

Submission form (Plug-in generation)

Please email your submission to: connection.feedback@ea.govt.nz by 5pm, Tuesday 6 October 2026

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Questions on issues regarding plug-in generation

Questions	Comments												
Q1. Do you have any views on our characterisation of plug-in generation?	We agree with the general characterisation in 4.2–4.10 and with the access case at 4.15–4.17, with one exception. The consultation paper labels batteries as unusual, “may or may not include batteries” (4.3), and at 4.36, “plug-in generation is not typically installed with battery storage, so the timing of export will largely be uncontrolled.” That is not what the mature markets show. Market data from manufactures shows battery-integrated systems are now the majority of plug-in sales in every large European market: <table><tr><th>Market</th><th>Cumulative sales base</th><th>Share PV + battery</th></tr><tr><td>Germany</td><td>~3 million units</td><td>~65%</td></tr><tr><td>France</td><td>~1 million units</td><td>~75%</td></tr><tr><td>Netherlands</td><td>~700,000 units</td><td>~80%</td></tr></table> The battery-integrated segment is the largest part of the market and it is growing. The Netherlands and France figures are the more instructive ones, being newer markets: the later a market develops, the higher the battery share. A New Zealand market opening would be in that position, not with demand for the bare-panel configuration the paper describes. This matters because the paper’s export logic is a time of day mismatch argument. 4.5–4.6 describe baseload of around 100W, intermittent refrigeration of around 300W and intermittent hot water of 2–3kW, with export arising when midday generation exceeds whatever load happens to be running. A battery absorbs precisely that surplus and returns it to household load in the evening. It converts the export the Authority identifies into self-consumption, which is the outcome 4.17 identifies as beneficial. The Authority’s own analysis at 4.91 anticipates this, and 4.108 asks that any framework accommodate portable battery systems without substantial redesign. The consequence is that a framework built around the bare-panel configuration only would be built around a minority demand and would exclude the majority. Which is also the category with the lowest network impact. We support a framework that considers plug-in battery from the beginning.	Market	Cumulative sales base	Share PV + battery	Germany	~3 million units	~65%	France	~1 million units	~75%	Netherlands	~700,000 units	~80%
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Q2. What network performance requirements should apply to plug-in inverters in New Zealand, and why?	We support the United Kingdom's model which the Authority is already reviewing. The UK adopted an interim technical specification to allow compliant products to reach the market during a transitional period, with a British Standard to follow once the market and the products are better understood. We think this is the right model for New Zealand, for reasons below: • It avoids a full standards-development bottleneck. Developing a full New Zealand standard before anything can be sold may take years, an interim specification allows a compliant channel to open first. • New Zealand is too small to attract bespoke product variants. An interim specification derived from requirements already operating at scale gives manufacturers a requirement set they can meet with existing certified hardware. • It allows a following standard to be informed by evidence, that may be developed in conjunction with Australia if the progress to allowing plug-in solar. We also note the UK relies on manufacturer testing and declaration against the specification, rather than mandatory third-party certification. We support that approach. It is materially less costly for a small market, it does not require New Zealand testing infrastructure that does not exist. It is compatible with enforcement through the ESRs pre-market controls described at B.2. We ask that any New Zealand interim specification cover battery-integrated and battery-only plug-in devices from the outset. If the Authority and MBIE consider that storage requires additional work, we would prefer that work to proceed in parallel rather than for the category to be excluded and revisited later. Section 4.107 makes the relevant point: requirements are harder to impose, and scope harder to widen, once a market has formed around the initial rules. Section 4.108 asks that the framework accommodate portable battery systems without substantial redesign, and an exclusion at the outset is the opposite of that. We believe voltage and frequency controls in line with the German standard VDE-AR-N 4105, modified if necessary to align more closely with AS/NZS 4777.2 Australia A settings, could be the primary network performance requirements.
Q3. What do you think of the Authority excluding plug-in generation standards from the Code?	We support Option A, with one point set out below. The reasoning at 4.41 is sound. The Electricity (Safety) Regulations will carry the technical requirements, and a Code citation would largely be ineffective given that plug-in owners have little reason to engage with the Code. Plug-in generation is bought and connected as a consumer product, and the risks the Authority is managing are best addressed at the point where the product enters the market. We would like to see 4.43 is addressed. If plug-in standards sit outside the Code, distributors remain free to set their own plug-in connection and operation standards. Different requirements across networks could make consistent national advice difficult, and a product accepted on one network might not be accepted on another. 5.20 and 5.21 (Proposal 2) identify the same risk for fixed DG. We ask the Authority to prevent distributors from setting plug-in requirements beyond the national product requirements.
Q4. Do you agree that in the absence of a professional intermediary, it will be challenging to obtain a Part 6-type application from a plug-in generation consumer? Why, why not?	Yes. We agree with the analysis in 4.19–4.20. The consumer would need to know the obligation exists, identify their distributor, locate the correct form and supply technical information about a product they bought off a shelf. Compliance would therefore be low, and it would be lowest among the consumers the Authority identifies at 4.16 as the intended beneficiaries such as renters and apartment residents, who are least likely to have prior dealings with a distributor.

Q5. For a consumer to connect plug-in generation to their premises, should some form of Part 6-type application process be required? Why, why not?	No. The four issues mentioned in 4.48 are significant on their own, and we agree with all of them. We agree that the Part 6 process was designed around a professional intermediary, a permanent installation and a distributor assessment of network impact. Applying it to plug-in generation would add cost and delay as there is little for the distributor to assess in an approx. 800W device which meets the mandatory product requirements.
Q6. If a form of Part 6-type application process should be implemented for plug-in generation, do you see that as a notification/registration, or an application that requires distributor approval? Why?	Current markets including United Kingdom, Germany, France and Italy, implement a notification system rather than an approval process. Our concern with an approval model is the distributor is the only party in this chain with which the consumer has no relationship, no choice of provider and no leverage. We note the Authority's own assessment at 4.43 that the risk posed by this technology does not warrant distributors developing connection standards for it. That assessment is difficult to reconcile with requiring distributor approval of each device.
Q7. What information should be required if a registration or application for a plug-in generation unit is to be implemented?	We do not believe a registry provides strong benefit. However if deemed to be required We support the minimum information set the Authority itself identifies. We ask the Authority to identify what each item of information will be used for, by whom, and if it can be derived or gathered by existing infrastructure, before requiring it.
Q8. Would participants benefit from a registry that captures information about plug-in generation? Why, why not?	We do not see a present need for a registry reliant on end consumers. 4.61 accepts that the current distributed generation dataset may be excessive for devices of this size, and 4.63 acknowledges that portability will make records go stale and reduce their usefulness. Section 4.43 concludes that the risk posed by this technology does not anticipate distributors developing connection standards for it, which is difficult to reconcile with a need for granular visibility. Participants in the European market have identified that there is often a meaningful gap between what the regulation requires and what end users do. In practice, a significant number of consumers purchase plug-in solar systems, take them home, plug them in and begin using them without completing the formal registration or notification process. This is most pronounced where the process is perceived as cumbersome, where consumer awareness is low, or where enforcement is limited. It is not unique to any single market; it is a pattern we have observed across multiple countries. We ask the Authority to assess how valuable a registration or notification system would be in practice before requiring one: who the information matters to, and whether it can be obtained from other sources. There is no reason for New Zealand to follow a registration structure simply because other countries have implemented it.
Q9. Should the existing registry be used? Why, why not?	If plug-in information is to be recorded, using the existing registry is preferable to building something new to allow quicker adoption. The fields recorded should be limited to those with a stated purpose under Q7. Extending the full Part 11 distributed generation dataset to plug-in would be disproportionate, as 4.61 acknowledges. The source of the data must change. 4.59 notes the registry entry currently derives from the Part 6 application. If there is no Part 6 application, that pathway does not exist and a different source is required. We propose point of sale at Q11 if this information is deemed important to be recorded.

Q10. Should entering information about plug-in generation be a requirement only after export has been identified at an ICP? Why, why not?	We do not believe the customer entering information should be required before or after export has been identified. It is unlikely the customer has a meter setup to measure export without already having a DG system installed, which is a very unlikely situation to occur. If the requirement is on the customer to provide this information there is a high chance of incorrect information and non-compliance. As a long term solution it seems like a move to enabling export measurement on all meters would allow information about network to be collected without end customer involvement.
Q11. Would the type of information able to be collected at point of sale be sufficient to meet industry needs? Why, why not?	We consider point of sale a strong available option. We would support it and participate in it voluntarily from launch. Most other mechanisms in the paper depend on a consumer taking an action they have little incentive to take. The Authority notes in 4.69 that point-of-sale registration falls outside the Code and may be achievable through EECA product regulations. We agree, and we regard that as a reason the Code should not impose an application or registration process. We would support development of a point-of-sale notification under the EECA product regime and are willing to work with officials on the specification.
Q12. Should the MEPs reverse power indicator be leveraged in identifying potential plug-in generation export? Why, why not?	There is value in that it operates without consumer action. If it can operate accurately with retailer involvement, then it may remove the need for a consumer driven register. This information can be shared with network participants to understand network activity in more detail without requiring end consumer engagement.
Q13. Do you agree there is merit in considering whether retailers should be the primary customer interface for plug-in generation registration/notification? Why, why not?	The retailer is a good interface for a few reasons, three of which the Authority has already identified. However, it relies on the customer wanting to engage with the retailer, which might not be the case. 4.67 notes consumers do not typically have a relationship with their distributor. They do have one with their retailer. Retailers compete for customers and many offer buy-back products. A retailer has reason to help a customer understand export and metering options. 4.68 makes the point: consumers tell their retailer when they move. Paragraph 4.76 notes the retailer is the party who advises whether a meter can record export or needs reconfiguration. Any conversation about payment for export already runs through the retailer. This route places no barrier in front of the purchase, and together they deliver better coverage than a Part 6 application would, because none depends on the consumer completing a form they have no reason to complete. We acknowledge the Authority's reservation at 4.77 that retailers may not currently be able to give consistent guidance, and that retailers may be reluctant to take on a new obligation. We address this at Q14 by offering to reduce the burden.
Q14. Do you have any other suggestions on how consumers could be informed of Code requirements for plug-in generation?	If the resulting framework requires consumers to be aware of code requirements, we propose that the obligation sit primarily with the supplier. We could supply with every unit: • Plain-language information that the system may export electricity to the network when generation exceeds household demand • An explanation that payment for export is possible but requires a meter that records export, and that the retailer is the party to contact • A statement that no payment arises automatically

	This addresses the risk mentioned in 4.75 of inconsistent information reaching consumers, and it reduces what retailers need to know unprompted, which is the concern in 4.77. We would also support a standardised information sheet developed by the Authority or EECA, so that the same message reaches consumers regardless of supplier. We would carry it.
Q15. Should an ability for plug-in generation consumers to receive payment for export be predicated by some form of Part 6 application and approval process? Why, why not?	We do not support the ability to receive payment for export being predicated on a Part 6 application and approval. If the concern is that paid-for equipment should meet standards, the effective control is at import and distribution of the product, not at the meter. A framework operating under the ESRs, with compliance and supplier declarations of conformity, means each unit lawfully sold meets the agreed product standard. Payment for export should follow a retailer pathway. The consumer notifies their retailer, the retailer arranges or confirms metering, and payment proceeds. If the Authority wants information recorded, the retailer can update the registry. A Part 6 approval process is antithetical to the spirit of plug-in solar, and will limit its adoption within the demographics that benefit from it the most.
Q16. What measures could be implemented to inform consumers of electricity export at their ICP that is potentially associated with plug-in generation, and what information should this include?	If its deemed important to notify the consumers, we support the mechanism in 4.81: where the metering equipment provider raises a reverse power indicator, the retailer notifies the customer. The notification should state that export has been recorded, that this may be associated with self-generation, that payment may be available if the meter is configured to record export, what steps the customer would need to take, and what those steps cost. It should be neutral in tone, not a compliance notice. The notification should also make clear that a customer who takes no action is not in breach of anything, provided the Authority confirms its preliminary view in 4.92 (Q19) and adopts the Part 10 exclusion in 4.98 (Q24).
Q17. Should consumers be proactively informed of the potential for plug-in generation to export to a network. If so, which party is best placed to undertake this education role?	Yes, and responsibility could be shared across two points. The supplier, at purchase. This is where the consumer is engaged and making a decision. See Q14. We are willing to carry this obligation. The retailer, if the mechanism in 4.81 is adopted to identify and notify the retailer when a reverse power indicator is raised. We would not place this role with distributors. Section 4.67 correctly notes there is no existing relationship, and an unsolicited communication from a network company is more likely to be read as an enforcement approach than as information by a consumer.
Q18. What issues do you see with more UFE in the reconciliation system as a result of more export from plug-in generation?	
Q19. Do you agree with our view that plug-in generation export with no measurement enabled can be treated as UFE in reconciliation processes, with no	We agree with the Authority's reasoning in 4.87. The gifting mechanism assumes a generator who knows they are generating export and knows the mechanism exists. Without consumer education this is unlikely. Requiring gifting documentation would create an obligation with low compliance.

need for formal gifting documentation? Would your view change as plug-in generation increases?	During the interim phase, where adoption is low we would support handling the export as UFE without formal documentation, as this provides the lowest friction for a consumer. We would also support the Authority investigating if there is a mechanism that can be used to encourage meters to be configured to enable measurement of export by default. This would allow the capture of export from plug-in solar, as well as reduce the hurdles for traditional rooftop solar. We understand there is traditionally a cost associated with this configuration change that is collected through the retailer, however as it can pose a benefit to multiple participants to have export metering by default, we support finding a pathway to finance this option.
Q20. If gifting documentation were to be required by a plug-in generation consumer, how could this be facilitated?	We do not support requiring documentation from consumers, for the reasons at Q19. If the Authority concludes that some formal step is needed, we support this as part of the purchase process as the default. A consumer who wants payment will already be contacting their retailer about metering, at which point their gifting arrangement could be changed so they are paid for measured export.
Q21. Are there other genuine issues identified by the reverse power indicator?	This is better answered by metering equipment providers than by us. We ask the Authority to consider whether configuring meters to measure export by default would be a better alternative, with retailers notified when, and how much, export is measured so they can engage the customer.
Q22. Should the requirement on the MEP to notify the retailer via a reverse power indicator be reconsidered, if more plug-in generation is used? Why, why not?	
Q23. Is there a way for a MEP to filter out plug-in generation related reverse power indicators?	A filter on reverse power indicators happening at night, would exclude PV only plug-in systems but may not capture system with a battery that are configured to export at night. It seems unlikely for a customer to knowingly configure a system to export at night, so this may remain a good option.
Q24. Should Part 10 include an exclusion for requiring import/export metering for plug-in generation? Why, why not?	In principle, we support the amendment contemplated at para 4.98. An exclusion from part 10 for compliant plug-in systems that do not exceed a determined threshold such as 800W is a viable way forward. We agree with the premise that the systems are primarily going to be for self-consumption, and the end customer is unlikely to be motivated to engage with the process to formally gift their exported electricity. From our understanding the costs currently fall to the retailer for meter changes or upgrades to support measuring export. If DG and plug-in solar are to become a significant part of the market, the preferred approach would be for meters to be configured to measure export by default.
Q25. Should Part 6 clarify requirements for a plug-in generation system being connected alongside approved permanently-fixed DG?	We think the scenario the Authority has in mind is unlikely to arise, and that the more realistic version of it reduces net export rather than increasing it. A household with approved rooftop solar has already solved the problem plug-in generation addresses. A typical fixed system is several times the capacity of a plug-in unit, is better sited and better oriented, and is already connected.

	The marginal extra generation from adding a plug-in array to such a site is small, and the consumer has little reason to spend money on it. The natural market identified in 4.16 (renters, apartment residents and households for whom fixed DG is not practical) is largely households without an existing system. We therefore do not think the risk outlined in 4.100–4.101 warrants a Part 6 clarification of its own. The realistic case is a plug-in battery. Where a household with fixed distributed generation does add a plug-in device, we expect it to be storage rather than further generation. That combination reduces export. A plug-in battery absorbs the midday surplus that would otherwise cross the meter and returns it to household load in the evening, which directly addresses the concerns at in 4.101 rather than aggravating them. It is also the configuration the Authority anticipates in 4.108, where it asks that any framework support portable battery systems without substantial redesign.
Q26. Should the Code clarify limits on the amount of plug-in generation capacity that can be connected at an ICP (noting any standards developed may define limits)?	Any cap should be on inverter maximum AC export, not on module DC capacity. Any cap will need to align with the product compliance framework. We want to clarify the German approach mentioned in footnote 52. We do not believe this is driven by the premise some generation will be self-consumed. We believe this is consistent with the industry practice of over-paneling. Where the panels can produce more power than the inverter can convert, the generation is limited by the inverter capacity. This configuration produces more useful energy across the day, earlier in the morning, later in the afternoon, and in poor conditions. While remaining limited at midday by the inverter export capacity. If the Authority wishes to manage aggregate capacity at an ICP, the more effective point of intervention is consumer information at purchase (Q14). Along side the product compliance specification.
Q27. What sources of information could the Authority use to monitor uptake of plug-in generation and/or any issues that may arise?	We would support supplying aggregate data on units supplied into New Zealand, by inverter AC rating and by customer purchase area, at a frequency the Authority specifies. Other sources we would suggest: • Point-of-sale notification data • Aggregate reverse power indicator volumes from metering equipment providers • Customs import data, which could capture direct imports A combination of supplier and import data can give a better picture than a consumer-obligation register would, because neither depends on consumer accuracy and compliance.
Q28. Do you agree with our overall characterisation of the challenges of plug-in generation? Why, why not?	We consider two challenges under-addressed: The combination of 4.41 (exclude standards from the Code) and 4.43 (distributors may write plug-in connection and operation standards) leaves no national consistency backstop, resting only on an expectation that distributors will not act. For a nationally sold consumer product this leaves a significant open concern. Battery inclusion: Footnote 18 notes international standards do not generally cover plug-in generation with batteries and that the area requires more investigation. The United Kingdom policy the Authority is reviewing excludes plug-in battery systems and plug-in solar devices integrated with battery systems, and requires products to carry a warning against use with battery energy storage. If New Zealand derives its specification from that without deliberate extension, battery-integrated plug-in generation will be excluded by design.

	That would be a poor outcome on the Authority's own reasoning. Storage is the configuration best aligned with its concerns about uncontrolled export timing (4.36), it is the effect the Authority anticipates in 4.91, and 4.108 asks that the framework accommodate portable battery systems without substantial redesign. A specification that permits the higher net export situation while excluding the lower net export one inverts the risk ordering. Inclusion needs to be deliberate and needs to happen at the outset, for the reasons in 4.107.
Q29. Which of the challenges outlined in this paper present the most pressing issue for the Authority to address?	1. Ensuring the framework accommodates battery-integrated systems. This is the most time-critical item. Framework development is under way now, the United Kingdom policy the Authority is reviewing excludes plug-in batteries, and battery-integrated systems are already most of the category in a mature market. A specification that excludes them would exclude most of the product category and the part with the lowest network impact. 2. Preventing fragmentation of requirements across distributors. For a consumer product sold nationally, inconsistent connection and operation standards across networks would be an ongoing barrier to supply, and would be hardest on the consumers 4.16 identifies as beneficiaries. It is also the challenge most within the Authority's domain, and the one the Authority is already addressing for fixed distributed generation through Proposal 2. 3. Avoiding a pathway that exists on paper but is unviable in practice. A framework that technically allows plug-in generation but layers on applications, registration, distributor approvals and network-specific standards would recreate the permanently-fixed DG compliance pathway for a product designed not to need one. That would deter the renters and apartment residents identified in 4.16. Device-level registration is the clearest example. No operational need for it is currently established, it would produce incomplete and quickly outdated data, and point-of-sale and import data can meet the information need without a consumer obligation. A high-friction pathway risks pushing it outside the system, where New Zealand will mirror overseas markets where there is low compliance with the regulatory framework. In our view, a least-regrets approach (4.106–4.107) starts with mechanisms that need no consumer action.