

Consultation Paper:

Collection mechanisms for Potential
E-stewardship Regulation

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1. Purpose

The Australian Government has announced its intention to develop a regulatory product stewardship scheme for solar photovoltaic (PV) systems and small electrical and electronic products (e-products). The Department of Climate Change, Energy, the Environment and Water (department) is seeking initial views from key stakeholders prior to undertaking a public consultation process on this potential regulation.

This paper focuses on the **collection** mechanisms for potential PV systems and e-product stewardship regulation (e-stewardship). The department will separately seek feedback on options for scheme targets, including access and collection targets. Your initial feedback on this paper will inform the public consultation process which will take place in the first half of 2023. Appendix A summarises previous consultation papers and stakeholder responses.

2. Background

2.1. The problem

In 2019 small equipment made up about 30% of Australia's e-waste, from which only 15% was collected for recycling and only 8% of materials recovered. PV systems are Australia's fastest growing e-waste stream, predicted to generate 256,000 tonnes of waste between 2019 and 2030. It is estimated that in 2019 only 15% of end-of-life PV panels entered the recycling system. There are no national schemes to reduce and manage waste from small equipment or PV systems.

2.2. Objectives of proposed scheme

To address the growing e-waste problem the government is intending to develop e-stewardship regulation for PV systems and e-products. The objectives of this regulation are to:

- reduce waste to landfill, especially the hazardous materials found in electronic waste
- increase the recovery of reusable materials in a safe, scientific and environmentally sound manner
- provide convenient access to e-stewardship services across Australia
- support Australia's transition to a more circular economy
- foster shared responsibility across the life cycle of covered products.

3. Determining collection requirements

A key design element for any e-stewardship scheme is determining how the scheme administrator/s ensure collection services are efficient and effective. Specifically, it is important to ensure that collection costs are not unreasonably transferred to organisations that are not regulated by the scheme. For example, scheme obligations need to be set in a manner which prevents cost associated with the collection and management of in-scope products being born by councils who offer free drop-off facilities at landfill sites they manage. In developing the collection mechanisms included in this paper, the department has considered:

- submissions to the department's *Consumer electronics stewardship discussion paper* in late 2021
- the 2020 Operational review of the National Computer and Television Recycling Scheme (NTRCS)
- the department's experience in administering the NTRCS
- high performing extended producer responsibility (EPR) schemes in Europe
- the European Union's directive on waste electrical and electronic equipment (WEEE).

3.1. Standards

AS 5377:2022 *Management of electrical and electronic equipment for re-use or recycling* sets out principles and minimum requirements for the safe and environmentally sound collection and storage, transport, preparation for re-use and treatment of electrical and electronic equipment, including PV systems. The Standard requires e-waste collection services to have:

- appropriate signage and information, including the types of e-waste accepted, instructions on how to access the drop-off area/collection unit, site access times for the public, etc.
- storage and handling processes covering safe storage practices
- traceability records so that the type, weight, collection times and details of the transporter are maintained.

The department is considering whether it should include adherence to AS5377:2022 as a requirement for collection under potential new regulation. This requirement is expected to provide safety and quality assurance benefits for collections; however, the department acknowledges that the use of these standards could also impose additional regulatory burden.

3.2. Collection for small electrical and electronic products

Globally, several different approaches have been adopted for collection services under e-stewardship schemes. International practices provide useful context for considering scheme collection mechanisms. However, Australia's unique geographic and population distribution characteristics need to be considered for any Australian scheme.

In Europe, high performing EPR schemes for e-products typically offer a blend of collection methods to achieve high collection rates, including collection arrangements which help to identify goods suitable for repair or re-use.

Take-back (or return to retail) is a common approach in high performing EPR schemes in Europe. Some of these offer take-back on a one for one basis on new purchases and others offer returns without the requirement of a purchase. Take-back is convenient for customers, helps to collect clean well-sorted waste and diverts waste from municipal waste collection. Take-back can also offer an opportunity to triage returned products for repair or reuse.

Internationally, the emergence of recycling **collection hubs** has engaged the community and provided environmental, economic and logistical benefits for managing a wide range of end-of-life products in line with the waste hierarchy. For example, the French EPR scheme for WEEE promotes repair and reuse by requiring the scheme administrators to contract with social enterprises. This has led to special collection points for e-products intended for reuse rather than recycling.

Some social enterprises in Australia are already promoting repair and reuse of e-products, as well as achieving other social outcomes by employing people with disabilities and other barriers to employment. The department considers it appropriate for any new e-stewardship regulation to support the integration of community collection hubs with social enterprise activities.

The NTCRS requires a set number of free drop-off services, based on population density and how remote the location of the service is. Collection services can be at retail centres or transfer stations; or they can take the form of mail-back services, pick-up collections and pop-up events.

3.2.1. Collection mechanisms

Collection mechanism—in conjunction with broader scheme requirements—need to maximise access by ensuring those who wish to participate in the scheme have access to an appropriate collection mechanism. However, this goal must be balanced against minimising unnecessary regulatory burden. As such the department is not proposing to impose collection obligations on retailers, transfer stations or other parties; rather to set minimum collection obligations on the scheme administrator/s¹. The department proposes these collection obligations be met through the following mechanisms:

1. **Community collection hubs** – it is proposed that where a local government, state government, or other appropriate entity manages a community collection hub that these collection hubs would be eligible to be approved collection hubs for the scheme. Approved collection hubs could repair or sell second-hand e-products, while having a right to free collections for in-scope products from the scheme administrator/s. These collection rights would include limitations such as minimum weight of in-scope material ready for collection, and health and safety requirements.
2. **Retailer take-back** – it is proposed that where a retailer offers a take-back service, which does not have an access requirement of a purchase, that this take-back service would be eligible to be an approved service for the scheme. Approved services would have a right to free collections for in-scope products from the scheme administrator/s. However, these collection rights would include limitations such as maximum collection frequency, use of approved receptacles, and health and safety requirements. This allows retailers to consider their specific circumstances (e.g. insurance issues associated with collection of waste that has embedded batteries) when deciding to host a take-back service.
3. **Mail-back and pick up services** – provide convenient access to e-waste disposal services to households. However, providing minimum service of these types of services to all communities is expected to significantly increase the cost of scheme administration. Given the potential cost impacts it is proposed that the scheme administrator/s could use these services to meet scheme access or collection targets, however, would not be required to provide a minimum level of mail-back or pick up services.
4. **Pop-up events** – such as those hosted by schools or community organisations are an efficient way of collecting end-of-life items, particularly from regional and remote areas. It is proposed that pop-up events could seek free collection of in-scope products, from the scheme administrator/s. While it is not proposed that pop-up events would be guaranteed free collections, it is proposed that a scheme administrator would need to consider request for collections in accordance with a set of prescribed criteria. These criteria would include considerations such as the number of access sites available in the area the pop-up event will be held, the expected volume of items dropped off at the event, the number of free collection services provided to pop-up events in that area in that financial year, etc.

¹ A future consultation paper on scheme targets will provide greater detail on potential collection targets for scheme administrator/s.

5. **Collection services provided directly by scheme administrator/s** – it is anticipated that any potential scheme will have a requirement or target in relation to equitable access to scheme services across Australia. Access provided by third parties (e.g. retailer take-back) would be eligible to support achieving this target. However, where these services fall short of meeting the national access target the scheme administrator/s would be required to host collection services in a manner that ensure the scheme’s access target is met (e.g. scheme administrator hosted collection hubs).

Regulation around the minimum level of collection services to be provided by the scheme administrator/s will be determined once the product scope, collection mechanisms and other scheme design elements are finalised. Regulations will determine how geographic access can be provided via a minimum level of authorised collection services and clear obligations to collect in-scope products deposited at authorised collection services. Further information on potential collection targets for scheme administrator/s will be included in future consultation papers and the public consultation process.

Education and awareness of the scheme collection points is an essential factor in considering the appropriate minimum level of scheme access. As such the department anticipates that specific education and awareness obligations be placed on the scheme administrator/s to ensure the public and others across the supply chain know how to access the scheme. Further information on education and awareness will be included in future consultation papers and the public consultation process.

3.3. Collection for solar PV systems

3.3.1. European Union

Globally, the European Union (EU) leads the sustainable management of end-of-life PV systems. Since 2012, all EU member states have mandated PV module and electrical and electronic product recycling through the Waste Electrical and Electronic Equipment (WEEE) Directive.

A European standard for collection, logistics and treatment for Waste PV panels has been in place since 2017 which is applicable to all operators involved in handling, sorting and storage of PV panels until PV panels are recycled, recovered or disposed (EN60625-2-4:2017). This standard is sufficiently similar to AS 5377:2022 so as to not require standalone consideration.

The WEEE Directive covering PV panels has been in place for some time, and there have been calls within the European community for reforms to the methodology to set targets for PV panels, to address free riders, to improve data on products put on market and waste fates, and to better capture waste flows from solar farms. The department will consider lessons from their experience.

3.3.2. PV System collection mechanisms

Australia’s geography, freight costs, and the highly dispersed pattern of PV system installation means transport costs will be a significant aspect of a national stewardship scheme for PV systems. Scheme design issues relating to non-household PV systems (e.g. utility scale) will be covered in a separate paper.

Given PV systems are large and complex electrical devices, deinstallation of PV systems needs to be undertaken by appropriately qualified personnel (e.g. when an electrical installer replaces an existing PV system or its components). Further, due to the size and weight of PV systems, pop-up services and mail back will not be feasible. Standalone pick-up services are also unlikely to be appropriate given systems need to be professionally decommissioned.

Optimised collection logistics and reverse logistics design will be essential for any future scheme. While the final design of logistical services will be the responsibility of the scheme administrator/s, collection mechanisms must be sufficiently attractive to deter disposal to landfill and illegal dumping.

The department has identified three collection service options for PV system waste:

1. **Collection service hubs** – private, local government or state government managed collection service hubs could be established to manage the large waste volumes associated with end-of-life PV systems. Similar to household e-product collection services, regulations could require free drop-off and include relevant collection rights to ensure the service hubs do not incur unnecessary or disproportionate financial burden for providing collection services.
2. **Distributor/Retailer/installer collection** – entities (such as solar system retailers/installers) could apply to be accredited entities². These entities would then be entitled to free collection services from the scheme administrator. However, these collection rights would include limitations such as maximum collection frequency, minimum collection weights, and health and safety requirements. Approved entities would be required to take-back old systems free of charge regardless of whether they were responsible for their initial installation.
3. **Collection services provided directly by scheme administrator/s** – it is anticipated that any potential scheme will have a requirement or target in relation to equitable access to scheme services across Australia. Access provided by third parties (e.g. installer take-back) would be eligible to support achieving this target. However, where these services fall short of meeting the national access target the scheme administrator/s would be required to establish scheme administered collection sites to ensure the scheme's access target is met.

Regulation around the minimum level of collection services to be provided by the scheme administrator/s will be determined once the product scope, collection mechanisms and other scheme design elements are finalised. Further, the department anticipates that specific education and awareness obligations be placed on scheme administrators to ensure PV system decommissioners are aware of PV recycling services. The exact nature of these obligations will be impacted by the product scope, mechanisms of access and other scheme design elements. Further information on education and awareness will be included in future consultation papers and the public consultation process.

² This could leverage existing accreditation programs such as the Clean Energy Council accredited installer program or establish a new accreditation approach.

4. Discussion questions

We seek your responses to the below discussion questions. You do not have to respond to every question.

Small electrical and electronic products

1. Do you think the collection mechanisms mentioned in the paper at 3.2.1 would work for all small electrical and electronic products in metropolitan, regional and remote areas? Why/Why not?
2. Are there other collection mechanisms for small electrical and electronic products that need to be considered? If so, please describe them.
3. What is your view on requiring each collection site to be certified under AS5377:2022?

Solar PV products

1. Do you think the collection mechanisms described at 3.3.2 would provide sufficient access for a national PV stewardship scheme? Why/Why not?
2. Are there any specific considerations for collection mechanisms for end-of-life PV panels in regional and remote areas?
3. Are there risks or issues relating specifically to decommissioned batteries that could mean the collection mechanisms described at 3.3.2 are not appropriate?
4. What is your view on requiring each collection site to be certified under AS5377:2022?
5. If a collection site accepted batteries are there any other certifications you believe should be required?

5. Feedback Process

Feedback can be provided in writing by **COB Friday 3 February 2023** or via group discussions hosted by the department. Meeting dates and times are below:

- Mon 30 Jan, 2.30 to 3.30pm for government stakeholders
- Tue 31 Jan, 2.30 to 3.30pm for non-government stakeholders.

Please provide written responses or advise of your interest in attending a group discussion, to estewardship@dcceew.gov.au.

6. Appendix A – Summary of responses to Issue Paper 1: Product scope

The first consultation paper sought feedback on the product scopes which could be covered by potential new e-stewardship regulation. The below table summarises the products scopes for which the department sought feedback.

Option	PV systems	Small electrical and electronic products
1	Solar PV panels only	All products currently covered by NTCRS plus audio products, visual products, and products that have a computing function and are not covered by the NTCRS.
2	Solar PV panels, racks, inverters and system wiring excluding battery storage units	All products currently covered by the NTCRS, plus small electrical and electronic products that have no external dimension greater than 50 centimetres.
3	Solar PV panels, racks, inverters, system wiring and battery storage units	N/A

Early feedback suggests there is general support for a broader product scope for regulation to maximise resource recovery, subject to cost-benefit analysis being conducted. However, several stakeholders recommended the exclusion of certain products from the scope, where voluntary schemes are currently in place (e.g. mobile phones and loose batteries). Some stakeholders also expressed a preference for limiting the scope of regulatory coverage for small electrical and electronic products. The department is considering this feedback and will continue to consult on how existing accredited voluntary schemes can effectively interact with any new regulatory e-product stewardship scheme.