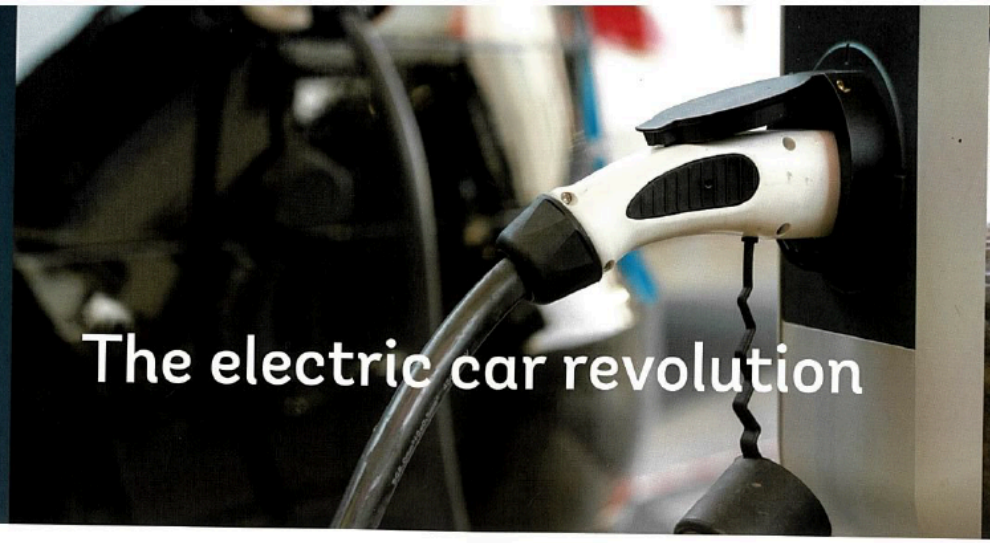

The electric car revolution

I've now been the proud owner of an electric car for almost 18 months which just had its first service. [1] **I estimate the total operating costs for the car over this period was $725 which included $100 in electricity (that wasn't generated from my solar panels) and, $625 for the 20,000km service.**

While I get up to 480km of range from my battery, I have found that many of the destinations I travel to have charging available. These include airports, hotels, restaurants and many CBD parking lots. The ability to charge at destinations not only takes care of potential range anxiety but also reduces the cost of charging, as they are provided free of charge. As prices on electric cars decrease, demand on a purely economic level will surely increase ownership.

On a recent trip to Silicon Valley in the USA, I witnessed a myriad of cheaper Electric Vehicle (EV) options produced by a variety of car manufacturers. One such car, which is launching here in Australia later this year, is the fully electric Hyundai Ioniq; priced around $50,000. [2]

With this imminent influx of electric cars, it is not surprising that the Australian Energy Market Operator (AMEO) has recently doubled its forecast for the uptake in Electric Vehicles in Australia to representing half of Australia's fleet within two decades. [3] It can also be assumed that the fastest uptake of electric cars will be in highly urbanised areas where long distance range concerns will be less of an issue. What this means for the strata industry is that most buildings that are managed today (or those new buildings coming online) will need to accommodate this demand.

In Australia, we are significantly behind in adoption of EVs currently. EVs represent a mere 0.1 percent of all cars on the road. [4] This is largely due to the lack of any incentives or tax concessions for the purchase of EVs. This can be compared to Hong Kong, who continue to strongly encourage EV take up by offering a variety of incentives, which has resulted in a penetration of 1.8 percent of all cars on the road. [5] In saying this, it has not been a smooth transition for early adopters in Hong Kong who have been plagued by a lack of charging infrastructure in their residential apartment blocks and public parking lots. However, new developments are curbing these trends through generous concessions on gross floor area to car park ratios. [6]

The advantage of our lack of take up here in Australia is that, if we act now, we have the ability to implement the desired infrastructure right ahead of the pain point.

Preparing for EVs in strata

A study conducted by WattBlock, and funded by the City of Sydney, looked at the issues of electric vehicle charging in residential strata buildings. [7] The key findings of this study were:

- 78 percent of strata residents surveyed were in favour of installing charging stations now;
- 61 percent of strata residents survey favoured charging in their individual lot car spaces;
- Existing power infrastructure cater for less than 10 percent of residents based on 32amp chargers; and
- 30 percent of strata schemes surveyed were at risk of overloading within the next three years.

The danger of overloading is a critical concern as it may affect the operation of essential services such as lifts or HVAC. The study recommended a range of strategies for mitigating this including:

- Using by-laws to limit the charging power to 16 amps or lower;
- Undertaking energy efficiency projects within the building (such as LED lighting) to free up capacity; and
- Installing solar and battery technology.

Another challenge is the physical connection and metering of individual car park space chargers. The study discussed three approaches, which have been summarised below with pros and cons:

	Common Area Power	Private Charger with Private Connection	Private Charger With Shared Cable Connection
What is it?	Charge using standard 10amp wall socket. This is usually just a cable provided with the car.	Install a standard EV charger in the private car space to existing infrastructure.	Owners Corporation installs new boards and cabling throughout all private car park areas. Residents then install personal chargers on this new circuit.
Pros	Lowest setup costs – just require sockets and submeters (for billing).	Faster charging capability.	Faster charging capability. Scalable capacity to cater for the largest number of EVs. Potential selling point for apartment sales.
Cons	Slowest charging options for residents. Admin costs for meter readings and billings (unless meter is connected to existing residential meter).	Moderate costs for installation. Capacity may be constrained due to existing infrastructure.	Most costly option for the owner's corporation.

As key players in strata management, members of the SCA are in a prime position to pave the way for the adoption of this technology that promises a cleaner, quieter and more sustainable future. It could well be the case in the near future that EV charging availability is as much a driver of consumer behaviour (and apartment values) as the availability of high-speed internet.

If you are interested in assessing your buildings readiness for EV, you can contact Wattblock by checking their website for details.

This information provided by
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StrataMax

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[2] (2018). Ioniq – Driving Innovation. [online] Available at: https://www.hyundai.com.au/cars/small-cars/ioniq [Accessed 27 August 2018]
[3] Parkinson, G. (2018). AMEO has just doubled its forecast for EV uptake in Australia. [online] Available at: https://reneweconomy.com.au/aemo-just-doubled-forecast-ev-uptake-australia-66789/ [Accessed 27 August 2018]
[4] Frydenberg, J. (2018). Stand by, Australia, for the electric car revolution. [online] Available at: https://www.smh.com.au/opinion/stand-by-australia-for-the-electric-car-revolution-20180112-h0hagy.html [Accessed 27 August 2018]
[5] Yau, C. (2018). Has Hong Kong pulled the plug on electric cars? [online] Available at: https://www.scmp.com/news/hong-kong/economy/article/2131964/has-hong-kong-pulled-plug-electric-cars [Accessed 27 August 2018]
[6] Cheng, R. (2016). Hong Kong's electric car owners still stuck in the slow lane. [online] Available at: https://www.scmp.com/news/hong-kong/health-environment/article/2025762/hong-kongs-electric-car-owners-still-stuck-slow [Accessed 27 August 2018]