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RE: Unlocking the potential of demand flexibility in homes – Consultation paper

Counties Energy strongly supports EECA’s focus on scaling residential and commercial demand flexibility as a critical national capability to manage peak demand, improve renewable utilisation, and enable more efficient electrification. Demand flexibility is an essential component of a future Distribution System Operator (DSO) model and is central to delivering lower-cost, low-carbon, and resilient outcomes for customers.

We agree the primary use cases identified in the Green Paper are appropriate and reflect the emerging needs of the electricity system. Additional value exists in areas such as local resilience, outage restoration support, and consumer bill-optimisation services, all of which become increasingly important as distributed energy resources proliferate.

The end-use products identified for the residential, commercial, and industrial sectors are largely appropriate. From a Distribution System Operator (DSO) perspective, the highest-value residential products are EV chargers, electric hot water systems (including heat-pump water heaters), heat pumps, and inverters/battery systems. Commercial and industrial flexibility opportunities are centred around HVAC, refrigeration, boilers/process heat, large motors/pumps, fleet charging, and onsite storage. These loads offer material controllable capacity and can be integrated into flexibility markets with the right standards and incentives.

A key barrier to scaling flexibility is the lack of consistent, open, and vendor-neutral standards for communication, product response, and operational information. A minimum level of standardisation at the device level is necessary to ensure interoperability, safety, predictability, and procurement confidence. Additional considerations include testing/certification regimes, data privacy, device safety controls, and basic cybersecurity expectations.

Counties Energy strongly advocates the need of aligning our standardisation efforts with the Australian market, especially for DER interoperability. DER OEMs see Australia as the major market in the Pacific region and the New Zealand market as an extension of it. New Zealand’s electrical standards already align with Australia, e.g. AS/NZS 3000 and AS/NZS 4777 and the New Zealand Electricity Distribution Networks seek to align with their Australian counterparts as much as possible. Hence aligning to the Australian DER management protocol CSIP AUS IEEE 2030.5 and the Dynamic Operating Envelopes (DOEs) framework would be a logical choice. This will ensure that when a DER is made available in the Australian market and approved by



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Australian electricity networks, it would automatically also be accepted by the New Zealand market.

Counties Energy supports EECA developing a voluntary approved list for demand-flexible products, akin to the EV Smart Charger Approved List. This approach would accelerate market confidence, simplify procurement, and support DSOs in integrating flexibility into network operations. We also support the formation of technical working groups and would participate in groups focused on EV chargers, hot water systems, heat pumps, and inverter/HEMS integration.

Demand flexibility is a low-regret, high-impact enabler of New Zealand's energy transition. Clear device-level standards coordinated industry engagement, and practical consumer protections will help ensure this capability is deployed safely, equitably, and at scale. Counties Energy looks forward to collaborating with EECA and sector partners to deliver a flexible, intelligent, and customer-centric future grid.

Yours sincerely

Astad Kapadia
Head of DSO Strategy

Annex – Response to questions

Questions	OEL Comments
<p>Q1. The main use cases for demand flexibility presented in this paper are: managing peak demand (generation and line capacity) constraints, optimising renewable energy use, and optimising home energy use.</p> <ul style="list-style-type: none"> • Do you think these are the main use cases? • What other use cases are there? 	<p>Yes — main use cases are correct: peak management (generation & line capacity), renewable optimisation, and optimising home energy.</p> <p>Other use cases worth considering are resilience (local islanding/restore), customer bill-optimisation services</p>
<p>Q2. In the residential sector, the following products have been identified as key end-use products for demand flexibility: EV chargers, heat pumps, electric hot water systems which use a storage tank, fridges/freezer, clothes washers, dishwashers, clothes dryers, inverters for solar and battery systems, and HEMS.</p> <ul style="list-style-type: none"> • Do you think these are the key demand flexible end-use products in the residential sector? • If not, what are the key products and why? 	<p>Agree with the list. Priorities for network value: EV chargers, electric hot water (storage/HPWH), heat pumps, and inverters/batteries.</p> <p>Lower priority for flexibility: fridges/freezers, washers/dishwashers/dryers — useful but intermittent and smaller per-device impact.</p>
<p>Q3. Do you think a standardised end-use product/application-based approach is relevant for the commercial sector, or is a bespoke/customised approach needed?</p>	<p>Standardised would be preferred and required for common building systems (HVAC, commercial hot water, EV fleet chargers).</p> <p>Bespoke could be used where things are still in the R&D phase and for extremely unique commercial loads or process-driven systems</p>
<p>Q4. What do you think the key end-use products/applications are in the commercial sector?</p>	<p>HVAC (commercial controls), refrigerated display & cold rooms, commercial boilers, commercial hot water, EV fleet chargers, lighting controls, commercial batteries/solar</p>

	inverters, building management/HEMS integration
Q5. Do you think a standardised end-use product/application-based approach is relevant for the industrial sector, or is a bespoke/customised approach needed?	Standardised would be preferred
Q6. What do you think the key end-use products/applications are in the industrial sector?	Process boilers/heaters, industrial refrigeration, large motors/pumps, on-site storage (thermal or batteries), process scheduling/interruptible loads, and industrial inverters/CHP, EV fleet chargers
Q7. What are the barriers to the uptake of demand flexible technology?	<ul style="list-style-type: none"> • Interoperability & lack of common standards. • Upfront cost and weak commercial signals for owners/installers. • Insufficient meter/network telemetry and visibility at LV. • Consumer trust/control, privacy and opt-out needs. • Installer skills/market fragmentation and equity/access issues.
Q8. The paper describes the three main end-use product components for demand flexible capability as: communication protocol, product response, and operational information. <ul style="list-style-type: none"> • Do you agree that these are the main components for demand flexible end-use products? • What other components or considerations are important for end-use products? 	<p>Agree: communication protocol, product response, operational information are the core.</p> <p>Also essential: test/certification regimes, device safety limits, data privacy standards, and minimal cybersecurity requirements (even if EECA treats cyber as out-of-scope)</p>
Q9. Do you think to support the development and uptake of demand flexibility there is a need to create a minimum level of standardisation at an end-use product level (covering communication	Yes. A minimum, open, vendor-neutral spec (protocol, telemetry set, override/latency limits, safety constraints) is required to scale safely and predictably.

<p>protocol, product response, and operational information)?</p>	
<p>Q10. Would you support EECA creating a voluntary approved list of residential demand flexible end-use products, similar to EV Smart Charger Approved List</p>	<p>Yes - An EECA approved list (or similar) accelerates buyer confidence, procurement, and DSO integration — while remaining flexible for innovation.</p>
<p>Q11. Would you participate in working groups on the key end-use products to develop voluntary demand flexibility requirements (covering communication protocol, product response, and operational information)?</p> <ul style="list-style-type: none"> • If so, what product based working groups would you like to be part of? 	<p>Yes — Counties Energy will participate. Priority working groups we’d join: EV chargers, hot water (storage & HPWH), heat pumps, and inverters/HEMS (including testing/operational data definitions)</p>
<p>Q12. If you are an end-use product supplier, would you manufacture/import/supply end-use products that meet the voluntary specification?</p>	<p>Counties Energy is not a product supplier.</p>