Tēnā koutou,

Thank you for the opportunity to provide feedback on the joint letter regarding non-network solutions.

We strongly support the direction outlined by the Commerce Commission, Electricity Authority and EECA. The scale of the opportunity identified — including approximately 1.9 GW of shiftable load, 500 MW of sheddable load, and around $2 billion of forecast network investment — highlights that non-network solutions are not marginal improvements, but a critical pathway to delivering a lower-cost, more efficient electricity system for New Zealand.

Below is a short summary of our key points, followed by more detailed feedback.

Executive summary

Non-network solutions are already delivering real results today. Through demand response, peak management and behind-the-meter optimisation, we have demonstrated that relatively low-cost control systems can materially reduce peak demand and avoid or defer millions of dollars of network investment.

The key enabler is intelligent, behind-the-meter orchestration. Flexibility at scale will not come from manual consumer response, but from smart algorithms dynamically managing individual loads such as heating, hot water, EV charging, batteries and solar systems. This requires high-resolution data and fast control — in many cases 30-minute or even 5-minute data is not sufficient.

There is a strong opportunity to deploy these solutions at scale across portfolios such as schools and commercial buildings, where loads are predictable and controllable. When combined with distributed solar and battery systems, and coordinated through aggregation platforms, this can significantly increase the effective capacity of existing network connections.

The main barrier to scale is not technology, but commercial and procurement frameworks. To unlock investment, there must be clear, repeatable pathways for procuring flexibility, transparent valuation of avoided network costs, and mechanisms that allow providers to share in the value they create.

We support a nationally coordinated approach to open, standardised protocols at the network interface, while maintaining flexibility for advanced optimisation behind the meter. High-resolution data and closed-loop control will be essential to safely maximise utilisation of constrained infrastructure such as shared transformers.

New Zealand has a unique opportunity to lead in this space. A coordinated approach combining demand response, solar, battery storage and intelligent control could defer a

significant portion of planned network investment, reduce peak demand, improve utilisation of existing infrastructure, and deliver meaningful savings for consumers.

We are actively working to scale these solutions and would welcome the opportunity to collaborate with regulators and industry to accelerate deployment.

Detailed feedback

Non-network solutions are not theoretical. Through deployments across schools and commercial buildings, we have demonstrated that actively managing controllable loads can materially reduce peak demand and defer infrastructure upgrades.

Our systems have already avoided or deferred several million dollars of network-related capital investment, while improving outcomes such as thermal comfort through pre-heating and smarter scheduling. These results reinforce that demand response and peak management can deliver disproportionately high value relative to their cost.

The practical delivery of flexibility relies heavily on intelligent, behind-the-meter control systems. In our experience, the ability to manage loads at an individual asset level — continuously and dynamically — is what enables meaningful peak reduction without negatively impacting end users. This includes optimising heating, hot water, EV charging, batteries and solar systems in response to both site conditions and network constraints.

A critical enabler of this is high-resolution data. For dynamic assets such as batteries and inverter limits, particularly in environments with shared transformers or constrained connections, 30-minute or even 5-minute data is often insufficient. Near real-time data (e.g. 5–10 second intervals) allows safe, closed-loop control that can maximise utilisation of existing infrastructure.

We strongly agree that non-network solutions must be considered early in network planning processes and on an equal footing with traditional reinforcement. The greatest value is achieved where constraints are identified early, flexible capacity is quantified, and control strategies are implemented ahead of the need for network upgrades. Where this does not occur, opportunities are often missed.

Pricing will play an important role in enabling flexibility, however in practice most response will be delivered through automation rather than manual consumer behaviour. Retailers, aggregators and technology providers will respond to price signals on behalf of consumers, and hybrid approaches that combine pricing with automated control are likely to deliver the most effective outcomes.

In our view, the primary constraint on scaling non-network solutions is commercial rather than technical. To unlock deployment at scale, there needs to be clear and

consistent procurement pathways, improved visibility of opportunities, and transparent valuation of outcomes such as avoided capex and reduced peak demand. It is also important that providers are able to share in the value they create, to support ongoing investment in systems, platforms and optimisation.

We strongly support the move toward open, standardised communication protocols. A nationally coordinated approach at the network interface level would reduce fragmentation and enable providers to scale across multiple networks. At the same time, it is important to avoid constraining innovation behind the meter. The greatest value is often delivered through advanced control systems using high-frequency data and optimisation algorithms, and frameworks should allow this to continue to evolve.

While protocols such as IEEE 2030.5 and OCPP each have important roles, no single protocol currently addresses all use cases. A layered approach — with open standards at the network boundary and flexibility behind the meter — is likely to be the most effective way forward.

There is a significant opportunity to deploy these solutions across portfolios such as schools, commercial buildings and community infrastructure. These sites have predictable load profiles and large volumes of controllable demand, making them well suited to aggregation. In parallel, larger-scale solar and battery systems can support both host sites and surrounding networks. When combined with intelligent orchestration, this can materially increase the effective capacity of existing grid connections.

New Zealand is well positioned to lead in this space. A coordinated approach combining demand response, peak management, distributed solar and battery systems, and intelligent control platforms can unlock a significant portion of the flexibility identified in this letter within the next few years.

This would reduce peak demand, defer or avoid network investment, improve utilisation of existing infrastructure, and support the integration of renewable energy — delivering tangible benefits for consumers.

We are actively working to scale these solutions across New Zealand and are keen to partner with distributors, retailers and other participants to accelerate deployment.

Ngā mihi,
Rob Willcox

Founder of Ecologic https://www.ecologic.energy/

CTO of Local Energy https://www.local.energy/