

## **Disruption & innovation: Decentralised energy, demand management and electricity markets**

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# About us

Operator and manager of the NSW transmission network, we supply:



3 million homes and 30,000 businesses



12,900 km transmission lines



99 substations



2,300 km optical fibre

Keeping you and your way of life  
connected - 24/7

## Legend

- 500 kV Transmission Lines
- 330 kV Transmission Lines
- 220 kV Transmission Lines
- 132 kV Transmission Lines
- - - 330 kV Underground Cable
- Customer Exchange Point
- Interstate Exchange Point
- 500 kV Substations
- 330 kV Substations
- 220 kV Substations
- 132 kV Substations
- TransGrid Office



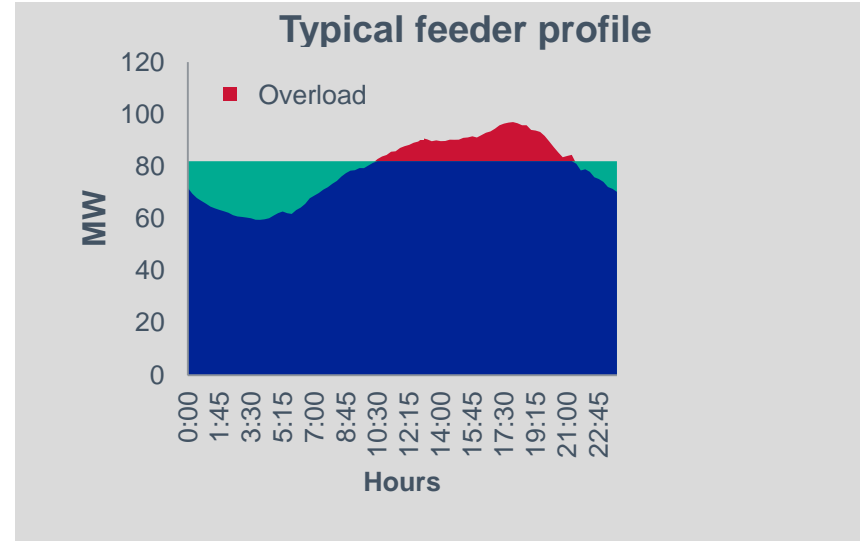
# Grid of the future

- > Shift towards renewable sources of generation
- > Smarter ways of managing peak demand
- > Widespread adoption of energy efficiency initiatives
- > Increased access to local generation

**The grid of the future will look very different to the grid of today**

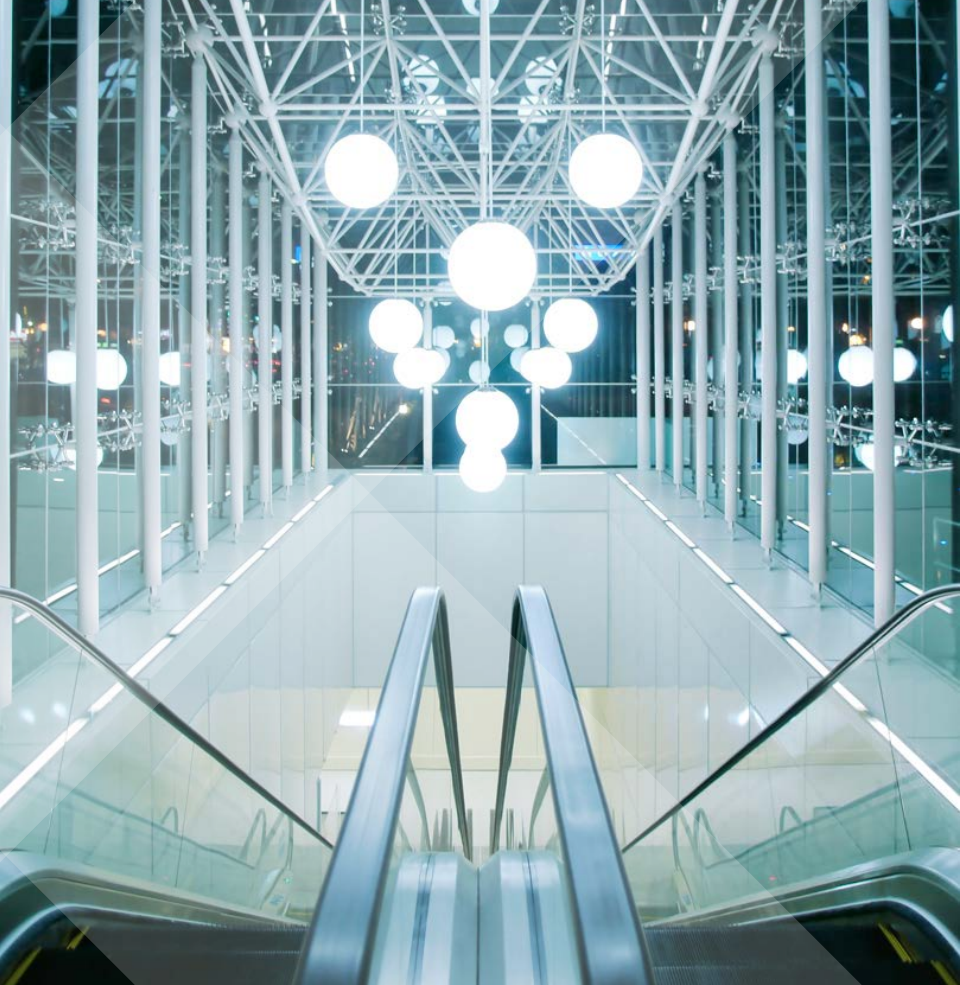


# Managing peak demand



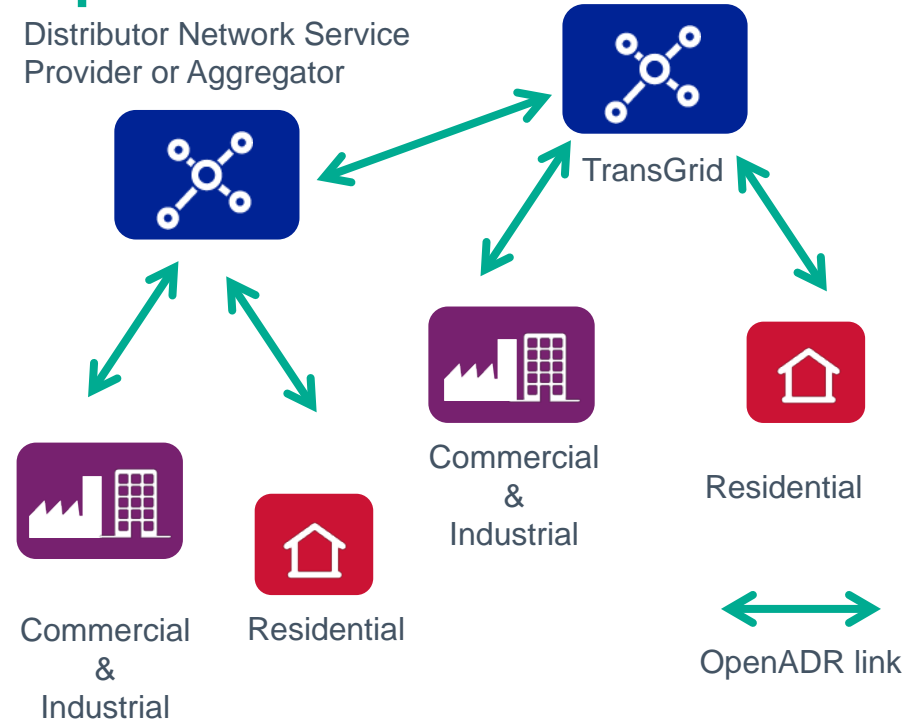
Demand response is one of the ways we manage peak demand





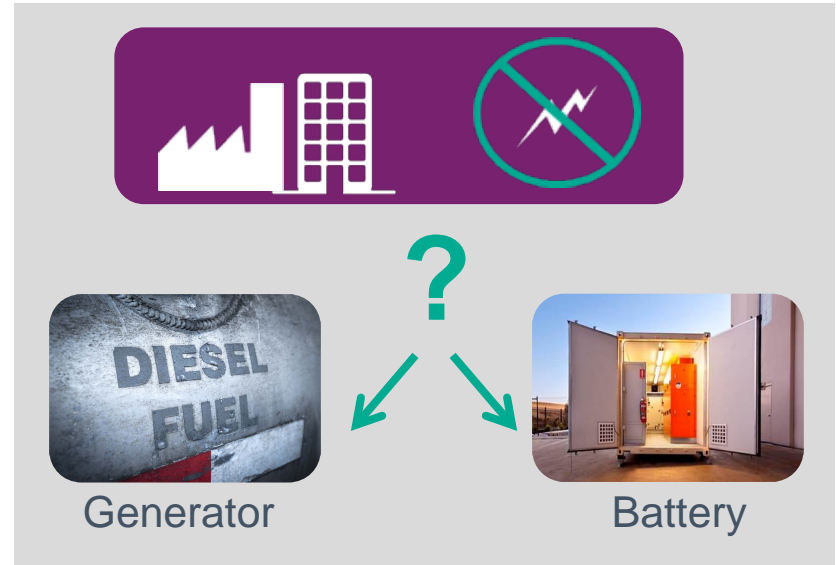
# OpenADR

Distributor Network Service  
Provider or Aggregator



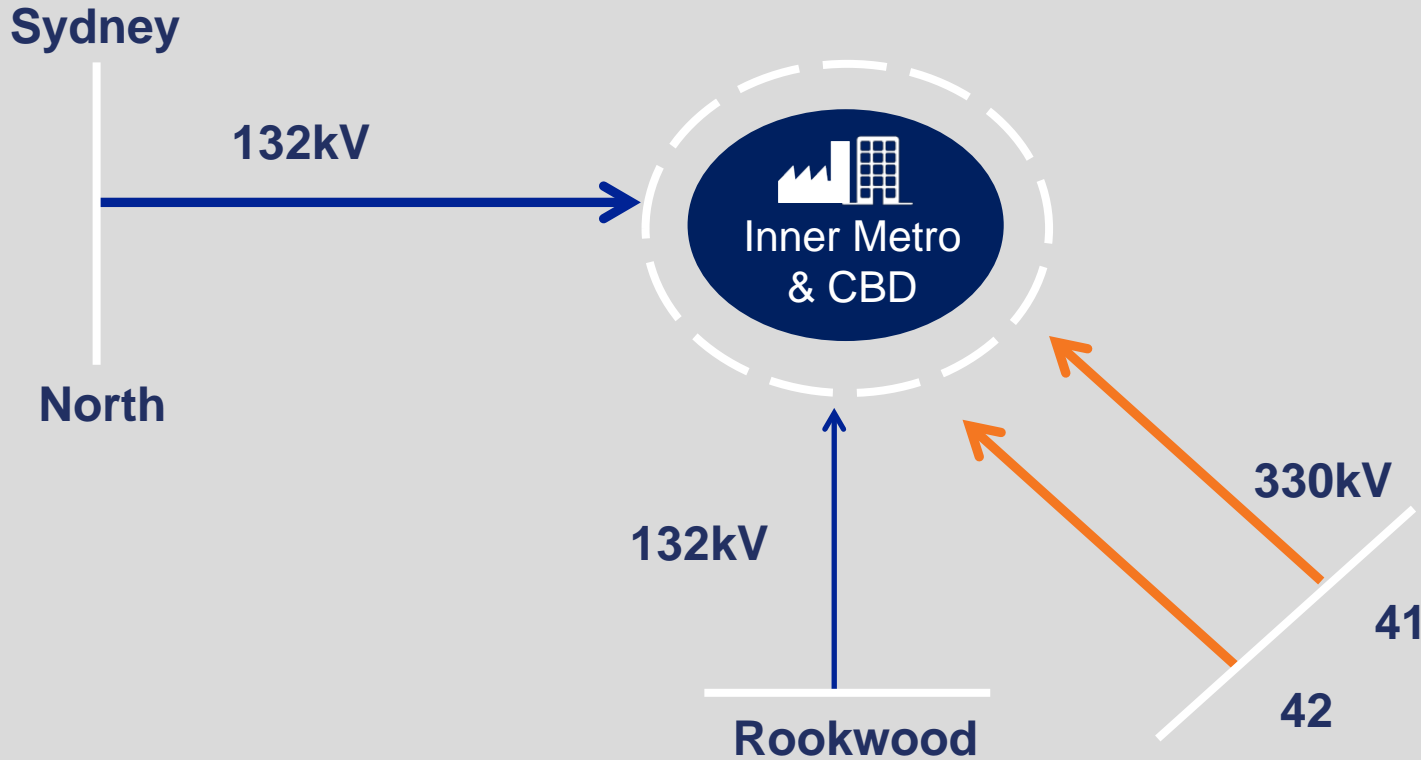
Source: <http://www.openadr.org/>

# Managing energy



Peak shaving for a 1.0MW, 2.0MWh based on existing tariffs approx. \$100,000 per year

# Base system 2021



# All assets in service

Sydney

Assets  
retired

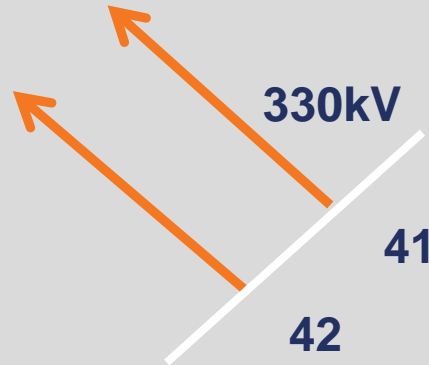


North

132kV



Rookwood



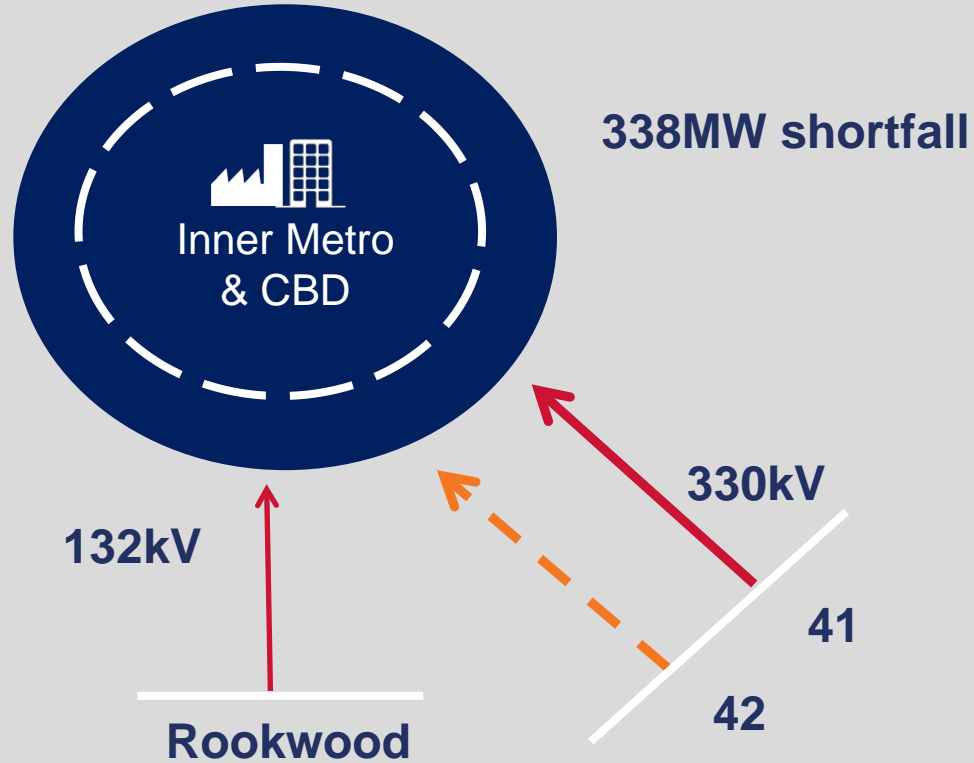


# Outage = constrained system

Sydney

Assets  
retired

North



# ADR enabled solution

Sydney

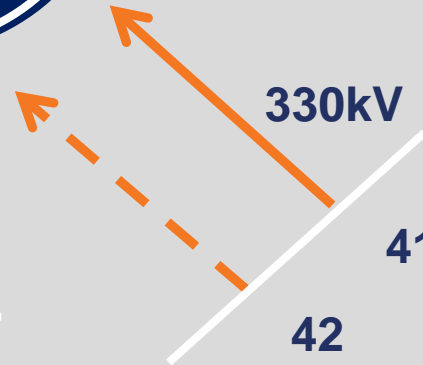
Assets  
retired



North

132kV

Rookwood



# Network solution

Sydney

Assets  
retired



North

132kV

330kV

330kV

41

42

Rookwood

**We're all connected through the energy ecosystem  
and collaboration is the key to a sustainable future**

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**TransGrid**