

Submission

Senate Economics Reference Committee

Inquiry into Residential Electrification¹

Owners Corporation Network of Australia Ltd
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Introduction

This submission addresses terms of reference (f) (g) (h) and (i) which are concerned with Australia's progress in the electrification of households. The Owners Corporation Network of Australia (OCN) is the independent voice of strata owners and residents across NSW and the ACT and we have members in Victoria and Queensland. The organisation was established in 2002 and is evolving into a federation.

The policies of successive governments to accelerate urbanisation and population growth have driven a significant shift to multi-household developments. By 2022, ten percent or 2,501,351 of the Australia population were living in strata households and sixteen percent live in apartments. Fifty percent of Australia's 356,788 strata schemes have been built since 2000.

A key finding of Professor Hazel Easthope's recent report *Delivering Sustainable Apartment-Housing New Build and Refit* is that:

"The sustainability of apartment developments (and retrofits) needs to be considered separately from other residential building typologies because the production, consumption, management and exchange of apartments differs in three important ways: apartments in Australia are typically provided as speculative strata titled developments; the apartments themselves are physically inter-dependent; and they are usually jointly owned and managed. Each of these differences has important implications for the transition towards more sustainable apartment living."²

This submission provides factual background, offers observations and concludes with a recommendation that Australian Governments develop a coherent national strategy for the energy transition in the residential strata sector. Our focus is on the opportunities to retrofit existing strata buildings and the role of owners corporations and strata committees.

In 2019, Australian Governments agreed to identify and develop specific measures for strata titled buildings (*Low Energy Buildings* strategy).³ Yet, the residential strata sector is "lagging behind" the rest of the population who live in standalone housing and commercial strata.

² Prof Easthope, 2023, https://www.ahuri.edu.au/sites/default/files/documents/2023-06/AHURI-Final-Report-400-Delivering-sustainable-apartment-housing-new-build-and-retrofit_0.pdf

³ <https://www.energy.gov.au/government-priorities/energy-ministers/energy-ministers-publications/trajectory-low-energy-buildings>; Australian Governments have spent more on commercial buildings and left some of the most vulnerable cash strapped residents (owners and renters) behind, <https://www.energy.gov.au/news-media/news/35m-retrofit-adelaide-office-better-energy-efficiency>.

There are many opportunities to drive better sustainability for existing apartment dwellers but it requires governments to engage directly with owners corporations, and support their strata committees to lead the change. This will require financial support, co-funding and no and low interest loans.⁴ It will require policies and programs to be consumer protected so as to support transparent, optimal, cost-effective and sustainable outcomes.

We recommend that Australian Governments are guided by basic two principles:

- that owners corporations and strata committees are partners to government and need support tailored to the strata environment;
- equitable access and “level playing field” to ensure that residential strata is not left behind commercial buildings, and standalone housing.

Full electrification of existing strata schemes includes the installation of EV Charging, the replacement of gas, installation of solar panels, storage batteries, heat pumps, electric/ induction cook tops and AC upgrades. There are no standardised approaches, cost models or case studies to help guide apartment owners and renters along this path. This creates an environment ripe for conflicts of interest, commissions, over supply and price inflation.

The Commonwealth, States and Territories need to work together to identify the gaps and needs, sets targets, develop a coherent national strategy and report on progress as part of Australia’s net zero commitment to reduce greenhouse gas emissions from the buildings.

To address the gaps, create standardised approaches, cost models and case studies we propose a phased approach:

- Phase 1 Research, survey and establishment of approaches
- Phase 2 Develop, document, disseminate guidelines including initial case studies
- Phase 3. Consolidate and commence rollout of the guidelines

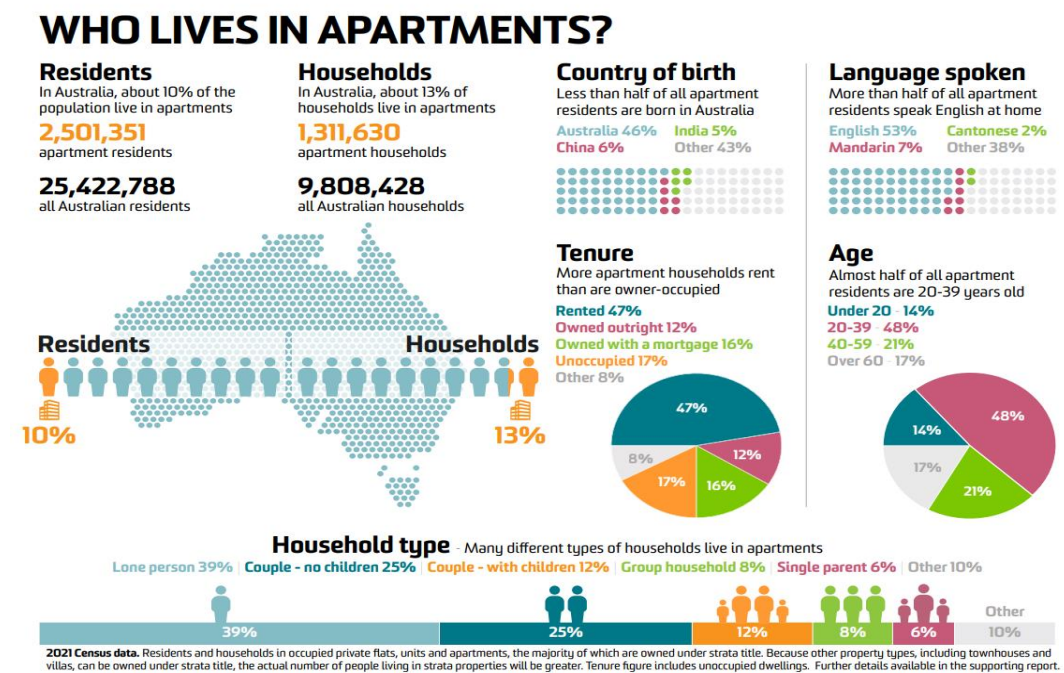
⁴ Strata finance is unsecured credit and offered at much higher rates than loans for renovations to standalone houses. Rates of 7% and up to 12% are normal.

Profile of Strata Sector

Over 2.5 million people live in strata households in Australia. NSW, which has the largest sector, has just over 85,000 residential strata schemes housing 1.3 million in apartments and another 97,000 living in other types of strata dwellings. It is the fastest growing type of dwelling with over a thousand new schemes being registered each year. The national ownership profile averages 60:40 resident owners to investors.⁵

The owners corporation is a statutory corporation – it has unlimited liability and mandatory obligations to hold building insurance and strict obligations to carry out repairs and maintenance. Day-to-day administration generally falls to resident owners and strata committees. The role of the strata management industry is to provide administrative support under commercial “strata agreements”.⁶

There are many different types of households: Strata schemes are home to a large number of single people (39%), couples with no children (25%), couples with children (12.5%), single parents (6%) and Other (10%).⁷



Source: Strata Statistics 2022 (7)

⁵ <https://cityfutures.adu.unsw.edu.au/2022-australasian-strata-insights/>

⁶ The origins of strata in NSW lies in the policy to liberalise the apartment market for investors and increase housing stock. In Queensland, strata development has a different origin and was used to boost tourism and investment along the coastal fringe. In Queensland, investment in strata is frequently high end.

⁷ https://cityfutures.adu.unsw.edu.au/documents/717/2022_Australasian_Strata_Insights_Report.pdf

The proportion of resident owners to renters varies enormously from building to building. National and state level statistics do not reflect these patterns of settlement and distribution.⁸ Both owners and renters need the benefit from lower energy bills through better energy efficiency and local solar generation, especially in lower socio-economic households.

Commonwealth Developments

- National Construction Code (NCC) now requires new Class 2 buildings to have, at minimum, the distribution boards to enable owners to take the next step and install EV cabling and chargers. It does not require, but it does encourage, the installation of solar systems. The NCC does not prevent new gas connections.
- The energy efficiency component of the NCC 2022 has been pushed out to 1 May 2024, and, under pressure from the developer lobby, several jurisdictions have delayed their state's sustainability requirements until 2024 and 2025.⁹ The energy efficiency standards do not apply to developments already in the pipeline but not determined. These buildings may not be built for many years. The vast majority of people who live in apartments and other forms of strata are still left to retrofit their multi-story apartment buildings.
- Strata owners corporations are eligible for small scale technology credits if they install rooftop solar (< 100 kw) for common property supply.¹⁰ The Clean Energy Regulator issues the certificates, regulates accreditation and information to consumers.
- The Commonwealth's Solar Banks program is intended to deliver supply within a community, utilising the roof top solar on regular houses fed through community batteries to be available to apartment dwellers. There is a lack of transparency about how decisions will be made about where community batteries will be located and how energy collected may be distributed.

⁸ 50% of the households are renters, 17% of apartments are unoccupied and the remainder are resident owners.

⁹ NSW and the ACT commence energy efficiency standards that complement the NCC in 2023, although savings provisions effectively mean commencing is not until 1 June 2024 <https://sourceable.net/nsw-hits-pause-on-higher-energy-efficiency-for-detached-homes/> ; <https://ethosurban.com/insights/the-new-sustainable-buildings-sepp/>

¹⁰ <https://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Agents-and-installers/Small-scale-technology-certificates>

- The introduction of NABERS for Apartment Buildings six-star energy ratings might increase the uptake of renewable energy, but it remains voluntary and not widely known among smaller and medium size schemes.¹¹ Low efficiency strata are unlikely to obtain an NABERS assessment unless it is linked to grants or other incentives.
- The Federal Budget 2023 allocated \$1 billion to the Clean Energy Finance Corporation (CEFC) to create the Household Energy Upgrades Fund (HEUF). The arrangements for HEUF-related investments with co-financiers are expected to be developed in 2023-24 year, with the consumer finance shortly after.¹²
- There is \$300M to retrofit of social housing homes. It also includes funding for better consumer information through the expansion of NatHERS to include existing homes, appliances, and solar.¹³ The public statements include, community housing, build-to-rent and master-planned communities, seniors living and student accommodation. The provision of a low interest loan to a residential owners corporation is not included.

Building Defects Are a Sustainability Issue

Building defects are a physical, financial and emotional impediment to sustainability and the net zero agenda. There is nothing sustainable about apartment buildings with defects.

Too many strata owners continue to live with distressing and financially crippling building defects, disputes, and rectifications costing millions of dollars. Building defects remains systemic with long term economic and mental health consequences.¹⁴

In order for the Commonwealth to champion decarbonisation it must galvanise States and Territories to implement the recommendations of the Shergold and Weir Report *Building Confidence: Improving the effectiveness of compliance and enforcement systems for the building and construction industry across Australia* (February 2018).

¹¹ Local Councils endeavour to promote sustainability upgrades by supporting low cost energy assessments, and promote NABERS in their LGA. City of Sydney Smart Green Apartments Program; Canada Bay Council Energy Audits for Apartments; Randwick City Council Sustainability Rebates; Ku-ring-gai Council Smart Units Rebate, North Sydney Council's Futureproofing Apartments Program

¹² <https://www.cefc.com.au/where-we-invest/special-investment-programs/household-energy-upgrades-fund/>

¹³ <https://www.cefc.com.au/where-we-invest/special-investment-programs/household-energy-upgrades-fund/> ; <https://www.climateworkscentre.org/resource/renovation-pathways-project-update-and-preliminary-findings-of-cost-benefit-analysis-april-2023/>

¹⁴ <https://www.mopresearchhub.org/wp-content/uploads/2019/06/Examining-Building-Defects-Research-Report.pdf>; <https://www.abc.net.au/news/2019-08-18/how-bad-could-the-apartment-building-crisis-be-in-your-state/11413122> <https://www.architectureanddesign.com.au/news/darwin-apartment-buildings-non-compliant>

The push to house a growing population in strata, mostly apartment buildings, brings with it the responsibility to address both regulatory and market failure.¹⁵ The principle of *caveat emptor* exploits the information and power asymmetry between consumer and builder/developer when buying an apartment – Centre for International Economics agree.¹⁶

We recommend independent approval of designs, and independent inspection throughout the build to prevent defects. Independent assessment of building performance against performance claims by developers must be facilitated.

Construction Code Standards

It is entirely possible to build net zero high rise but “off the plan” developers resist change citing “affordability”.¹⁷ There is nothing affordable about strata homes that do not provide safe, healthy, and sustainable living.¹⁸

The NCC 2022 energy efficiency standards applicable to new Class 2 buildings (over 5 storeys) are welcome. However, as noted above, these standards have been delayed in most States under pressure from the property lobby.¹⁹

The impacts of climate breakdown, with more frequent and more intense weather events also means that strata buildings need to be climate protective and climate resilient.²⁰

Retrofitting Existing Apartment Buildings

Implementing “energy efficiency policies targeting existing houses by 2025 could reduce greenhouse gas emissions by 40.3 t CO₂-e to 2050 and deliver a net present value of \$3.4 billion, a financial benefit double that identified for new residential buildings.”²¹

The *Report for Achieving Low Energy Existing Homes* (2019) addresses the fact that most existing homes (approximately 9 million houses, apartments and common areas of strata

¹⁵ <https://thefifthestate.com.au/housing-2/the-nightmare-apartments-we-need-to-do-much-better-before-we-rush-to-more-rental-housing/>; <https://www.abc.net.au/news/2023-07-15/nsw-building-industry-reforming-but-too-late-for-many-owners/102603670>

¹⁶ [Productivity Commission 2004, Reform of building regulation, p. XXII](#); [Centre for International Economics, Building Confidence Report: A Case for Intervention, 2021](#)

¹⁷ *Accelerating Net-Zero High-Rise Residential Buildings in Australia* Final Report Prepared for: Client representative: Date: City of Sydney Chris Derksema Nik Midlam 31 August 2016

¹⁸ <https://thefifthestate.com.au/innovation/architecture/apartment-buildings-sick-unhealthy/>; <https://thefifthestate.com.au/business/government/noise-pollution-a-growing-concern-for-strata-developments/>

¹⁹ See <https://www.urbantaskforce.com.au/> In NSW, savings provisions mean that any development already in the planning system is unaffected by the changes even though it may not be built for several years.

²⁰ <https://7news.com.au/weather/sydney-weather/major-cleanup-underway-after-mini-cyclone-wreaks-havoc-across-sydney-c-5015811> ; <https://www.abc.net.au/news/2022-03-04/new-form-unit-dwellers-prop-up-barrier-to-stop-floods/100880430>

²¹ DeltaQ, REP00730-A-03 ASBEC - *Rapid and least cost pathways for decarbonising buildings operations*, 2022

titled buildings) will not be impacted by changes in the NCC.²² The research finds that while most new homes already have an average rating of 6.1 stars, existing homes have an average rating of only 1.7 stars. According to ClimateWorks, Australia's existing 11 million homes (all homes) produce more than 10 per cent of total emissions and use more than 25 per cent of electricity.

The Report recommends that apartment buildings are seen as a “system” and develop strategies for the residential strata sector. This is not the right language. Australian Governments must see owners corporations and, in particular, resident owners who predominate strata committees - as communities and as partners with Government.

The Senate Standing Committee should be aware that focusing on renters will be counter-productive in the strata sector. Minimum standards imposed on Landlords, effectively forces resident owners to subsidise Investors who already benefit from negative gearing and tax deductions and are not connected to the community.

OCN supports:

- co-grants for owners corporations for major installations such as “behind the meter” solar, or replacement of gas used for hot and chilled water, and linking it to a NABERS rating; and
- when low interest loans or grants are made to households (as opposed to owners corporations), that strata households have the option of utilising it as part of their strata levy contribution toward common property upgrade.

All levels of government have a role to play:

- Local Councils are increasingly recognising the distinct needs of strata residents in the LGA, providing support and employing sustainability officers.
- In NSW, the IT based Strata Hub enables Government to communicate directly to owners corporations and strata committees.²³
- OCN has advocated for a Commissioner for Strata Living in NSW, to create a higher-level policy focus, including cross portfolio coordination and policy on climate and sustainability. We expect this role will be established in 2024.

²² <https://www.energy.gov.au/publications/report-achieving-low-energy-existing-homes>

²³ In the early stages of the flammable cladding debacle NSW could contact renters (Rental Bond Board) but not resident owners.

Change Strata Laws

In NSW, strata law has been amended with new special resolution provisions to facilitate “sustainability infrastructure” upgrades. In essence, this reduces the required vote from 75% of unit entitlements to 50%.²⁴ The framework, also requires that the owner’s corporation considers:

- the costs of the sustainability infrastructure and works including any expected running and maintenance costs;
- who will own, install and maintain the sustainability infrastructure;
- the extent to which the use of the sustainability infrastructure will be available to all or some of the lots in the strata scheme; and any matter prescribed by the regulations.

In the *Strata Schemes Management Act 2015* (NSW) “sustainability infrastructure” means changes to part of the common property (which includes the installation, removal, modification or replacement of anything on or forming part of that property) for any one or more of the following purposes —

- (a) to reduce the consumption of energy or water or to increase the efficiency of its consumption,
- (b) to reduce or prevent pollution,
- (c) to reduce the amount of waste sent to landfill,
- (d) to increase the recovery or recycling of materials,
- (e) to reduce greenhouse gas emissions,
- (f) to facilitate the use of sustainable forms of transport,

Note. For example, installing electric vehicle charging stations.

The Senate Standing Committee should consider recommending a similar reform in other States and Territories. Constitutionally, the Commonwealth cannot interfere but it can recognise that the standard approach to decision making under strata laws across this country have not been developed to deal with such major decisions as sustainability infrastructure upgrades and it can promote this reform as part of a nationwide strategy.

It is not appropriate that a small minority (just 25%+) can prevent others from having the benefit of clean energy. However, this brings with it significant financial imposts on people

²⁴ http://classic.austlii.edu.au/au/legis/nsw/num_act/ssmaia2021n1695/

with less and no financial capacity and therefore we have a social obligation to assist through grants and finance.

Electrify Everything

The demand for rooftop solar in Australia has been driven by climate change, lower costs, government incentives, environmental awareness, and energy security. By 2023, one in three households in Australia have solar panels, which is the highest rate in the world.

Yet the strata sector represents just a tiny 0.6% of that.²⁵

The same story is replicated for other clean energy technologies, including solar storage batteries, EV charging, heat pumps and getting off gas.

The general consensus among advocates of “*electrify everything*” is that households are the low hanging fruit and can move easily to zero-emissions electricity and switch from gas to electricity. This is NOT the case for people who own and live in residential strata.

Strata households must navigate additional legal processes and complexity of the strata building. Additionally, strata homes have traditionally offered a less expensive option, especially for women.

To develop a coherent strategy for strata, governments must first see these residential collectives as communities and partners with Government. Policy makers and legislators must also see the diversity and socio-economic differences within the resident owner population.

The role of specialist intermediaries has become key in many schemes.

For example:

- *Sustainability Now* provides energy audits, and will oversee energy upgrade projects specialising in apartments buildings delivering comprehensive services. *Sustainability Now* is an excellent example of good communication and the ability to work with

²⁵ February 2023, there were more than 3.4 million solar power systems installed on Australian homes and small businesses.

community-based strata committees and knowledge. This is the type of innovative new company that is on the ground working directly with communities; Case studies: <https://sustainabilitynow.com.au/services/>

- *Wattblock*, provides energy assessments to strata buildings which are paid for by Local Councils (Future Proofing Program), and is tracking the uptake of clean energy technology by LGA in Sydney. [Electrify Strata North Sydney 2060](#), complements the better known [Rewiring Australia](#) and the [Electrify 2515](#) campaign driven by Dr Saul Griffith for houses in the northern beach suburbs of Wollongong. See: <https://www.wattblock.com/electrifystrata.html>
- Electrification is also driving a requirement for data: <https://wattwatchers.com.au/electrification-powers-up-energy-data-requirements-for-strata/>

There have been individual efforts, by local council, academics, private consultants and representative groups such as OCN to lead, facilitate and support the transition.²⁶ It is time to identify the gaps, and develop a coherent national strategy for sustainability in the strata sector, which sees owners corporations and strata committees as partners and empowers them to be part of Australia's move toward net-zero. (See Recommendations).

Housing construction standards, climate policy and energy transition, are the responsibility of all levels of government and the community.²⁷ More coherent policy settings and support targeted at owners' corporations will enable them to deliver optimal outcomes for apartment buildings.

EV Charging in Residential Strata

In 2019, *City Futures* UNSW carried out a study on preparing the planning system for EV:

Conservative estimates indicate that EVs will make up approximately 10 per cent of the passenger vehicle market by 2025. This equates to 120,000 new vehicles each year between now and 2025. Of these, at least 12,000 per year will be in strata titled

²⁶ <https://cityfutures.adu.unsw.edu.au/research/projects/sustainable-retrofits/>

²⁷ In 2021, Curtin University was commissioned to research barriers to solar PV and battery installation in apartment buildings <https://espace.curtin.edu.au/bitstream/handle/20.500.11937/86805/86609.pdf?sequence=2>

properties. This means demand for EV charging infrastructure, at both a domestic and public level, will continue to grow.²⁸

The market analysis shows the important role for government.

The overwhelming preference (80% - Electric Vehicle Council data) is to charge at home. This is easy and relatively cheap for homeowners who live in standalone homes with an average cost of \$2000. Homeowners who live in strata have to pay this same base cost, as well as additional high costs associated with approvals processes and the building infrastructure (energy audits, design and potential building power upgrades).

To increase penetration of EV charging in existing apartment buildings, we recommend that Australian Governments consider a subsidy per apartment owner to assist in these additional governance and infrastructure costs.

NSW EV Ready Program – Backbone Infrastructure

In NSW, the government set EV uptake targets and announced a \$10M EV Charging program for residential strata buildings. The NSW Office of Energy and Climate Change is a focal point for EV Ready Buildings and the Treasurer is extending the EV Ready Building Program to apartment buildings.

The program is \$10M to co-fund (with owners corporations) the retrofitting of EV charging backbone into apartment buildings that have 100 or more car spaces. The resident pays “the last mile” and becomes part of the charging network.

The Office is hosting strata specific resources that are easily accessible and reduce the cost and anxiety in undertaking projects (with or without a grant).²⁹

Importantly:

- the program is directed to **Owners Corporations** not individuals;

²⁸ https://cityfutures.ada.unsw.edu.au/documents/538/Electric_Avenue_Final_March_2019.pdf

²⁹ The scheme was announced two years ago, remains a Budget item but at the time of writing had still not commenced. <https://www.energy.nsw.gov.au/business-and-industry/programs-grants-and-schemes/electric-vehicles/electric-vehicle-ready/strata>

- the support and resource **materials speak directly to strata committees**, owners corporations, and strata households.

The materials were developed by us, OCN.³⁰ For clarity, OCN is a non-conflicted independent strata owner and resident organisation and the materials have been developed in collaboration with the EV Council and NSW Government. The resources include a step-by-step guide, resident/owner surveys and by laws. The OCN Board also commissioned a specialist strata legal drafter to develop a by law for administration and ongoing management of EV charging infrastructure, available for only \$200 for our members.

This type of policy and practical work is efficient, low cost, and it facilitates and empowers owner corporations to develop and install EV charging backbone infrastructure, with the owners paying for “the last mile” (cabling and charger).

The key is that the program recognises the:

- collective nature of apartment communities;
- need to provide government leadership and some financial support;
- critical importance of information and support that speak directly to strata committees and households endeavouring to lead sustainability in their buildings.

This approach subsidises the scheme to install basic “backbone” reducing the overall cost for residents and bringing costs more in line with homeowners of standalone houses. It will be a significant boost to schemes that are able to attract funding.

EV Charging in Small and Medium Sized Schemes

The \$10M program for schemes with 100 or more car spaces will produce exemplar case studies. We welcome the program but it will have limited reach. The majority of strata schemes are small to medium, have fewer than 100 car spaces and many have single level or external car parks that will pose their own unique challenges for retrofitting EV chargers.

The lack of standardised information, tailored support, or case studies and assistance means that many smaller, older and less affluent schemes will be ignored. This includes

³⁰ <https://ocn.org.au/>

younger people, single people, and older people on fixed incomes for whom tailored support would facilitate their switch to an EV when prices come down and the second-hand market emerges.

Modular Roll Outs

We have also come to the view that modular roll out is a pragmatic option that will assist many schemes. The ability to roll out smaller distribution boards that will connect, for example, six EVs to each board, can offer an incremental, cost-effective alternative that deserves support. It would allow the expansion of equipment deliverables (like distribution boxes) to allow a progressive approach to installing building infrastructure, rather than very expensive “whole of building” upgrade delivering the ability to connect 100% of car spaces. There is no “one size fits all” and this is an option that will be attractive to some schemes.³¹

Shared Common Property Chargers

In this approach, the owners corporation nominates 1 or more shared car spaces to be dedicated to EV charging and establishes the infrastructure, reservation and charge back processes. This approach can provide Type 2 and sometimes 3 phase supply.

It works well in a multi-storey building with internal car spaces and a building manager. In some locations, a high-rise building will be unable to adopt a full retrofit because there is not enough electrical supply to that neighbourhood. This provides the long-term alternative. It may also be an option where a scheme believes it will take some time before distribution boards will be needed.

Individual Right to Charge

Despite the changes to strata law, and support from Government and the car industry, many prospective EV buyers who live in strata face additional barriers. They must navigate their strata committee and owners corporation (and often their landlord) and, for various reasons, that can result in a “*No EV charging here!*”

³¹ Even when new vehicle sales get to 50% or more, there will still be far greater percentage of ICE vehicles on the road, and therefore parked in apartment buildings, so it will be very many years before buildings will require anything like 100% capacity.

We welcome the recent announcement by the NSW Government to introduce “*Right to Charge*” strata reforms, meaning where an apartment owner is willing to pay the cost and comply with reasonable requirements their requests to install EV chargers cannot be unreasonably refused. The reasonable requirement will include, for example, charging that does not lead to overburdening electrical infrastructure. This is a reform that has already been adopted in mature EV markets like Norway and California.

In some cases, EV owners are able to reach a simple agreement with the owners corporation and physical access to a power point is already available. In other cases, EV owners are paying high costs to cable their charger to a residential meter which may be many floors up in an apartment building. In these cases, a subsidy to the individual EV owner to level the playing field would help to address some of the additional costs.

Busting Myths and Fear and Doubt

Finally, to address barriers to EV charging, government need to address the fear, uncertainty and doubt that people have about: - excessive costs, EV fire risk and car park loads. These can be addressed by providing facts, standardised EV charging steps, approaches and language. Please see Appendix A and B OCN fact sheets on these topics.

Behind the ~~Metre~~-Meter Solar for Strata

As noted above, scheme wide sustainability upgrades that alter common property must be accepted and funded by the owners corporation (or part thereof). In practice, schemes vary in age and size, households vary in financial capacity and ability to navigate such projects. However, in NSW, and elsewhere, variation also creates opportunities!

Approximately 1 % of the sector in NSW is made up of schemes with more than 100 Lots (considered ‘large’ in NSW strata law).³² By far, the biggest percentage of apartment buildings are low and medium rise, with roof to Lot ratios allowing rooftop “behind the meter” solar as a viable option. For example, the majority of the 3 storey “walk -ups” are in this category.

³² <https://www.abc.net.au/news/2016-03-09/design-chosen-for-the-largest-residential-tower-in-nsw/7233954>

In 2021, the Curtin University report *Increasing the uptake of solar PV and battery storage in strata residential developments* noted that 24.2% of the Australian housing stock is less than four storeys and thus suitable for installation of solar PV and battery storage (ABS 2016).³³

This data still underestimates the number of schemes that can benefit from “behind the meter” solar, because the:

- roof to Lot ratio depends entirely on the design of the building(s); and
- increased efficiency in solar technology means the panels produce more energy.

The majority of schemes are under 50 Lots, and many schemes have multiple buildings with extensive rooftops and shared car parks (external and internal). For example, a scheme of 67 Lots spread across two towers of 8 storeys and 4 townhouses is a candidate for solar to the household. Twenty thousand schemes in NSW are two Lots only and thousands are single storey townhouses that can take over responsibility for rooftop solar with an exclusive use by law.³⁴

Allume Sol Share

The *Allume Sol Share* system is designed for “behind the meter” solar to residents. It is also possible to create a system for only those that wish to participate and subsequently extend it. This is the type of innovation designed specifically for multi-household schemes that the Commonwealth should be supporting.

We recommend that the Senate Committee acquaint itself with [Allume Sol Share Behind the Metre for Apartments Dwellers](#)

“Behind the meter” solar offers clean energy to all strata households. It is a direct benefit to both resident owners and renters and may be preferred to solar to common property only (unless the solar is replacing gas hot and chilled water and other household energy consumption). Green power agreements are also an option for common property supply.

Financial assistance, low-cost loans and resources via a trusted government “one stop shop” would give owners corporations more confidence in exploring this option. We recommend direct grants to an owners corporation (co-fund). Strata households should also be able to access household grants and loans available to other households and use it as their contribution to major infrastructure upgrades.

³³ See also https://www.ceem.unsw.edu.au/sites/default/files/documents/Solar_Apartments_Final_Report_2019_4_3.pdf

³⁴ These owners have the option of taking over responsibility for rooftop common property.

We acknowledge that, in some cases, schemes will prefer to enter a “power purchase agreement” with a solar energy company.³⁵

Solar Bank

The Commonwealth could consider working with some larger strata development estates to house a community battery from which they can benefit. To date, it appears that funding is going to major transmission and distribution companies, such as Ausgrid. Finding space in urban areas can be a problem. As noted above, there are community associations and neighbourhood precincts often with substantial surrounding land.

Removing Gas from Apartment Buildings

Over 80% of fossil gas use, for both commercial and residential sectors, is centred in VIC and NSW. Breaking this down further within the residential sector shows that space heating is the main gas end user (61%), with a further 33% attributable to domestic hot water heating and finally 4% to cooking.³⁶

Several studies recognise the importance of planning specifically for the transition away from gas to electricity in residential buildings.

“The ATA study *Are we still cooking with gas?* found that for new and existing homes not currently connected to gas, going all-electric and choosing efficient electric space heating, hot water (heat pump large) and cooking (electric oven, induction cooktop) is more cost effective than connecting gas”.³⁷

Many consumers want to move away from gas but for consumers in strata buildings choice is often not available.³⁸ A younger generation of parents who are climate aware want this for their children, as well as their own health. The installation of an induction cook top can be an expensive proposition because of the price of cabling.³⁹ Unless an owner is renovating an entire kitchen, retrofitting is not likely to be “value for money” especially as households coping with increased mortgage, food, transport and other cost of living items. For older mortgage free households on fixed incomes installing an induction cook top may be out of the question.

³⁵ <https://captaingreen.com.au/the-power-purchase-agreement-ppa-explained/>

³⁶ DeltaQ, REP00730-A-03 ASBEC - *Rapid and least cost pathways for decarbonising buildings operations*, 2022.

³⁷ REP00730-A-03-ASBEC-Rapid-and-Least-Cost-Pathways-Final-Report-27Oct22.pdf

³⁸ <https://www.climatecouncil.org.au/resources/getting-your-home-off-gas-quick-guide/>

³⁹ One quote was for \$4000, without including the actual cooktop.

In apartment buildings gas is frequently used to heat and chill water, for cooking and space heating and often through an embedded network that may or may not be metered.

Victoria has banned gas connections for new dwellings and has also banned embedded networks, except for those using clean energy and established by an owners corporation. In NSW, embedded networks have not been banned. Nor does the NSW Sustainable Buildings State Environment Planning Policy ban gas connections to new dwellings. The cost of retrofitting strata developments puts these owners and renters in an unfair position, disadvantaging them into the future. At the very least, we recommend, there should be no more gas connections to apartment buildings.

The economic case has been made. Moving from gas chilled and heated water to heat pumps and PV solar can generate significant savings. According to North Sydney Council, high-efficiency heat pumps can do the same job as gas with hot water heating costs of approximately \$216 per apartment per year. The saving by moving to a heat pump hot water system from a gas metered system can be approximately \$468 per apartment per year. The payback period of a heat pump system is between 5-10 years while the lifespan of this system can be up to 15 years.⁴⁰

Enabling strata owners and residents to get off gas requires some political courage. It is not a major issue for gas producers, as most gas is exported. The vested interest lobbying to maintain their position is the gas pipelines companies. The pipeline industry undoubtedly will be losing its customer base – if not now, very soon, because end customers do not want to use fossil fuel. It will mean a smaller cohort of consumers paying more to maintain pipelines.

In a strata complex, the charges to remove individual meters of over \$1000 adds up to a very substantial sum for an owners corporation if the scheme wishes to remove itself from gas. This would also involve coordinating all Lot owners to invest in electrical appliances before the gas can be turned off. In larger “tiered developments” (multiple schemes and a community association), there would need to be agreement and coordination across multiple bodies and individual owners. There is also no Federal or State policy on what happens to and who is responsible for gas pipelines left on common property.⁴¹

⁴⁰ <https://www.northsydney.nsw.gov.au/downloads/file/2309/heat-pump-hot-water-for-strata-north-sydney-council-fact-sheet>

⁴¹ <https://www.linkedin.com/pulse/considerations-centralised-domestic-hot-water-dhw-fuel-ethan-burns/>

We recommend that Government develop policy to enable schemes to get off gas, move to heat pumps and, where necessary, terminate an embedded network.

Sustainability upgrades in smaller buildings

The State Governments have rich data on the age and type of strata buildings. There is significant potential to focus attention on segments of the strata housing sector, and develop information, guides and support designed for different cohorts.

In many smaller less affluent schemes, modest upgrades especially solar “behind the meter” have potential to deliver significant benefits for residents (owners and renters). The smaller schemes do not have the same level of support of larger developments. Their strata managers lack education, awareness or even to know where to refer them for information.

We recommend incentives and direct financial assistance to enable such investments to occur, recognising that many households lack financial capacity. The development of standardised plans, cost models and case studies that target this cohort should be Government policy.

Energy Efficiency

According to NABERS, 60% of energy consumption in large buildings, like apartments, comes from common areas and shared services. Around 25% of administrative fund levies are spent on utility bills alone. The NABERS program is available but is still not widely known or utilised. In NSW, the Strata Hub annual report does allow a scheme to report their NABERS rating but it is not mandatory. We envisage that buyers will increasingly want to know.

We recommend that the Commonwealth and States consider linking NABERS rating to more incentives, grants, and loan and eventually make it mandatory.

Consumer choice and protection

The strata context presents complexities that standalone households do not have to navigate.

Embedded networks for electricity, gas and water have been allowed to grow and become common in residential strata developments.⁴² The capture of apartment residents in commercial embedded networks forces them to live within a monopoly and severely limits their ability to choose to move away from fossil fuels.⁴³ It also limits the ability of the owners corporation to transition an entire scheme onto clean energy to benefit all residents.

The strata management industry is also generally quite opaque. It has positioned itself as a “gatekeeper” and other providers are dependent on strata management companies for access to owners.⁴⁴ Commissions and referrals appear to be common and corporate growth is often through “horizontal integration”, which embeds conflicts of interest and less competition in the market. In relation to energy, strata management companies can often create “energy deals” leveraging the buying power of multiple buildings. This may be beneficial to residents but residents rarely know exactly what the deal is, whether commissions are being paid or how well the rate actually compares with the standard residential rate. We see a risk to owners corporations if strata management companies create subsidiaries or enter into special commercial relationships with providers in the sustainability space.

Residents and buyers also want information about the energy consumption and efficiency of their buildings. This should be freely available as of right.

Prospective buyers will increasingly want energy efficiency information, and to know upfront whether a scheme has an embedded network and what type of energy is being used. There should be a statutory obligation to disclose this information.⁴⁵

Role of Commonwealth

The role of government is to be mission oriented and to lead and invest in driving sustainability in strata developments to achieve specific public policy purposes:

⁴² <https://jemen.com.au/gas/developers>

⁴³ <https://www.choice.com.au/shopping/shopping-for-services/utilities/articles/embedded-networks#:~:text=NSW%20Parliament%20is%20currently%20holding%20an%20inquiry%20into,100%25%20renewable%20energy%20to%20the%20benefit%20of%20residents%29> ; https://www.ipart.nsw.gov.au/sites/default/files/cm9_documents/Consumer-consultation-paper-Review-of-embedded-network-prices-15-August-2023.PDF

⁴⁴ It is worth noting that the Strata Communities Association represents strata managers. The Owners Corporation Network represents the interests of owners.

⁴⁵ https://www.ahuri.edu.au/sites/default/files/documents/2023-06/AHURI-Final-Report-400-Delivering-sustainable-apartment-housing-new-build-and-retrofit_0.pdf

- reduce greenhouse gas emissions:
- improve environmental and social quality of strata living, and
- reduce the cost of living, if possible.

Australian Governments need to recognise the value of strata living for large parts of the population as Australia moves into a climate breakdown scenario. This constituency is often referred to as the “strata industry”, or the discussion focuses exclusively on renters.

The value of strata is not just the value of an individual investment Lot, or the economic activity it generates for a host of businesses. The value is in the social, environmental, and economic sustainability of strata communities to the residents who live there. Housing is “inelastic”, local and long term; the largest investment and biggest cost.

The response to climate breakdown is about more than energy efficiency. It is about the health, safety, cohesion and sustainability of these communities and where they fit in the journey to net-zero. Like all other forms of housing - strata developments must be:

- climate protective,
- climate resilient; and
- economically and socially sustainable.

If government wants to shift markets, it must play a role in leading, investing, facilitating and supporting that transition through new building standards, retrofitting, and investing in innovation for public benefit.⁴⁶

Assisting Strata Committees to Lead

Despite the critical importance of strata to a growing population, national, state and local governments have been “strata blind”. This is changing slowly. Governments at all levels need to engage directly, especially with residents and owners. Each strata community elects a strata committee each year to manage their scheme. Strata committees can lead change but they must be given strata specific programs, information and support in the context of strata.

⁴⁶ <https://www.csiro.au/en/research/environmental-impacts/sustainability/Urban-Living-Lab>

There are barriers to retrofitting including: -

- a lack of strata coherent government policy coordination, support or leadership
- lack of education and awareness among strata owners and managers about the environmental, economic issues and increase in property values
- risk aversion and uncertainty about who is trustworthy in the market
- the upfront capital cost and ongoing repair and maintenance
- lack of information/support, incentives, grants, or loans to owners' corporations,
- the fact that multiple-households must make the decision takes time
- different financial capacity across households; and
- hope that prices will fall or technology will change casting doubt on upgrades.

The consumer choices that individual strata households may wish to make are also often limited by the physical environment and other complexities:

- it is not possible to leave an embedded network,⁴⁷
- cabling an induction cooktop is expensive
- cabling an EV charger to a resident meter on upper floors is expensive;
- rooftop solar involves changes to common property, requiring an owners' meeting
- individual balcony solar panels are not yet widely used or accepted.

The NSW program to co-fund the installation of EV backbone in apartment buildings is a new and welcome example of government listening to and responding to owner corporations. This is a small but important example of what can be done and we strongly support it.

Recommendations

There needs to be a national strategy for the strata sector; a strategy that recognises owners corporations as partners to government, sets targets and provides tailored assistance.

To electrify strata, a national strategy should:

1. Identify gaps, develop standardised approaches, cost models and case studies

⁴⁷ For example, one constituent reported that cabling for a new induction cook top was quoted at \$4000 without the cooktop included.

2. Set targets and report emissions reductions in the strata sector
3. Offer incentives eg co-funding grants and no and low interest loans, information and support to owners corporations to assist them to take up “behind the meter” solar, battery storage, EV charging, heat pumps and other efficiency measures
4. Consider making NABERs mandatory and/or linking it to grants and loans
5. Enable strata households to access grants and/or loans to cover the extra costs of individual upgrades, and/or to set against infrastructure costs
6. Prohibit gas connections to new apartment or mixed-use buildings
7. Strategies to enable owners corporations and Lot owners to withdraw from gas
8. Strategies to enable an owners corporation to exit an embedded network
9. Ensure electricity supply to support electricity demands from apartment buildings
10. Consider working with larger estates that will benefit from a community battery
11. Give strata owners the right to complete transparency on energy efficiency data
12. Right of buyers to energy data and whether a scheme has an embedded network
13. Reform strata laws to enable sustainability infrastructure upgrades
14. Expand national construction code to include more sustainability measures
15. Galvanise the States and Territories to address building defects effectively, independent assessment of designs, independent inspections throughout the build, and independent assessment of building performance against developers claims.

Appendix A



Fact Sheet: EV Myth Buster

Much has been written about the issues with installing EV charges in apartment buildings and many opinions expressed and with these opinions comes a set of myths. To set the record straight we have busted those myths and, in doing so, made it easier to get on with getting more EVs on the road and play our part to reduce emissions and therefore global warming.

Myth 1 – You need to do expensive building energy supply upgrades to charge electric vehicles.

Fact: Buildings are designed for peak energy capacity, which is typically a very hot summer afternoon with all the air conditioners on and everyone cooking dinner. This is not the time to charge an EV. Our study of over 100 apartment buildings has shown there is more than enough energy available outside of these peak demand times to charge any number of EV in the foreseeable future. It is simply matter of using load or energy usage control, like a simple timer to tap into the off-peak capacity or use a demand management system to switch off the EV charger if the pre-set building demand is exceeded.

Myth 2: You need fast charging in apartments for EVs.

Fact: With EVs you can simply keep the ‘tank’ full with top-ups of electricity, just like your mobile phone. The data says the majority owners slow charge EVs overnight using a power point or EV specific medium capacity charger in their garage. Sure, there are some applications in strata buildings where owners corporations may choose to share resources on common property, and in these instances a higher capacity charger may be of benefit.

Myth 3: You can’t bill owners for energy usage.

Fact: The AER (Australian Energy Regulator) has exempt energy selling guidelines, which include owner corporations as ‘deemed’ exemptions, which means there is no requirement for owners’ corporations to register or have a licence to on-sell energy. So, the owners corporation can pass costs on to residents. This is done all the time, like excessive cleaning costs.

Myth 4: You can’t charge from a normal power point.

Fact: EVs consume kilowatts of power, just like an ICE vehicle consumes litres of fuel. To fill the tank or charge an EV you need to replace those kilowatts, again just like replacing fuel in the fuel tank. A normal power point can deliver up to 2.4 kilowatts, so you can use it to charge an EV, it just takes time, which is why most people use power points over night. However, there are real limits to how many EVs can plug in to a normal power circuit though, which is where energy assessments and load control are used to identify, add to and protect those circuits.

Appendix B



Fact Sheet – EV Fire Safety

Update – 9/1/23

OCN continues to be a strong advocate for Net zero emissions and the NSW Government's policy to increase the uptake of electric vehicles, with our focus on EV charging in residential apartment buildings.

There are over 83,000 apartment buildings in NSW and strata living is moving to the preferred choice of 1 in 5 residents. In many local government areas, like Sydney City, North Sydney and the eastern Suburbs, strata are already the preferred choice of accommodation. In this context, apartment owners also need understand the challenges and facts, to enable them to make informed decisions on the EV journey.

NSW are leading the country in EV readiness. Their policy is to make NSW the easiest place to own and operate an electric vehicle including:

1. Support to meet international Net zero emissions by 2050.
2. Targets and action include \$633M set aside for EV infrastructure, including all charging stations will be fully powered by renewables
3. Full electrification of the NSW passenger fleet by 2030, with 50% by 2026 and incentives for fleet buyers to go electric, both combining to support a growing second-hand market, to make EVs more affordable
4. Incentives and funding for charging EVs in apartment buildings.

NSW EV Strategy: <https://www.energy.nsw.gov.au/nsw-plans-and-progress/government-strategies-and-frameworks/electric-vehicle-strategy>

In recent times there has been opinion and commentary on the fire risk of EVs, specifically the fire risk for EV parked and charging in residential apartment buildings.

OCN undertook to review all available data and revert with a summary of the best advise available.

NSW Fire and rescue: <https://www.fire.nsw.gov.au/page.php?id=9391>. In summary their advice is to take all reasonable precautions, but no specific requirements other than stickers, smoke or heat detectors and installation of EV chargers to AS 3000 by licenced electricians.

EV Fire Safe. <https://www.evfiresafe.com> This is the best and most accurate data available on EV traction battery fires. They are an Australian company, funded by Dept of Defence and Australian Building Codes Board (ABCB) and providing data to the Aust insurance industry. They are also fire fighters who recommend approaches and provide resources to train on dealing with EV fires.

EV Fire Safe have verified and created a data base of all EV traction battery fires in the world over the last 10 years. This data confirms:

- there is minimal EV fire risk, about one eighth that of ICE vehicles
- while rare, EV battery fires represent new risks and challenges for emergency responders

- *While a number of traction battery fires had occurred while the vehicle was charging, or when charging had been recently unplugged, it's difficult to state with any accuracy whether charging was the cause of the fire*
- *The most common cause of a traction battery fire is a collision or debris on the road creating a hole or impaling breach of the battery pack. In such circumstances, EV Fire Safe urge caution and to fully service the car and not to charge following any such events until the car is certified as safe*
- *there is an EV fire risk, but it is not cars. Light electric vehicles (LEV), like E bikes, scooters, skateboards and the like, particularly low-quality imported LEV, are causing millions of dollars of damage. Precautions should be increased, and it is EV Fire Safe's advice to avoid cheap imports, only store and charge outside, only use the correct charging device and avoid using or charging LEV that are poorly maintained, particularly with any battery damage.*

Misinterpretation of the BCA/NCC. There has been an opinion expressed by some organisations, that, according to the BCS, EV are classed as “equipment containing batteries” and in buildings built prior to 2019, EVs charging stations should be housed in a fire rated enclosure.

We sought clarification on the intent of the section of the BCA, from Service NSW, who are the owners of the BCA in NSW. Their response confirmed the specific BCA reference quoted specifically excludes EV charging, so that opinion is not valid and should be disregarded.

The Guide to Volume One of the NCC 2019 Amendment 1 can be accessed at <https://ncc.abcb.gov.au/>

ABCB: The Australian Building Codes Board (ABCB) commissioned a piece of work to address this question which concluded that:

“NCC Performance Requirements address the fire risks of EV charging in carparks adequately. However, our fire knowledge is still developing, and it is important to keep EV fire research and fire statistics under review.”

It's our view that a watching brief on this concern would be prudent, but that the use of this fire safety concern as a reason to water down the updates to NCC electrical infrastructure provision is not reasonable. It's not the electrical infrastructure that poses the risk, and the cars will be in the car parks regardless of whether they can charge there or not, because that's where the owners will be living.

Building Commissioner: All this information has been shared with Building Commissioner Chandler, at his request, as he commences the next steps in his brief, to commence investigations into existing residential buildings.

OCN will continue to provide updates, based on the facts, as it becomes available.