Committee for Sydney

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13 March 2025

To: Professor Nelson

Submission in response to: NEM Wholesale Market Settings Review Initial Consultation

Thank you for the opportunity to provide feedback on the consultation questions.

The Committee for Sydney is the city's peak advocacy and urban policy think tank. We work with our 160+ member organisations to produce research and policy recommendations on key agendas for the metropolitan region. Our members include energy companies, utilities, transport and infrastructure constructors and managers, developers and designers of all forms of buildings, local governments, universities, and professional services that support all sectors to decarbonise. In 2021 the Committee for Sydney's Climate Resilience Program was established in to provide a clear voice that advocates for Greater Sydney's residents and businesses in the climate transition.

We have a significant body of work related to decarbonisation and climate risk agendas for Greater Sydney, with the most relevant being **Decarbonising Sydney:** The role of transport, buildings & grid infrastructure on Sydney's path to net zero (2022), and **Sydney as a Renewable Energy Zone (2025/26),** which will use place-based evidence and collaborative research to make the case for specific changes to market rules, investment incentives and infrastructure priorities.

Decarbonising Sydney

In August 2022, the Committee for Sydney released Decarbonising Sydney, a report which details the possible pathways for Sydney to achieve net zero by 2030 and 2050. We developed the report in partnership with Ausgrid, Endeavour Energy, Dexus Property Group, McKinsey & Company, the Greater Cities Commission, NSW Treasury (OECC) and the NSW Department of Planning and Environment. The report was also peer reviewed by more than 30 organisations, including universities, businesses, not-for profits, and local government representatives.

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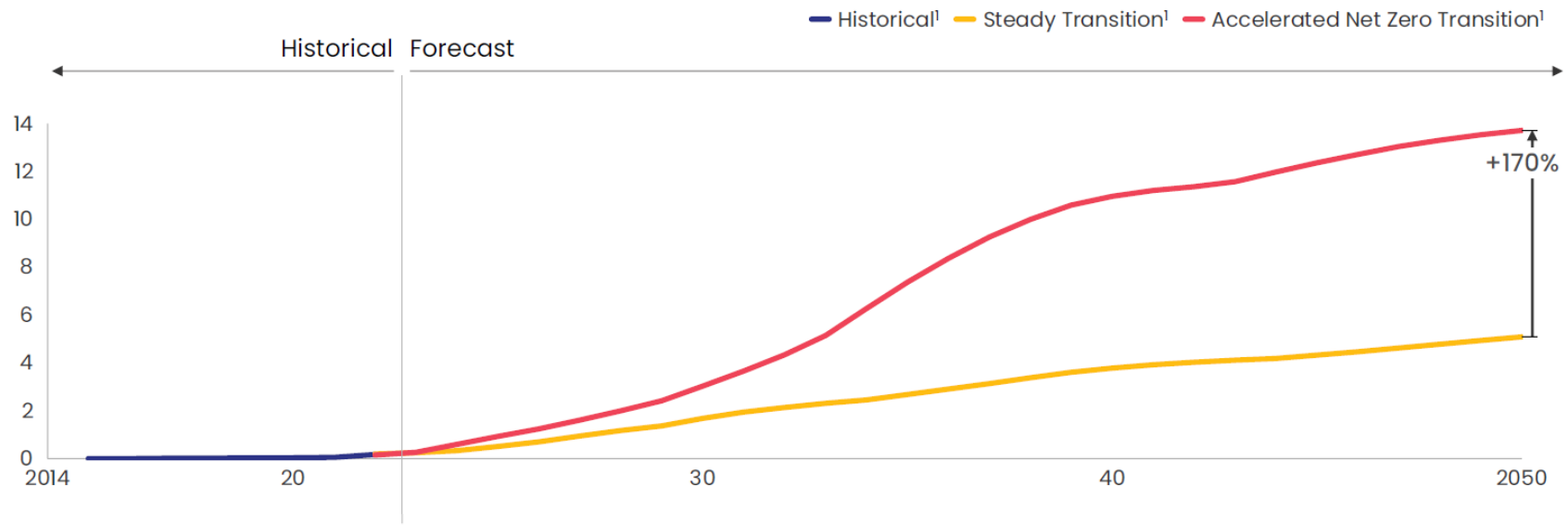
One of the key findings of the report was that despite NSW's climate policies leading the nation, Greater Sydney is not on track to do its fair share in meeting NSW's 2030 or 2050 net zero targets. Under current policy settings Greater Sydney's emissions will fall by ~43% by 2030, and ~80% by 2050. We therefore modelled an *accelerated transition scenario* that shows a pathway through a 50% reduction by 2030 and net zero by 2050. In the Accelerated Net Zero Transition scenario, Sydney accelerates its adoption of both private and community batteries. To date, adoption of residential storage has lagged far behind the adoption of rooftop solar: in 2020 less than 4000 or ~0.2% of homes had batteries, with a total capacity of <0.1 GWh. For an Accelerated Net Zero Transition, that needs to rise to ~2.7 GWh, which is equal to ~10% or ~180,000 dwellings by 2030. By 2050, this will need to accelerate further to ~12.3 GWh (see Chart 1 below).

Chart 1: Storage capacity of small-scale battery systems in Greater Sydney, 2007–2021, 2022F–50F installed storage capacity, GWh



1. 2014–2021 historical installs from Clean Energy Regulatory and forecast storage capacity from AEMO ISP 2021 Steady Progress (for Steady Transition) and Step Change (for Accelerated Net Zero) scenarios. Assumes regional allocation as per AEMO scenarios, and average system size of 13.5kWh in 2021, growing by 1% p.a.

Source: AEMO ISP 2021 Assumptions, Clean Energy Regulator

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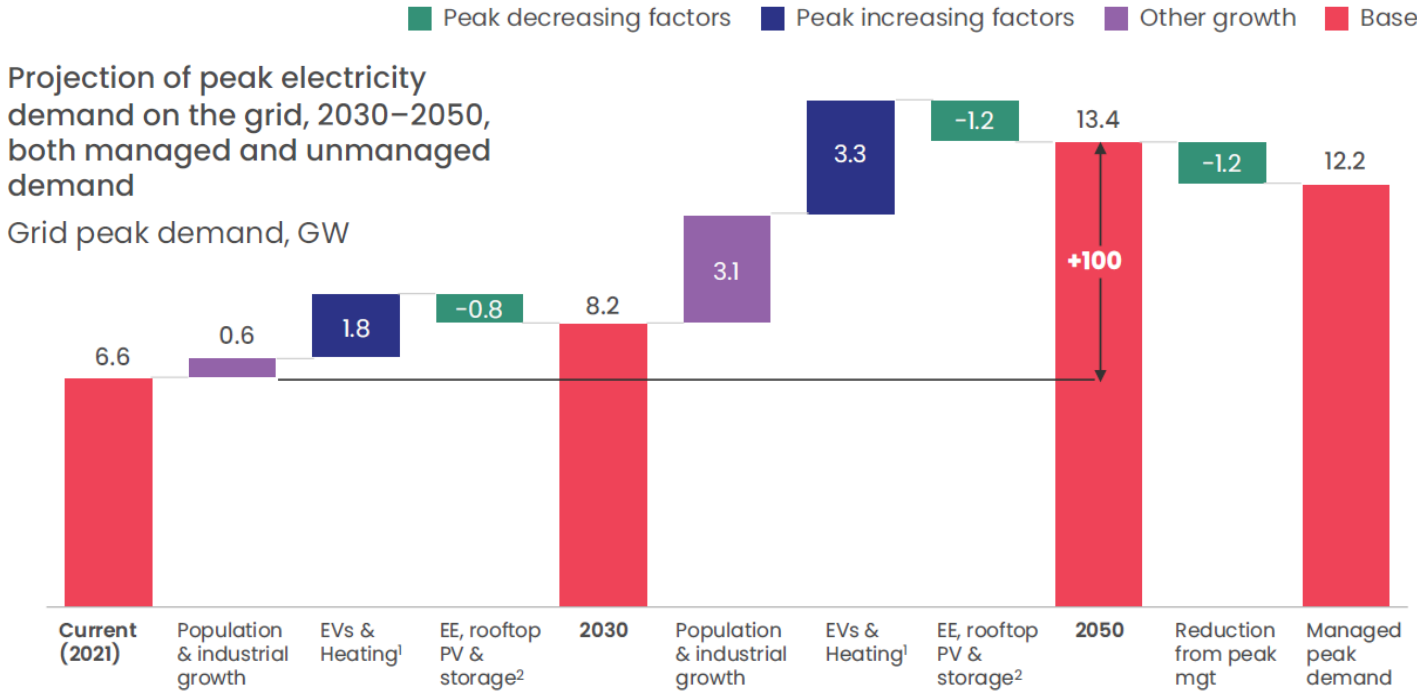
Equally we found that as increased demand will occur, doing nothing is not an option: In an Accelerated Net Zero Transition, total electricity demand is forecast to grow ~10% by 2030 (a 35TWh increase), and ~68% by 2050 (a 53TWh increase). Total demand will increase due to: population growth; use of electricity for industrial processes; electrification of vehicles and buildings and appliances (especially heating); and will be offset by rooftop solar, battery storage and energy efficiency (see Chart 2 below).

Chart 2:



1. EVs include electric passenger vehicles, Light commercial vehicles, trucks, buses, coaches. Heating include electric water heating and electric space heating; 2. EE: energy efficiency from building

Source: Ausgrid, Endeavour, McKinsey Net-zero Trajectory, McKinsey Center for Future Mobility, McKinsey Power Solutions

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Consumer perspectives

Our research revealed three broad types of consumers, with a range of incomes in each group, and therefore differing levels of ability to afford upfront costs of low emission technologies:

- **Hesitants** (22%) are aware of climate change, but doubt that individual action can make a difference and many also believe that proposed solutions might create perverse impact on the climate. They are waiting for government to lead the way with sensible policies.
- **Pragmatists** (around half of Sydney's residents) focus on affordable solutions that make their lives easier. They would consider solar panels and electric heating and water but have not gone looking for them. If they have, they must be convinced clean solutions match the convenience they're used to. Clear and transparent information is key to nudging positive change from this cohort.
- **Stewards** (26%) are far more motivated to adopt sustainable technologies. They seek out new solutions and information but expect government and businesses to support those options.

Despite their differences, these consumers archetypes all expect government and businesses to demonstrate bold action and help make it easy for them to change.

Reducing costs for households and small businesses

The findings of our report clearly identify the role of community energy resources (CER) in enabling an equitable and cost-effective energy transition with the right moves by Government and Industry, including clear government policy, leadership, and incentives.

For Sydney households in the bottom quintile in terms of income, energy costs are estimated to account for ~20% of their disposable income. If these households adopted technologies such as rooftop solar, EVs, batteries and electric appliances, their energy costs could decrease to ~5% of their disposable income (all else being equal). This compares to the highest quintile where energy costs are only ~3% of disposable income and where savings could reduce this to ~1%.

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Governance and incentives – Sydney as a Renewable Energy Zone

The governance and coordination of investment in renewable energy infrastructure is currently focused on regional locations where important transmission and generation infrastructure outcomes are coming up against community social licence challenges. Yet as we can see from Chart 1, only a fraction of the 2 million plus residential rooftops across cities like Sydney are generating renewable energy, leaving many gigawatts of generation potential unused, and millions of household and small businesses disconnected from the direct benefits of rooftop solar and battery storage solutions.

Greater Sydney has the capacity to meet a significant proportion of its own energy demand (as much as 5GW above the existing 3GW), and meet this demand in a way the increases equity of access to the benefits of decentralised energy. However, no metropolitan-wide mechanism exists to incentivise the matching of generation and demand, and no governance structure is in place to drive equitable outcomes for household and small businesses consumers. Specific targets for decentralised energy solutions for states and even metropolitan areas are needed, along with REZ like coordination mechanisms to create certainty for industry and distributors of what they should be planning for and accelerate the market for incentives/ pricing for energy sharing.

Equally investment incentives are not aligned with driving the rapid expansion of urban renewable energy capacity needed to meet net zero goals, deliver direct consumer benefits, and provide a political solution to challenging social licence issues in the regions. Falling feed-in tariffs for rooftop solar means that many households, and small and large commercial and industrial operators, are not maximising potential generation unless they have access to battery storage. The Capacity Investment Scheme limits access to projects unless they are above 30MW, meaning that smaller consumer energy resources-based generation are not eligible. For example underwriting CER below 30MW would provide cheaper finance and investment certainty to local renewable energy zones, and potentially Virtual Power Plants (VPP) to aggregate consumer energy resources at less than 10 MW.

Objectives

Building on our previous work on Decarbonising Sydney, and our current research project "Sydney as a Renewable Energy Zone", we recommend five principles to drive the NEM Review:

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- **Equity:** The next decisions about how and who the energy system serves must be informed by the experience and potential of urban communities, and opportunities that the transition to a net-zero and decentralised energy future can deliver in terms of equitable outcomes for households and small businesses across Sydney and Australia.
- **Future ready:** The rate of change is so fast that working with current technologies may create redundant solutions if future possibilities are not considered. The rapid decrease in the price of batteries and electric vehicles, and the rapid advancement in Vehicle to Grid technologies, are two examples of leaps forward in price and technology.
- **Enable community resilience:** There are emerging benefits from battery storage and micro-grids that can enhance household and community ability to manage disruption to energy supply. Consideration of the social benefits and Government expenditure savings associated with supporting community resilience to disruption would strengthen this strategy.
- **Maximise potential**: Greater Sydney has the capacity to meet a significant proportion of its own energy demand (as much as 5GW above the existing 3GW), and meet this demand in a way the increases equity of access to the benefits of decentralized energy
- **Broaden investment incentives:** Changes to the Capacity Investment Scheme thresholds (even below 10MW) may be another way to drive investment in consumer energy resources if household and small business assets orchestrated through virtual power plant are able to bid into the Capacity Investment Scheme, de-risking investment, reducing the cost of finance, and increasing the returns to consumers.

Please don't hesitate to reach out to discuss our submission in more detail to inform the Panel's work in undertaking the NEM Wholesale Market Settings Review.

Yours sincerely,

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