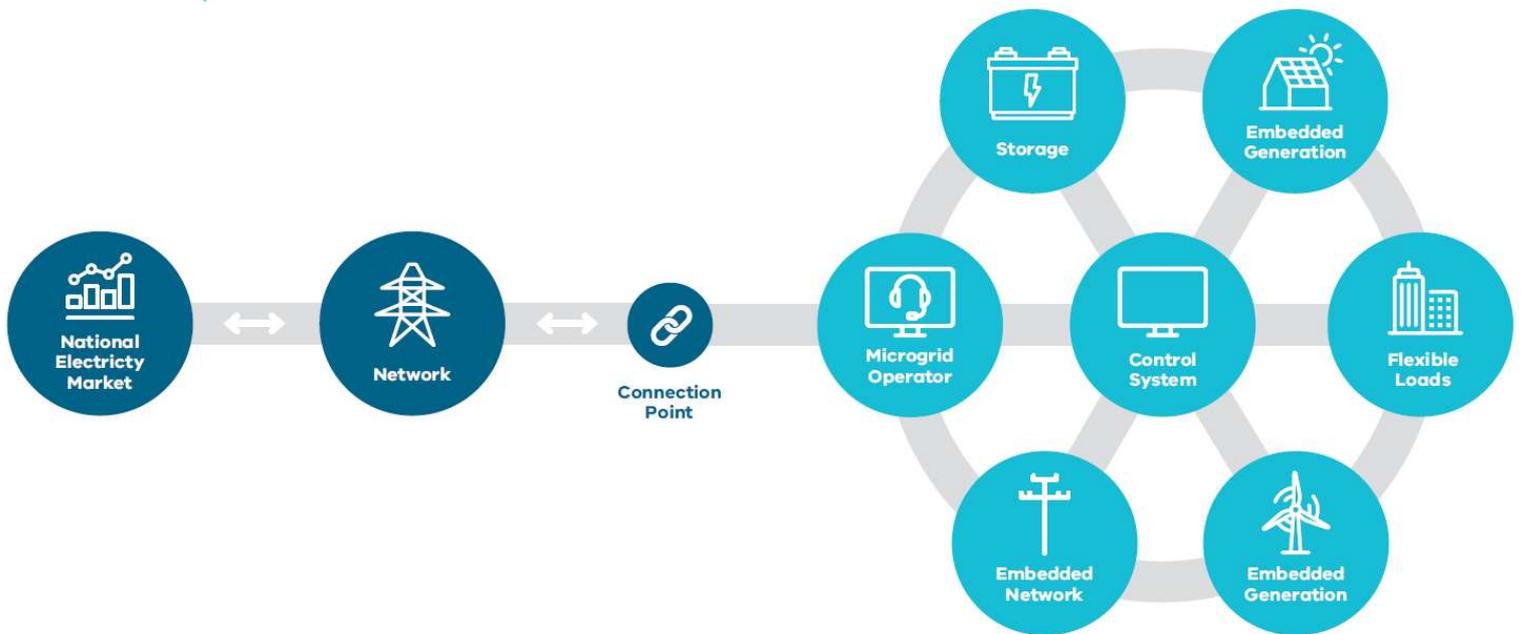


## Community based energy systems in Victoria



### Victorian Renewable Energy Target

The Victorian Renewable Energy Target (VRET) will see 25 per cent of the State's electricity generation supplied from renewable sources by the year 2020, increasing to 50 per cent by 2030.

These targets will encourage investment in new energy projects, create jobs, lower electricity prices and secure Victoria's electricity supply.

Increasing renewable energy capacity will also reduce greenhouse gas emissions. Victoria aims to achieve 15 to 20 per cent reduction in emissions by 2020 (from 2005 levels) and net zero emissions by 2050.

### What is a microgrid?

A microgrid is a subset of the broader electricity network with all the necessary components to operate independently. Microgrids are typically developed for three main reasons – energy security, cost savings and sustainability. The environmental appeal is it can be 'off the grid' and largely run on renewable energy, enabling community power needs to be met by local generation.

Microgrids have lower energy transmission losses because the electricity is consumed closer to where it's generated.

### How does a microgrid work?

A microgrid can be powered by distributed generators, batteries, or renewable resources like solar panels and wind turbines. Depending on how it is powered and how its requirements are managed, a microgrid can run indefinitely.

### How does it connect to the grid?

A microgrid generally operates while connected to the grid however, importantly it can break off and operate on its own using local energy generation. It has a single point of connection with the grid with a monitoring and control platform used to coordinate the supply and demand of the customers connected to the microgrid. This also helps to maintain grid stability.

### Types of microgrids

Microgrids can deliver power in remote or rural settings or within single precincts, including communities,

campus or institutional microgrids, military based microgrids, commercial and industrial microgrids. Microgrids also include several participants – end users; network owner and network operator. There are times when the owner and operator are the same entity.

## Who is responsible for approving microgrid projects?

Microgrids bring together a range of functions, such as supply of electricity, purchase and sale of

electricity on the wholesale market and provision of other services. With each of these functions regulated individually, microgrid regulation is currently a composite of the regulations that apply to each function.

## Case study: The Community Energy Hubs project

The Community Energy Hubs Project aims to install shared solar PV and battery systems at three multi-tenanted buildings in Melbourne to demonstrate how residential and commercial tenants can access and share renewable energy resources and reduce energy costs. The scheme will allow interested tenants to opt-in and reduce the amount of electricity purchased from the electricity grid.

## What role can the community play?

Microgrids that include the community, means that neighbourhoods, towns and cities have a way to meet energy needs locally. With the increase of affordable small-scale renewable energy available to homeowners and the community, it is possible to meet a portion of their own energy needs. This has the benefit of reducing energy costs as well as wholly relying on the electricity grid and distant, large scale power plants.

The consumers who remain connected to the grid (rather than being completely off grid) with solar and battery storage, will continue to see increasing

opportunities to participate in the market and will benefit them on an individual level.

## Reference:

<https://carbontrack.com.au/blog/community-microgrid/>

## For further information:

<https://www.energy.vic.gov.au/microgrids>

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