

**Submission
No 247**

SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW

Organisation: Origin Energy

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Committee on Environment and Planning
Legislative Assembly
Parliament House
Macquarie Street
SYDNEY NSW 2000

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Inquiry into sustainability of energy supply and resources in NSW

Origin Energy Limited (Origin) welcomes the opportunity to contribute to the Legislative Assembly's inquiry into the sustainability of energy supply and resources in NSW (the Inquiry).

Origin is the largest energy retailer in Australia with over 4 million customers and one of Australia's largest electricity generators, gas suppliers, LNG exporters and renewable energy companies, investing in large scale solar and wind and rooftop solar. In NSW, Origin is the largest electricity retailer and has an electricity generation portfolio comprising coal, gas, hydro, wind and solar, that is critical to maintaining reliable and affordable electricity supply across the state. Origin is also a major provider of LPG, which is an important source of energy, particularly in regional NSW.

Origin recognises that climate change is a global challenge and unequivocally supports the Paris Climate Accord and other measures to reduce carbon emissions. We support the progressive decarbonisation of the electricity sector in Australia and the NSW Government's goal to achieve net zero emissions in the state by 2050. Origin has committed to halving our emissions by 2032, becoming the first Australian company to have Science Based Targets recognised by the global We Mean Business initiative.

Origin has a range of development projects across the National Electricity Market. In NSW we have potential projects to grow renewables and battery storage, expand our Shoalhaven hydro and Uranquinty gas plants as well as ongoing investment in our Eraring coal fired power station.

Energy markets are undergoing their most significant transformation in decades as we move to a more sustainable electricity supply system. NSW is well positioned to benefit from this transformation with abundant resources including renewables and gas. Governments and industry must work together to help manage this transition in an orderly manner for customers. The key points of Origin's submission are:

- 1. Customers and technology are driving the move to a more sustainable energy system;*
- 2. An orderly transition, to manage reliability and affordability, is critical for customers; and*
- 3. The key roles of government are to facilitate private sector investment and protect the interests of energy users and the people of NSW.*

1. Customers and technology are driving the move to a more sustainable energy system;

The energy industry is undergoing its most significant transformation in many decades driven by decarbonisation, decentralisation and digitisation. Renewables are now clearly the lowest cost form of new build generation, noting they need to be firmed. Renewables lower average prices but increase intra-day volatility. Gas is crucial as a lower emissions firming fuel that balances the intermittency of renewable energy. The rapid rise of rooftop Solar PV is empowering customers and penetration of battery storage systems and electric vehicles will increase as costs fall. Digitisation is enabling simpler and smarter customer interactions and new business models that streamline and personalise customer experiences.

NSW has historically had a strong and diverse base of local generation capacity supported by good interconnection with Queensland and Victoria. NSW has consistently delivered reliable supply and AEMO forecasts that NSW will continue to exceed the current reliability standard before and after the closure of Liddell. The electricity supply mix in NSW like other jurisdictions will need to continue to evolve to accommodate the continued growth in renewables and closure of ageing coal fired stations over coming years and decades.

This task will require significant investment from the private sector in generation, storage and transmission assets. There is no shortage of available capital and plenty of candidate sites and projects for development. However, investors face a challenging environment when contemplating investment in both renewables and firming generation.

Origin has invested directly in generation and through long term offtake agreements that underpin generation projects. Origin has been comfortable assessing technology cost, market price and regulatory risk. However, reaching Financial Investment Decision is now becoming very difficult. The absence of an integrated energy and emissions policy is making investments in long life assets difficult. The policy vacuum is compounded by uncertainty created by federal Government investment in generation including through Snowy 2.0, the Commonwealth's Underwriting New Generation Investment (UNGI) program and a range of state initiatives, in response to the lack of federal policy.

2. An orderly transition, to manage reliability and affordability, is critical for customers;

Governments and industry must work together to ensure that the energy market transformation works smoothly for customers. The sudden exit of coal fired plant in South Australia in 2016 and Victoria in 2017 resulted in deteriorating reliability and a doubling in wholesale electricity prices. Origin has sought to manage the impact on customers by reducing retail prices and running Earing harder and smarter but a co-ordinated approach across industry is required to avoid any further reliability or price shocks.

The planned phased retirement of Liddell is understandably a matter Governments are paying close attention to, with NSW and the Commonwealth establishing a joint taskforce. Liddell's historical availability at times of maximum demand has been much below its full capacity and there are a number of private sector investments sufficient to cover this capacity that are currently being assessed but all face the regulatory risks previously outlined.

Origin's major generation assets in NSW are the Earing coal fired power station, Uranquinty gas fired station and the Shoalhaven pumped storage hydro plant. Origin takes extremely seriously our obligations regarding the operation of Earing Power Station and Uranquinty power station, including their environmental impact. Origin operates in accordance with its licence conditions to ensure potential impacts to the environment are minimised.

We are also in regular dialogue with the NSW EPA to ensure that environmental regulation of the energy industry remains effective and appropriately balances stakeholder concerns.

We propose to close Eraring power station by the end of its fifty-year technical life in 2032. In the meantime, Eraring has a critical role in providing affordable and reliable electricity supply as renewables grow and other coal fired plant retires. Also, Eraring is cooled by water from Lake Macquarie, meaning that its operations are effectively drought proof. We have trialled operating Eraring on a two-shift basis, where the generation units power down during the day, to respond to the expected growth in solar output during daylight hours. As Eraring retires, Origin will ensure that we have sufficient owned and contracted capacity to meet the ongoing needs of our customers. We cannot predict the exact mix and location of replacement capacity at this stage, but it is likely to include a combination of wind, solar, hydro and gas. Existing generation sites are strong candidates for expansion or replacement capacity as they have the necessary approvals and social licence to operate, in addition to access to transmission and other infrastructure.

The Shoalhaven Pump Storage Scheme consists of two pumped storage hydropower stations at Kangaroo Valley and Bendeela in the Shoalhaven area. Water used to generate electricity during peak demand periods is pumped back, during lower demand periods, to storage head ponds above each station ready for when power generation is next required. The facility also plays an important role in supplying water to Sydney during times of drought. Origin has conducted a pre-feasibility study to evaluate options to expand the Shoalhaven scheme.

We also have potential projects to expand Uranquinty power station and for several solar and battery farms including on the sites of the existing Uranquinty and Eraring power stations.

The more rapid the move to renewables the more important that existing plant, mainly coal and gas, operate reliably. It is important that companies such as Origin maintain the confidence of our customers and the community and counter the outlandish claims made by some opponents of fossil fuels. Over the past 5 years, Origin has invested over \$900k in NSW regional communities in which we operate (Eraring and Uranquinty). Investment has been focussed on community safety, education, environmental stewardship, community health and wellbeing programs. At Eraring, we support around twenty organisations and activities per year and a majority of these are repeat funding recipients. Origin supports education, particularly in regional Australia including regional NSW, through our Origin Foundation that has distributed \$25 million to the community since its inception 10 years ago. Origin also maintains a strong procurement spend in the local government areas around our assets, for example we spent \$36 million in Lake Macquarie City Council in financial year 2019.

3. *The key roles of government are to facilitate private sector investment and protect the interests of energy users and the people of NSW.*

An integrated and co-ordinated energy and climate change policy set at the national level is critical to give industry the confidence to invest in new electricity generation and gas supply. Investment is needed to maintain reliability and improved affordability, as we transition to a low carbon energy system. In Origin's view, well designed and appropriately regulated competitive markets deliver the best outcomes for customers with regard to innovation, price and service.

Protections are necessary for vulnerable customers such as energy rebates funded by the NSW government and industry hardship programs, such as Origin's leading Power On program that protects customers in hardship from disconnection and helps with paying bills. There is also a key role for government to manage the impacts of the transformation on regional communities such as the Hunter and Lake Macquarie that are currently dependent on coal for jobs and their economic well-being.

The absence of integrated energy and climate change policy at a national level means we will continue to see piecemeal interventions and policy initiatives at both the federal and state levels. These interventions are often costly, distortionary and counter-productive. It is imperative that these interventions only proceed if necessary, are fit for purpose and do not discourage the substantial private sector investment that is needed to manage Australia's transition to a low carbon economy.

Government interventions and a shift toward more centralised planning has created uncertainty for investment. The current policy environment makes investment decisions in necessary generation challenging. Strong market signal is required to incentivise the right investments at the right time. Transmission is important but transmission doesn't increase generation capacity and it is more important that policy encourages investment in dispatchable electricity generation close to load centres.

The design of the NEM will need to continue to evolve in anticipation of continued growth in renewables and closure of ageing coal fired stations over coming decades. The COGATI work underway with the AEMC, optimisation of DER across network and wholesale markets and the Post 2025 Market Design work led by the Energy Security Board is particularly important. The extent to which the regulators can resist knee-jerk calls for a fundamental overhaul and focus on clearly articulating current and future issues and systematically work through potential solutions with stakeholders to design an orderly transition will be critical in setting the stage for the next round of investment.

With the work of the RET largely done, the absence of an emissions trajectory for the sector will cause problems for both investment and appropriate market design. Some form of emissions intensity target for the market is required before market design decisions can be made around the need or otherwise for supporting mechanisms to incentivise reliability and security services.

Natural gas is important transition fuel, in Australia and overseas. NSW has abundant natural gas resources, mainly in coal seams. The government should encourage the responsible development of its gas resources to reduce greenhouse gas emissions and put downwards pressure on gas and electricity prices. The Government should also encourage the development of nascent technologies that could contribute to a more sustainable energy supply such as natural gas for road and shipping transport and hydrogen as a potential domestic and export fuel of the future.

If you require any further information please contact me on email [REDACTED] or by phone [REDACTED].

Yours sincerely,



Tim O'Grady
General Manager Government Engagement