

SMART ENERGY COUNCIL
STEWARDSHIP WEBINAR SERIES - Webinar 2

Renewable Sector Stewardship Enablers

7 October 2025

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ACKNOWLEDGMENT OF COUNTRY





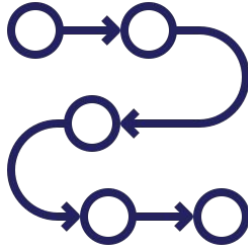
Smart Energy Council has developed this content with the assistance of Queensland Government funding.



RECAP - Solar recycling & End Markets



**Accelerating
need**



**Components
& Process**



**'End Market'
myths busted**



**Industry
& Jobs**



**Critical
Mineral Prize**



**High appetite
for change**



PANELLISTS



Darren Johannessen
Executive GM, Sustainability
Smart Energy Council



Dr Marina Lunardi
Stewardship Technical Lead
Smart Energy Council



Robyn Cowie
Stewardship Program Manager
Smart Energy Council



GUEST SPEAKER

Joel Newland
Director
New Limit Waste Services



Darren Johannesen, EG Manager - Sustainability

DOWNSTREAM ACTIVATIONS

Uplifting Social License. We Can't Do It Alone



A Shared Responsibility



The Framework for a Circular Economy



Our Industry is United

The Time for Waiting is Over - Joint Statement and Canberra Delegation

JOINT STATEMENT - Mandatory product stewardship for solar photovoltaic (PV) panels

AUSTRALIA IS AN INTERNATIONAL SOLAR SUCCESS STORY. A nation with the greatest penetration of household solar PV in the world. Yet there remains a fatal flaw that threatens to undermine the principles of this renewable energy revolution, which is ensuring that circular economy principles are embedded.

Of the millions of solar panels being decommissioned each year, less than five per cent are recycled. Not because we don't know how – we can recover more than 95 per cent of the precious resources in modules – but because consecutive governments have failed to act on delivering a sustainable stewardship ecosystem, including design, reuse, recycling, and remanufacture.

There is an escalating solar PV panel waste crisis looming, with serious environmental and social impacts set to follow. Panel decommissionings are set to double, and a recycling industry that has invested heavily on the promise of a national product stewardship scheme will stagnate and decline, with associated job losses, after a decade of policy inaction.

Time is up, and Australia's renewable energy sector stands ready to act. This is a resource solution, rather than a waste problem.

Australia needs a national mandatory product stewardship scheme for solar PV panels now to capitalise on the productivity, economic, and social opportunities.

Through recovery of solar PV panels, Australia has a \$6.5 billion opportunity to bolster the nation's critical mineral resource security, while creating innovation, new domestic industries, manufacturing, and jobs. All fundamental principles to a "Future Made in Australia", and our net zero commitments.

Our broad coalition representing industry, business, unions, local governments, community and environmental groups urges the Australian government to establish a mandatory product stewardship scheme for solar PV within this parliamentary term.

We also call on the Government to roll out a funded pilot program in the interim, which would serve to inform scheme design, attract capacity building investment, and ensure its success.

PARTICIPATING ORGANISATIONS



PAGE 2

JOURNALIST: Prime Minister, today's announcement is all about making more solar panels. How will the Government address the growing demand to recycle them at the end of their life?
PRIME MINISTER: That is something that *Our Environment Minister Tanya Plibersek* is leading work on the circular economy. We see there again, huge opportunities for Australia in advancing through the circular economy.

PRIME MINISTER ALBANESE, PRESS CONFERENCE, 28 MARCH 2024

FACTS

- 2016** Solar PV systems are placed on the Minister's Product Stewardship Priority List.
- 2020** The Federal government announced a partnership to develop and implement an industry-led product stewardship scheme to manage end-of-life PV systems by 2023. This was not actioned.
- 2021** Then Environment Minister Susan Ley gives solar industry 12 months to finalise an industry-led nationwide solar panel recycling scheme.
- 2022** Minister for the Environment and Water, announced Government's intent to develop a regulated product stewardship scheme for e-products including PV systems.
- 2023** DOCEEW released a discussion paper with a proposal for a regulated product stewardship scheme for PV systems.
- 2024** DOCEEW released Australia's Circular Economy Framework with a goal to double Australia's circularity rate by 2035 and a target (3) of recovering 80% of Australia's resources for reuse and recycling.
- 2024** Smart Energy Council (SEC) with support from the QLO Government, launched the largest solar panel collection pilot in the southern hemisphere, creating a recycling ecosystem in Queensland.
- 2025** The Productivity Commission released an interim report with reform direction 9.4 stating the Productivity Commission supports the Australian Government's intention to establish a co-regulatory product stewardship scheme for solar PVs.
- Aug 2025** No scheme has been introduced, and no further announcements have been forthcoming.



Email: stewardship@smartenergy.org.au for a copy of our Joint Statement



Dr Marina Lunardi - Stewardship Technical Lead

DATA ANALYSIS

Solar module recycling: challenges and opportunities

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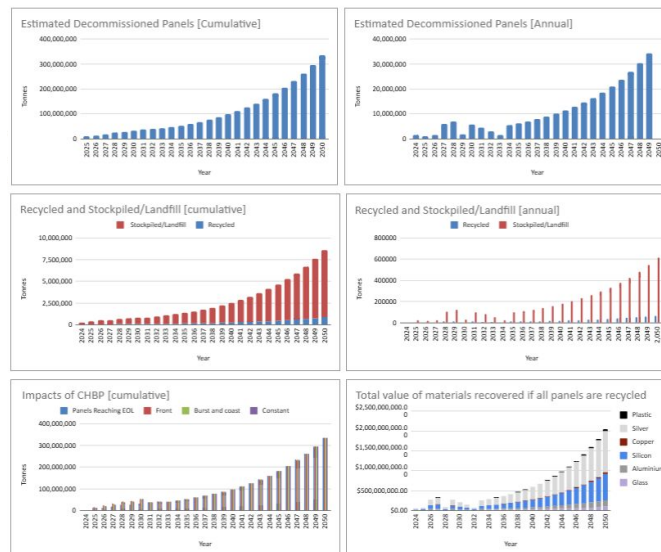


The Coming Inundation

Capacity & Growth
Decommissioning Rates
Material Composition & Value



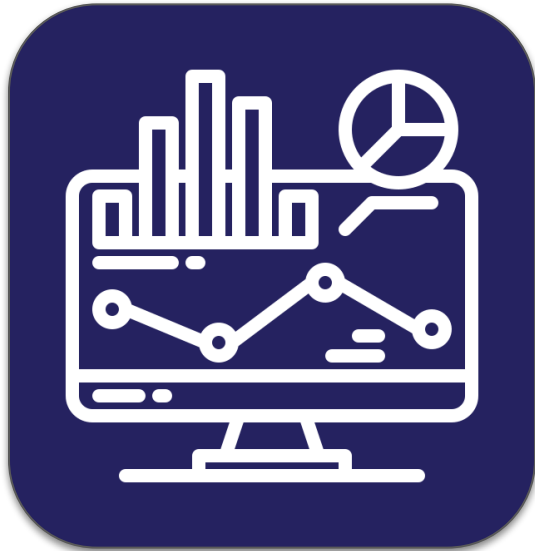
Waste Forecast
Recycling Assessment
Economic Impact



** The charts and amounts in this image are for illustrative purposes only. The data they present is not based on real-world information.*



Why the Data Matters



Social licence
Confidence
Transparency
Planning
Investment



The Scale of the Challenge



By 2035: >1 million tonnes of PV panels expected nationally.



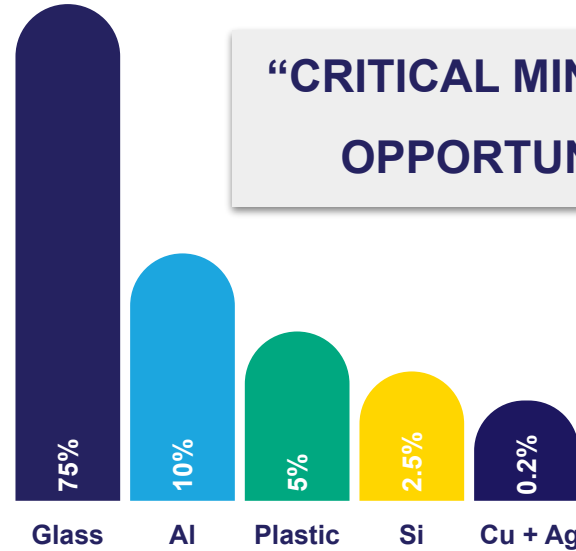
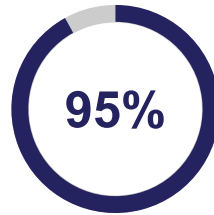
By 2050: >140 million panels will reach end-of-life.



Panels Are Not Just Waste – They Are Resources



Over 95% of its
content is recoverable

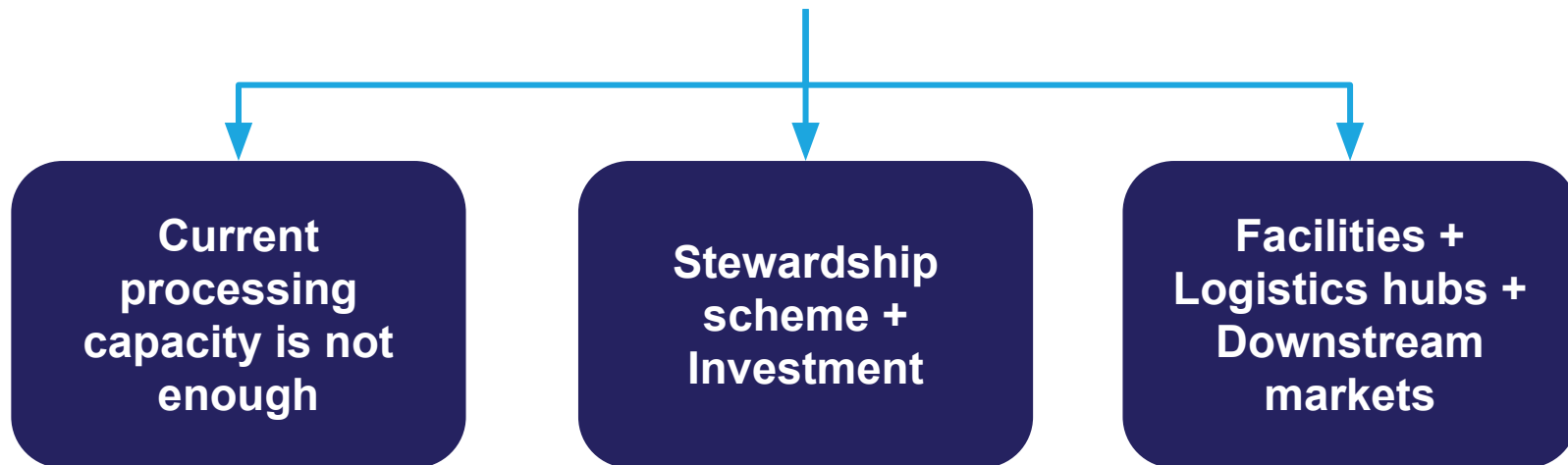


**“CRITICAL MINERAL”
OPPORTUNITY**



Industry Capacity Gap

Can Recyclers Keep Up?



The Evidence for Action

CHALLENGE



OPPORTUNITY



Reduce emissions
Secure domestic supply



Investment
Strong Policy



Robyn Cowie - Stewardship Program Manager

THE ENGINE ROOM OF STEWARDSHIP

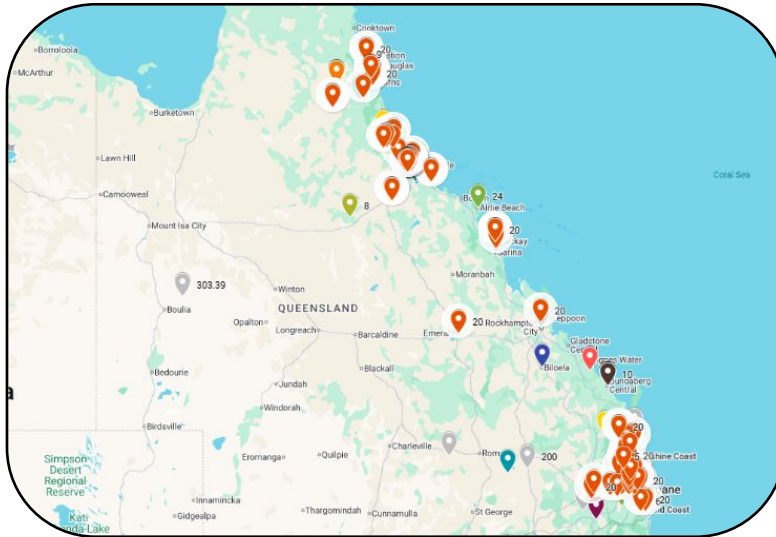
Lessons in Logistics & Data from the Queensland Pilot

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The Logistics Puzzle: A Statewide Operation

Logistics can be up to 60% of total scheme costs



Collection Types

Retail Drop

Consolidation Points

Installer 'Back-to-Base'

Regional Council Drop

Residential Milk Runs

Large-Scale Commercial

Solar Farms

Challenge- Solar Installer Behaviour: Navigating inconsistent council fees, from \$2 to \$50 per panel for landfilling solar panels



Handling is Everything: Preserving Value, Ensuring Safety



Lost Reuse Value

Lower Mineral Recovery

Higher processing cost



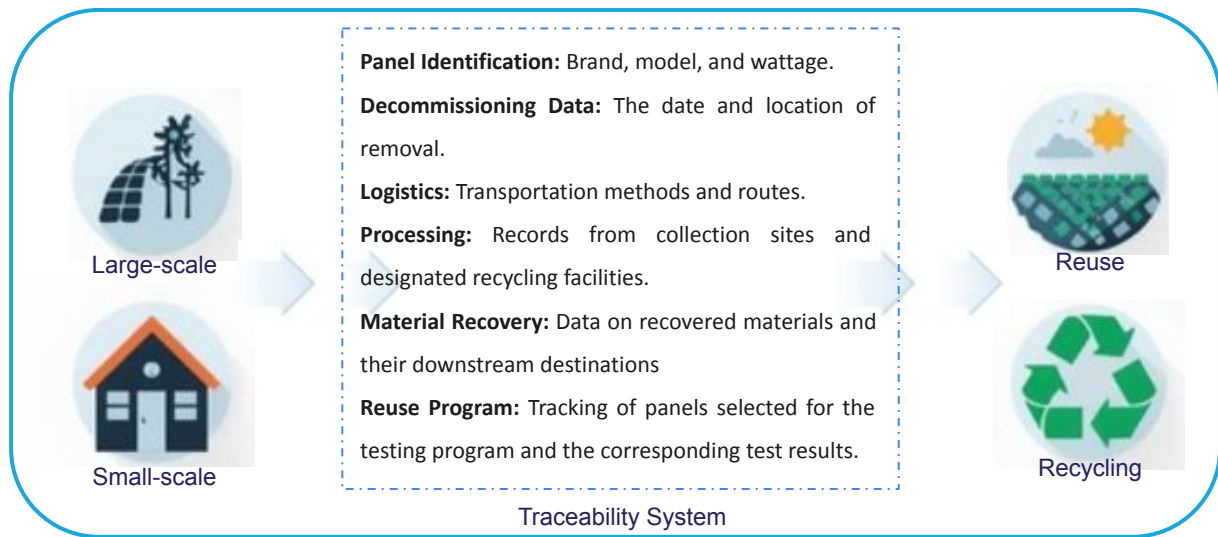
Maximum Asset Value

Efficient Recycling

Safe & Cost-Effective



Data: The Cornerstone of Credibility



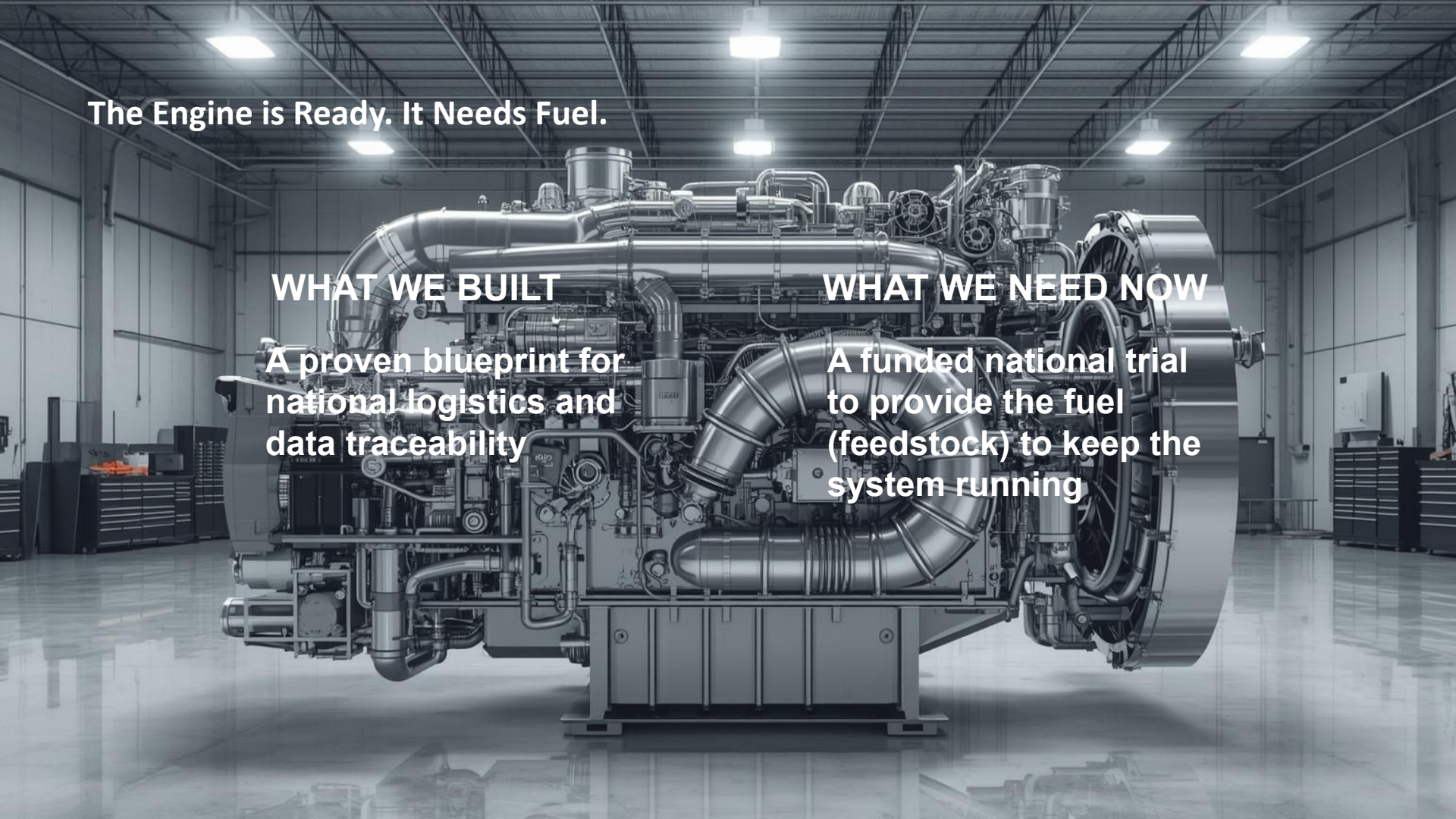
Queensland Pilot Results

Main Number:
23,587

Description:
Panels collected and tracked

Key Outcome:
100% diverted from landfill
& critical minerals
recovered



A large, complex industrial engine, possibly a marine or power engine, is displayed in a spacious, well-lit industrial facility. The engine is mounted on a heavy metal base and features a complex network of pipes, valves, and mechanical components. The background shows the interior of a large warehouse or factory with high ceilings, structural beams, and several bright overhead lights. The floor is highly reflective, mirroring the engine and the lights above. The overall tone is industrial and professional.

The Engine is Ready. It Needs Fuel.

WHAT WE BUILT

**A proven blueprint for
national logistics and
data traceability**

WHAT WE NEED NOW

**A funded national trial
to provide the fuel
(feedstock) to keep the
system running**

Joel Newland - New Limit Waste Services

CASE STUDY

The Reality of Recovery: An
operational Case Study
in Statewide Logistics
Stewardship Enablers



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Managing Diverse Logistics Across Queensland

A Standardised System for a Diverse Network

Managing multiple transport companies across metro, regional and remote areas

Challenges included tight metro access, unsealed roads, and remote sites with no forklift

Hands-On Network Management

On-site audits and detailed site reports were conducted to ensure safety and unimpeded access

Managing on-site hazards was a standard part of operations, including frequent encounters with wildlife like snakes and spiders



Collections locations from Tweed Heads to Townsville



The Human Factor: Learnings from Stakeholder Engagement

Installers



Relieved to have a **simple and reliable** system

The professional, structured system was a “**game-changer**” for businesses stressed by **market uncertainty** and **inconsistent fees**

Local Councils



Incredibly supportive partners
facing a landfill crisis

Feedback proved a **huge appetite for a coordinated, national scheme**

Retailers



Primary challenge was the reluctance to
dedicate valuable floor space

Buy-in was achieved by framing the system as
a value proposition that solved a business
problem for them



The Network is Ready



The pilot proved that a **complex, statewide network is possible** and manageable

We provided a **dependable system for installers and councils**, building trust and validating the approach

The systems are tested, the network is built, and the **operational foundation is solid**

We are confident and fully prepared to launch the national trial



Q & A

QUICK POLL



Notices & Reminders

- FINAL WEBINAR Solar Panel Reuse - 1.30pm
Tuesday 21 October
- Registration for this webinar and to access the recording and presentation is via <https://smartenergy.org.au/reuse-recycle/>
- Consider joining the Smart Energy Council. Drop us a line stewardship@smartenergy.org.au.



THANK YOU

stewardship@smartenergy.org.au

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