

# electric vehicles



altogether.

# electric vehicle stations

Electric Vehicles (EV) sales have increased significantly between 2020 & 2021. In fact, new EV car sales tripled in the past years from 6,900 in 2020 to 20,665 in 2021.

## Why?

- Policy Change – positive changes at the state level
  - *The Queensland Government's new \$55 million EV package. The new package includes \$3000 incentives for EV purchases and \$10 million for new charging infrastructure.*
- Cost to purchase EV's falling, making more affordable
- Greater option of EV Vehicles on the Market
- Increase in charging station availability
- New EV vehicles released in 2021 include Audi, BMW, Mercedes Benz, Porsche and Hyundai.
- **Combustion Engines will be phased out over the next ten years (GM, Volvo, Volkswagon and Jaguar Land Rover)**
- EVs can save the average Australian driver around \$1,600 per year on fuel costs.



# electric vehicle stations

As the need for EV charging stations increases, it is important that bodies corporate are well equipped to deal with requests for installing EV Charging Stations.

90% of cases will involve common property and therefore, subject to body corporate approval, a number of factors will need to be considered:

- Is there enough electrical capacity on site?
- Is the EV charger to be used privately/exclusively?
  - What is the approval process for accessing common property infrastructure?
  - Who is responsible for installation and ongoing costs?
- Is EV charging covered in bylaws? If not, these will need to be amended as one rule will apply to all. Others may express an interest.
- If it is a shared car space (e.g. visitor carpark), how is this managed/controlled)? How do you restrict the time someone has parked in the spot?
- Who covers the cost of installation and maintenance?
- Who is responsible for any upgrades for the installation, structurally or otherwise i.e. switch board
- How does the body corporate recover costs?



## BENEFITS

### apartment owners and managers

- ability to charge your EV in the comfort of your home
- attract & retain high value, environmentally conscious residents
- increase average rent and property value
- help futureproof the building and satisfy emerging regulations and trends
- bundled billing

### building owners and developers

- affordable and effective way to portray a technologically progressive image
- attractive to apartment owners
- differentiate your building
- futureproof your development
- active load management to manage peak demand

# ev stakeholder engagement

## shared charging point

### space

requires available shared parking area

### recovery

access charge to the community and credit card charge at point via software

### supply & maintenance

communication to managed software service to diagnose issues

### scale up

Capacity of the building for scale is planned & managed at the beginning of the project

## individual charging points

### power source

requires back-boning to enable access

### billing function

metering required to add usage to electricity bills

### metering & compliance

management of individual vehicle connection requirements; move in/out

### demand management

Ongoing demand management required to ensure building load remains uncompromised

## key site criteria

### existing services

Designing around existing electrical services is desirable to minimise build complexity and reduce cost; such as embedded networks, generation, access to power and local transformers, generation and communication

### funding

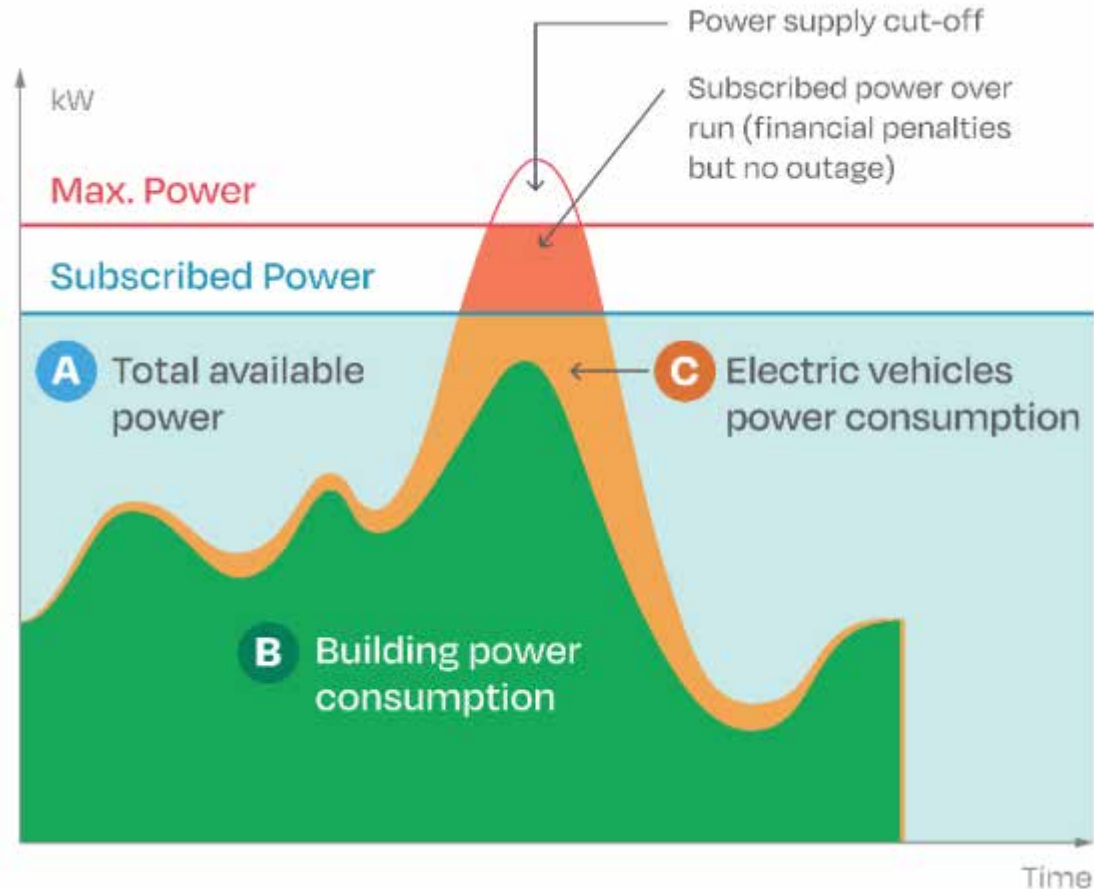
Commercial proposals are available from altogether to reduce the risk to the body corporate during periods of low utilisation

Our pricing is modelled on alternative availability and utilisation costs

# Capacity and energy management

EV's have the risk of exceeding maximum demand for a building resulting in additional charges and/or power cut-off.

This can be avoided by implementing load management controls (e.g. load shedding, prioritization) for EV Chargers, ensuring that max demand is not exceeded



It is important to control the installation of EV chargers and ensure that the building is not at risk of exceeding max demand.

The preference is to have the same type of EV charger for each building to assist with load management programming and controls.

# EV solution – public vs private

## PUBLIC USE

- Install a charging station in the Visitors/Communal carpark space
  - Install separate Metering for EV
    - EV charges to be shown on Body Corporate common area bill.
  - Install costs to be worn by the Body Corporate
  - Costs bundled in with Body Corporate fees
- OR
- Install a PAYG/EFTPOS functionality. Potential revenue stream.
  - Regular service and maintenance program in place. Paid by the Body Corporate



## PRIVATE USE

- Install a charging station in the apartment owner's carpark space
- Install separate Metering
  - EV charges to be shown on tenants bill along with normal consumption charges
- Install costs to be worn by the owner
- Approval needed to amend common area infrastructure
- Regular service and maintenance program in place. Paid by the owner.



# EV charging station – typical layout



## EV Main Switch

Located in main switch room

Cost ~\$2.5k



## Billing and Energy info

Consumption is billed either directly to the tenant (the meter is assigned to their lot).

Alternatively, we can implement 3<sup>rd</sup> party billing software that takes debit/credit payments.



## EV Charging Meter Panel

Allows for 4-6 Energex compliant meters (1 meter per EV charger) depending on single or 3ph.

Cost ~ \$3500 for panel and first meter; \$850 for subsequent meters and circuit breakers on that panel.



## EV Charger and Isolation Switch Panel

Indicative cost for 7/22 kW= ~\$2.5k  
NB. DC Fast Charger (~\$25k)  
Data cabling = ~\$1k



question time – how can we help?

