

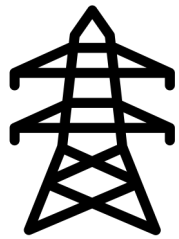
PLANET ARK

Power™

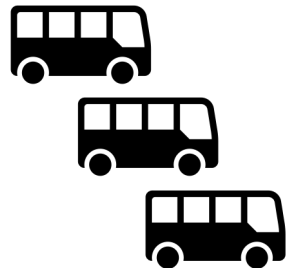
# MANLY WARRINGAH GYM CLUB MICROGRID PROPOSAL (BRIEF)



# MWGC MICROGRID LOCAL BENEFITS

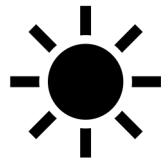


Support clean energy transition  
e.g. power local electric bus fleet



## Solar generation

- Large excess from roof
- Community supply



## Public charging

- Fast charging
- Gym visits a good length for charging



## Battery

- Load support for charging
- Grid support
- NEM trading



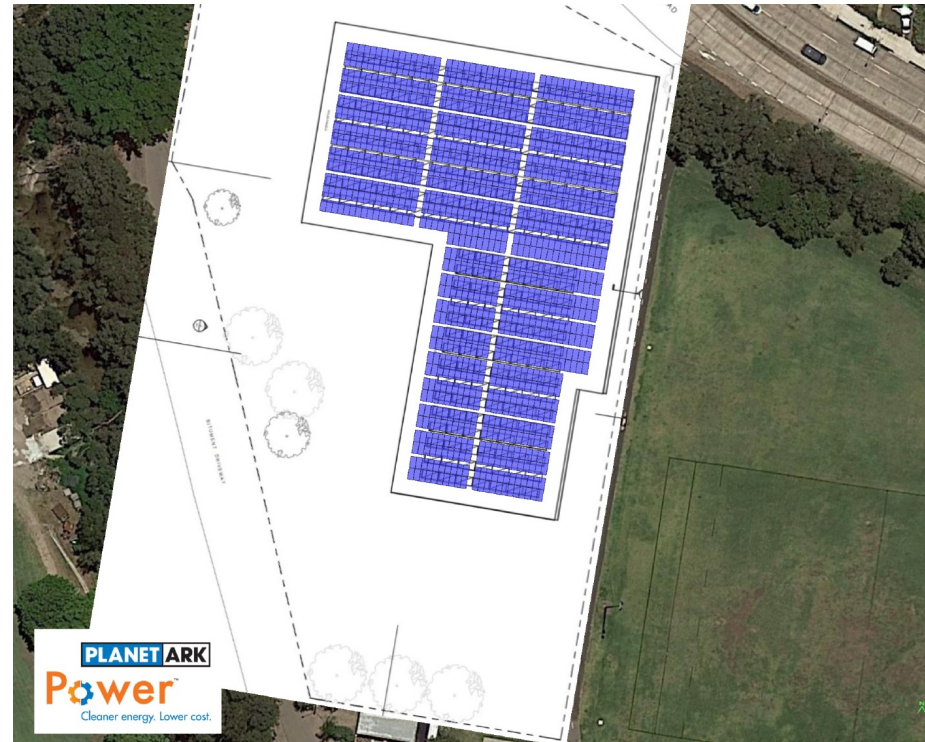
Using eleXsys technology

# COMMUNITY POWER STATION



## Solar Design (preliminary) and Solar Export

- The new MWGC rooftop can accommodate 532kW
  - ✓ 1067 flush-mounted PV panels
- Will supply **majority (61%)** of MWGC power needs:
  - ✓ Total annual consumption (est.) 200MWh
  - ✓ Annual solar used onsite 122MWh
  - ✓ Annual solar exported to grid 592MWh
- Likely deal for MWGC (subject to detailed design):
  - ✓ Free solar power for use onsite
  - ✓ Export the rest for community use
  - ✓ E.g. **help charge the Brookvale electric bus fleet**
- Innovative community power model supported by:
  - ✓ Special retailing between sites by Energy Australia
  - ✓ Special (lower) local network tariff by Ausgrid

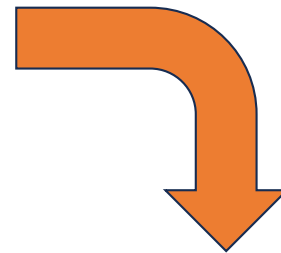
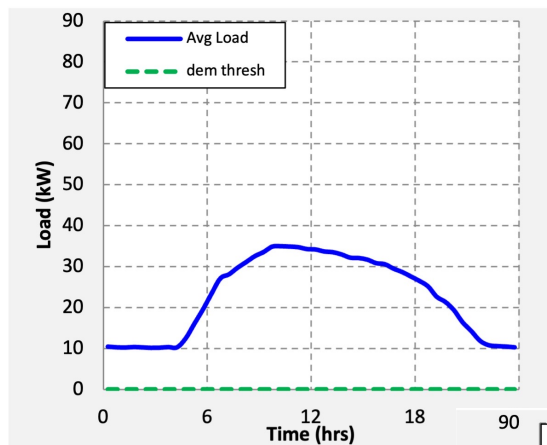


# REVENUE/BENEFIT MODEL

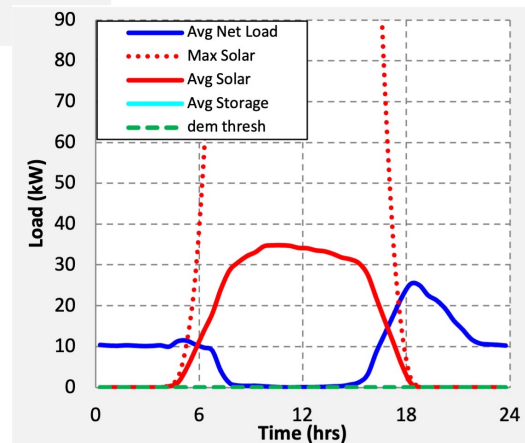


MWGC	Planet Ark Power	Community
<p>Zero cost solar generation</p> <p>Potential balance of energy supply from stored solar (subject to NEM trading impact)</p> <p>Share upside from NEM trading</p>	<p>EV charging revenues</p> <p>NEM trading revenues</p> <p>Zero-cost lease for rooftop, battery room, and EV charging spaces</p>	<p>Large excess of locally generated clean energy</p> <p>Local retail transaction to support Brookvale Bus Depot electrification</p>
<p>Sustainability leadership in the community</p> <p>Enhanced customer loyalty program</p> <p>Enhanced role in community</p>	<p>Large trading battery in NSW to aggregate with other sites</p> <p>Demonstrate community retailing of excess solar</p> <p>Nationally significant project</p>	<p>Meet community sustainability ambitions</p> <p>Fast EV charging to support local residents in going electric</p> <p>Enhanced community facility</p>

# WHERE DID MY LOAD GO?



The impact on daily load (blue line) is dramatic



## Zero-cost solar supply provided to the MWGC

- ❖ Subject to zero-cost lease for rooftop, battery room, and EV charging spaces
- ❖ Investor pays for system with revenues from excess solar sales, EV charging, BESS trading

Average load and generation are shown

- ❖ Changes day-to-day and month-to-month

## Balance of energy (early morning, evening, night) covered by normal retail supply

- ❖ Or potentially by stored solar with a large enough battery (subject to NEM trading impact)

# INCLUDE A COMMUNITY BATTERY

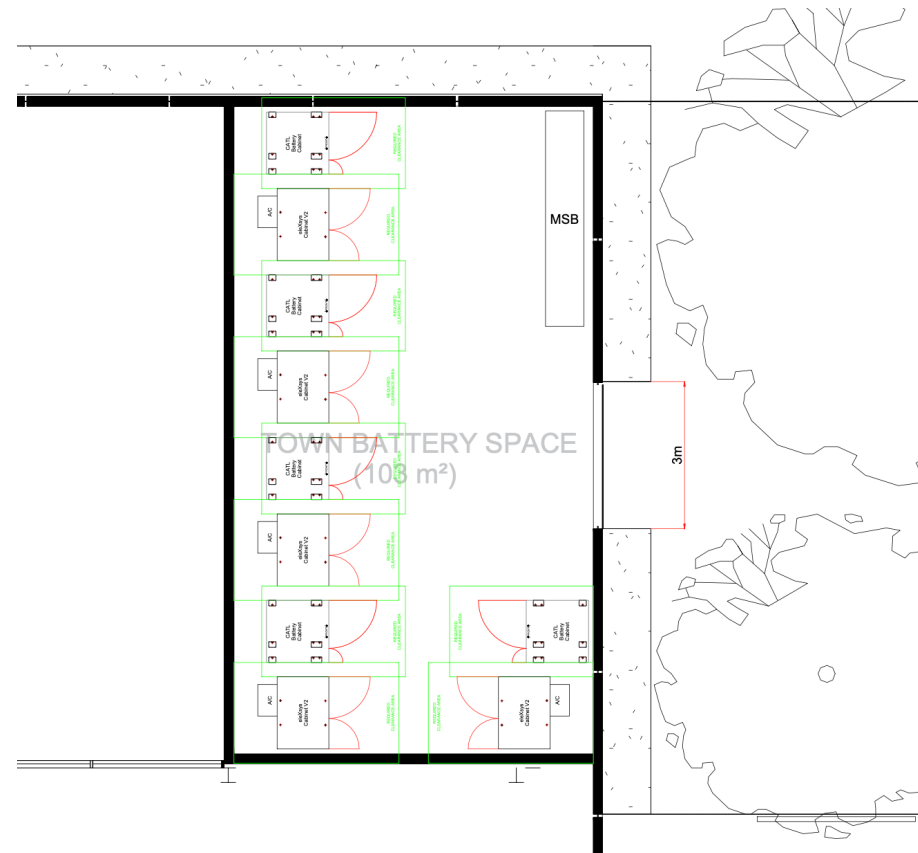


Purpose-built battery room can accommodate

- ❖ 1165 kWh energy storage
- ❖ 750 kW power capacity (charge/discharge)
- ❖ Big enough to supply early morning, evening, night consumption with stored solar energy
- ❖ Benefits club membership through trading revenues from the NSW electricity market
- ❖ Supports the grid to host more rooftop solar in the community
- ❖ Potential ARENA grant funding

NSW electricity market is **significantly more profitable** since the closure of the Liddell coal-fired power station

- ✓ Fantastic opportunity for batteries



# RESILIENT BUSINESS CASE



Total capex is ~\$3 million (solar, battery, EV charging)

Sufficient returns for investors with:

- ❖ Two rapid DC chargers (4 car spaces)
- ❖ 6c feed-in-tariff (FIT) for solar exports
- ❖ Battery trading revenues in recent NSW market

Trading upside can be shared with club

- ✓ Innovative member benefits possible e.g. **“Calorie Credits”** of kWh based on members’ sports activities



Scenario	Trading upside to share (indicative, average)
Base case (subject to variation due to market conditions)	\$60,000 per year
Solar FIT up to 10c for exports to Brookvale bus depot	\$90,000 per year
Special NSW electricity market events every 5 years	\$190,000 per year

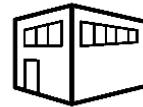


# YOUR ENERGY PARTNER



Planet Ark Power is a leading clean energy solutions provider of solar, storage and microgrid solutions. We have designed, engineered, and commissioned solar power, battery storage and microgrid solutions for commercial and industrial sites, and for recreation, education, health, and government facilities around Australia.

Commercial Installations



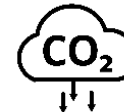
320

System Capacity



35 MW

Greenhouse Gas Savings



40,000 tonnes

Trees Planted



240,000

Cars Removed



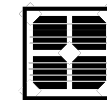
13,000

Australian Households Electricity Use



7,500

Solar Panels Installed



95,000

Energy Cost Savings



\$10 million

\* Estimated figures on a per annum basis



# A PURPOSE-DRIVEN COMPANY



As a purpose-driven company leading the way in sustainability, Planet Ark Power ensures environmental, social and governance (ESG) factors are foremost in our corporate aspirations.

Planet Ark Power has a growing and diverse team of more than 60 staff with a commitment to ensuring the highest possible employment, health and safety, data management and ethical standards.

We are strongly committed to progressing UN Sustainable Development goals including affordable and clean energy, climate action and innovation, and actively pursue collaborations with customers, governments, educational institutions and other stakeholders.



- Climate change strategy
- Biodiversity
- Water efficiency
- Energy efficiency
- Carbon intensity
- Environmental management system
- Equal opportunities



- Freedom of association
- Health and safety
- Human rights
- Customer and products responsibility
- Child labour
- Business ethics
- Compliance



- Board independence and composition
- Executive compensation
- Shareholder democracy and rights

# ENERGY AUSTRALIA OUR E-MOBILITY PARTNER



## Operating across Australia offering diverse solutions



### Portfolio energy mix

Our portfolio has a mix of coal, gas, solar and wind energy  
~5,000MW coal, gas, solar, wind  
Including 1,000MW renewables & battery



### Collaboration with distributors

To deliver grid stability and solutions



### Servicing residential, small, large & commercial business

Over 1.6m electricity and gas customers across residential, small and large commercial businesses



### Innovative e-mobility solutions

We deliver innovative end-to-end solutions to optimise clean energy delivery, including Green Transport and fleet electrification

Energy Australia is a generator and major retailer of electricity and gas

Energy Australia and Planet Ark Power have formed an e-Mobility partnership

- To undertake transformative projects
- Originated from either party
- Several e-bus depots
- Clubs and retail sites



# IKEA ELEXSYS FLAGSHIP PROJECT



Without eleXsys this project was not economically viable



eleXsys enabled URBAN MICROGRID trading in the NEM

20 year agreement to provide “Microgrid Services” and licenced to use the site at IKEA Adelaide’s retail outlet.

- Superannuation Fund owns the solution & assets
  - ✓ Sells solar energy to customer based on PPA
  - ✓ Customer benefits from cheaper, clean Energy enhancing brand reputation
  - ✓ Exports surplus Energy to Network or via Battery
  - ✓ Generates revenue from Battery Trading including reliability services to support the Grid
  - ✓ Earns >10% IRR over 20 years
- Pioneered Battery trading in the NEM
  - ✓ First distribution-connected battery registered in the NEM
  - ✓ Generates revenue from wholesale energy trading and reliability services (FCAS) to support the Grid

# PASADENA EV CHARGING HUB



The Pasadena Centre, Electric Vehicle and Energy Storage (EVES) project combines commercial EV Chargers and batteries with eleXsys technology to create a new model for renewable energy systems incorporating EV's connected to the grid.

- 1MW/1.25MWh Battery Energy Storage (BESS) system and 476kW of capacity of EV charging.
- 14 EV charge points (6 DC and 8 AC).
- Center benefits with EV BOOST function to increase EV customer dwell time in center.
- Community benefits include no initial capital outlay and the provision of EV charging services at market rates.
- A range of eleXsys services will be provided over the life of the 20-year project, including voltage management to ensure full export, power factor correction and trading algorithms to provide frequency FCAS and spot market energy trading from the BESS.
- It provides certainty to network operators like SA Power Networks that, as stored energy is exported into the grid, voltages are kept within the range required to maintain network safety and security and grid support when the EV chargers are in use.
- From an investors' perspective, this project achieves higher returns on investment and reduced payback periods with the eleXsys technology than otherwise possible.





# TROPIC WINGS E-BUS DEPOTS



Supported by an ARENA grant to demonstrate how a Battery can benefit an EV charging station



Acquiring a new e-Bus fleet for Tours and Charters

Runs out of Cairns with a satellite depot at Kuranda

- Battery provides flexibility and reliability
  - ✓ Can support EV charging load as needed
  - ✓ Generates revenues and supports grid stability by trading in the NEM when not being used
  - ✓ Supports the site load when islanded during periods of grid outage or cyclone alert
- Uses multiple operational modes of eleXsys
  - ✓ Grid following in normal operation
  - ✓ Grid forming when site is islanded / off-grid
  - ✓ eleXsys software stack includes off-grid support with a Microgrid Control Environment
  - ✓ Manages transition to/from islanded state and starts diesel generator during sustained outage

# CONTACT US



1300 323 221



[sales@planetarkpower.com](mailto:sales@planetarkpower.com)



[Planetarkpower.com](http://Planetarkpower.com)



[Linkedin](#)



[YouTube](#)



**BRISBANE**  
160 Samford Road  
Enoggera QLD 4051

**ADELAIDE**  
Level 1, Administration Building  
1 Tonsley Boulevard  
Tonsley SA 5042

**MELBOURNE**  
Level 17, 31 Queen Street  
Melbourne VIC 3000

**SYDNEY**  
1802/323 Castlereagh Street  
Sydney NSW 2000