

Dear House of Representatives Standing Committee on Climate Change, Energy, Environment and Water,

Please consider this submission to the inquiry into solar panel reuse and recycling in Australia.

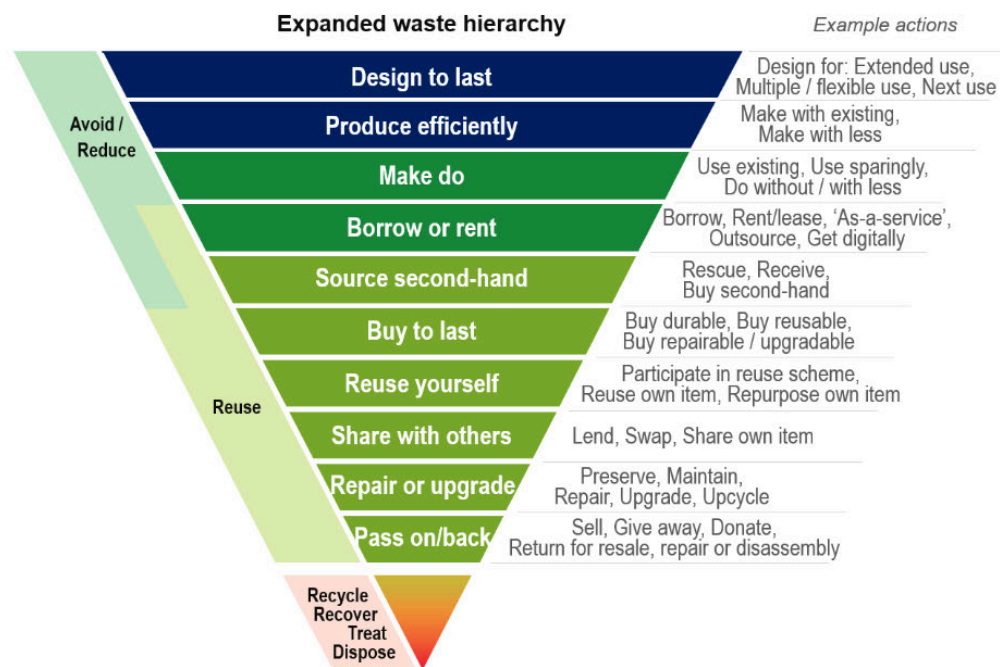
Key Points:

- The waste hierarchy principles must be applied to solar panels to ensure that the best environmental, economic and social outcomes are achieved.
- Responsibilities must be clear and enforceable across the supply chain and end-of-life activities to achieve good outcomes.
- Producer responsibility should be mandated to encourage and ensure solar panels are designed and handled appropriately to achieve good outcomes.

Waste Hierarchy

The waste hierarchy outlines the most effective ways to minimise waste and keep materials used at their highest value for as long as possible. The image below is an example of a detailed waste hierarchy.

Figure 3: The waste hierarchy framework with waste prevention actions



(DCCEEW 2025)

The most effective way to minimise waste is to avoid it in the first place. For solar panels, avoiding oversized solar systems for the owner's needs should be encouraged, and quality standards and minimum warranty periods should be introduced to ensure panels operate at a

high quality over a long period of time. To keep materials used at their highest value for as long as possible, reuse is critical. To reuse solar panels, the parties removing panels should be required to test each panel and any that perform above a set performance level must remain in use, or be reused at another system. Excess panels could be gifted to community or charitable organisations. The right to repair must be legally mandated to enable technicians or community members to repair damaged or poorly performing panels. Additionally, panels must be designed to be modular and easily repairable. So only the specific component that is damaged can be removed and replaced with a working part, not the entire panel discarded. An example of an electronic device which is designed to be repaired by removing and replacing component parts is FairPhone mobile phones. Manufacturers, distributors and suppliers should be required to take back the panels they supply and to repair each component. To recycle solar panels, they must be made to be recycled easily with quick and simple disassembly into component parts, that can be separated into single material components that can pass through Australia's materials recycling facilities. Solar panels should be made with recycled content that can again be recycled at the very end of its life. Solar panels should never be disposed of in landfill as they contain a range of valuable materials. They should be seen as a resource, not waste.

Responsibilities

To achieve the outcome of solar panels being used at their highest value for the longest period, and appropriate progression through the waste hierarchy, all stakeholders along the supply chain play a role. It is crucial that it is clear to all stakeholders the role they play and their responsibilities. It is important that all stakeholders work together to enable the activities outlined above. It must be mandated that every party has responsibility to enable each of the hierarchy steps and must actively attempt the highest-most step before considering lower hierarchy actions.

Producer responsibility

Mandating extended producer responsibility should be done to enable and promote all the above actions. This will ensure that the design and manufacture of solar panels play a key role in enabling each level of the waste hierarchy to achieve solar panels staying in use for as long as possible in their intended use, and at the higher end of the hierarchy for as long as possible.

New business models

To move towards a circular material flow for solar panels, the government should encourage and incentivise different business models. Specifically away from solar panels as a single purchase product and towards solar panels or renewable energy as a 'service'. This could look like an energy subscription with the supplier of panels, solar system sellers or energy retailers. So that the customer is receiving the value from solar panels - renewable energy, as a service, and not simply buying and owning the solar panels.

References

DCCEEW (Department of Climate Change, Energy, the Environment and Water) (10 January 2025) *Waste generation and prevention*, Australian Government, accessed 12 March 2026.

<https://www.dcceew.gov.au/environment/protection/waste/publications/national-waste-resource-recovery-reporting/waste-generation-prevention-2024>