7. Conduct comprehensive cost benefit analysis to provide an evidence base for future regulatory decision making.
8. Conduct a customer focused social science study to understand customer opinions on the complexities of DER integration.
9. Deliver best practice stakeholder engagement throughout the project with a commitment to knowledge sharing.
10. Deliver recommendations, supported with evidence, on how and when the concepts demonstrated should be implemented operationally.

Project phases and timelines

Phase 1:
**Project
Inception**

Q4 2020

Phase 2:
**Core platform
development**

Q4 2021

Phase 3:
**Finish platform
build & testing**

Q4 2021

Phase 4&5:
**Operational
trials**

Q1 2023