Facilitating Electric Vehicles on the Network

Presenter

Alexei Watson - Senior Commercial Specialist - Electric Vehicles

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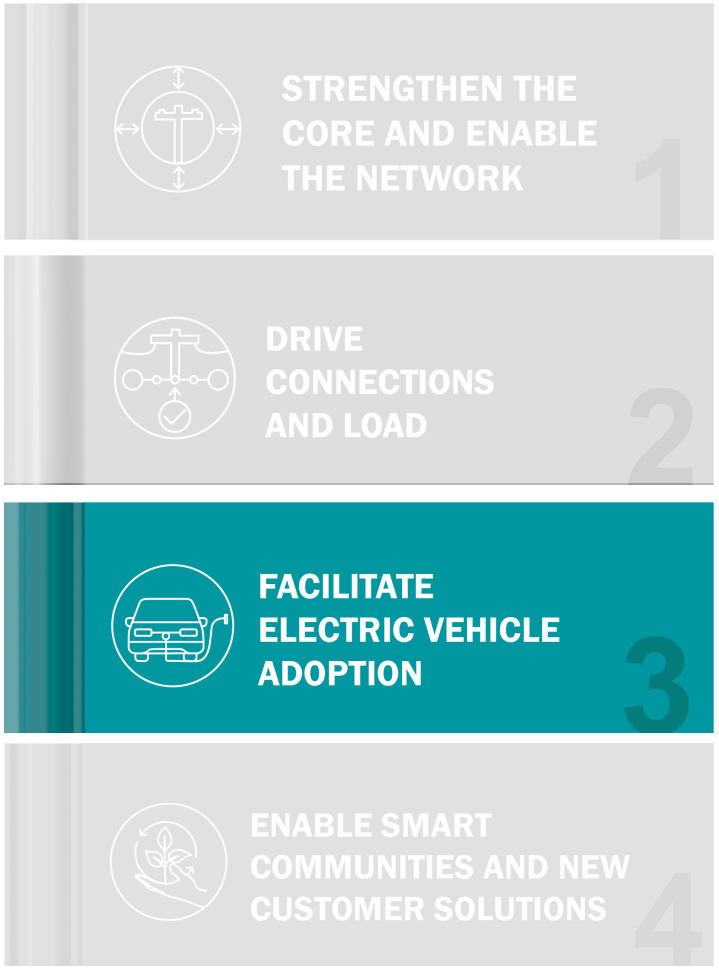
Essential Energy's Corporate Strategy



Facilitate Electric Vehicle Adoption

- Support efficient charging infrastructure roll out
- Work with Charge Point Operators
- Advocate for locations that are valuable for customers
- Avoid costly network upgrades

Technology and Innovation

- Conduct trials to test different styles of chargers
- Streamline connections for new applications
- Use dynamic solutions to increase the number of charging stations using the existing network

AC vs DC charging on the Network

AC charging - ‘Destination Charger’

> Can be attached to existing assets like power poles
> Appropriate for home and business scenarios
> Can be installed by any qualified electrician
> Can use existing electrical installation
> Removes congestion at rapid chargers

DC charging - ‘Rapid Charger’

> Standalone asset requiring dedicated land
> Commercial scale connection
> Needs to be installed by an Accredited Service Provider
> Network upgrades may be required
> Highly controllable load type

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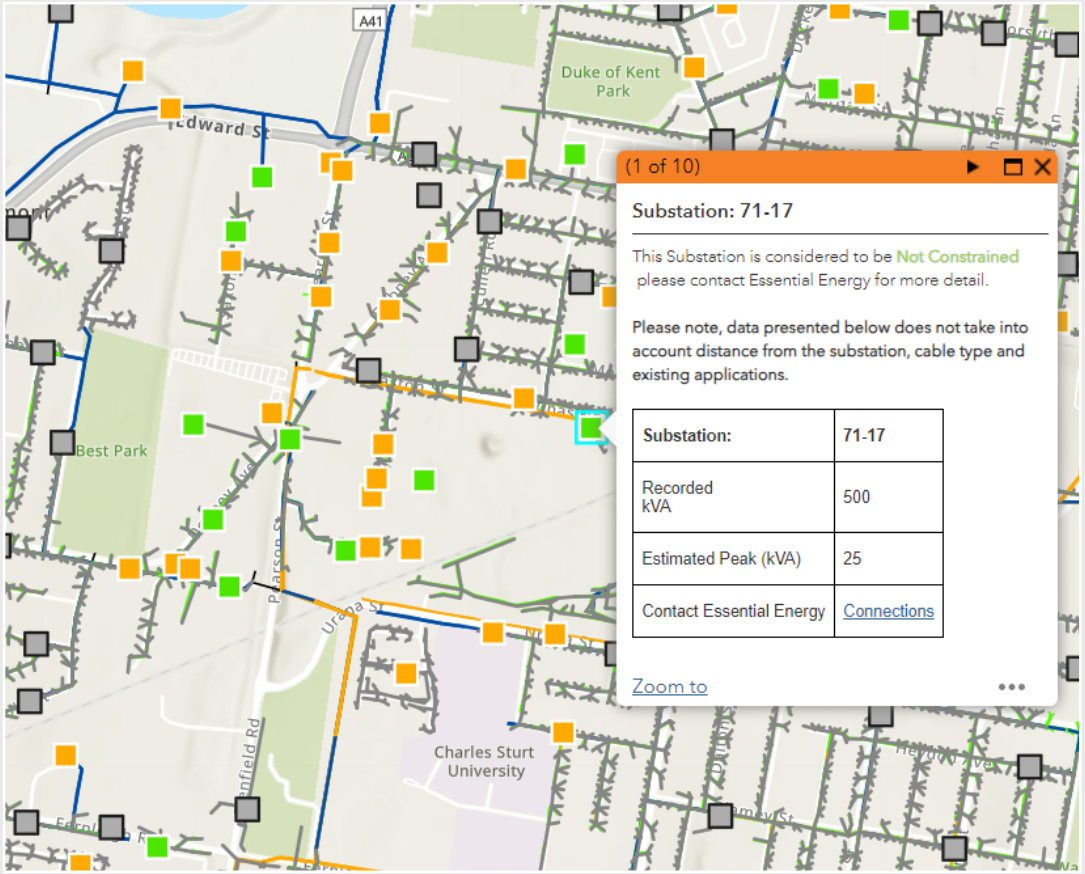
Finding the right locations

Estimated Network Capacity Map



Accessing existing capacity

- Use map to find possible cost-effective charging locations
- Indicative of available distribution substation capacity
- Colour-coded for ease of use when identifying substation capacity
- Less constrained substations may not require new network asset construction

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Pole-mounted chargers

Cost Effective

- Easiest and cheapest kerbside option
- Our poles are almost everywhere
- Avoid disruptive civil works
- Electricity is already at the asset

Site suitability

- Essential Energy can identify the ideal poles
- Customer friendly preferred locations
- Easy access to shopping and restaurants
- Located near tourism activities

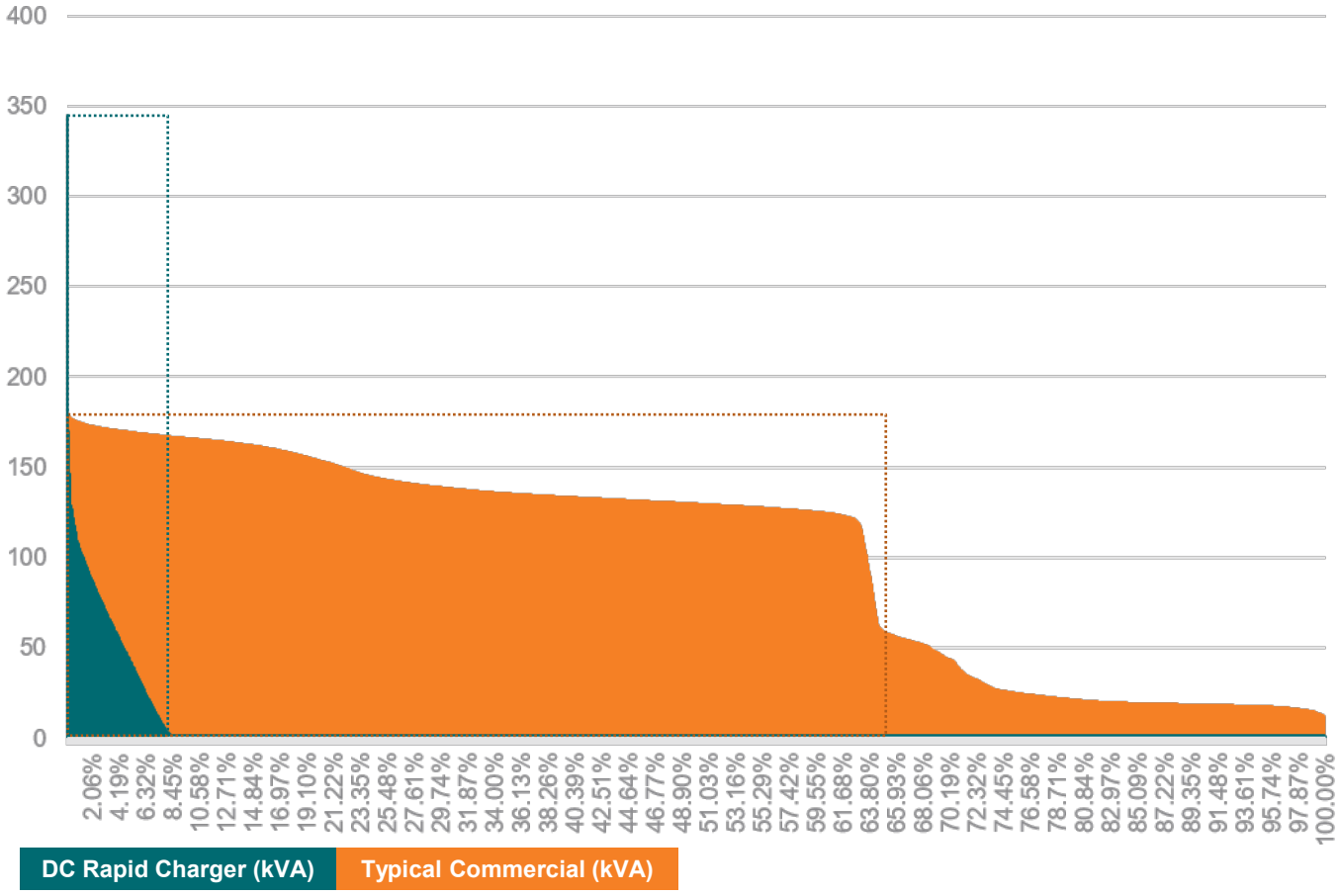
Joint-use agreement

- CPOs enter joint-use agreement with Essential Energy
- CPOs own, operate and maintain charger
- Asset access is leased from Essential Energy
- Defines the nitty gritty details

DC Rapid Chargers | Load Duration Curve

- Load Duration Curve (LDC) illustrates **asset utilisation**
- Typical commercial site shown is **above 150 kVA for 22% of a year**
- DC rapid charger shown is **above 150 kVA for just 0.188% of a year** – just 16 hours
- Increasing asset utilisation provides better value for Electric Vehicle charging businesses and for ongoing maintenance
- Asset utilisation will increase as more cars hit the road

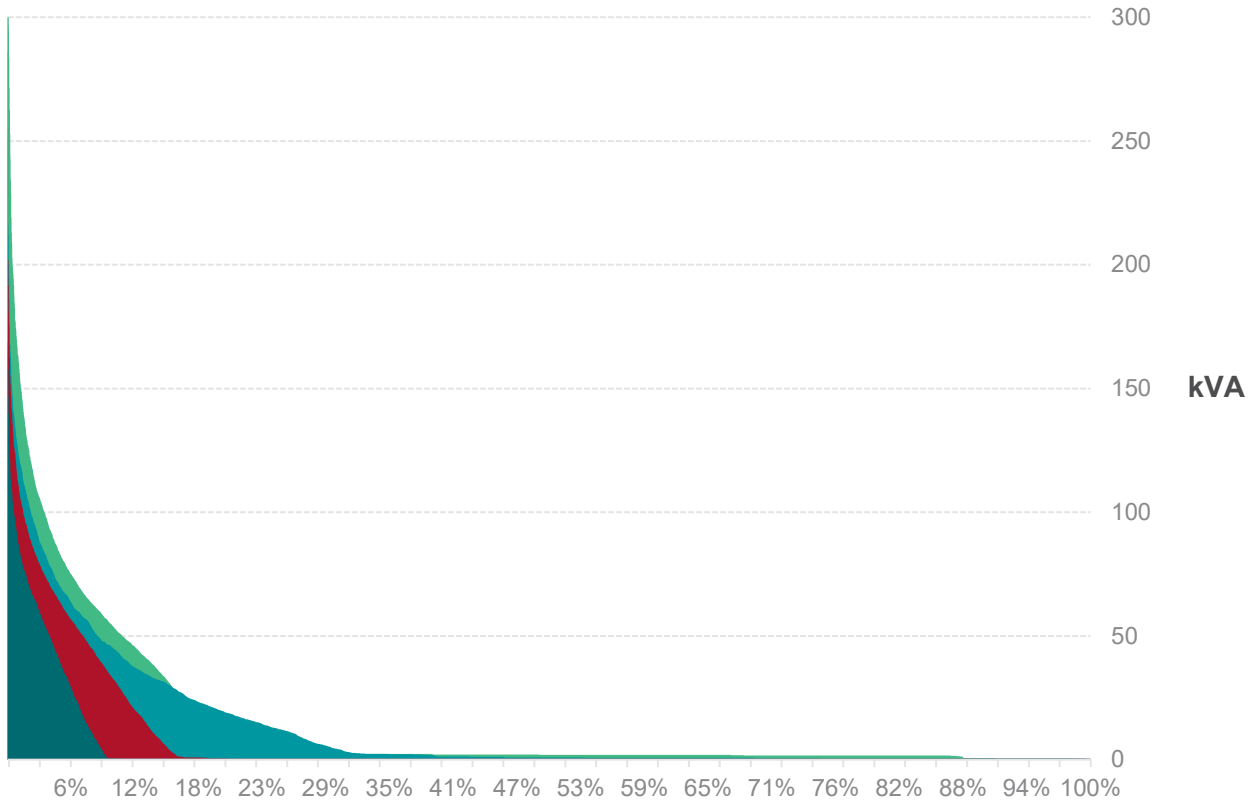
12-month Load Duration Curve of a DC Rapid Charger



Dynamic Connection Agreements (DCA)

- Tool to avoid network upgrade
- More sites and more plugs
- Cheaper deployment
- Negligible impact on EV drivers
- Avoid costly network augmentation
- Increase asset utilisation
- Encourage use of renewables
- Contribute to reduced customer costs

DC Rapid Charger Load Duration Curve
500 kVA Transformer



Any questions?

Questions
and
Answers

Essential Energy

Contact us:

General enquiries 13 23 91
Power outages 13 20 80
essentialenergy.com.au
info@essentialenergy.com.au


EssentialEnergyAU


essentialenergy


essentialenergytv


engage.essentialenergy.com.au