



**Optimal Renewable Gas**

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**20<sup>th</sup> of November 2023**

NSW State Government

Office of Energy and Climate Change

**RE: NSW Peak Demand Reduction Scheme**

Optimal Renewable Gas Pty Ltd (**ORG**) is an Australian developer of anaerobic digestion facilities focused on converting organic waste and residues to renewable energy in the form of biomethane. ORG plans to build at least 10 utility scale anaerobic digestion to biomethane facilities by 2030 across Australia producing up to 10PJ's of biomethane per year. Specially, we planning to develop 4 biohub in NSW to produce up to 4.5PJ's/yr.

ORG welcomes the opportunity to make a submission on NSW Peak Demand Reduction Scheme and notes the important role a renewable gas plays both in the interim for transitioning a decarbonising an **energy system** and in the long term as part of a decarbonised energy system.

Further, ORG calls out the important role that renewable gas plays when coupled with existing gas infrastructure; namely to provide reliable and responsive renewable energy to compliment investment in variable and intermittent renewable electricity. This is specifically called out because renewable molecules can be more readily and affordably stored than electrons. Importantly, this means that renewable gas coupled with underutilised gas infrastructure (particularly in summer) can not only decarbonise hard-to-abate (and/or costly to electrify) demand; it can provide responsiveness and reliability to the energy system by decarbonising demand which is not co-incidental with wind and solar.

We support the open access of renewable gas across a broad customer base and continue to refute the claim that electrification is the only (or is the lowest cost) decarbonisation solution for the all of the built environment, noting that many buildings and existing gas customers cannot readily (or cost effectively) electrify their gas demand in consideration of the capital cost, lack of space for heat pumps, in ability to access sufficient electrical capacity. Additionally, their typical time of use for energy should also be considered in relation to the challenges of meeting energy demand that is not co-incidental with wind and solar – particularly exacerbated as coal power stations begin to shut down. We additionally note the rising cost of transmission, electrical storage projects, the delays in renewable electricity investment and rising duck-curve

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issues (and cost of electricity demand that is not co-incidental with wind and solar) have not been adequately factored in.

An integrated energy system is imperative for a reliable and lowest cost energy transition inclusive of generation, storage, transmission and distribution as well as customer's appliances and equipment. Hence, policies such as the **Peak Demand Reduction Scheme should equally incentivise energy users than use renewable gas to reduce electrical peak demand**, this could include (but is not limited to):

- Trigenation systems;
- Dispatchable distributed power generation (eg behind the meter cogeneration) ie dispatchable DER;
- Future fast charging facilities for transport/renewable fuels (bioCNG/LNG or Green Hydrogen); or
- Gas power air-conditioning.

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Specific Responses to the questions:

*24. Can you provide information on baseline demand/discharge, demand response or shifting, and other key operational characteristics that the NSW Government could use to develop rules for any of the activities we are continuing to look at?2 Of these fuels, which need incentives under the scheme to be commercially viable and for how long?*

NSW is leading the country in relation to supporting renewable fuels. For example, the first renewable hydrogen project into a major gas network, the first project to inject biomethane into the gas network and the development of renewable gas certification through GreenPower. Additionally, NSW has implemented a Renewable Fuel Scheme all of which enable a stronger and more flexible decarbonisation solution for NSW energy users. Hence, the NSW Government should also consider how renewable gases, leveraging the storage of existing gas infrastructure can reduce Peak Energy Demand and should begin to look at policies that support optionality. We strongly recommend that businesses that contract renewable gas and demonstrate a reduction in emissions and peak demand on the electricity system should be able to access the scheme in the future.

Kind regards

Yours sincerely



Michael Davis,  
Managing Director,  
Optimal Renewable Gas