wellington electricity

Maximising benefits from local electricity generation

19 November 2025

1 Submission and contact details

Consultation	Maximising benefits from local electricity generation
Submitted to	Electricity Authority
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2 Confidential information

There is no confidential information provided in this submission. This submission can be publicly disclosed.

3 Executive Summary

Wellington Electricity Lines Limited (WELL) support the Authority's objective to improve the efficiency of export limits. However, we are skeptical that the package as drafted, will maximise long-term consumer benefit on all networks at this time. Wellington Electricity favour an evidence-led path to ensure our ability to deliver on our statutory obligations, a safe, reliable, cost-effective, and high-quality service. WELL encourage the Authority to tread cautiously when applying a one-size-fits-all approach to export limits.

Our main concerns with the proposed package are:

- **Network safety and quality of supply:** A uniform lift to a default 10 kW export limit for "straightforward" low-voltage connections, will risk; voltage rise, reverse power flows, and power-quality issues on legacy feeders unless pre-conditions (visibility, control, and hosting capacity) are in place.
- **Risk and cost allocation:** Higher exports without strong guardrails can shift costs (monitoring, reinforcement, and voltage control) onto non-DG customers. The paper anticipates benefits, but these are contingent and uneven across regions.

- **One-size-fits-all defaults:** Mandating a national default, plus prohibiting limits on nameplate capacity, could unduly constrain distributors' ability to manage local constraints and critical loads that are prominent on the WELL network (eg, Parliament, hospitals, telecoms, ports, and water assets).

- **Implementation readiness:** The package leans on future improvements (eg, widened voltage ranges, better inverters, forthcoming methodologies) but does not adequately sequence change to the current state of data, tools, and feeder conditions in each region.

- **Dealing with unexpected consequences / cumulative effects**: Our modelling shows that with no diversity for summer solar injection, therefore there needs to be some safeguards are in place for non-solar customers being negatively impacted by an abundance of midday solar. There doesn't appear to be any safeguards proposed. When 15% -20% penetration levels occur there will need to be corresponding reduction levels to manage network performance. Export limit regulation needs to consider a wider scope of situations so there are clear commitments to turn down injection and consequences if this does not occur.

We also urge the Authority to examine how other countries and jurisdictions have managed consumer generation export and the challenges that they observed. Our sister company South Australia Power Networks, experienced high uptake of solar PV and have implemented a Flexible Exports solution to maintain a stable network. The Flexibile Exports solution uses a combination of mechanisms including mandatory inverter overvoltage trip settings and an emergency solar curtailment system. Where connections cannot be managed via the Flexible Export solution, their fixed export limit is 1.5kW. While the Wellington network is a long way off having as much solar penetration as they do, we believe the foundations need to be set up properly the first time to minimise rework and extra cost.

4 Detailed comments

4.1 Default 10 kW export limit for small-scale DG (Part 1A)

WELL position: Do not mandate a blanket 10 kW default. Instead, make it conditional on feeder-level pre-conditions and allow opt-in application by distributors where hosting capacity and operational controls are proven.

Why we're cautious

- **Feeder diversity:** Many Wellington feeders (mixed underground/overhead, steep topography, legacy assets) have heterogeneous hosting capacity. A 10 kW default limit may be workable on some circuits but unsafe or uneconomic on others without reinforcement or active management.
- **Operational risks:** Higher static export caps can worsen voltage rise, harmonics, and reverse flows, increasing fault current and stressing protection settings—especially during low load / high PV output conditions.
- **Equity:** If upgrades/monitoring are needed to accommodate higher exports, there is a real risk of cross-subsidy from non-exporters to exporters unless costs are properly targeted.

Suggested Code changes

- Make 10 kW an indicative ceiling that applies only where the distributor confirms:
    - up-to-date hosting capacity analysis for the specific LV/network;
    - adequate visibility (eg, AMI data, feeder monitors, inverter, battery make and model data) and voltage control assets;
    - the default inverter settings are enabled and verifiable; and
    - there is no material critical-load risk.
- Allow a phased activation (by distribution transformer), with transparent publication of where 10 kW default limit applies.
- Embed an explicit principle that network safety and quality remain paramount; where evidence indicates risk, distributors may apply lower limits with brief published reasons aligned to the industry methodology.

4.2 No limits on nameplate capacity (while controlling export)

WELL position: Partially oppose unless paired with visibility and control obligations for large behind-the-meter systems.

Why we're cautious

- Very large behind-the-meter PV/battery systems—even if export-capped—can change local load/voltage dynamics (eg, battery behaviour, fast transients), complicating protection and feeder planning.

- Without minimum telemetry and control (eg, dynamic export caps, curtailment, reactive support), distributors—and by extension other customers—carry operational risk.

Suggested Code changes

For systems above a threshold (eg, >15 kW PV or >10 kW inverter-limited export, or battery >10 kW), require:

- data visibility (interval data and event logs);
- remote-settable export limit / Volt-Var/Volt-Watt capability;
- capability to enter a dynamic connection agreement during constraints or emergencies;
- cost recovery by the connecting party for any incremental monitoring/control equipment.

  These features align with WELL's existing technical standards for testing/monitoring for DG and direct agreements.

4.3 Industry-developed methodology for bespoke export limits (larger DG)

WELL position: Support a common methodology, provided it is principles-based and explicitly allows local departures with reasons.

Design preferences

- Include clear cost-allocation guidance: when bespoke limits require reinforcement or additional monitoring, incremental costs should fall on the connection proponent, not broadly socialised.

- Specify minimum data inputs (feeder models, voltage headroom, diversity factors, AMI insights), and acceptable planning assumptions.

- Provide for periodic review and revocation of limits where conditions change (eg, feeder uptake, asset failures), with a short notice protocol.

- Considering explicitly the interaction with the Distributed Generation Pricing Principles (DGPPs).

5 Consultation Questions

Q1. What are your views on the proposal to set a default 10kW export limit for Part 1A applications?

The default 10kW export limit should only be applied where specific feeder-level pre-conditions are met (hosting capacity verified, monitoring in place, default inverter settings validated). Otherwise, the default should not apply, and a lower limit must remain available. Limits should be able to be reduced to the nameplate capacity of the system for visibility reasons as discussed below.

Q2. What are your views on the Code clarifying that a distributor cannot limit the nameplate capacity of a Part 1A application, unless the capacity exceeds 10kW?

WELL oppose this mandate because removing nameplate limits without minimum visibility/controllability for larger behind-the-meter systems creates operational risk (voltage, harmonics, reverse power flows). If adopted, this needs to be paired with thresholds that trigger telemetry, remote-settable controls, and (where needed) dynamic connection agreements.

Q3. There are requirements for distributors in Proposal A1. Which of these do you support, or not support, and why?

WELL have been working on LV modelling of load constrained areas to understand where investment is needed and flexibility solutions would be best applied. There is the possibility of using this model to also show where export limits are/forecasted to be and provide the data that the Authority is requesting in this consultation. Building another methodology to produce the same data would be an inefficient use of resources. This is why we do not support a standardized export limit methodology.

We support requirements (a), (b), (d) if based on EDB specific modelling.

We do not support the requirement (c). A signed statement by the CEO declaring that the export limits are in accordance with the Code requirements is very odd. WELL cannot see any reason why this is necessary, and the expectation on a non-technical role, to validate technical requirements does not make sense. There are no other Code requirements that the CEO must sign of this nature.

We also tentatively support updating the network assessment. We believe that the best frequency would be on an annual basis, to align with Commerce Commission disclosure

requirements. This could be revised depending on the fulfillment of the benefits the data provides.

Q4. What are your views on the proposal for industry to develop an export limits assessment methodology?

WELL support this initiative in principle. Method must be principles-based (not prescriptive), allow local departures with reasons, and include clear cost-allocation guidance where reinforcement/monitoring is required by a proposed export level. Where an EDB has network specific modelling, this should take precedence.

Q5. What would you do differently in Proposal A1, if anything?

We would believe 10 kW should be an opt-in ceiling activated feeder-by-feeder once pre-conditions are demonstrated and published. We also believe that the Authority needs to define "straightforward connection," that require commissioning evidence of inverter settings, and allow temporary reductions under network or security constraints. As described in the SA Power Networks Flexible Exports implementation.

Q6. What concerns, if any, do you have about requiring the 2024, rather than 2016, version of the inverter installation standard for Part 1A applications?

WELL do not have any concerns requiring the 2024 version of invert installation standard. We also support transitional arrangements and clear verification responsibility on the connecting party/installer. (Distributors should retain audit rights and cost recovery for non-compliance.)

Q7. Do you support amending the New Zealand volt-watt and volt-var settings to match the Australian values for Part 1A applications - why or why not – what do you think are the implications?

WELL support this change when the industry has a standard methodology that clearly sets out when these parameters should be changed.

Q8. What would you do differently in Proposal A2, if anything?

Allow distributors to specify alternative settings on specific feeders (with published reasons).

Q9. Do you have any concerns about the Authority citing the Australian disconnection settings for inverters when high voltage is sustained?

WELL does not have concerns citing Australian disconnection settings provided it still applies with the Electricity Safety Regulation Section 28.

Q10. Do you have any concerns about the Authority requiring the latest version of the inverter performance standard for Part 1A applications?

WELL does not have any concerns requiring this.

Q11. What are your views on the proposal that where distributors set bespoke export limits for Part 2 applications, they must do so using the industry developed assessment methodology?

WELL support bespoke assessments where the cost is allocated to the applicant driving the charge. We maintain that network specific assessment is preferred. Any methodology used needs to build in foundations that, (i) allow justified local departures, (ii) sets minimum data inputs/assumptions, (iii) includes review/revocation of limits as conditions change, and (iv) addresses cost-allocation explicitly.

Q12. What are your views on the several requirements that must be adhered to regarding the distributors' documentation relating to setting export limits under Part 2?

WELL have no concerns about these requirements.

Q13. Do you agree it is fair and appropriate that where distributors set export limits for Part 2 applications, applicants can dispute the limit? If so, what sort of process should that entail?

As applicants are not technically participants until they are generating, we agree that in general, applicants should have the ability to dispute the limit and agree with amending the Code to allow for that. However, WELL agree with the comments set out in the ENA submission, and the Authotirty should look to redraft the Code wording to acknowledge these concerns.

The applicant should have the ability to engage a third party consultant to assess the results of the feasibility tests and receive justified reason for lowering the export limit. The Authority should also consider this approach for obtaining data deemed necessary for large load and DG connections as part of their clause 2.16 information request.

Q14. What would you do differently in Proposal B, if anything?

No.

Q15. What are your thoughts on requiring the inverter performance standard (AS/NZS 4777.2:2020 incorporating Amendments 1 and 2) for low voltage DG applications in New Zealand?

WELL already applies this standard.

Q16. Do you consider the transitional arrangements workable regarding requirements and timeframes? If not, what arrangements would you prefer?

WELL do not agree that 4 months is sufficient time for industry led methodologies to be progressed. The misalignment between a default limit being set, and methodologies being formed is not necessary because the proposed benefits of the change will not be realised within such a short space of time.

The pace and amount of change in this area is very large, and there needs to be clear interdependencies to other Code changes, dates and deadlines that the industry are working towards, including Network connections project changes. EDBs need time to ramp up, where there are no additional allowances to pay for the increased workload.

WELL do not agree that the Network connections project changes and export limit proposed changes should be so closely enforced.

Q17. What are your views on the objective of the proposed amendments?

WELL support the objectives (maximise DG benefits while maintaining safety/reliability) but they must be sequenced to current network readiness and avoid unintended cost-shifting or risk of network reliability being compromised.

Q18. Do you agree the benefits of the proposed amendments outweigh their costs? If not, why not?

WELL believe that the benefits are unproven on all networks. Benefits depend on uptake profiles, coincidence with demand peaks, and feeder constraints. Without pre-conditions and cost-targeting, there is a real risk of cross-subsidy from non-DG customers.

Q19. What are your views on the Authority's estimate of costs of lost benefits from a 5kW export limit?

The estimate of lost benefits does not appear to support the change proposed.

Q20. Are there costs or benefits to any parties (eg, distributors, DG owners, consumers, other industry stakeholders) not identified that need to be considered?

The costs to obtain half-hourly data have not been considered. This is an OPEX heavy initiative and if enforced, will require additional allowances that EDBs are not currently funded to acquire. We note that the same data set will be needed to apply solar injection payments too. By having more smart meter data, EDBs can more easily analyse the benefits to their network, through demand curtailment that delays traditional investment. We note that consumers already pay for this data via their payments to retailers. We consider that it's inappropriate that consumers should not be expected to pay twice.

Q21. Do you agree the proposed Code amendments are preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's main statutory objective in section 15 of the Electricity Industry Act 2010

WELL disagree that a Code amendment is preferable. WELL agrees that there are outputs requiring Codification (visibility on export limits, that lead to the development and implementation of operating envelopes), but considers that prescribing a method to how each EDB manages their unique set of constraints, risks undermining efficiencies in other areas. To reiterate, there is no one-size-fits all due to network setup, network foundation, and climate differences. There is further work needed to ensure we do not need to back-track changes as other jurisdictions have.

Q22. Do you agree the Authority's proposed amendments comply with section 32(1) of the Act?

No, we do not consider the proposed amendments comply with section 32(1) of the Act, due to the reasons described above. We do not agree that the current version of the proposed amendments is the best way to improve the reliable supply of electricity to consumers for all networks.

Q23. Do you have any comments on the drafting of the proposed amendment?

Further comments to the drafting of the proposed amendment can be read in conjunction with the ENA's submission.