Outlook

Submission on Increasing the Default Distributed Generation Export Limit from 5kW to 10kW

From Nathan Surendran [redacted]
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To Connection Feedback <connection.feedback@ea.govt.nz>

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Dear EA,

My name is Nathan Surendran. I am writing to firmly support the proposal to increase the default export limit for small-scale distributed generation from 5kW to 10kW.

Through my work on Energy and Resilience (energyandresilience.substack.com), I analyze the intersection of the economy and biophysical reality. The current 5kW export cap is a relic of legacy grid management—a "governor" on a system that desperately needs to run at a higher capacity. It represents a linear, bureaucratic constraint applied to a complex, dynamic physical problem. To navigate the energy transition effectively, we must align our regulations with the physics of resilience.

The Problem with the 5kW Cap: Artificial Scarcity
The 5kW limit effectively incentivizes the construction of fragile, undersized systems.
- The Winter Problem: A system sized to stay under a 5kW summer export limit is often too small to provide meaningful resilience or self-sufficiency during low-light winter months. By capping exports, you are structurally forcing households to remain dependent on the centralized grid exactly when the grid is under the most strain.
- Wasted Surface Area: We have a finite amount of optimal roof space. Limiting exports to 5kW discourages maximizing this "solar real estate." We are effectively leaving energy on the table—or rather, off the roof—because of an arbitrary regulatory bottleneck.

The Case for 10kW: Enabling Antifragility
Moving the default to 10kW is not just a minor administrative tweak; it is a structural signal that encourages "oversizing" solar arrays. From a resilience perspective, this is critical:
- Buffer Capacity: A system designed to export 10kW at peak allows for a larger solar array. This larger array will produce significantly more power during cloudy days and winter months (the "shoulders" of generation), increasing the home's ability to function independently during outages or price spikes.
- Local Grid Support: We need to move away from the idea that exports are a "nuisance" to be managed. In a high-electrification future (EVs, heat pumps), the local distribution network needs those electrons generated close to the load. A 10kW limit allows my roof to better support my neighbor's EV charging, reducing the thermal losses and transmission costs of bringing that power from a distant hydro dam or wind farm.

Economic Reality vs. Physics
Current regulations distort the ROI (Energy Return on Investment) of domestic solar. A 5kW cap extends the financial payback period for larger systems, forcing homeowners to make economically rational decisions that are biophysically irrational (i.e., installing smaller systems).

By raising the limit to 10kW, you align the economic incentive with the physical necessity. You encourage private capital to fund the generation capacity the country needs, decentralizing the cost and risk of the energy transition.

Conclusion
We are entering an era of volatility where redundancy and local buffers are valuable. The current 5kW default is a policy of fragility. Raising the limit to 10kW is a low-risk, high-reward step toward a more robust, distributed, and resilient energy mesh.

I urge the Authority to adopt the 10kW default immediately.

Regards,
Nathan Surendran

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