Outlook

Maximising benefits from local electricity generation

From Matt Dempsey [redacted]
Date Sat 15/11/2025 10:17
To Connection Feedback <connection.feedback@ea.govt.nz>

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My name is Matt Dempsey, and I'm a homeowner, family of 4 with adult children at home (university students), and I work from a home office from Avonhead, Christchurch. I, like many others, am excited by the potential of better empowering consumers who are fundamentally reshaping our energy future through investment in distributed generation like rooftop solar, and battery storage.

Having completely electrified our home we are fully committed to the shift to renewable energy and maximising benefits from local electricity generation for the benefit for all New Zealanders.

I agree with the Electricity Authority Te Mana Hiko (Authority) aim to remove unnecessary barriers to more efficient investment in distributed generation and maximise the benefits it brings for all New Zealanders.
Currently, there are arbitrary restrictions on the amount of power those with rooftop solar and batteries connected to distribution networks can export to the grid. Higher export limits should speed up distributed generation (eg, roof top solar) and battery adoption rates because the payback period will be reduced and incentivise bigger systems to be installed. This will increase savings for homeowners and also help bring down the price of electricity for everyone on the network.

I support the Electricity Authority proposals to improve export limits for small-scale distributed generation (DG) by:

- setting a default 10kW export limit (with allowance to set lower limits where appropriate based on an industry-developed assessment methodology) for small scale distributed generation connections (up to 10kW capacity),
- setting default voltage response settings for inverters (using Australian setting) and allowing for distributors to set different settings where appropriate.

I support the Electricity Authority proposals to improve export limits for large-scale distributed generation (DG) by:

- mandating distributors to use an industry-developed bespoke export limits assessment method to set export limits for larger DG
- Mandating the use of the latest inverter performance standard for low voltage DG

Making sure the way bespoke export limits are set for many small businesses, community groups, farms and households who want to install more than 10kW of solar is really important to get right, so that unnecessary limits are not placed on the scale of their solar and battery installations. This critical group of customers installing mid size solar are typically not resourced to engage in the

connection process with distributors in the same way that the large utility scale distributed solar and battery firms are. Therefore it's important that the proposed assessment method that distributors use is transparent, fair and its use is monitored by the Electricity Authority to ensure it is not used to unnecessarily limit distributed generation.

Allowing for distributors to set lower default limits than 10kW where appropriate using an industry-developed export limits assessment methodology, might be needed in specific situations but it should not be used as a way for EDBs to avoid improving network management approaches to support more customer solar investment and continuing to impose arbitrary unnecessary export limits. Electricity Authority scrutiny should be applied here, to monitor use.

Higher export limits will have widespread benefits for all New Zealanders and strengthen the resilience of the electricity supply. For example, distributed generation can increase the energy resilience of local communities by reducing reliance on electricity generated from centralised, grid-scale generation. Plus solar and battery systems can provide essential back up if there is a power outage, providing power for essential communications, EV charging and basic needs.

The country is screaming out for more generation and we know there is currently spare solar energy being curtailed by the networks that could be helping, especially in a dry year. We want to encourage the biggest possible solar systems because it reduces the costs for the homeowner and for everyone else on the network and higher export limits will help do that.

I support the Electricity Authority proposal to prohibit distributors from imposing any limits on the nameplate capacity of installed distributed generation. Limiting how much solar customers install for their own use is unnecessary and does not maximise benefits to customers. Larger solar systems can be designed to provide optimal supply and battery storage, and exports back to the grid via the inverter are limited so they don't breach required export limits.

We have fully electrified our home. We have a 9.1kW solar array with a Tesla Powerwall battery and smart home backup, heat pump hot water, induction cooking, ducted heat pump, and a Tesla EV with home charging. After the 13.5kWh battery is filled, we continually have our solar generation clipped as the export is limited to 5kW, which is a waste and also a missed opportunity for the community. We also miss out on maximising our investment in solar.

The 5kW limit also prevents us from using the Tesla "Charge on Solar" feature, which automatically uses only the excess solar capacity (after the house and battery) before exporting to the grid. Because we must set an export limit of 5kW, we cannot use this feature effectively. If we plug in, the EV may draw up to 7kW and therefore run down the battery, defeating the purpose of smart solar charging. Removing these artificial limits would allow us to utilize our full system capacity and smart charging features efficiently.

We are also highly open to further advancements in distributed generation (DG), including participation in concepts like a Virtual Power Plant (VPP), which we believe offers significant opportunities for network stability and efficiency. To truly unlock the potential of DG and VPPs, there must be strong incentives for people to invest in battery storage, as this is key to providing flexible capacity to the grid. Finally, the Authority should consider options for renters who cannot install rooftop solar to be able to partake in community-based solar schemes, ensuring equitable access to the benefits of local generation.

Ngā mihi nui

Matt Dempsey

[redacted]

Sent from my iPad

Appendix B Format for submissions

Maximising benefits from local generation

Submitter	Matt Dempsey
Submitter's organisation	

Please send your submission to connection.feedback@ea.govt.nz by **5pm, Wednesday 19 November 2025**

Questions	Comments
Q1. What are your views on the proposal to set a default 10kW export limit for Part 1A applications?	I support the proposal to set a default 10 kW export limit for Part 1A applications. This provides clear, consistent, and predictable rules for residential and small commercial generators, simplifying the connection process and encouraging uptake of local generation. I note that local network constraints may occasionally require lower limits, so distributors should retain flexibility to adjust limits where necessary, but the default 10 kW provides a reasonable starting point for most small generators. Additional benefits of a 10 kW default export limit include giving residential generators flexibility to maximise savings and future-proof systems with batteries or EV chargers. For other users of the grid, local generation can reduce peak demand, lower wholesale electricity prices, defer network upgrades, and contribute to environmental benefits by reducing reliance on fossil-fuel generation.
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?	As a residential solar generator, I welcome the proposal to clarify in the Code that a distributor cannot impose a nameplate capacity cap on a Part 1A application below the threshold of 10 kW. This will remove a significant barrier and provide home-owners certainty when designing their solar installation, so long as they meet the technical and safety requirements. I request that the Code also explicitly recognises the need for distributors to manage local network effects (such as export limits, voltage rise, protection settings) and that the 10 kW threshold remain under periodic review in the light of evolving technology and increased consumer demand for onsite generation and storage
Q3. There are requirements for distributors in Proposal A1. Which	**1 Pipeline publication requirement**

of these do you support, or not support, and why?	Support: • I strongly support distributors publishing their connections pipeline, because this gives visibility of what connections are already pending (which helps me assess risk of delays, queueing). • For home-solar adopters, although we are small scale, improved transparency at the network level builds confidence in the distributor and reduces the risk of "unknown delays" or hidden priority practices. Concerns / caveats: • The requirement is targeted primarily at large DG and large loads — so not all residential cases may benefit immediately. • I would ask that this pipeline publication also consider smaller scale systems (or at least give indicative information) so home-owners can understand whether their local area is "constrained" or "free". • I would want assurance that the pipeline publication does not become so onerous that it increases distributor costs and thus connection charges for home systems. **2. Network capacity information requirement** Support: • I support the requirement for more information on network capacity: as a homeowner planning a solar + storage system, knowing whether my feeder or substation has capacity helps me pick the right system size, anticipate restrictions or extra costs, and plan accordingly. • This kind of transparency aligns with good consumer protection and helps avoid surprise "you can't export as expected" outcomes. Concerns / caveats: • The granularity and quality of the data matter: If the capacity information is too high-level (e.g., only at substation level) it may not meaningfully help a residential applicant understand local constraints (feeder, transformer). I would encourage capacity data at a reasonably local level.

- Need clarity on how “available capacity” is defined, and how often it is updated (otherwise the information could become outdated and misleading).

3. Increased record-keeping / reporting to EA

Support:

- I support improved record-keeping because it promises better oversight, benchmarking of distributor performance, and ultimately likely faster, more efficient connections — which benefits home installers.
- Having consistent data across distributors should help identify best practices and drive improvements in connection times.

Concerns / caveats:

- I would encourage that the increased reporting obligations should not indirectly increase costs for applicants (e.g., by raising distributor overheads which are passed on).
- For small residential installations, I hope the additional reporting doesn’t translate into extra paperwork or requirements for the applicant. The burden should fall on the distributor, not the homeowner.
- I would like to see transparency as to what the data will be used for: what performance metrics will the EA publish, and how will that lead to tangible benefit for residential generators?

4. Standardised application/approval processes (for large-capacity)

Support:

- While this is more directly aimed at large generators, I still support standardisation of processes overall because it can result in spill-over benefits for smaller systems (clearer expectations, fewer surprises).
- For residential solar generators, knowing that the network has a structured process gives more certainty about timelines, fees, and expectations.

Concerns / caveats:

	• The processes proposed are for “larger capacity DG and load” (e.g., >10kW, >300kW) — so for many residential solar systems (under 10 kW) this may not directly apply yet. It’s important that smaller-scale processes remain streamlined. • I would caution against the standardisation becoming too rigid or bureaucratic in all cases (which could slow down smaller residential connections). The process for simple home systems should remain lightweight. • I would like to see assurance that timelines will be reasonable and that standardisation doesn’t mean more steps for simple applications. **5. Use of “maximum export power” as metric** Support: • I support the move to use maximum export power rather than just nameplate capacity. For a residential solar generator, a system may have a large nameplate but only export a small amount (because much is self-consumed). The export metric better reflects the impact on the network. • This change increases fairness for homes where the generation is mostly for on-site use and little export occurs. Concerns / caveats: • Even though I support it, I would want clarity on how “maximum export power” is calculated and enforced. If the system can export at times more than expected (due to low load or battery discharge), would that trigger a different process? • For residential cases planning for batteries, HV chargers, or future upgrades, there may be risk that while current export is small, future behaviour changes (e.g., selling to grid) and the metric needs to account for that. • The distributor must still consider nameplate capacity in terms of equipment rating, fault current, reverse flows, etc (even if export is the threshold). So I would like the Code/Guideline to explicitly permit that.

Q4. What are your views on the proposal for industry to develop an export limits assessment methodology?	I support the proposal for industry to develop a clear and consistent methodology for determining export limits. Currently, different distributors apply different rules, and it is often unclear why limits are set at a certain level. A standard approach will make the process fairer, more transparent, and help households plan and install solar systems with confidence. I suggest that the methodology: • Involve input from consumers, small generators, and solar industry representatives, as well as distributors, to ensure all perspectives are considered. • Be based on clear technical principles, such as voltage rise, thermal loading, and reverse power flow. • Allow for flexible or dynamic export limits where possible, so solar systems can export more when the network can safely handle it. • Require distributors to provide clear information about how export limits are calculated and the relevant network capacity, so homeowners and installers can understand and plan for them. • Be adaptable to local network conditions, so it does not impose unnecessarily strict limits in areas where more export is possible. This approach balances network safety with enabling households to maximise the benefits of their solar generation, supporting both consumers and the wider electricity system.
Q5. What would you do differently in Proposal A1, if anything?	I would focus on making the process even clearer and more accessible for residential solar generators: • Clarify how maximum export power is calculated – for example, how batteries, EV chargers, or self-consumption affect the limit, so homeowners can plan their system without surprises. • Ensure the streamlined process for small systems is preserved – even as distributors standardise procedures for larger generators, simple home installations under 10 kW export should remain fast, simple, and low-cost. • Provide clear local network information – including feeder or transformer capacity, not just substation-level data, so residents can understand local constraints.

	• Include consumer and small-generator input – when distributors develop detailed guidance or implementation rules, to make sure residential needs are considered. • Encourage flexibility and dynamic limits – allowing systems to export more when network conditions allow, rather than having rigid static caps. These changes would make Proposal A1 more practical and user-friendly for households while keeping the benefits for the wider network.
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?	I understand the proposal to require the 2024 inverter installation standard for Part 1A applications is intended to improve safety and grid compatibility. I generally support using up-to-date standards to ensure new systems are safe and can operate reliably with the network. However, I am concerned that requiring the 2024 standard could increase costs or limit availability of inverters for small residential systems, and may place additional burden on installers. I suggest that distributors and the EA provide clear guidance for small systems, allow a reasonable transition period, and ensure that compliance is practical and affordable for residential solar generators.
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?	I support aligning New Zealand volt-watt and volt-var settings with the Australian values for Part 1A applications. This approach helps improve network stability, supports safe and reliable operation of residential solar systems, and makes it easier for suppliers and installers by harmonising standards across the region. I note that there may be minor reductions in exported energy when volt-watt functions activate, but the benefits for network safety and reliability outweigh this. I encourage the EA and distributors to provide clear guidance to installers to ensure correct configuration and smooth adoption of the new settings.
Q8. What would you do differently in Proposal A2, if anything?	I support Proposal A2 because it removes arbitrary limits on the nameplate capacity of small generators, giving homeowners certainty and encouraging uptake of local solar generation. If I could suggest improvements, I would recommend: • Clarifying how nameplate capacity limits interact with export limits, so residential solar generators understand any restrictions.

	• Reviewing the 10 kW threshold periodically to ensure it meets the needs of modern homes with batteries or EVs. • Encouraging distributors to provide guidance on monitoring or smart inverter settings to maintain network safety. • Providing practical examples for homeowners and installers to show how Part 1A applications work in practice. These changes would make Proposal A2 more practical and user-friendly for residential solar while maintaining network safety
Q9. Do you have any concerns about the Authority citing the Australian disconnection settings for inverters when high voltage is sustained?	I understand the Authority is considering using the Australian disconnection settings for inverters during sustained high voltage events. While I support the objective of protecting the network and connected equipment, I have some concerns: • These settings may reduce exported energy unnecessarily, especially in residential systems with mostly on-site consumption. • New Zealand networks may differ from Australian networks, so the settings may need adaptation to avoid unnecessary disconnections. • Clear guidance should be provided to installers and homeowners so they understand how and why disconnections occur. I suggest the Authority ensure that any adopted settings are tested or adapted for New Zealand conditions, and that guidance is provided to support residential solar generators.
Q10. Do you have any concerns about the Authority requiring the latest version of the inverter performance standard for Part 1A applications?	I understand the requirement for Part 1A applications to use inverters that meet the latest performance standard is intended to improve safety and grid compatibility. I support this goal, as it ensures new systems operate reliably and safely. However, I have some concerns: • New inverters may cost more than older models, increasing installation costs for small residential systems. • Availability of compliant inverters may be limited initially, particularly in some regions. • Installers need training to understand and configure new functions correctly.

	I suggest the Authority provide clear guidance, allow a reasonable transition period, and ensure the requirements are practical and affordable for residential solar generators.
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?	I support the proposal that distributors must use the industry-developed export limits assessment methodology when setting bespoke export limits for Part 2 applications. This approach improves transparency, fairness, and consistency, and ensures limits reflect actual network conditions rather than arbitrary rules. I suggest that the methodology remain flexible enough to account for unique local network conditions, that distributors provide sufficient data to justify bespoke limits, and that the process is implemented in a timely and practical manner to avoid delays for applicants.
Q12. What are your views on the several requirements that must be adhered to regarding the distributors' documentation (see paragraph 5.96) relating to setting export limits under Part 2?	I support the requirements for distributors to document their methodology, assumptions, calculations, and network data when setting export limits for Part 2 applications. Clear documentation improves transparency, consistency, and accountability, helping generators understand how limits are set and ensuring the network remains safe and reliable. I suggest that the documentation be clear and accessible to applicants, that administrative burden on distributors is managed to avoid increasing costs for generators, and that the practices be scalable so they can also guide smaller residential generators in a practical way
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?	I agree it is fair and appropriate for applicants to dispute export limits set by distributors for Part 2 applications. Dispute rights ensure fairness, transparency, and trust in the process, and encourage distributors to follow the methodology correctly. I suggest the dispute process include: 1. Clear steps for submitting a dispute and timelines for response. 2. Requirement for both the applicant and distributor to provide supporting evidence and technical justification. 3. Access to an independent review or mediation (for example by the Electricity Authority) if agreement cannot be reached.

	4. A process that is straightforward, timely, and not overly costly, so even smaller generators can participate. This approach balances fairness for applicants with practicality and network safety.
Q14. What would you do differently in Proposal B, if anything?	I support Proposal B as it improves transparency, fairness, and safety for larger distributed generators. The requirement to use a standard methodology, document assumptions, and allow disputes strengthens trust in the system. If I could suggest changes, I would recommend: 1. Including guidance that helps smaller or expanding residential generators understand and plan for export limits. 2. Ensuring the dispute process is practical and not overly complex for smaller generators. 3. Periodically reviewing the methodology to reflect evolving technology and network conditions. 4. Publishing non-confidential summaries of bespoke limits and dispute outcomes to improve public understanding. 5. Providing clear examples or guidance material to assist applicants and installers in interpreting limits. These changes would make Proposal B more practical, transparent, and accessible while maintaining network safety.
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?	I support requiring inverters to meet AS/NZS 4777.2:2020 (incorporating Amendments 1 and 2) for low-voltage DG applications. This standard improves safety, reliability, and network compatibility, and ensures that inverters can operate effectively in the New Zealand grid. I note that compliant inverters may be slightly more expensive or less available initially, and installers may need guidance to configure systems correctly. I suggest the Authority provide a reasonable transition period and clear guidance to ensure the requirement is practical and affordable for residential and small commercial solar generators.
Q16. Do you consider the transitional arrangements workable regarding requirements and timeframes? If not, what arrangements would you prefer?	I generally support transitional arrangements to allow time for distributors, installers, and applicants to adjust to new requirements. However, I am concerned that short transition periods may make it difficult for homeowners and small

	installers to source compliant inverters, configure systems correctly, and meet new export-limit or documentation requirements. I suggest the Authority provide a reasonable transition period of at least 12–18 months, clear guidance on which rules apply when, and some flexibility for projects already underway. This will help ensure a smooth and practical implementation of the new requirements for all residential and small commercial solar generators.
Q17. What are your views on the objective of the proposed amendments?	I support the objective of the proposed amendments to maximise the benefits of local generation, improve transparency and fairness, and ensure new generators meet modern safety and performance standards. The amendments help households and businesses understand and plan for solar and other distributed generation, while maintaining network safety. I suggest that the rules also consider small residential generators and emerging technologies such as batteries and electric vehicles, to ensure the objectives remain relevant as energy systems evolve.
Q18. Do you agree the benefits of the proposed amendments outweigh their costs? If not, why not?	I consider that the benefits of the proposed amendments outweigh their costs. The amendments improve transparency, fairness, and consistency in setting export limits, ensure network safety, and encourage uptake of local generation such as residential solar and batteries. While there may be modest costs from upgraded inverter standards, documentation, and installer training, these are outweighed by the long-term benefits of safer, more reliable, and more predictable connections. I recommend clear guidance and reasonable transition periods to help minimise any short-term cost impacts.
Q19. What are your views on the Authority's estimate of costs of lost benefits from a 5kW export limit?	I agree that a 5 kW export limit could result in lost benefits for households and the wider grid. Such limits may be unnecessarily conservative for many residential solar systems, particularly those with batteries or high self-consumption, and could reduce energy exported to the grid, economic value for households, and overall renewable generation efficiency. I suggest that any assessment of lost benefits should consider local network conditions and the types of systems installed, including battery storage and self-consumption patterns, to ensure the estimates are realistic and reflect actual potential lost value.

Q20. Are there costs or benefits to any parties (eg, distributors, DG owners, consumers, other industry stakeholders) not identified that need to be considered?	In addition to the costs and benefits identified, I note several additional considerations: Benefits: Clearer export limits, methodology, and documentation improve planning for households and installers, encourage greater uptake of renewable energy, enhance network efficiency, and provide environmental benefits through increased local generation. Costs: Distributors may face additional administrative work, installers may require training, and households may pay slightly more for compliant inverters. Some households may also need to limit system output to meet export limits, reducing potential energy export slightly. Considering both, the overall benefits of the proposed amendments appear to outweigh these additional costs, particularly in supporting fair, safe, and efficient use of local generation
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	I agree that the proposed Code amendments are preferable to other options. They improve transparency, fairness, and consistency for both small and large distributed generators, while maintaining network safety and reliability. Compared with leaving rules unchanged or using partial updates, the proposed amendments provide clear methodology, documentation, and dispute processes, making it easier for households and businesses to plan and install local generation. This aligns with the Electricity Authority's statutory objective under section 15 of the Electricity Industry Act 2010, by promoting efficient use of the electricity network, supporting competition, and providing outcomes that benefit consumers.
Q22. Do you agree the Authority's proposed amendments comply with section 32(1) of the Act?	I consider that the proposed amendments comply with section 32(1) of the Electricity Industry Act 2010. They promote efficiency, competition, and network reliability, while providing clear processes and predictable outcomes that benefit consumers. The amendments ensure that distributed generation can be safely and efficiently integrated into the network, support fair and transparent decisions by distributors, and align with the EA's statutory objective. I encourage the Authority to maintain clear guidance and reasonable transitional periods to support households, installers, and distributors in meeting the new requirements.

Q23. Do you have any comments on the drafting of the proposed amendment?	Overall, the drafting of the proposed amendments is clear and structured, providing guidance on Part 1A and Part 2 applications, export limits, inverter standards, and documentation requirements. I suggest the following improvements to make the drafting more practical and accessible: • Include plain-language explanations of technical terms such as volt-watt, volt-var, and bespoke export limits for residential generators and small installers. • Check and clarify all cross-references to standards, methodology documents, and Code sections to ensure accuracy. • Consider adding worked examples to illustrate Part 1A applications or bespoke export limit calculations. • Explicitly reference transitional arrangements, timelines, and applicability to ongoing versus new projects to help all stakeholders interpret and comply with the rules.