MUCHEA
BATTERY

Community Information Booklet

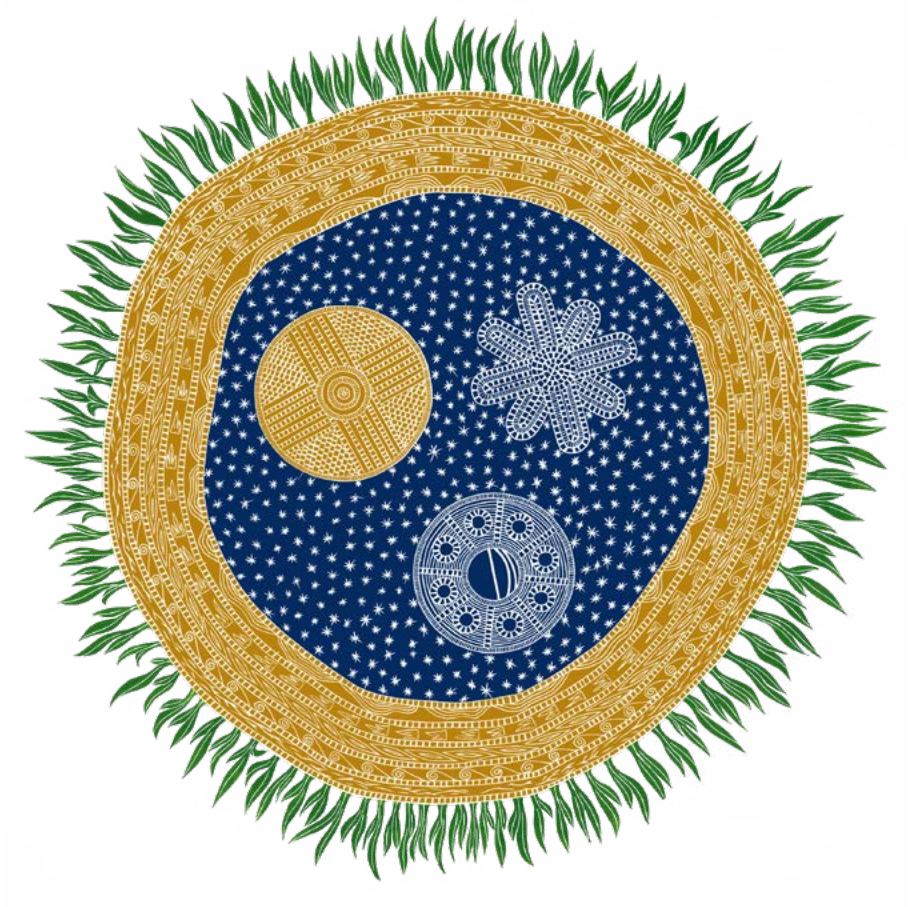
NEOEN

Acknowledgement of Country

Neoen acknowledges the Traditional Owners of Country throughout Australia and recognises their continuing connection to land, waters and culture.

We pay our respects to their Elders – past and present.

In particular, we acknowledge the Whadjuk people, Traditional Owners of the lands on which we are developing the Muchea Battery.



RAP ARTWORK

Celebrating Renewal

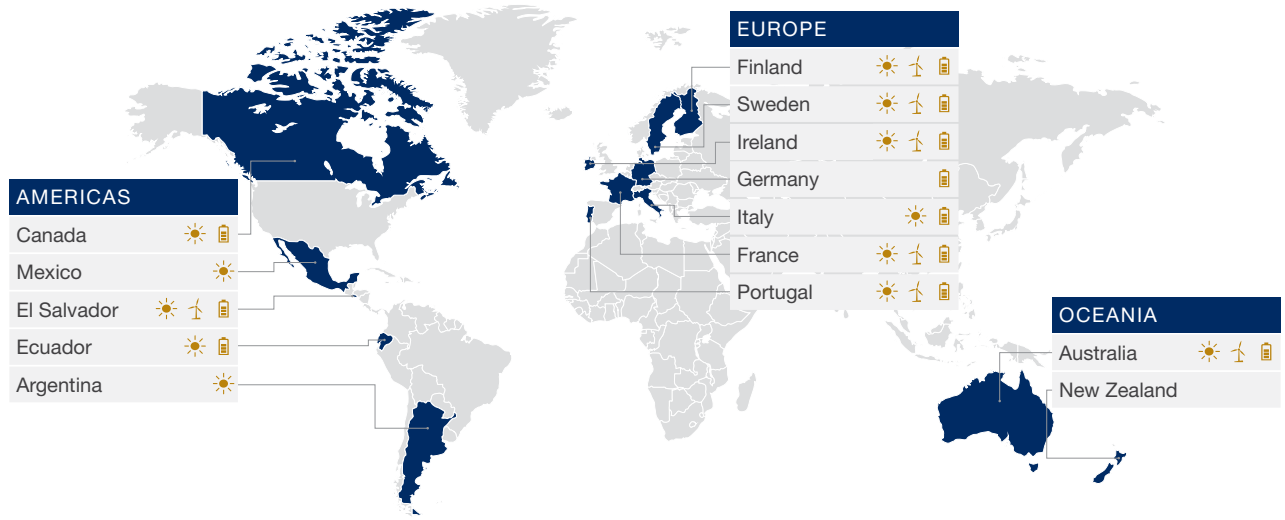
Teho Ropeyarn, 2022

NEOEN

Neoen produces green electricity from renewable sources such as sunlight and wind using mature, tried and tested technologies. We are also leaders in energy storage.

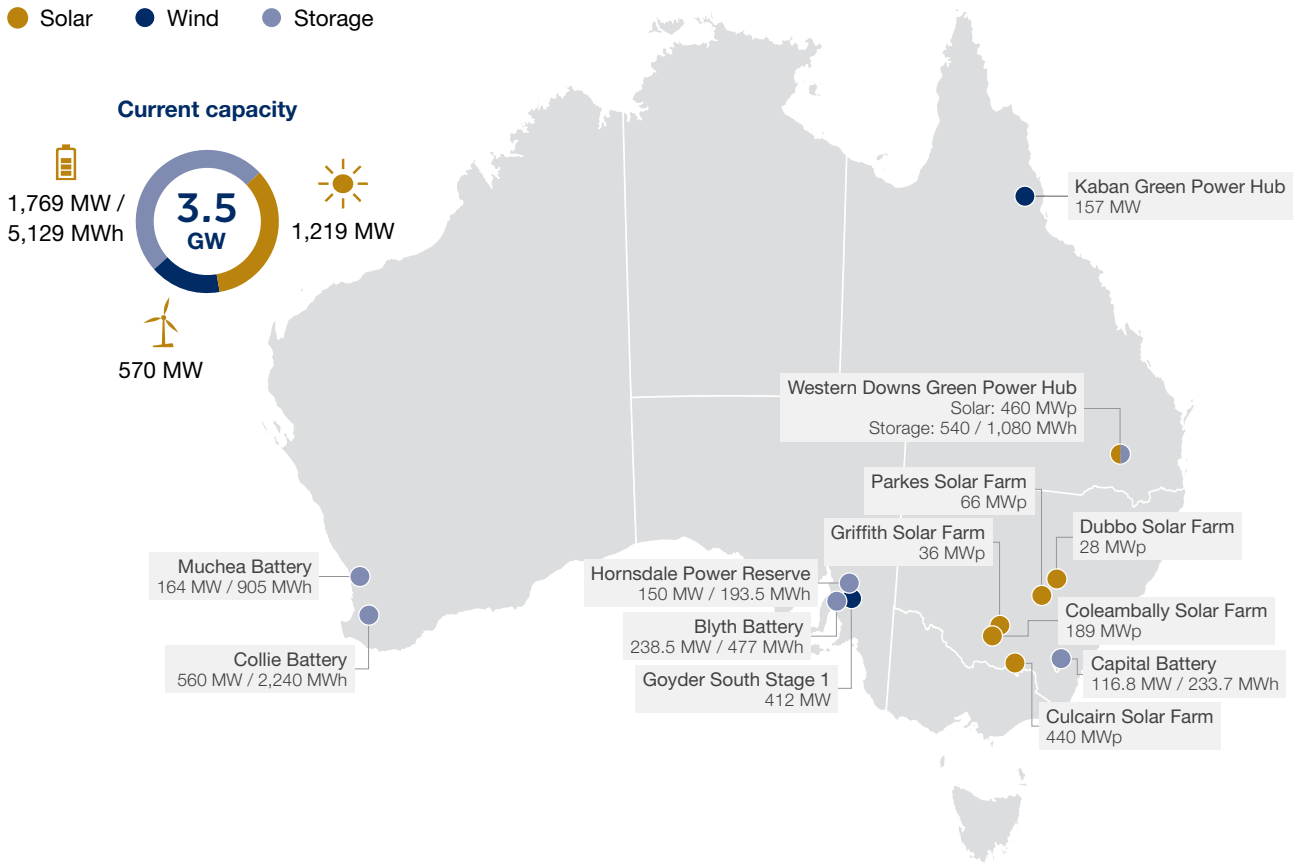
Globally

Neoen has a presence in 14 countries with over 8 GW of assets in operation and under construction worldwide.



In Australia

Since 2012, we have contributed over 4.5 GW of renewable energy and storage capacity and invested over $7 billion to accelerate Australia's energy transition.



Australia's largest renewable energy company

Long-term approach

Neoen has end-to-end expertise in developing, building and operating its assets, ensuring high quality projects that are well-integrated into the community over their 30+ year lifetime.

Our 24/7 Operational Control Centre in Canberra monitors and oversees our 17 Australian operating assets including wind farms, solar farms and big batteries.

Strong track record

We are Australia's largest renewable energy company, with over 3.5 GW of capacity currently under construction or in operation.

Our team is determined to accelerate the energy transition and we have a proven track record in consistently delivering our customer contracts and projects.

Trusted energy supplier

Neoen is a trusted supplier of clean energy to major energy consumers including Coles, Energy Australia, AGL and BHP. We have contracts with governments in South Australia, New South Wales, Western Australia and with Cleanco in Queensland as well as with the Australian Energy Market Operator.

We are known for our ability to innovate and deliver industry-first energy solutions.

100% renewables

Neoen is not involved in any other energy business streams outside of the investment, construction, and operation of renewable energy assets.

There is no other part of the Neoen company that will impact on the social, carbon, or ecological standing of Neoen: we are a 100% clean renewable energy company.

Pioneer in big batteries

Industry-leader

Neoen built the world's first big battery, the Hornsdale Power Reserve in South Australia, accelerating the energy transition and saving customers over $150 million in its first two years. We also delivered the first grid-scale inertia services in 2022.

We also own and operate Australia's largest battery, the Collie Battery in Western Australia.

Supporting WA's transition

In less than three years, our WA storage capacity has surpassed 3 GWh, representing over $1 billion investment in the State.

Our 560 MW / 2,240 MWh Collie Battery can charge and discharge the equivalent of 20% of the average demand in WA's network. We built this asset ahead of schedule and in time to deliver its contract with the Australian Energy Market Operator.

Virtual battery solution

Combining expertise in energy management with our physical storage assets, we designed a solution allowing customers to mimic a grid-scale battery, without building or owning one.

We have bespoke virtual battery contracts with large electricity users and retailers like AGL, ENGIE AU & Shell Energy Australia.

Renewables baseload

We are at the forefront of developing energy solutions as the grid reaches higher penetration of renewables.

We have two renewable baseload agreements to supply power to BHP's Copper SA mines, helping the world-leading resources company meet its needs. The 24/7 supply solution combines clean energy with firming support from our SA wind farms and big batteries with our in-house energy management expertise.

Muchea Battery

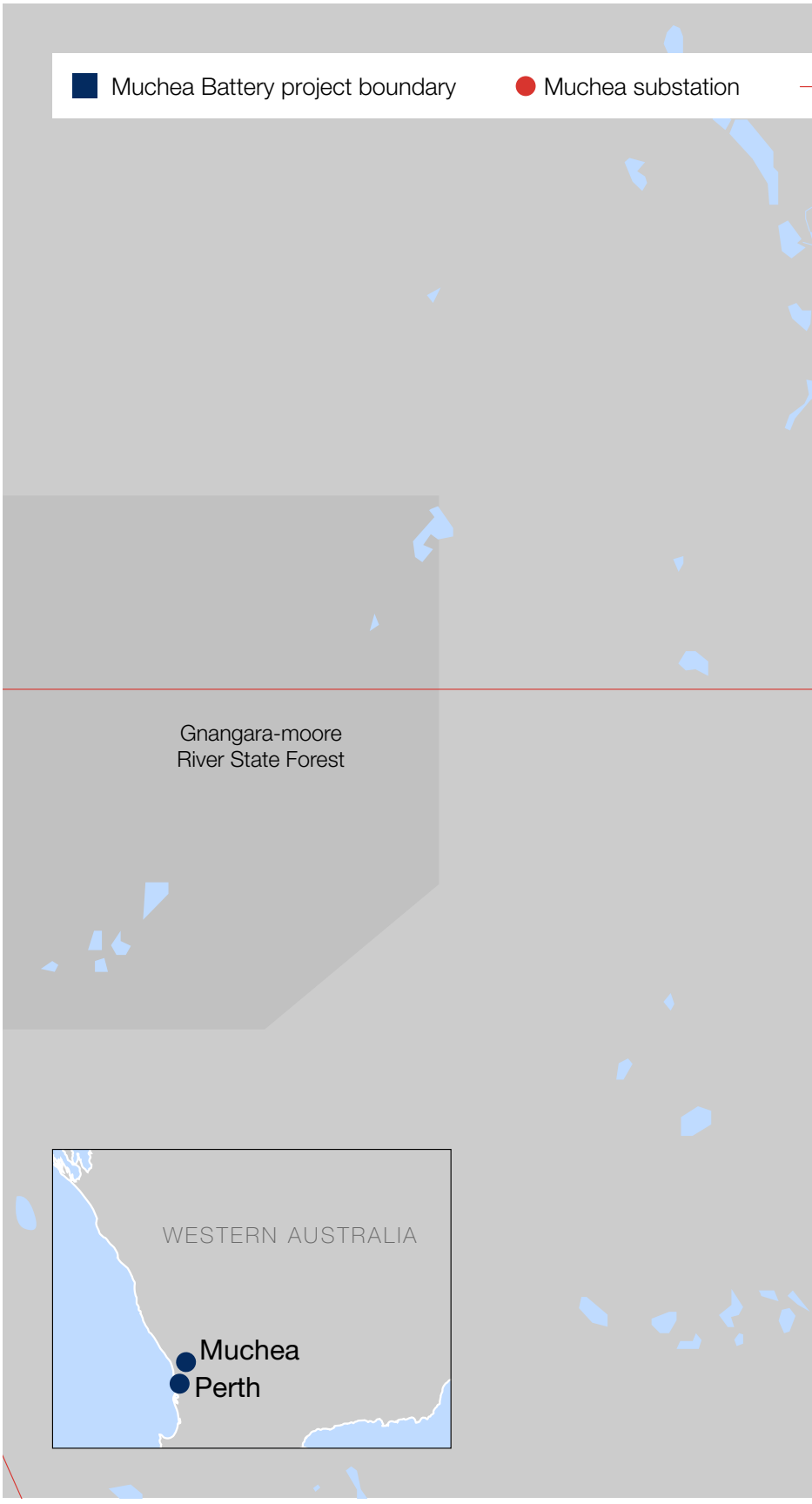
164 MW / 905 MWh

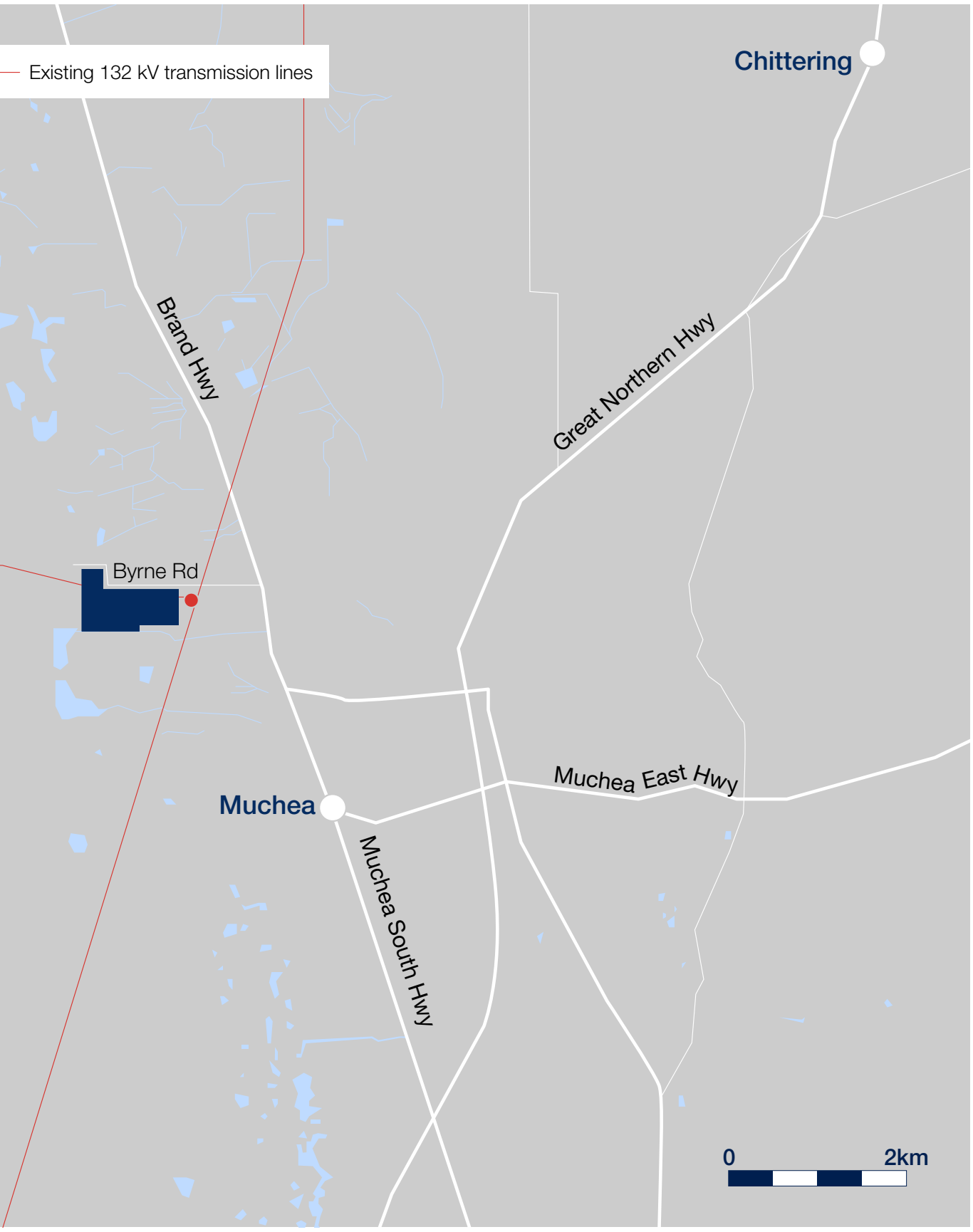
Located approximately 2 km north of Muchea and 43 km north-east of Perth, within the Shire of Chittering.

It will connect into the electricity grid through the existing Muchea substation.

Neoen and WA's first 6-hour long-duration storage asset.

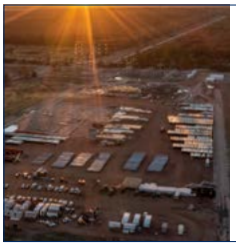
It will help power homes during WA's evening peak and provide essential grid stability and reliability services.




Existing 132 kV transmission lines
Chittering
Brand Hwy
Great Northern Hwy
Byrne Rd
Muchea East Hwy
Muchea
Muchea South Hwy
0
2km

What to expect during construction

Community engagement



We are here

Early works
3–6 months

- Minimal site activity (e.g. geotechnical studies)
- Contractors are tendering work packages
- Establishment of the temporary construction compound

Civil construction
2 months

- Bulk earthworks to complete bench and laydown areas
- Public road upgrades (as required)

Foundations
~4 months

- Excavation/foundation pouring for battery and equipment

Battery installation
~4 months

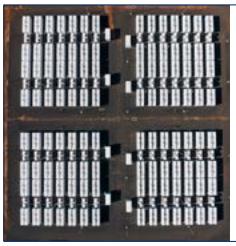
- Batteries will be delivered from Perth
- Cranes will lift batteries in to place

Electrical works
~6 months

- Installation of cables from batteries to switchroom
- Construction of high voltage equipment and transmission link to substation
- Minor upgrades to existing substation if required

Testing & accreditation
6 months (varies)

- The workforce will begin to reduce
- Main construction activities are completed
- The battery undergoes testing and connects to the grid

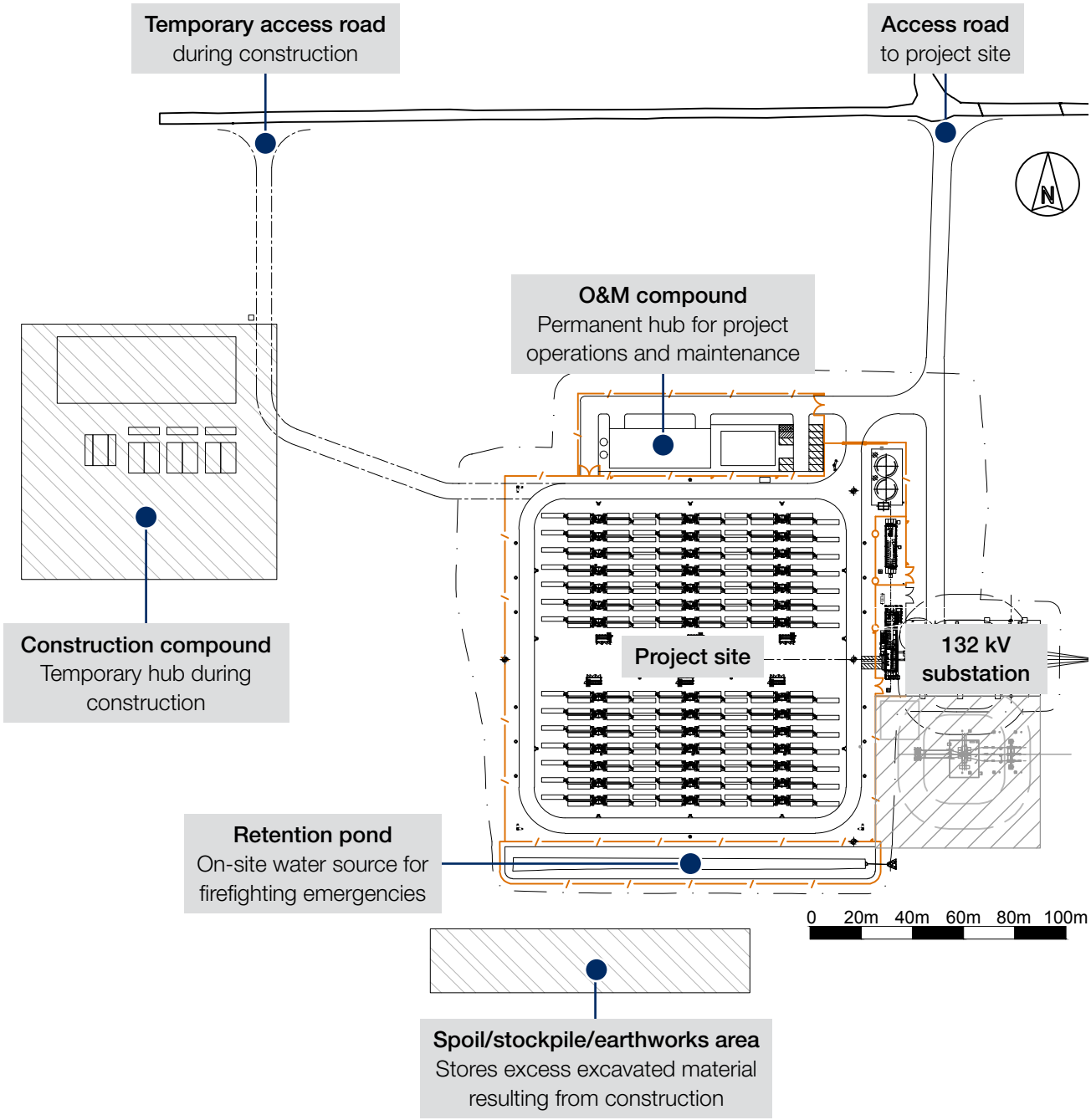


Commence operations
20+ years

- The battery is ready to charge and discharge at full capacity
- Site is handed over to the operations team

Community celebration & benefit-sharing

Site layout and equipment



Typical equipment needed:

Graders	Trucks	50–100t cranes
Rollers	Concrete Agi's	Semi, flat bed, tilt tray, drop trailer
Excavators (2t to 50t)	Pump trucks	Long trailers, platforms and cranes 750t
Moxy	Franns	

Our team

NEOEN

Developers, Owners & Operators

Construction Manager
Elias Chala Saad
1800 966 102
contact@mucheabattery.com.au

Community Liaison Officer
Murray Gmeiner
murray.gmeiner.ext@neoen.com

UGL | Megapack

Engineering, Procurement & Construction (EPC) Contractor

Overall control of the site, managing deliveries of equipment and design of the battery.

Procurement Lead
Chiranjeevi Ashwatha
0459 851 635
chiranjeevi.ashwatha@ugllimited.com

Project Manager
Sandeep Kamath
0437 424 852
sandeep.kamath@ugllimited.com

Electrical Subcontractor

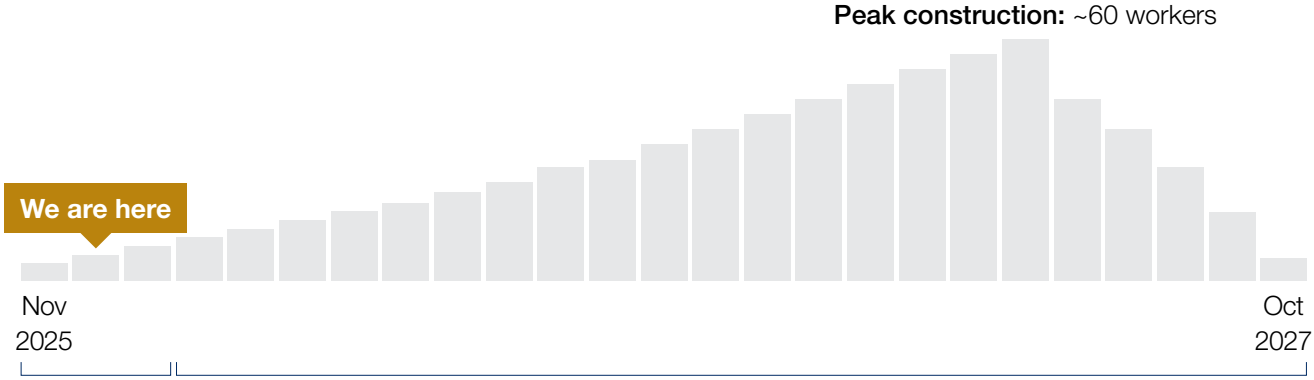
Electrical installation of AC and DC cable systems and electrical equipment.

Civil Subcontractor

Site establishment, road and drainage works.

Workforce

The workforce is expected to fluctuate during project phases, and peak at around 60 workers during 2026-2027.



Early works:
2–3 months

Construction
18–24 months

Work days

7am – 7pm Mondays to Saturdays excluding Sundays and Public Holidays.
Works may occur outside these hours such as concrete pours or battery installation.

Work opportunities

For jobseekers

Engineering, Procurement & Construction (EPC) Contractor

Electrical

Electricians
Electricity Installation
Electrical Trade Assistants
Wind Turbine Technician

Civil & Mechanical

Civil
Concreters
Excavator
Dump Truck
Foreman / Supervisor
Forklift and/or Telehandler
General Labour
Grader
Loader
Mechanical
Fitter
Roller
Trucks
Watercarts

Substation

Electricians
Electricity Installation
Electrical Trade Assistants
Wind Turbine Technician

For Suppliers

Goods and services expected to be procured through our EPC contractor:

Accommodation
Cleaners
Crane (minor lifts)
Concreters
Concrete supply (offsite supply)
Earthworks plant (wet & dry hire)
Fencing and gates
Food and catering service
Freight
Fuel
Material testing
Mechanical fitter/maintenance
Operation & maintenance facility construction
Quarry products
Safety Products (local)
Septic pump out services
Small equipment hire
Transport (minor)
Waste management (liquid & solid)
Water (construction & potable)
Welding & engineering fabrication (site services)

For local business

Goods and services expected to be procured through our EPC contractor:

Accommodation
Bakeries
Butcher
Chemists
Cafes
Gyms
Hardware stores
Hotels
Mechanics
Motels
Newsagents
Restaurants
Rural supplies
Service stations
Supermarkets
Tyres repairs

Anyone interested in working on the project can register their interest via our project website: mucheabattery.com.au/work-with-us

Community benefits

Neoen will make an **annual commitment of $80,000** under the Community Benefit-Sharing Program to provide benefits to communities living around our Muchea Battery.

Funding will be available when the project goes into operations and will continue for its 20+ year lifespan. We aim to fund local projects and initiatives in one of the following growth areas:

Arts, culture & events

Disaster relief & emergency services

Education & training

Energy efficiency & environment

First Nations initiatives

Health & wellbeing

Submit your ideas:
shorturl.at/ofJt1

Case Study

New equipment for emergency support services

Coleambally Rescue Squad is part of VRA Rescue NSW. The squad has been active in the Murrumbidgee Shire since its formation in 1976.

Contributions from Neoen's Coleambally Solar Farm helped the Squad purchase new stabilisation equipment for their Light Rescue Vehicle.

Artwork commitment

We commit to create an artwork on all projects with a capacity of over 50 MW. The artwork celebrates renewable energy and local culture.

For Blyth Battery, after community consultations in 2023, we discovered the town wanted a mosaic celebrating local life. We delivered our artwork initiative by funding this community project in partnership with the Blyth Progress Association.

Environmental Above & Beyond initiatives

We are committed to supporting local environmental and biodiversity initiatives in the areas in which we own and operate our projects. This initiative is 'above & beyond' our offset requirements on a project with an energy capacity of over 50 MW.

We welcome ideas from the community on what we can support from our Muchea Battery project.

"We have experienced a very open, transparent and pragmatic communication process with Neoen.

We are asked about every decision that may impact us and for our opinion, and this is something that we value highly."

– Florian Popp, Host Landowner
Collie Battery, WA

Bushfire prevention

Neoen takes fire safety and mitigation very seriously on all its assets.

As a long-term owner and operator of renewable energy assets, we work closely with relevant fire and emergency services from early stages of development to construction and across operations.

Our projects involve building new infrastructure and we are committed to ensuring that in doing so, we do not put unnecessary, additional pressure on valuable, local resources (such as fire fighting) or bring unmitigated risk to the natural environment and communities surrounding our project sites.

How big batteries can be beneficial:

- Asset Protection Zones around the big battery act as a fire break in both directions
- Access to water tank(s) on site, guaranteeing reserves for fire fighting purposes in an emergency
- Additional eyes on the project area to detect and raise alarms during an emergency
- Additional funding opportunities become available for local fire fighting volunteers and authorities.

Over the last decade, Neoen has partnered with the following agencies to successfully avoid and minimise fire risk from its wind, solar and battery projects across Australia:

Tasmania Fire Service

Do big batteries pose a fire risk to surrounding communities?

Big batteries play a critical role in Australia's energy transition by offering services that provide stability, strength and reliability to our electricity grid. However, like all electrical infrastructure, they come with a level of fire risk.

In Australia, there have been two fire incidents at large-scale battery storage sites – one at the Victorian Big Battery in 2021 and another at the Bouldercombe Battery in September 2023. Both fires were contained within the site with help from local fire authorities and did not spread to the surrounding areas.

According to research by the Clean Energy Council, one of the biggest risks is a "thermal runaway" – a chain reaction in which overheating can lead to battery failure and a potential risk. This can happen due to overcharging, physical damage, electrical faults, external heat sources or environmental factors. Liquid cooling solutions inside a battery module is often used to prevent this reaction. Read more on their website: www.energyfactcheck.com.au

Australia has strict safety requirements for companies like Neoen looking to develop and operate big batteries. These include ensuring vegetation control around electrical infrastructure and on site, provision of adequate water reserves and more. Neoen ensures that its projects including a big battery site meets all safety requirements from the local and state government fire authorities.

Can big batteries explode?

Batteries may explode if they are not maintained properly, incorrectly stored or if their protective casings are punctured. While this can be an issue with batteries inside our mobile devices and portable electronics, it is not considered a significant risk for big batteries that connect into our grid.

Big batteries are stationary assets that are routinely inspected and maintained, and as such the risk of explosion is low. They also include vents, rupture panels and sparker systems to prevent the building up of pressure within individual battery units and to mitigate the risk of an explosion.

What happens if there is a fire at our big battery?

While the risk of fire is low, in the event of an emergency, Neoen would disconnect its big battery from operating in the electricity grid and stop all operations to prioritise the safety of everyone within close proximity of the site. We would activate our *Emergency Response Plan* and work closely with all local emergency authorities as well as our project team on the ground to ensure that the fire is contained and does not pose a risk to the surrounding region or communities.

We would notify our host landowners, near neighbours and other key stakeholders to ensure that everyone was alert, safe and taking preventive measures (if any) as per advice from the emergency authorities. We would also undertake a detailed investigation and identify any lessons learnt that can be applied to future projects or our existing operations.

Bushfire prevention: what to expect

Development

We meet with the rural fire service authority (the fire authority) and community volunteers to seek feedback on our project designs and plans. We value their input on:

- Site entry/exit points including fencing and gates
- Vehicle access limitations for construction traffic management
- On site water storage requirements
- Bushfire history in the region
- Capabilities of the personnel and equipment needed on site vs at the fire authority
- Fire emergency plan/map location
- Low fire risk plant species for vegetation management
- Works that can occur on total fire ban days versus hot days
- Drills and channels for communicating during emergencies
- Management and capture of any potentially contaminated material from response to a fire emergency on site.

Our site layout also takes into consideration various constructability and insurance factors as well as the design of the technology (differences in battery units depending on their manufacturer/supplier) and other equipment like the transformer. This knowledge determines the amount of spacing between individual battery units, around groups of battery units and around the transformer that gets established on site and which can also act as a fire break in the event of an emergency.

Construction

We design infrastructure on site in consultation with the local and state fire fighting authorities.

We construct high-quality access tracks in and around our project site. This means that the fire authority gains access to new fire trails in the event of an emergency.

Our contractors are equipped with appropriate personnel protective equipment (PPE) and basic fire-fighting equipment.

Anyone working on site is trained to follow the *Emergency Response Plan* and contact the fire authority in the event of an emergency.

We host the fire authority on site multiple times to ensure they are familiar with the layout and our latest maps.

We offer the opportunity for local volunteers to participate in emergency response drills with role playing scenarios on site.

Following a rigorous risk assessment process, we develop and implement a *Bushfire Management Plan* and/or *Emergency Response Plan* which typically provides advice on:

Bushfire prevention and mitigation strategies

Training, resources and remote monitoring

Operations

A big battery site allows for additional eyes in an otherwise remote area. Neoen has a skilled team on site throughout the week that can alert and assist the work of the fire authority. We also have CCTVs installed at our substations and at our battery site.

Modern batteries are modular in design, with each unit designed to withstand high external temperatures for extended periods to prevent the spread of fire between individual units. Designs have evolved to include early warning sensors, thermal barriers, passive and active cooling systems that can detect and prevent a thermal runaway.

We have requirements to keep vegetation below certain levels to manage fuel loads. We also establish and maintain *Asset Protection Zones* around the big battery and around associated infrastructure like our substation, which act as a fire break in both directions during an emergency.

We host the fire authority on site to assess any new risks or opportunities and revisit topics like:

- Expectations from Neoen and the host landowner during a fire emergency
- Fire break management
- Addressing any equipment shortcomings on site or with the fire authority
- Location of water tank(s) and adequacy
- Access maps and master key to entry/exit gates
- Response times, including out-of-hours protocol.

Fire detection and notification systems

Fire response and suppression procedures

Case study

Collaborating with local fire authorities during construction of Collie Battery

Our 560 MW / 2,240 MWh big battery is located in the bushfire-prone region of Collie in Western Australia.

Neoen is delivering a range of activities to mitigate the risk of any fire emergencies. For example, **work done in accordance with our government development approval** includes:

- ✓ Provision of 2 x 290kL water tanks along with hydrants on site for fire fighting purposes
- ✓ Implementation of the *Bushfire Management Plan* and *Emergency Management Plan*
- ✓ Facilitated site visits for the Department of Fire and Emergency Services and the Collie Volunteer Brigade to ensure they are familiar with the site and its layout
- ✓ Supported training and knowledge-sharing on how to respond to fires at a big battery site.

Example of **activities being delivered in addition** to state requirements in lieu of prioritising safety in the region:

- ✓ Ensuring Neoen's Fire and Emergency Response Guide logged in the Department's system is up to date with the latest facility layout, showing the locations of key firefighting infrastructure on site
- ✓ Proactive engagement with the Department on planned prescribed back burning, ensuring vegetation control and minimising the risk of a fire spreading in the surrounding areas
- ✓ Dedicating a large portion of the project's community benefit-sharing to build the capability and capacity of the local fire authority. We are currently engaging with the authority to identify equipment and training requirements that can best support the Collie Volunteer Brigade in the immediate and the long-term.

About big batteries

What does a big battery do?

Like a pocket knife, a big battery has many uses:

Basic Function

When there is excess energy, the battery will charge. When there is high demand for energy, the battery will discharge.

Frequency support

To maintain stability of the system, the grid has frequency control. The battery discharges electricity in response to frequency changes, this also adds competition to the energy market.

Virtual Inertia

Like cruise control in your car, inertia services are a way of maintaining stability of the grid. A big battery enables advanced power inverters to emulate the existing inertia services supplied by fossil fuels.

Network support

Like adding another lane to a freeway, the battery can unlock additional capacity on existing transmission networks, saving customers millions in expensive transmission line upgrades.

Firming renewables

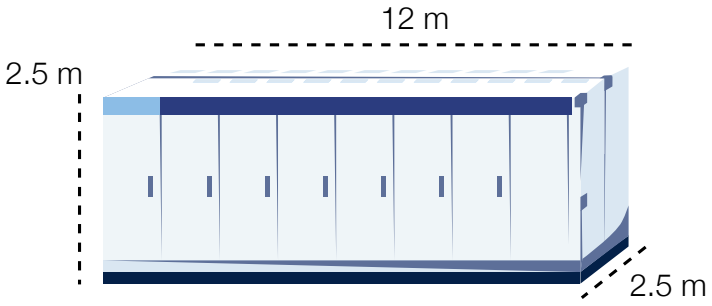
Along with wind and solar, batteries firm varying renewable energy. Batteries are an essential component in the stable transition to clean electricity and achieving emissions reduction targets.

What's inside?

Muchea Battery will have lithion-ion batteries enclosed in steel cabinets, similar to shipping containers.

Cabinets are water and dust-proof and the colour is light to assist with heat management. Each cabinet has its own internal thermal management system.

Inverters are made from galvanised steel, and can be single 12 metre containers or multiple outdoor cabinets on concrete slabs.



Store: Energy is stored in the battery cabinet.

Convert: Energy is converted from DC to AC at an inverter, then progressively stepped up via transformers.

Send/receive: Energy is imported or exported depending on the needs of the electricity grid.

The Muchea Battery will store energy in times of high production and release energy in times of high demand, similar to a battery on a home solar system. It will also help stabilise the grid in different ways: it has an emergency response mode to prevent blackouts and can maintain voltage and frequency levels.

Who will pay for it?

The project will be privately financed by Neoen.

How is the battery reducing costs for consumers?

The Muchea Battery can reduce costs for consumers in three ways:
- supporting more wind and solar, which are commonly the cheapest energy
- increasing competition in ancillary markets which lowers electricity prices
- helping to avoid blackouts and the associated costs.

I live nearby - what impact will this have on me?

During construction, we expect some localised traffic, noise, and dust impacts. However, we will be managing these to minimise them as much as possible. Following installation, the battery will be visible at the site and will look like an enclosure of white containers.

How can I have my say on the project?

We will be working with the community throughout the project to understand local concerns and aspirations, and ensure we minimise any impacts.

We encourage the community to provide feedback through completing the survey on the website home page: shorturl.at/r8OHr

Is the project reducing air quality?

Batteries do not produce any gas or smoke under normal operations.

Before installation, the battery will also be evaluated for the potential release of toxic and flammable gases under abnormal and fault conditions including thermal runaway or mechanical damage. The testing will provide measured data on gas type, quantity, and propagation to ensure that air quality standards are maintained.

Are there any health risks?

The Muchea Battery is using similar technology to the batteries that are being increasingly installed in homes, just on a larger scale. There are no known health risks associated with properly maintained large-scale battery installations.

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