CAPABILITY STATEMENT

2022

COMMERCIAL IN CONFIDENCE

ABOUT US

Next Generation Electrical (NG/E) are a large Engineering, Procurement and Construction (EPC) provider offering national services. Our focus is on delivering renewable energy solutions, such as solar farms, commercial rooftop solar and microgrids.

We also provide commercial and industrial electrical services such as infrastructure upgrades, complex lighting automation, communication, small cell technology roll out, underground power pit works, telecommunication connections and embedded networks.

Safety First

The safety of our employees and customers is of the utmost importance to us. We provide a work environment where everyone goes home in the same way they arrived.

Forward thinking

The team at NG/E are highly qualified experts that understand current market trends, which helps drives best practice outcomes and savings for our customers.

Customer focused

NG/E works closely with our customers, aligning needs and expectations. We're not just electricians, we're project managers and your energy solution provider.

Ingenuity

NG/E are committed to staying ahead of the game and providing you with the latest solutions and technologies available.

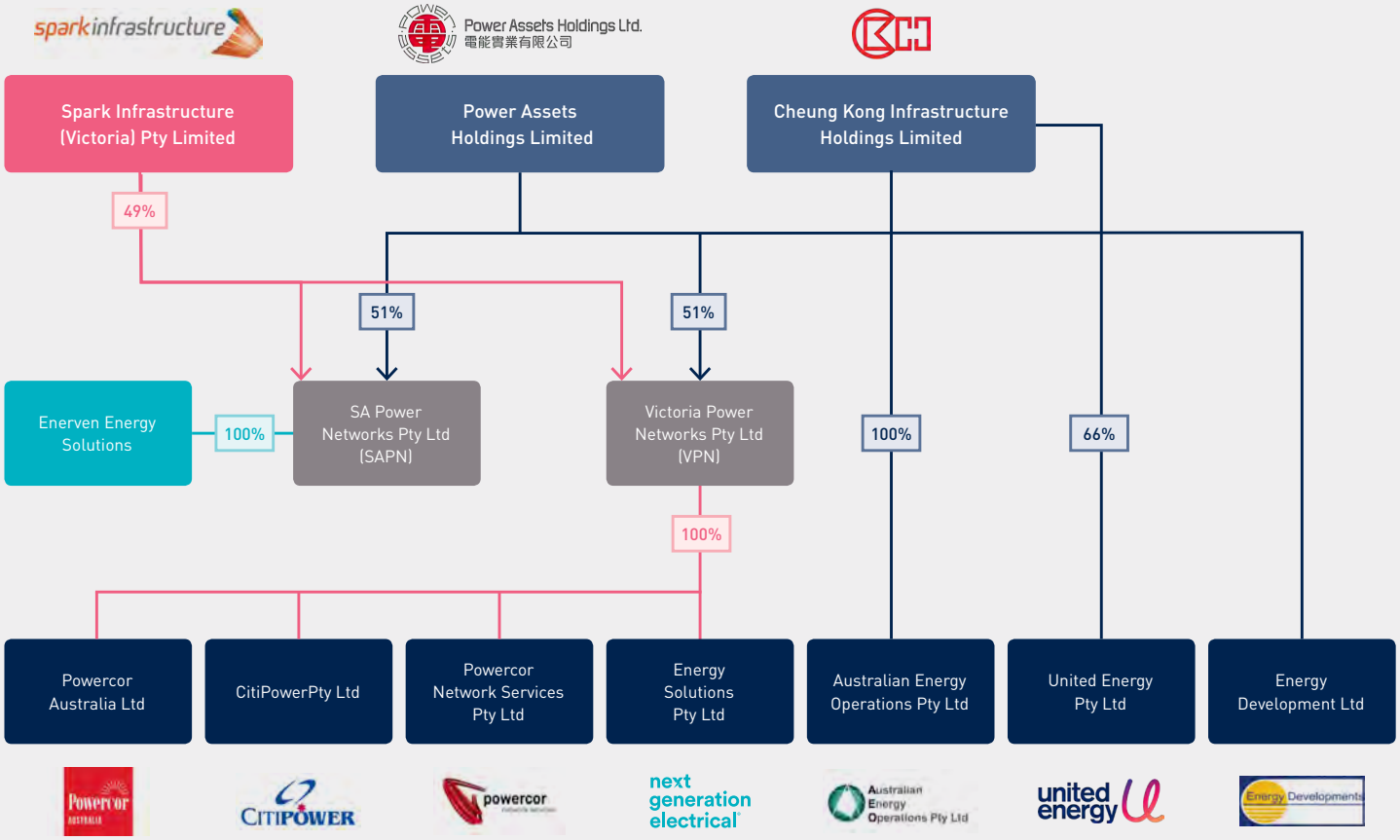
Accredited

NG/E are ISO accredited in safety, quality and environment. The team is also Clean Energy Council (CEC) installers and designers. This adds further assurance to our clients as to the quality and integrity of our work.

Our clients

OWNERSHIP STRUCTURE

Next Generation Electrical (NG/E) is 50% owned by Beon Energy Solutions; a wholly-owned subsidiary of Victoria Power Networks Pty Ltd (holding company for Powercor, CitiPower and United Energy distribution networks and Beon Energy Solutions).



OUR NATIONAL CAPABILITY

Victoria

NG/E Head Office

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South Australia

NG/E Office

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Adelaide SA 5000

Queensland

NG/E Office

70 Robertson St
Fortitude Valley QLD 4006

OUR SERVICES

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PROGRAM & PROJECT MANAGEMENT

Feasibility studies

Design and Engineering

Surveying and drafting

Procurement

Construction

Commissioning

Maintenance

Operational Asset Management

DESIGN

CONSTRUCT

O&M

MICROGRIDS, SOLAR FARMS, CARPARK SOLAR & BATTERY

Case studies

Melbourne Water Solar Farms

Location
Carrum Downs & Christmas Hills, VIC

Date of completion
March 2022

Scope of works

Construction of a total of 28MW ground mount solar farms at Melbourne Water's Eastern Treatment Plant (19MW) and Winneke Water Treatment Plant (9MW) as part of their portfolio initiative in reducing their carbon footprint.

Key Results

- Powers 22% of ETP's electricity required to run the plant (alongside their existing bio-gas facility, generating 30% of required electricity generation).
- Part of Melbourne Water's commitment in reducing their net carbon emissions to 50% of baseline levels by 2025, and a pathway to net zero by 2030.

Fast facts

System size
28MW in total
Solar tracking system

Panels
Trina Solar

Inverters
SMA Sunny Central

Racking
NEXTracker

South Australian Water
Zero Cost Energy Future Program

Location
Multiple locations, SA

Date ofcompletion
June 2020

Scope of works

Design and construction of 42MW ground mount & rooftop solar across 35 SA Water pump station & water treatment plant sites.

Key Results

- Aim to achieve zero net electricity costs by 2020-21.
- Part of SA Water's Zero Cost Energy Future Program inolving the installation of over 500,000 solar panels for 154MW of solar generation and 34MWh of energy storage

Fast facts

System size
42MW in total
Solar tracking system

Panels
JA Solar 380W

Inverters
SMA Sunny Central

Racking
NEXTracker

Barwon Water Blackrock Treatment Plant Solar Farm

Location
Connewarre VIC 3227

Date of completion
June 2019

Scope of works

Design and construction of a 2MW solar PV system, integration with on site Supervisory control and data acquisition (SCADA). This project is an extension of stage 1, which included 1MW solar PV system and a purpose built power factor correction, specialised Static Var Generator system (SVG), remote energy monitoring and revenue grade metering.

Key Results from stage 1

- Custom built inverter enclosure that is designed and engineered for the extremely corrisove coastal environment.
- Successful installation of Static Var Generator system to correct power factor corrections on the high voltage side of the treatment plant.
- String level monitoring of solar panels.
- No disruption to treatment plant operations throughout the 5 month construction program.

Fast facts

Yearly energy usage
3019 MWh

System size
2MW solar

CO2 Emissions saved
1500 tonnes per year

Panels
5544 x 365/370w
Trina Panels

Inverters
32 x 60kW SMA

Railing
S-rack

Central Highlands Water Treatment Plant Solar Farms

Location
Ballarat Region, VIC

Date ofcompletion
June 2020

Scope of works

Design and construction of 2.4MW ground mount solar farms across four Central Highland Water Treatment Plant sites.

Key Results

- Five large-scale solar installs across four water treatment plants, powering 40% of the utility's total electricity load.
- Part of Central Highland Water's emissions reduction initiative, this project reducing their overall greenhouse gas emissions by ~3,745 tonnes per year.

Fast facts

System size
2.4MW in total
Solar fixed system

Panels
Trina Solar 385W

Inverters
SMA Highpowers

Racking
S-Rack

Goulburn Waste Water Treatment Plant Solar Farm

Location
Goulburn, NSW

Date ofcompletion
December 2020

Scope of works

Design, supply, installation and commissioning of a 389kW fixed ground mount system at Goulburn Waste Water Treatment Plant.

Key Results

- Offsetting approx. 35% of their total electricity consumption at the Waste Water Treatment Plant.
- Saving the council approx. 90,000 in electricity costs per year.

Fast facts

System size
389kW

Panels
884 x JA Solar 440W

Inverters
5 x SMA 75kW

Racking
S-rack

Central Power House

Location
Umuwa, SA

Date ofcompletion
Estimated May 2022

Scope of works

Design, supply, installation, commissioning and maintenance of a 2.9MW solar farm with 1MWh battery storage that will power 5 remote communities. Scope also includes HV works, telemetry and SCADA upgrades.

Expected Results

- Located in the remote Aboriginal communities of Anangu Pitjantjatjara ankunytjatjara (AP) lands this project connected to a private HV network will provide reliable power to 5 communities.
- Estimated savings per year is 1.16m.
- One of the largest off grid systems in South Australia.

Fast facts

System size
2.9MW

Panels
6688 x 440w Longi Panels

Inverters
22 x 100kW SMA inverters

Battery Storage
ABB e-mesh™ PowerStore™ - 1MWh

Racking
PEG system

Maintenance Period
2 Years

Yadlamalka Energy Project

Location
Yadlamalka, SA 5713

Date ofcompletion
Estimated November 2022

Scope of works

Design and construction of a 6MW solar PV system and 9MWh Vanadium Flow battery energy storage, integrated behind a DC-coupled inverter. This project is located at the Neuroodla electricity substation, near adlamalka sheep station about 80km north of Port Augusta, South Australia

Expected Results

- The vanadium flow battery will take advantage of the significant intraday price variation in South Australia to time shift power from midday to peak periods in the evenings and mornings.
- The project will also participate in the Frequency Control Ancillary Services (FCAS) market which helps maintain stability of the electricity system.
- Deliver strong, economic infrastructure benefit to South Australia and at the same time support a low carbon economy.

Fast facts

System size
6MW PV system

Panels
11,128 x Longi 540w Panels

Inverter
SMA Sunny Central 4600-UP

Racking
S-rack

Battery Storage
41 x 220kWh Vanadium Flow

Enel X
Riverland Projects

Location
5 sites across SA's Riverland region

Date ofcompletion
Estimated August 2022

Scope of works

Design and construction of 8MW of battery storage across 5 sites in the Riverland Region on behalf of Central Irrigation Trust (CIT).

Exptected Results

- Connecting to a virtual power plant (VPP) that will be aggregated to allow the Australian Energy Market Operator (AEMO) to better manage supply and demand on the grid.
- 5 sites totalling 8MW in battery energy capacity will be completed in 2022.
- Batteries will be managed by Enel 's proprietary Distributed Energy Resources Optimisation Software (DER.OS). This will enable frequency control ancillary services and energy arbitrage.

Fast facts

System size
8MWh

Battery Storage
3 x Sungrow ST2007kWH
2 x EVO Power NEO 500 kW

Deakin University

Renewable Energy Microgrid Solar Farm Project

Location
Geelong, VIC 3220

Date ofcompletion
May 2020

Scope of works

Design and construction of a 7.5MW industrial-scale smart microgrid energy system at Deakin's Waurn Ponds campus in Geelong.

Key Results

- Will be the largest solar system installed at an Australian University - 14.5 hectare solar energy generation farm.
- Reduce carbon emissions by 12,000 tonnes per year and generate half of the University's energy needs on site.
- The microgrid can be expanded to include research of other technologies such as hydrogen storage, that could lead to hydrogen and electric vehicle integration.

Fast facts

Yearly energy usage
112,529 MWh

System size
7.5MW solar tracking system

Panels
21,408 x Trina Panels

Inverters
3 x SMA Sunny Central 2500-EV
4 x SMA Sunny Tripower Core 1

Racking
NEXTracker

Hardwicks Meat Works Microgrid

Location
Kyneton, VIC 3444

Date of completion
November 2020

Scope of works

Design and construction of a 2.5MW solar PV system (incorporating both fixed and PEG racking systems), 2MW of battery storage and integration with on site SCADA, remote energy management system and LGC revenue grade metering.

Key Results

- Largest Industrial Microgrid in Australia.
- One of the largest battery storage systems in Australia - 2MW.
- Australian first Microgrid controller with Storm Hardening Mode - protecting client assets.
- Experimental investigation into grazing management and pasture monitoring in a dual land use with sheep.

Fast facts

Yearly energy usage
3,496 MWh

System size
2.5MW solar

2MW battery storage

Energy Savings
$320k annually

Panels
4,560 x 325/330W Jinko Panels

3,404 x 330W Trina Panels

Inverters
60 x 27kW Fronius Eco

Racking
Schletter & PEG system

Melbourne Airport Offgrid Solution

Location
Tullamarine, VIC

Date ofcompletion
July 2020

Scope of works

Design, fabrication, supply, installation, testing, commissioning of a 99kW microgrid, including a containerised battery storage system and generator. This innovative solution allowed our client to avoid hefty network augmentation costs while creating ongoing energy efficiencies..

Key Results

- 1m solution to the client, compared with the expected cost of 8m to connect to the grid.
- Totally off grid solution to support the water treatment plant.

Fast facts

System size
99kW ground mount solar
128kW battery
110kVA generator

Panels
252 x 395w Canadian HiKu CS3W-395P panels

Inverter (Battery)
3 x 20kW Selectronic inverters

Racking
Clenergy

Vicinity Centres

Location
Elizabeth & Edwardstown, SA

Date of completion
November 2019

Scope of works

Elizabeth Shopping Centre

Roof Mounted PV: 2.6MW, Carpark Solar: 3.2MW

Castle Plaza Shopping Centre

Roof Mounted PV: 2.2MW, Carpark Solar: 1.2MW

250kW/548kWh Samsung Sungrow Battery

These projects consisted of upgrades of electrical mains, civil works,ADA integration and commercial battery installation.

Expected Results

- Australia's largest solar carpark project.
- Australia's largest single shopping centre solar install at 5.8MW.
- Part of Vicinity Centres 28m investment in solar projects across 5 centres in SA and WA.

Fast facts

System size
10.1MW

Panels
Trina Panels

Inverters
SolarEdge inverters

Battery Storage
250kW/548kWh Samsung Sungrow Battery

Carpark Strcutures and Racking
Clenergy

Maintenance Period
5 Years

La Trobe University

Location
Bendigo and Wodonga VIC

Date ofcompletion
January 2021

Scope of works

La Trobe University's Net Zero program will see the university lead the way to become carbon neutral by 2029. As a strategic partner, NG/E installed both rooftop and car park solar systems at the Bendigo and Wodonga Campuses.

Key Results

- The 106kw car park solar system at Wodonga Campus will generate annual energy consumption of 36 average households.
- Estimated savings per year is 670,000 over the 3 projects.
- Construction to be completed during University holidays to avoid student and staff disruptions.

Fast facts

Bendigo Campus Roof Mounted PV
System size: 196kW

Bendigo Campus Car Park Solar
System size: 631kW

Wodonga Campus Car Park Solar
System size: 106kW

Panels
Trina 405w & 335w panels

Inverters
27 x Fronius Inverters

Car Park Structures & Railing
S-rack

EV charging stations
6 x Schneider EVlink Parking Dual Port

QIC Smart Connected Solar Program

Location
Multiple shopping centers in QLD & VIC

Date ofcompletion
Estimated December 2021

Scope of works

Engineering, Procurement and Construction of 14MW roof mounted systems at Robina Town Centre (5.4MW), Grand Central (0.92MW) and Hyperdome Shopping Centre (4.9MW) in QLD and Watergardens Shopping Centre (2.4MW) in VIC.

Expected Results

- Incorporation of electric vehicle charging stations in shopping centre carparks.
- Robina Town Centre (5.4MW) is the largest rooftop solar system installed at a shopping centre in the southern hemisphere.
- Supporting QIC in establishing of embedded networks, EV charging services, Virtual Power Plants (VPP) and energy storage.

Fast facts

System size
14MW over 4 sites in 2 states

Panels
Canadian Solar 400W and 405W

Inverters
SolarEdge

Racking
Clenergy

Maintenance Program
5 years

Agility Warehouse - Melbourne Airport

Location
Tullamarine, VIC

Date of completion
Estimated February 2021

Scope of works

Agility Logistics is a new warehouse and distribution centre located at Melbourne Airport in the Melbourne Business Park.

Scope includes design, supply and installation of 1.78MW rooftop solar PV system with MV inverter that includes a high voltage ring main unit (HV RMU).

Expected Results

- The PV system will be connected onto a 22kV ring feeder which will allow APAM to continue offsetting their loads with more renewable power sources.
- Largest rooftop system installed at Melbourne Airport.
- One of three projects completed by NG/E at Melbourne Airport.

Fast facts

System size
1.78MW

Panels
4,108 x 435W Jinko Solar Modules

Inverter
ABB

Racking
Clenergy

Melbourne Market Authority - Warehouse 7

Location
Epping VIC

Date ofcompletion
June 2020

Scope of works

Design and construct of the Solar Services to the Melbourne Markets – Warehouse 7.Warehouse 7 includes a 4,200 m2 rooftop with 1110 solar panels providing a capacity of 460.65 kW.

Key Results

- Expected system production of 586MWh per year.
- Estimated savings per year is 300,000.
- Construction completed in conjunction with the new build of the warehouse completed by Wileys Construction.

Fast facts

System size

460kW

Panels
1110 x LG Neon 2 415w panels

Inverters
5 x SolarEdge Inverters

Railing
Clenergy

Nillumbik Shire Council

Location
Eltham and Greensborough, VIC

Date ofcompletion
Estimated April 2021

Scope of works

Engineering, Procurement and Construction of roof mounted systems at Eltham Leisure Centre (267kW) and Diamond Valley Sports Fitness Centre (149kW). Electric vehicle charging stations to be installed in carpark areas.

Expected Results

- Incorporation of electric vehicle charging stations in carparks.
- Total generation for both sites in ear 1 is 534 MWh.
- Estimated savings of 133k per year.

Fast facts

System size
416kW over 2 sites

Panels
Trina 335W and 410W panels

Inverters
SolarEdge

Racking
Clenergy

Maintenance Program
5 years

Barossa Council

Location
Nuriootpa SA

Date ofcompletion
January 2021

Scope of works

Design, supply, installation, commissioning and maintenance of 2 roof mounted PV systems on Council Buildings.

Key Results

- First of a portfolio of solar projects that Barossa Council have planned.
- Administration Building completed in 2 weeks on site. 4 weeks ahead of the target practical completion date.
- Estimated savings per year is 234,000

Fast facts

System size
99kW solar at Nuriootpa Administration Building

299kW solar at Barossa Aquatic and Fitness Centre

Panels
795 x 440w Trina Tallmax

Inverters
Fronius Eco & Symo

Railing
Clenergy

NG Energy Pty Ltd
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- CEC accredited installers
- Member of NECA

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