

23 March 2026

Northern Inland Regional Waste response to Parliamentary Inquiry into Solar Panel Reuse and Recycling in Australia

Northern Inland Regional Waste (NIRW) welcomes the opportunity to provide feedback to the Parliamentary Inquiry into Solar Panel Reuse and Recycling in Australia.

NIRW was established in 1998 and supports 12 local councils across the New England North West region of NSW, working collaboratively to improve waste management, resource recovery and circular economy outcomes for regional, rural and remote communities.

Solar Panel End-of-Life Management

The volume of end-of-life solar photovoltaic (PV) panels in Australia is increasing rapidly, with limited capacity currently available for reuse or recycling. By 2025, approximately 3 million solar panels are expected to reach end of life in Australia. Despite this, Australia's processing capacity remains insufficient to manage current and forecast volumes.

Significant infrastructure investment is required to ensure adequate capacity to process solar panels at scale. This is particularly relevant in this region where the New England Renewable Energy Zone, has large volumes of solar panels are being deployed. For example, approximately 1.5 million solar panels are to be installed at New England Solar Stage 1 and 2 between 2021 and 2026, with an expected lifespan of 25–30 years (Clean Energy Regulator, <https://cer.gov.au/news-and-media/case-studies/1-5-million-solar-panels-horizon>). When completed later this year, New England Solar project will represent approximately 9% of the total projected New England REZ capacity (total 8MW). This highlights the approaching surge in decommissioning volumes and the urgent need for solutions.

System Capacity, Infrastructure and Market Constraints

Current recycling opportunities are limited, geographically dispersed and often located significant distances from the point of generation. This creates substantial logistical challenges, particularly in regional, rural, and remote areas characterised by low population density, long transport distances and high freight costs. The bulky nature of solar panels further exacerbates transport inefficiencies, as preprocessing at the point of collection is not typically feasible.

High logistics and recycling costs, combined with limited processing capacity present a significant barrier to the viability of recycling. These challenges are compounded by external pressures such as rising fuel costs and constrained supply, which has the potential to further undermine recycling efforts. Additionally, the value of recovered materials is often insufficient to offset the full costs of collection, aggregation, transport and processing, deterring private sector investment.

The current market conditions also create a risk that waste will default to the lowest-cost disposal pathway. In many regional areas, this results in solar panels being landfilled due to comparatively lower disposal costs. This outcome is inconsistent with circular economy objectives and undermines resource recovery efforts.

While Australia has the technical capability to recycle solar panels, supporting commercial and logistics frameworks remain underdeveloped.

Impacts on Local Government and Regional Communities

Local governments are increasingly expected to accept solar panels at council-managed waste facilities, despite limited capacity and infrastructure to do so. This expectation represents a significant cost shift to councils, particularly in rural and regional areas where resources are already highly constrained.

Waste management plans submitted by project proponents are often lacking in detail, with inaccurate volume estimates and insufficient identification of appropriate disposal or recovery pathways. In some cases, there is an implicit assumption that small, rural waste facilities can absorb large volumes of end-of-life panels, which is simply not feasible.

Risks associated with both commissioning and decommissioning phases of renewable energy projects also require further consideration, particularly in relation to waste generation, handling and end-of-life management.

If Council facilities are to be utilised as collection points, they must be adequately resourced and compensated. Alternatively, collection systems should prioritise direct recovery from installers, small businesses, and renewable energy sites to minimise impacts and cost burden on Councils.

Policy and Regulatory Framework

Progress in establishing an effective national framework for solar panel recycling is continuing to evolve, with solar PV systems listed on the Minister's Product Stewardship Priority List for almost a decade.

The *Wired for Change: Regulation for small electrical products and solar photovoltaic systems* discussion paper 2023 suggested the implementation of a regulatory product stewardship scheme. Large scale PV systems should be included in this approach.

The announcement of a pilot national solar panel recycling program in January 2026 is a positive step, but further action is required to establish a comprehensive, long-term solution.

A mandatory, national product stewardship scheme is critical to ensuring effective end-of-life management of solar panels across all sectors, including residential, commercial and utility-scale installations. A voluntary approach is unlikely to deliver the systemic change necessary to manage rapidly increasing volumes.

The scheme should operate independently of the National Computer and Television Recycling Scheme and be specifically designed to address the unique challenges of solar PV systems.

Extended Producer Responsibility (EPR) must form the foundation of this approach, ensuring manufacturers are accountable for the full lifecycle of their products. This includes designing panels for improved recyclability and contributing to the costs of collection, transport and processing.

The scheme must:

- Ensure equitable service coverage across regional, rural and remote areas
- Include provisions for existing stockpiles to be recycled
- Establish collection systems that service solar installers and large-scale renewable energy sites

- Provide adequate funding to local government where they are involved
- Set levies applied through a product stewardship scheme at a level that reflects the true cost of servicing regional and remote areas

A strong and consistent regulatory framework is essential to set clear standards, promote best practice and ensure environmental and safety outcomes. Without this, recycling efforts will remain fragmented and ineffective.

Circular Economy Outcomes and Strategic Direction

There is a strong policy imperative to transition toward a circular economy, where solar panels are reused, refurbished or recycled rather than landfilled or stockpiled. However, current opportunities are limited and require further development, including investment in facilities of sufficient scale.

Recycling infrastructure should be strategically located in key regional areas to support local economies, reduce transport distances and improve overall system efficiency. Processing should occur within Australia to maximise economic benefits, support domestic industry and retain the value of recovered materials.

In addition to the development of robust collection and recovery systems, consideration should also be given to regulatory measures such as banning solar panels from landfill, given their inherent recyclability.

Conclusion

NIRW and its member councils strongly support a codesign approach to the development of a mandatory product stewardship scheme. Collaboration between industry, all levels of government (including local government) and other stakeholders is essential to ensure the delivery of a fit-for-purpose, equitable and sustainable solution.

Without coordinated and timely action, Australia risks significant environmental, economic, and social impacts associated with the growing volume of end-of-life solar panels.

NIRW appreciates the opportunity to contribute to this consultation. If you require any further information, please don't hesitate to contact me using the details provided below.

Yours sincerely,

[Redacted signature]

Alison Leckie
Program Coordinator
Northern Inland Regional Waste

[Redacted contact information]