

# The Microgrid Future – a practical demonstration

## Horizon Power

# Horizon Power Fast Facts

## CUSTOMER CONNECTIONS

48,022

## CUSTOMER CALLS

79,805

## NEW CUSTOMER CONNECTIONS

381

## ASSETS

\$1.8b

## REVENUE 2017/18

\$660M

## TRANSMISSION & DISTRIBUTION

8,256KM

## POLES AND TOWERS

57,686

## TOTAL SYSTEMS

38

## INTERCONNECTED SYSTEMS

2

## SERVICE AREA

2.3M<sub>KM</sub><sup>2</sup>



# We provide industry leading end-to-end energy services in regional and remote areas

## Remote communities



## Small tourism and agricultural / mining towns



## Regional centres



## Remote industrial sites



Marble Bar  
Nullagine  
Warmun  
Wiluna  
Ardyaloon  
Beagle Bay  
Bidyadanga

Camballin/Looma  
Djarindjin/Lombadina  
Kalumburu  
Yungngora  
Fitzroy Crossing  
Halls Creek

Denham  
Exmouth  
Hopetoun  
Laverton  
Norseman  
Yalgoo  
Sandstone  
Menzies  
Gascoyne Junction  
Cue  
Coral Bay  
Meekatharra  
Mount Magnet  
Onslow  
Wyndham

Broome  
Carnarvon  
Derby  
Esperance

Karratha  
Kununurra  
Port Hedland



# What is a Microgrid?

A geographically confined collection of electrical resources that act together and with centralised generation typically playing a key role. Microgrids can be remote, embedded, or interconnected and may begin their life either detached or attached to a larger grid.

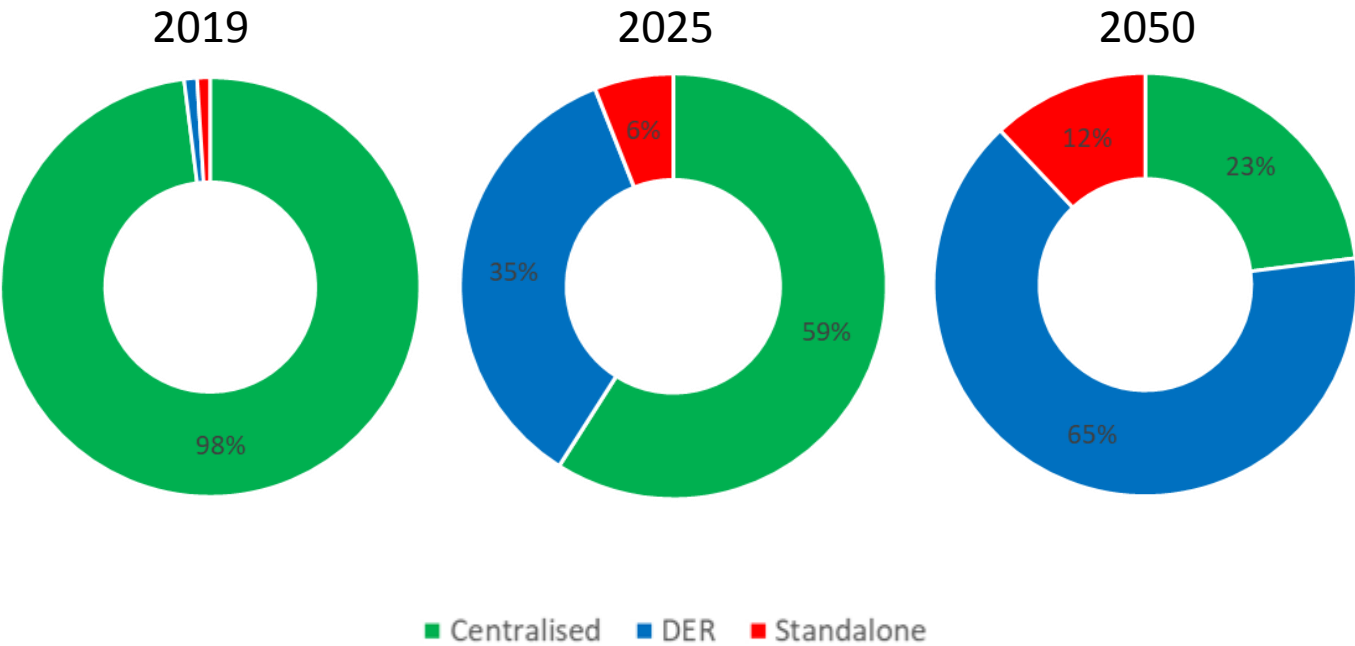




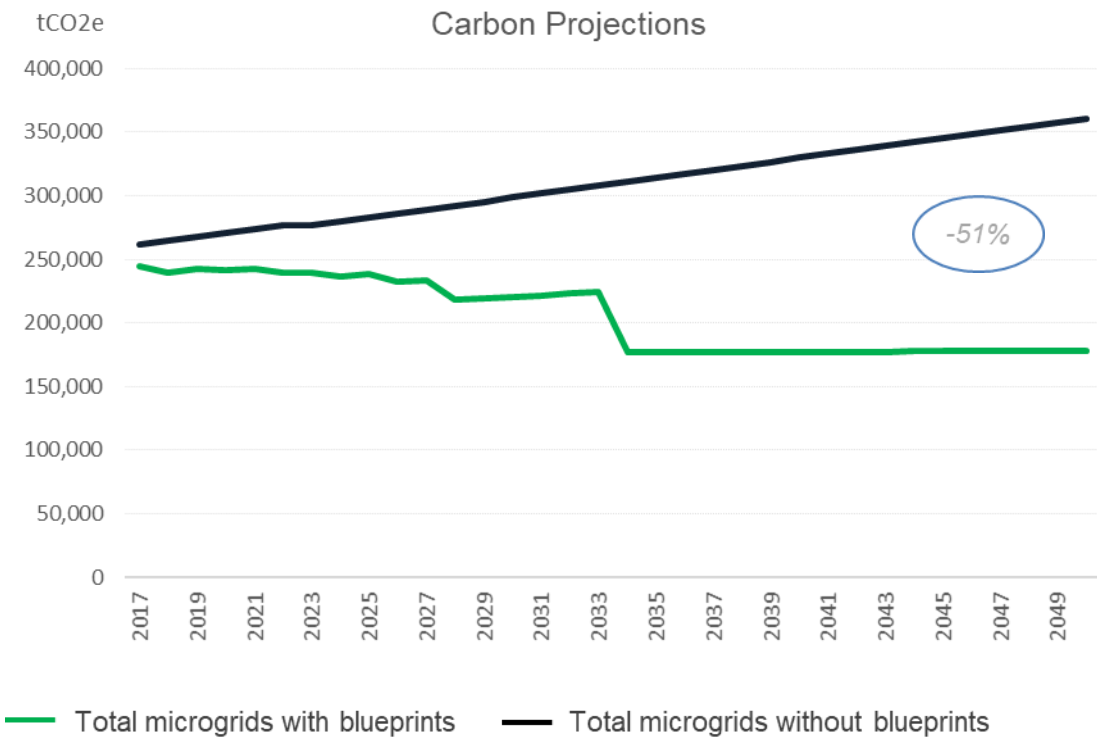
# Our renewable journey

## Horizon Power System Blueprints Roadmap

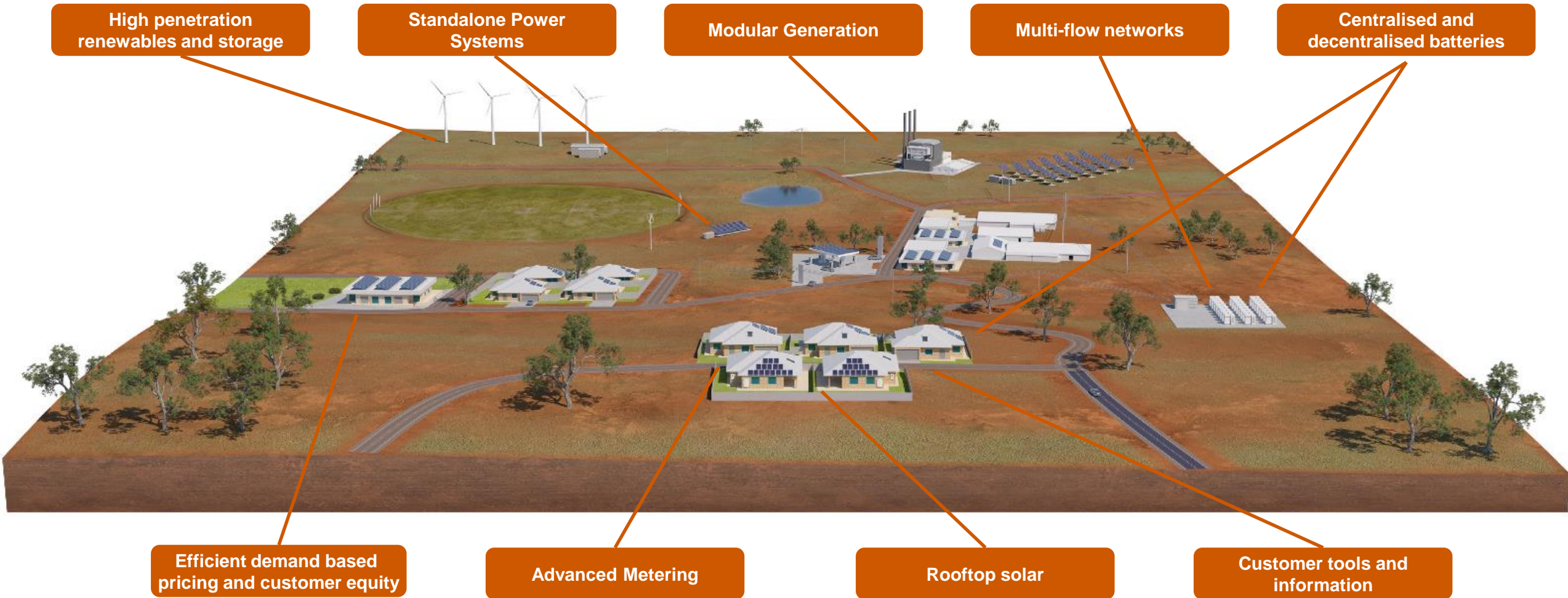
Increased renewable penetration, reduced carbon footprint, while lowering system costs



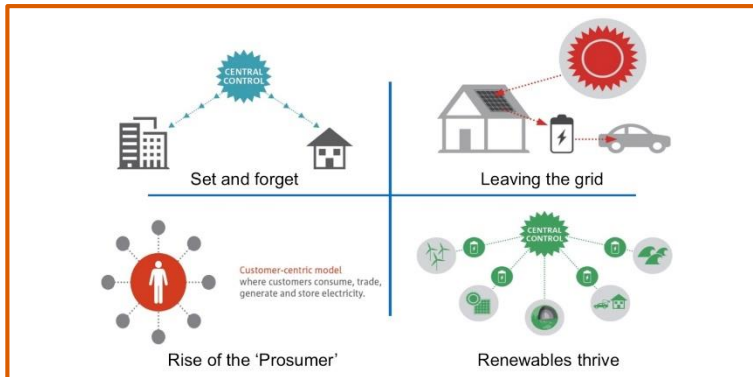
Main source of generation for microgrids (>50%)



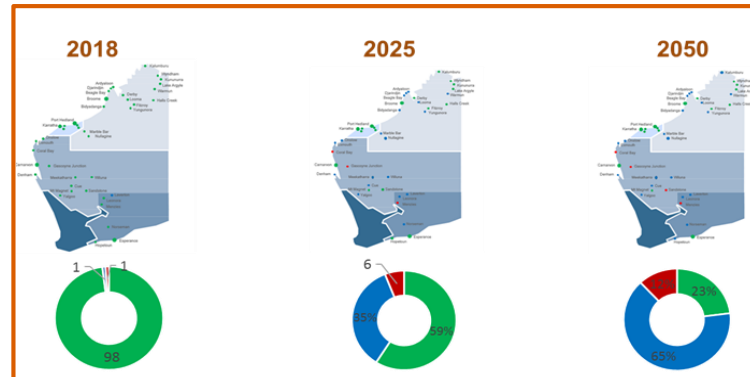
Horizon Power microgrids deliver clean, reliable and affordable energy to our customers



# Shared challenges



Asset impairment and utilisation as traditional, centralised electricity models under threat

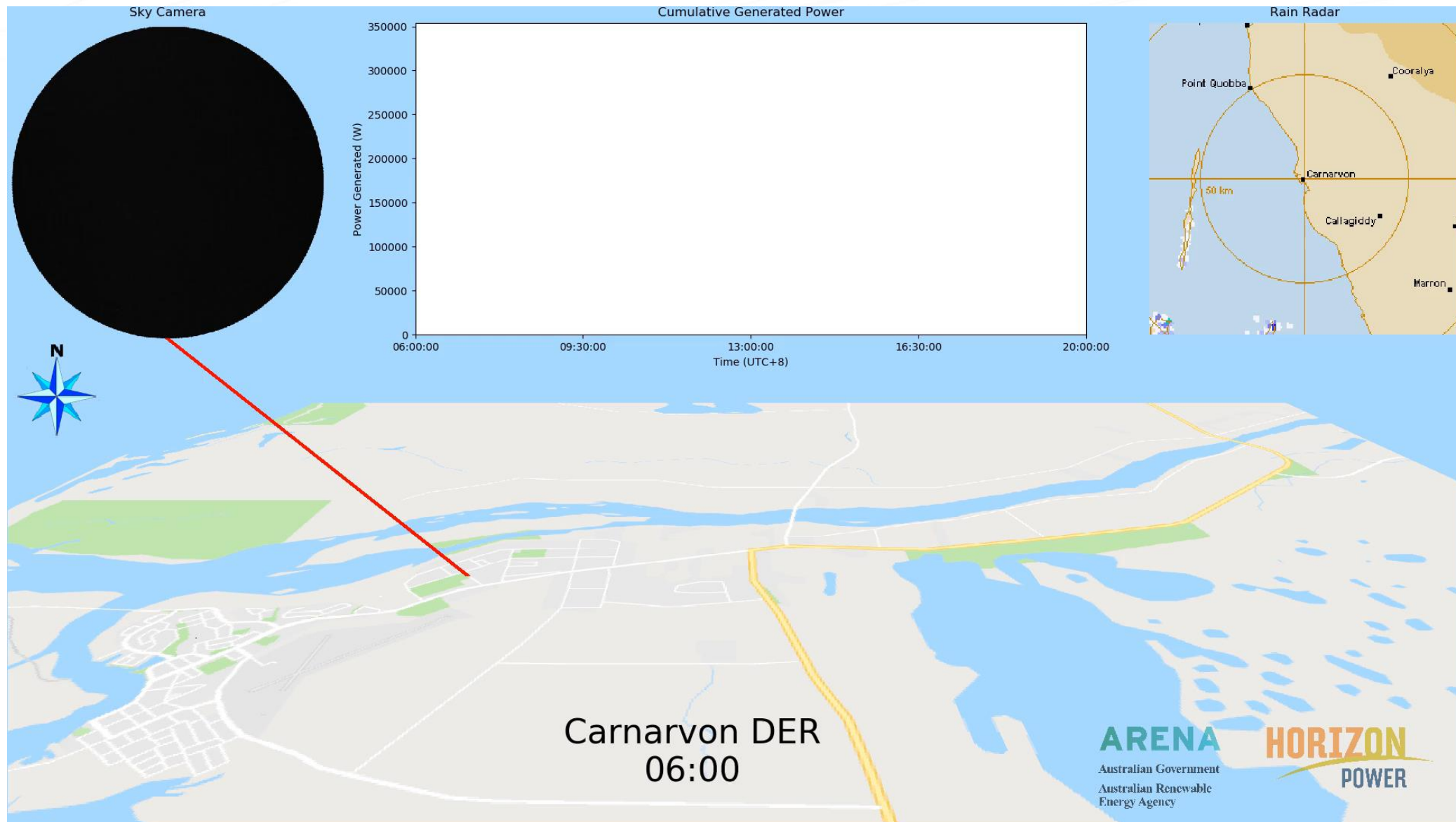


Transition to new supply futures and the integration of distributed energy sources and associated technologies



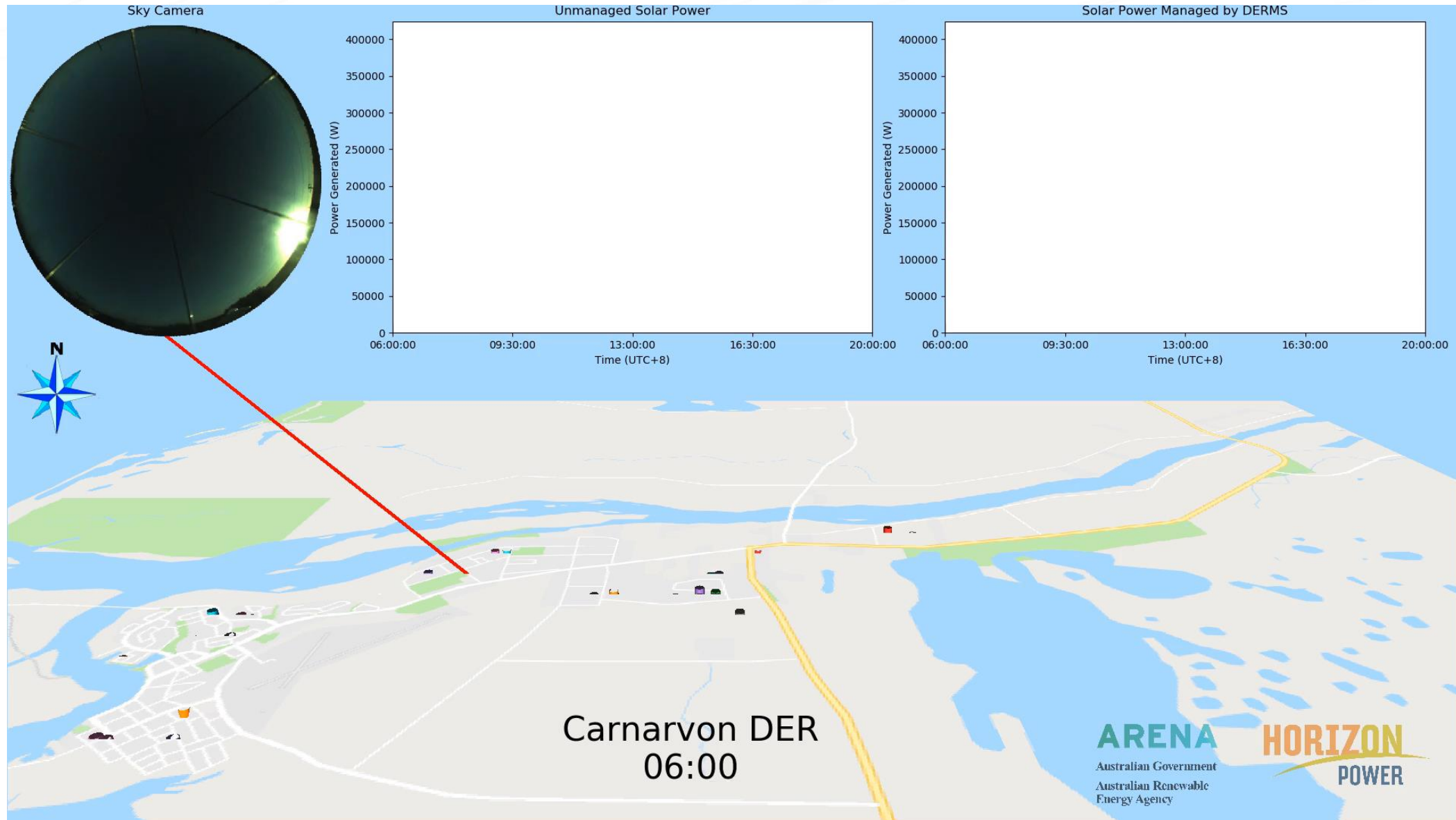
Cost-effective decarbonisation meeting renewable targets

# Power system risks – Cloud impact on solar generation

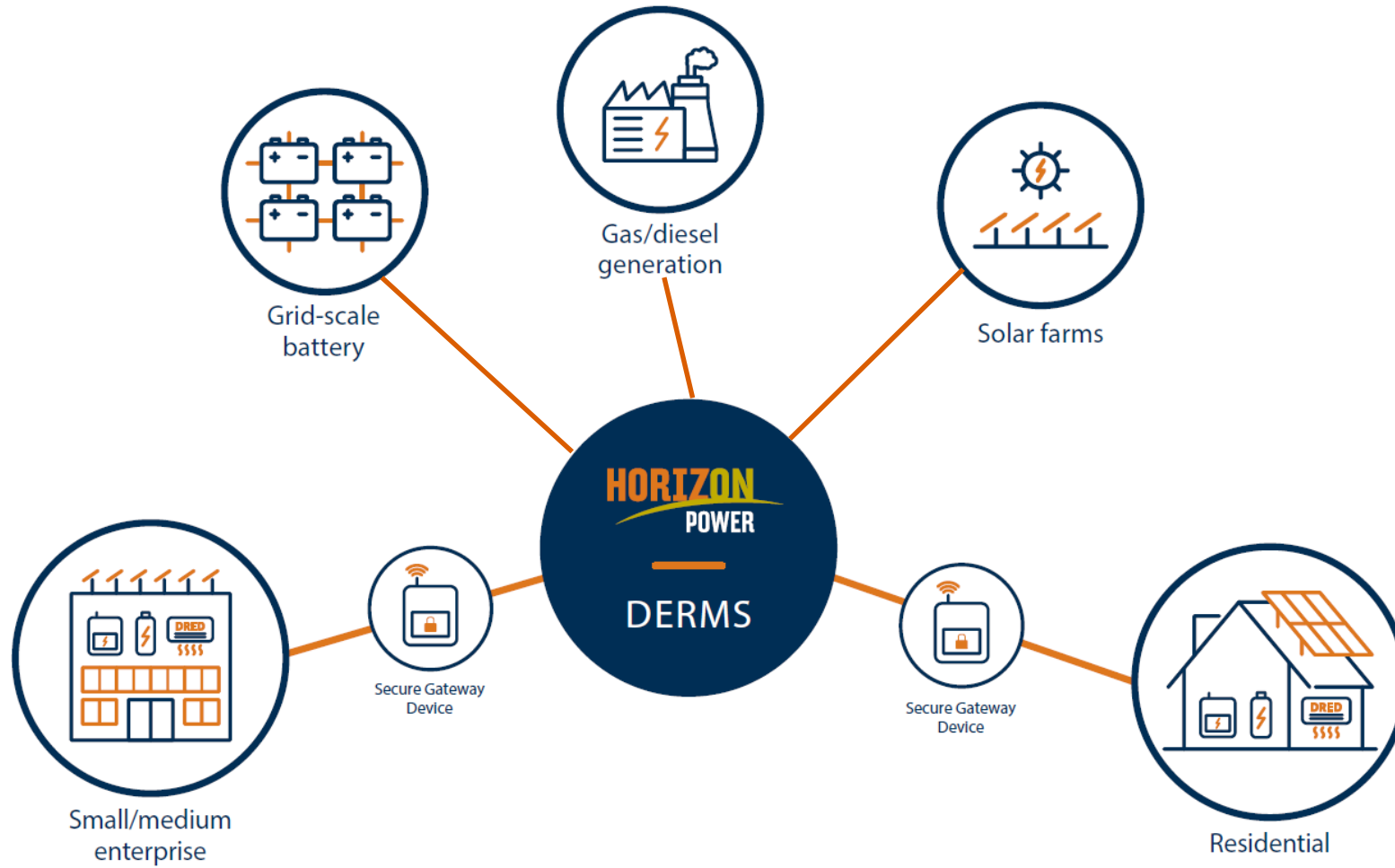




# Feed in management

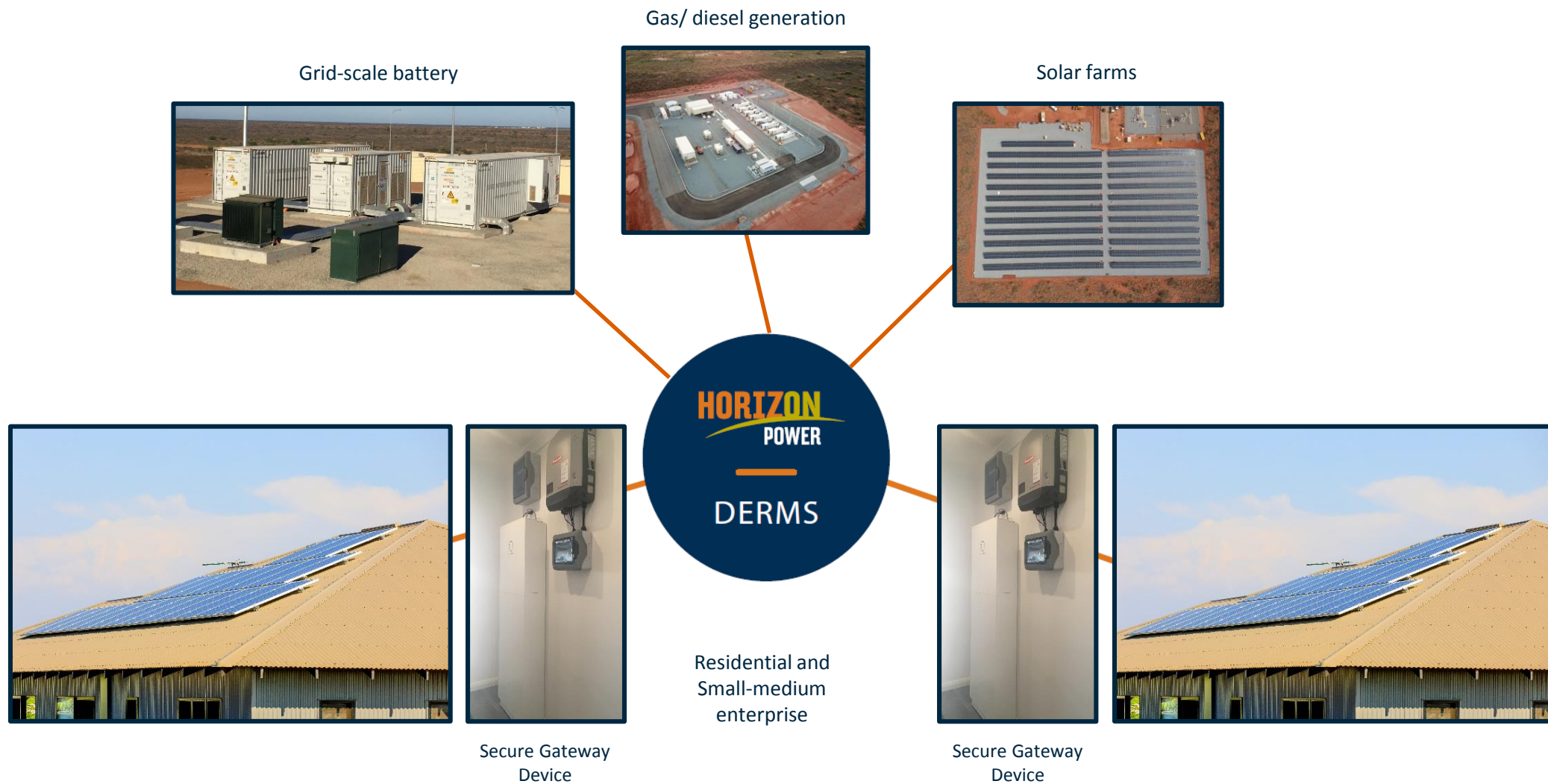


## Onslow Microgrid Vision >50% from Renewable Sources

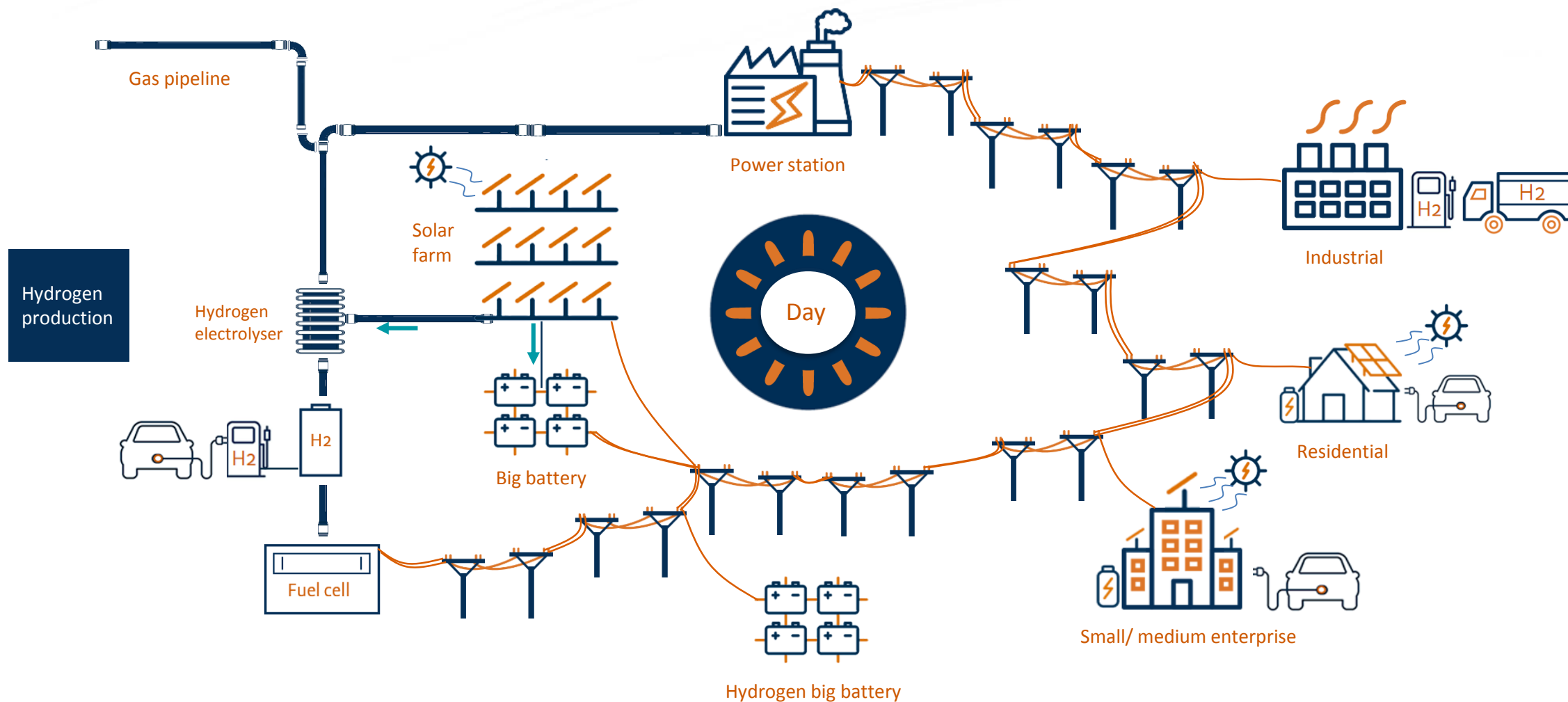




# Onslow Microgrid Realisation

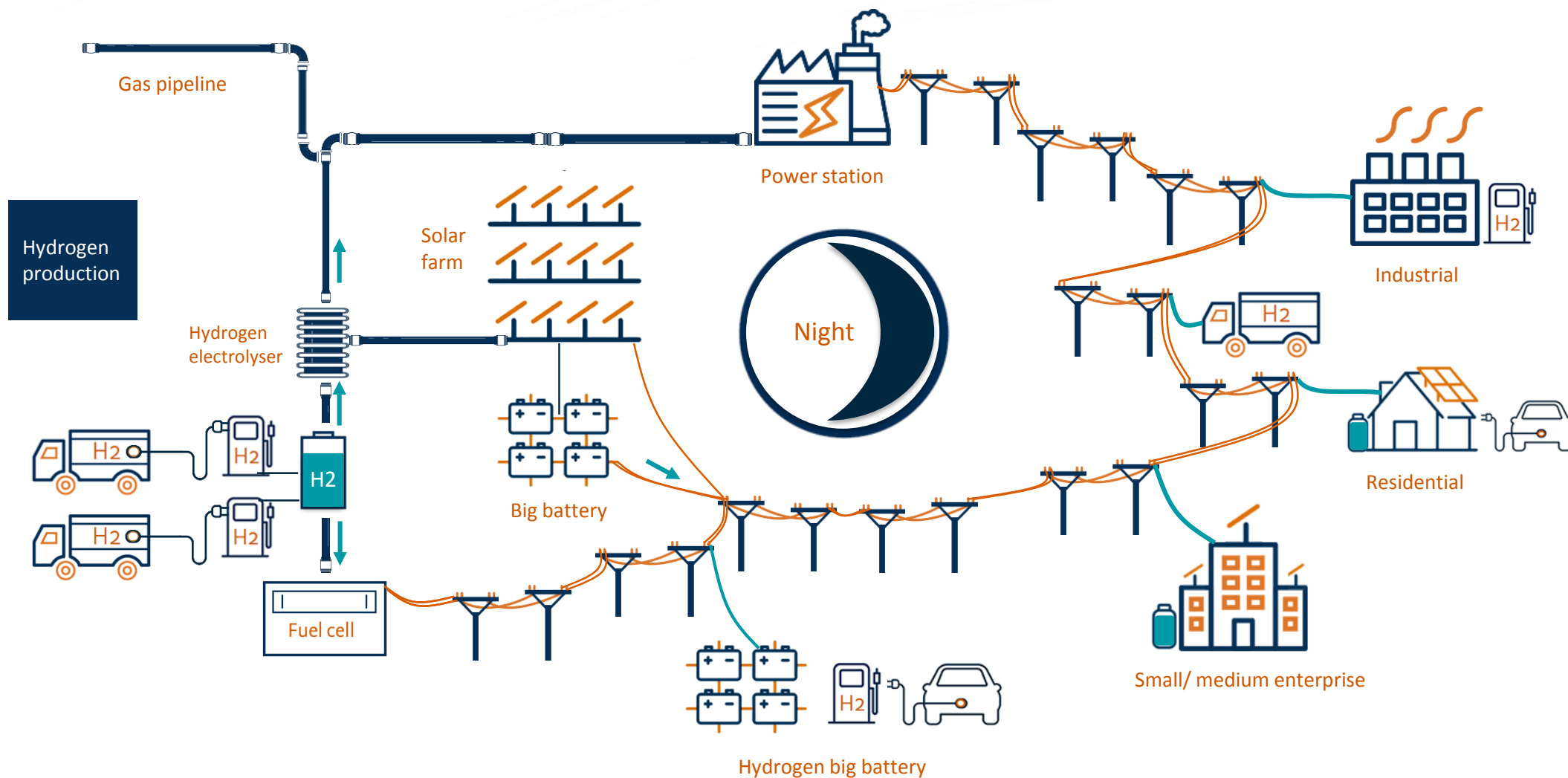


# The Microgrid future





# The Microgrid future



New **microgrid** technologies are driving the future in global energy systems





A satellite view of Australia at night, showing city lights and the aurora borealis in the sky.

Thank You

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The new horizon for electricity  
starts in Western Australia.