

Submission form (Plug-in generation)

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

Name	Glen Morris
Organisation	Smart Energy Lab Service Pty Ltd (Australia)

Questions on issues regarding plug-in generation

Questions	Comments
Q1. Do you have any views on our characterisation of plug-in generation?	Broadly yes. Plug-in generation is a low power, socket-connected system that a consumer can install and remove themselves. That is the right way to frame it. It is a consumer product rather than an electrical installation, and the regulatory approach should follow from that. Some background on where my views come from. I grew up in Wellington and now run Smart Energy Lab in Victoria, Australia. I have worked in solar since 1991, represent the Smart Energy Council on Standards Australia committees EL-042 and EL-005 (EL-042 maintains the joint AS/NZS 4777 inverter standards), and I train solar installers in New Zealand regularly. I am involved in plug-in solar trials and safety testing in Australia, including work with CSIRO and the RACE for 2030 CRC, and I have done my own bench testing on the safety of these products. The benefit case is strong. Plug-in generation opens self-generation to renters and apartment dwellers who have been locked out of rooftop solar. Overseas experience, particularly Germany with well over half a million registered units, shows the products are safe and popular when compliance requirements are kept simple.
Q2. What network performance requirements should apply to plug-in inverters in New Zealand, and why?	Require compliance with AS/NZS 4777.2:2020, the same inverter standard New Zealand already uses for fixed distributed generation. It covers anti-islanding, voltage and frequency response, power quality and disturbance ride-through. There is no need to invent anything new for the grid interface. On top of that, a hard export limit for the plug-in class, set in the product standard rather than the Code. Europe settled on 800W and manufacturers build to it. Aligning with that number gives New Zealand access to a mature, high volume product market. A NZ-only requirement would do the opposite.
Q3. What do you think of the Authority excluding plug-in generation standards from the Code?	I support it. Product and installation standards belong with Standards New Zealand and the joint AS/NZS committees, not in the Code. Standards get revised as the technology moves, and I have spent over 15 years on EL-042 watching that process work. The Code should reference the applicable standards and leave the technical detail to them. Duplicating requirements in two documents guarantees they drift apart.
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, I agree. There is no installer, designer or electrician in the transaction. The consumer buys the product online or off a retail shelf and plugs it in. Part 6 processes assume a professional who knows the process exists. Most plug-in consumers will never have heard of Part 6, and no amount of consumer

	education fixes that completely. The framework has to be designed for an unassisted consumer or it will simply be ignored.
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?	Not an application in the current sense. At around 800W, a plug-in unit is smaller than the load swing from an ordinary household appliance, and networks already tolerate far larger unnotified changes such as a 7kW EV charger or an induction cooktop. A simple notification is worth having for visibility. Anything that involves waiting for approval, paying a fee or supplying technical detail will drive non-compliance rather than compliance. Germany started with a heavier process and had to strip it back because so few people used it.
Q6. If a form of Part 6-type application process should be implemented for plug-in generation, do you see that is a notification/registration, or an application that requires distributor approval? Why?	Notification only. Distributor approval adds delay and administration with no safety or network benefit at these power levels. The distributor still gets the data, which is the part that matters. Germany's simplified registration through its market master data register is the model that works: a few minutes online, no approval step, and registration rates improved markedly once the process was simplified.
Q7. What information should be required if a registration or application for a plug-in generation unit is to be implemented?	Keep it to what is genuinely useful: ICP number, installation address, device make and model, rated AC output, and a declaration that the product complies with the applicable standard. That is a five minute online form. Every extra field costs registrations. Technical detail such as inverter settings can be looked up from the make and model, so there is no need to ask the consumer for it.
Q8. Would participants benefit from a registry that captures information about plug-in generation? Why, why not?	Yes. Distributors get visibility for LV network monitoring and planning. The Authority gets uptake data. If a product fault or recall emerges, affected owners can be contacted, which matters for a consumer-installed product with no installer of record. But a registry is only as good as its coverage, so the registration process has to be easy enough that people actually use it.
Q9. Should the existing registry be used? Why, why not?	Yes, use the existing registry with a new device or fuel class for plug-in generation. It already holds ICP-level data and the industry already knows how to use it. A separate parallel system would fragment the data and add cost for no benefit.
Q10. Should entering information about plug-in generation be a requirement only after export has been identified at an ICP? Why, why not?	No. Registration should happen at connection, not after export is detected. Waiting for export detection means the registry only ever captures a lagging subset, and it turns registration into something that feels like being caught rather than a normal step. Detection via the reverse power indicator is useful as a backstop for units that were never registered, not as the trigger.
Q11. Would the type of information able to be collected at point of sale be sufficient to meet industry needs? Why, why not?	Mostly. Point of sale can capture make, model, rated output and compliance status, which covers the product side. What it cannot reliably do is link the unit to an ICP, because the buyer and the premises are unknown at the till and products get resold and moved. A simple consumer step is still needed for that link. A QR code on the box that opens the registration form with the product details pre-filled would close most of the gap.
Q12. Should the MEPs reverse power indicator be leveraged in identifying potential plug-in generation export? Why, why not?	Yes, as a backstop. It uses data that already flows and costs nothing extra. Where export shows up at an ICP with no registered generation, that is a sensible prompt for the retailer to contact the customer with registration information. It should not become an enforcement trigger. Most unregistered export will be honest ignorance, not evasion.
Q13. Do you agree there is merit in considering whether retailers should be the primary customer interface for plug-in	Yes, there is merit. The retailer holds the customer relationship, the ICP and the billing channel, and the consumer already knows who they are. No other party is better placed. The

generation registration/notification? Why, why not?	registration burden on retailers needs to be kept light, ideally a pass-through to an online form rather than a manual process, or retailers will resist it.
Q14. Do you have any other suggestions on how consumers could be informed of Code requirements for plug-in generation?	Reach people where they buy and where they learn. Point of sale material and a QR code on the packaging linking to a plain English Authority page. Retailer communications at sign-up and on bills where export is detected. Industry bodies such as SEANZ. And short plain-language video content. I make technical YouTube content for the Australian solar industry and its consumers, and video reaches people that formal documents never will. The German market was largely built on YouTube reviews and how-to videos.
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?	Registration, yes. A full Part 6 application and approval, no. Tying export payment to registration is the smartest lever available: it turns registration from an obligation into something the consumer wants to do. Requiring a heavyweight approval process for a few hundred watts of export would just mean consumers forgo the payment and stay invisible, which is the worst outcome for everyone.
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?	A plain English notice from the retailer when export appears at an ICP with no registered generation. It should say what was detected, explain that plug-in generation should be registered, link to the registration form, and note any export payment the customer is missing out on. Friendly, not accusatory. One follow-up if nothing changes. That will resolve the large majority of cases.
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. Retailers are best placed for direct customer contact, at sign-up and through billing. Point of sale material covers the moment of purchase. The Authority's consumer pages give both a neutral reference to point to. Education is cheap and effective at this scale; enforcement is neither.
Q18. What issues do you see with more UFE in the reconciliation system as a result of more export from plug-in generation?	Small, for a long time. A plug-in unit mostly offsets household load in real time, and the residual export from an 800W system is modest. Spread across the reconciliation system, the effect on UFE will be lost in the noise at any plausible uptake for years. It is worth monitoring as the fleet grows, but it is not a reason to impose measurement or paperwork now.
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 need for formal gifting documentation? Would your view change as plug-in generation increases?	I agree. Formal gifting documentation for a few dollars of energy a month fails any cost-benefit test. Treat unmeasured export as UFE and move on. If uptake grows to the point where the volumes matter, the better response is enabling export measurement at those ICPs, since most New Zealand smart meters can already measure in both directions. My view would not shift toward gifting paperwork at any uptake level.
Q20. If gifting documentation were to be required by a plug-in generation consumer, how could this be facilitated?	If it were ever required, a tick-box declaration built into the registration form, worded as consent for unmeasured export to be treated as UFE. Nothing separate, nothing signed, nothing the consumer has to think about twice. But as above, I do not think it is needed.
Q21. Are there other genuine issues identified by the reverse power indicator?	Yes, and they are worth keeping the indicator for. It picks up metering wiring errors such as crossed polarity or transposed CTs, unapproved fixed generation, and faults where a meter is recording in the wrong direction. Those are real problems that want fixing regardless of plug-in generation.
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?	Refine it rather than remove it. The genuine issues raised in Q21 justify keeping the notification. What needs to change is the noise: once plug-in generation is registered at an ICP, repeat notifications for that ICP serve no purpose and will train retailers to ignore the channel. Filter notifications against the registry and the requirement stays useful.

Q23. Is there a way for a MEP to filter out plug-in generation related reverse power indicators?	The clean method is a registry cross-check: suppress notifications for ICPs with registered generation of any kind. Beyond that, profile heuristics can help. Sub-1kW daytime export with a solar shape looks quite different from a wiring error, which typically shows constant or load-correlated reverse flow. Registry matching should be the primary filter and heuristics a secondary one.
Q24. Should Part 10 include an exclusion for requiring import/export metering for plug-in generation? Why, why not?	Yes. Where the existing meter already measures export, enable the export register and use the data. Where it does not, requiring a meter change for an 800W plug-in unit destroys the economics of the product and will be avoided by simply not telling anyone. An exclusion for the plug-in class, reviewed as uptake grows, is the practical answer.
Q25. Should Part 6 clarify requirements for a plug-in generation system being connected alongside approved permanently-fixed DG?	Yes, clarify it. The sensible position is that adding a plug-in unit at an ICP with approved fixed DG is a registry update, not a new Part 6 application, and does not disturb the existing approval. The plug-in unit's capacity should be visible in the registry alongside the fixed system so distributors see the true total. Silence on this point will produce inconsistent distributor practice.
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)?	The limit belongs in the product and installation standards, and the Code should point to it rather than state its own number. Two documents with two numbers will eventually disagree. If the standards land on 800W per ICP, as Europe has, the Code just needs to recognise units within the standard's limit as the plug-in class.
Q27. What sources of information could the Authority use to monitor uptake of plug-in generation and/or any issues that may arise?	Registry data first. Reverse power indicator events at ICPs without registered generation give a read on the unregistered fleet. Import and retail sales data from the major channels indicate volumes entering the country. Consumer surveys fill the gaps. Overseas registries, especially Germany's, are a good leading indicator of product and behaviour trends. Research programs will also generate data; I am involved in plug-in solar trials in Australia with CSIRO and the RACE for 2030 CRC and expect the findings to be relevant on both sides of the Tasman.
Q28. Do you agree with our overall characterisation of the challenges of plug-in generation? Why, why not?	Broadly yes, and the paper's even-handed treatment is welcome. The one caution I would offer is against over-weighting the challenges. Every issue raised here, from registration to UFE to reverse power noise to metering, has been encountered and managed overseas without incident, in markets far larger than New Zealand's will be. The binding constraint is the electrical safety regulation question, which sits with other regulators. The Code issues are all solvable with a light-touch registration framework.
Q29. Which of the challenges outlined in this paper present the most pressing issue for the Authority to address?	Settling the registration pathway. If a simple, free, online notification process and the registry treatment are ready before the safety regulators move, New Zealand gets orderly uptake from day one instead of an invisible fleet it then has to find. Consumer information comes second and follows naturally from the same work. Most of the other issues in the paper stay small if those two are done well.