

ENABLING DESIGN FOR ENVIRONMENTAL GOOD

AUSTRALIAN GOVERNMENT

PLENARY session Waste Expo 23

Helen Millicer, GAICD, Churchill Fellow
A/ Prof Simon Lockrey





Project purpose: Identify opportunities to leverage design, innovation and sustainability to strengthen Australia's competitive position in the growing green economy by enabling design for environmental good.





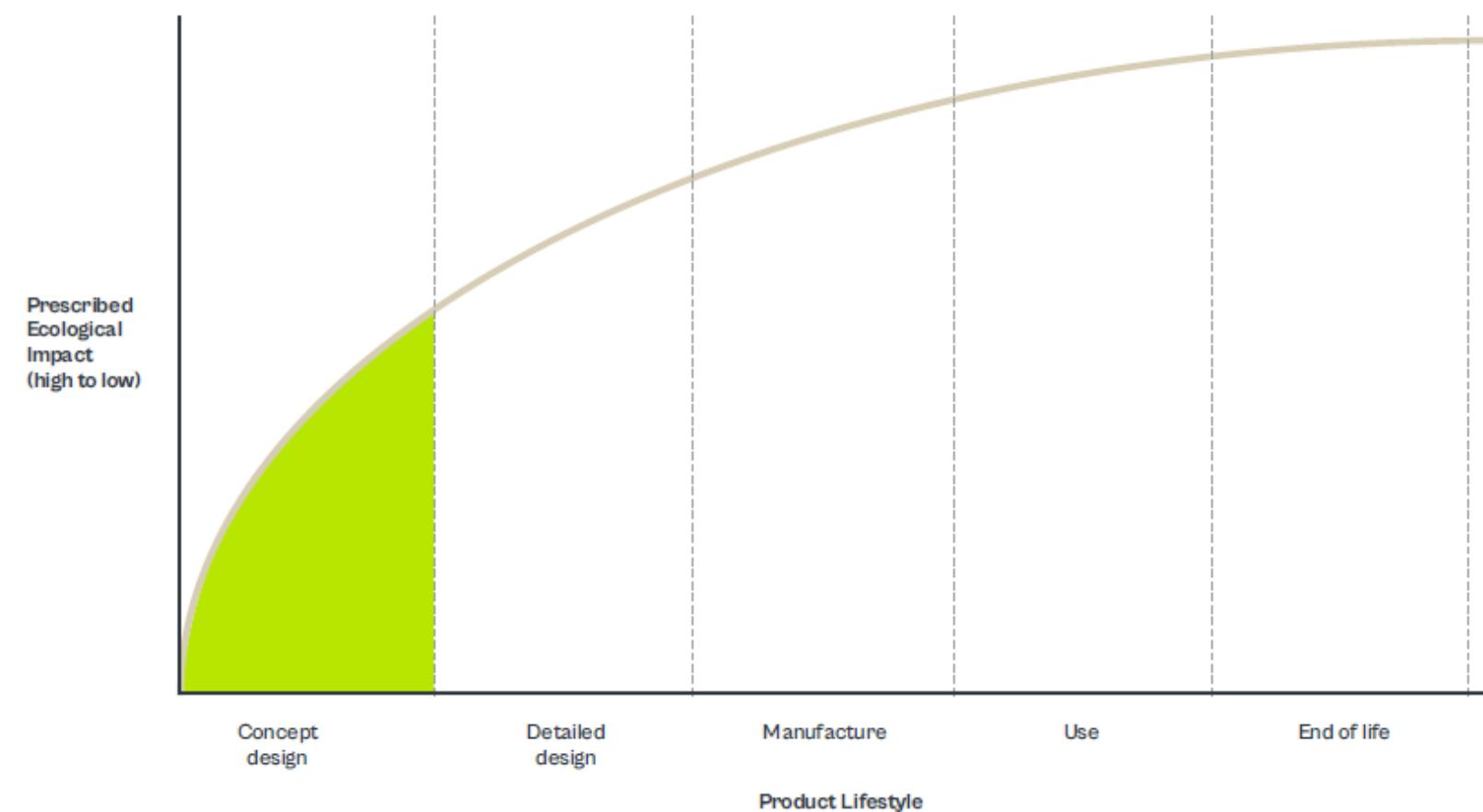
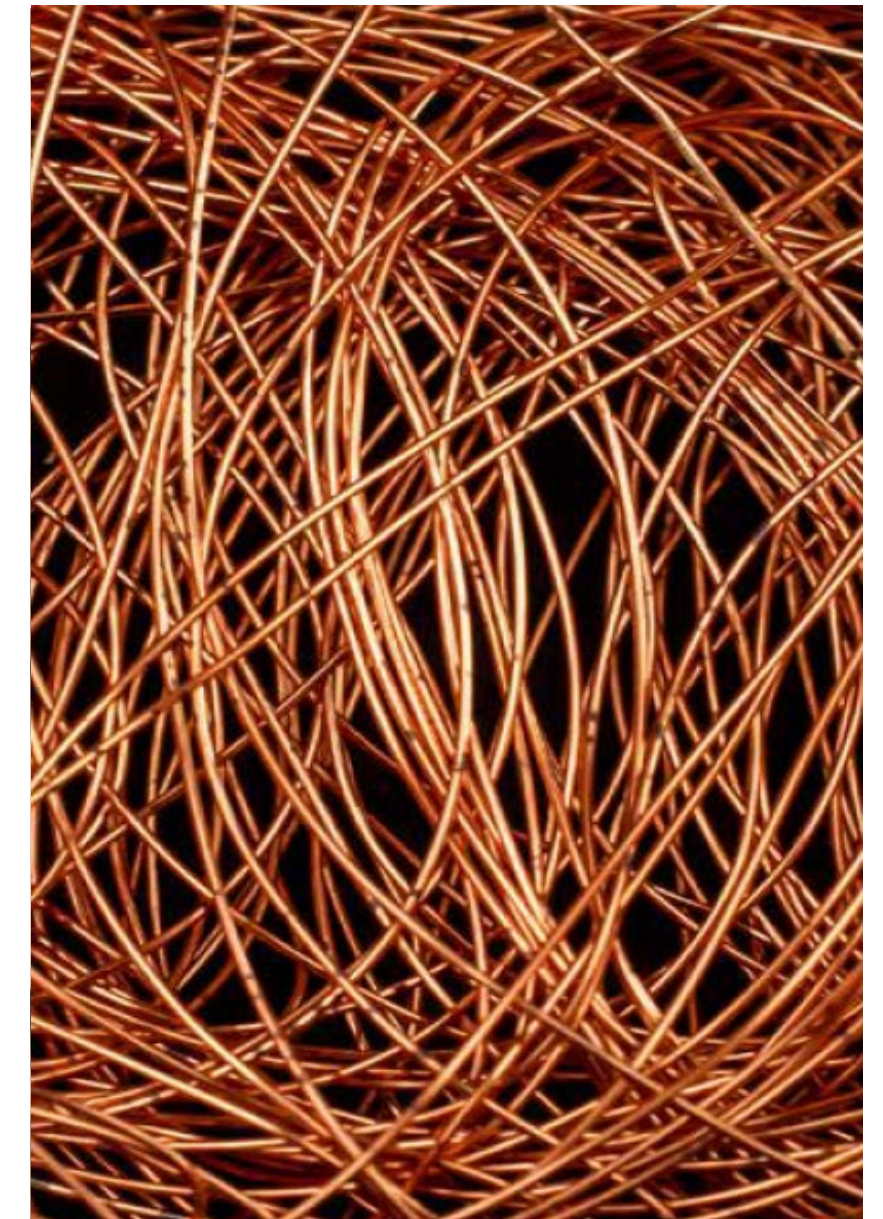
Good Design

Why and Background

Australian Government commissioned project for system change in Australian economy.

Design locks in up to 70% of the environmental impacts of a product (Lewis et al. 2001) and up to 85% of the life cycle financial cost.

Design practice impacts sectors and supply chains of great economic/ strategic importance to Australia e.g. manufacturing, mining and construction.



Good
Design
Our approach

PURPOSE
is to inform and engage for
greatest value to generate
change in Australia

Overarching principles and measures
that influence design in Australia

DEEP DIVE 1
BUILDINGS

For example:
Residential
Commercial
Public
Recreational

DEEP DIVE 2
ELECTRONIC GOODS

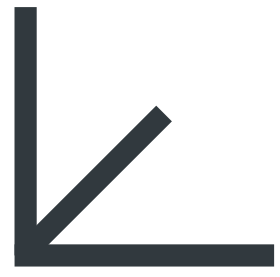
For example:
White goods
Phones
TV/Computers
Electrical equipment

DEEP DIVE 3
TEXTILES

For example:
Clothing
Industrial fabrics
Flooring
Upholstery

DEEP DIVE 4
PLASTICS

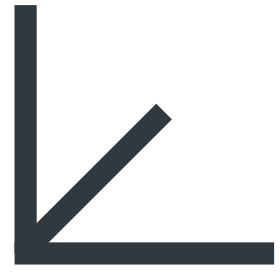
For example:
Packaging
Industrial products
Pipe
Flooring
Vehicle parts
Consumer products



Eco Design Principles in project

- 1: **Regenerative design** - transitioning from designing 'like nature' to 'with nature'
- 2: **Think in systems and design for life cycles**
- 3: **Zero waste** - Move from a take-make-waste model to circular economies
- 4: **Make better design choices** - Ethical design for collective wellbeing

'Eco-Design' is a term used as a **catch-all concept** of **enabling design for environmental good** for "any form of design that minimises environmentally destructive impacts by integrating itself with living processes" (see Van der Ryn & Cowan 2013)

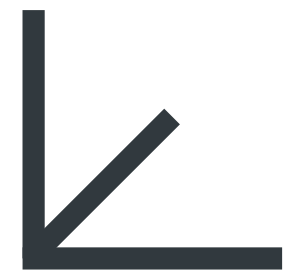


Methodology

Process

1. **Global literature review** was undertaken to determine best Eco-Design practice and influences.
2. **Detailed and iterative consultation process:**
 - Expert interviews and
 - 5 x co-design workshops
3. **Explore options for levers** that could best enable maximum uptake and embedding of Eco-Design
4. **Identify parties that may take ownership of these actions**





Methodology Stakeholders (70+ orgs)

Breville

Katapult

nextek

ABSC
AUSTRALIAN BEDDING
STEWARDSHIP COUNCIL

**Infrastructure
Sustainability
Council**



Downer

**Product
Stewardship
Centre of
Excellence**

**GLOBAL
GREEN TAG**
INTERNATIONAL

**ENGINEERS
AUSTRALIA**

COUNTRY ROAD

**NEZILIO
WOLF**

**AUSTRALIAN
DESIGN
COUNCIL**

WMRR
WASTE MANAGEMENT & RESOURCE
RECOVERY ASSOCIATION AUSTRALIA

Qenos

**MASTER
BUILDERS
VICTORIA**

**PACT
GROUP**

**FUTURE
FASHION
AGENCY**



**MINDEROO
FOUNDATION**



spe
INSPIRING
PLASTICS
PROFESSIONALS

CSIRO

**Design
Institute of
Australia**

APCO
AUSTRALIAN PACKAGING
COVENANT ORGANISATION

**Sustainability
Victoria**

DAVID JONES

**Charitable
Recycling
AUSTRALIA**

**LOW CARBON LIVING
CRC**

**mobile
muster**

PlasticForests
Recycling Plastic Films

GALE
PACIFIC

**Green Building
Council Australia**

mirvac

TERRACYCLE

Queensland Government
Department of Environment and Science

patagonia

**MARTOGG
& COMPANY**

**BINGO
INDUSTRIES**

LAING O'ROURKE

**AUSTRALIAN
FASHION COUNCIL**



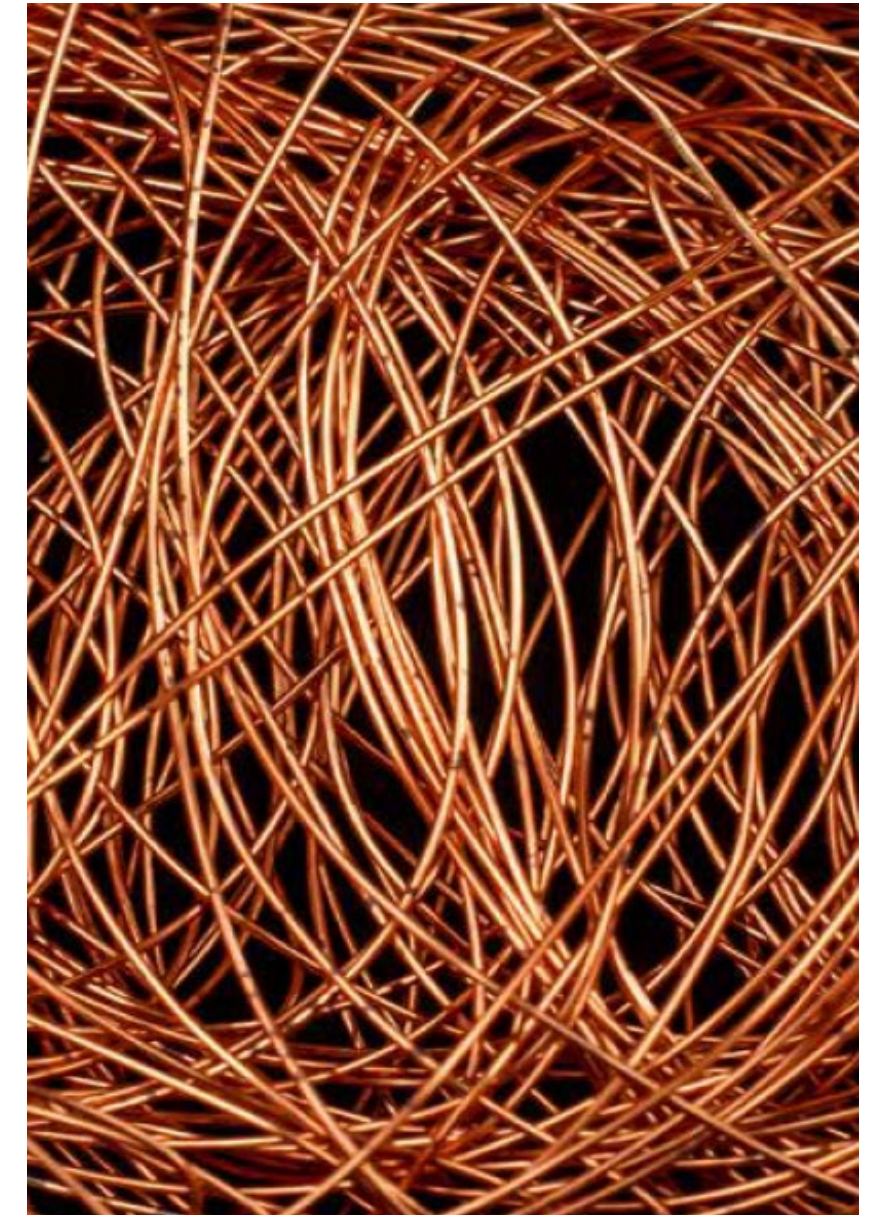
Cross Cutting Levers

What and
who?

Cross-cutting levers are relevant **across design disciplines, industry sectors and jurisdictions**. They are:

1. **Policy, strategies and targets**
2. **Legislation and regulation**
3. **Finance and economics**
4. **Training and education.**

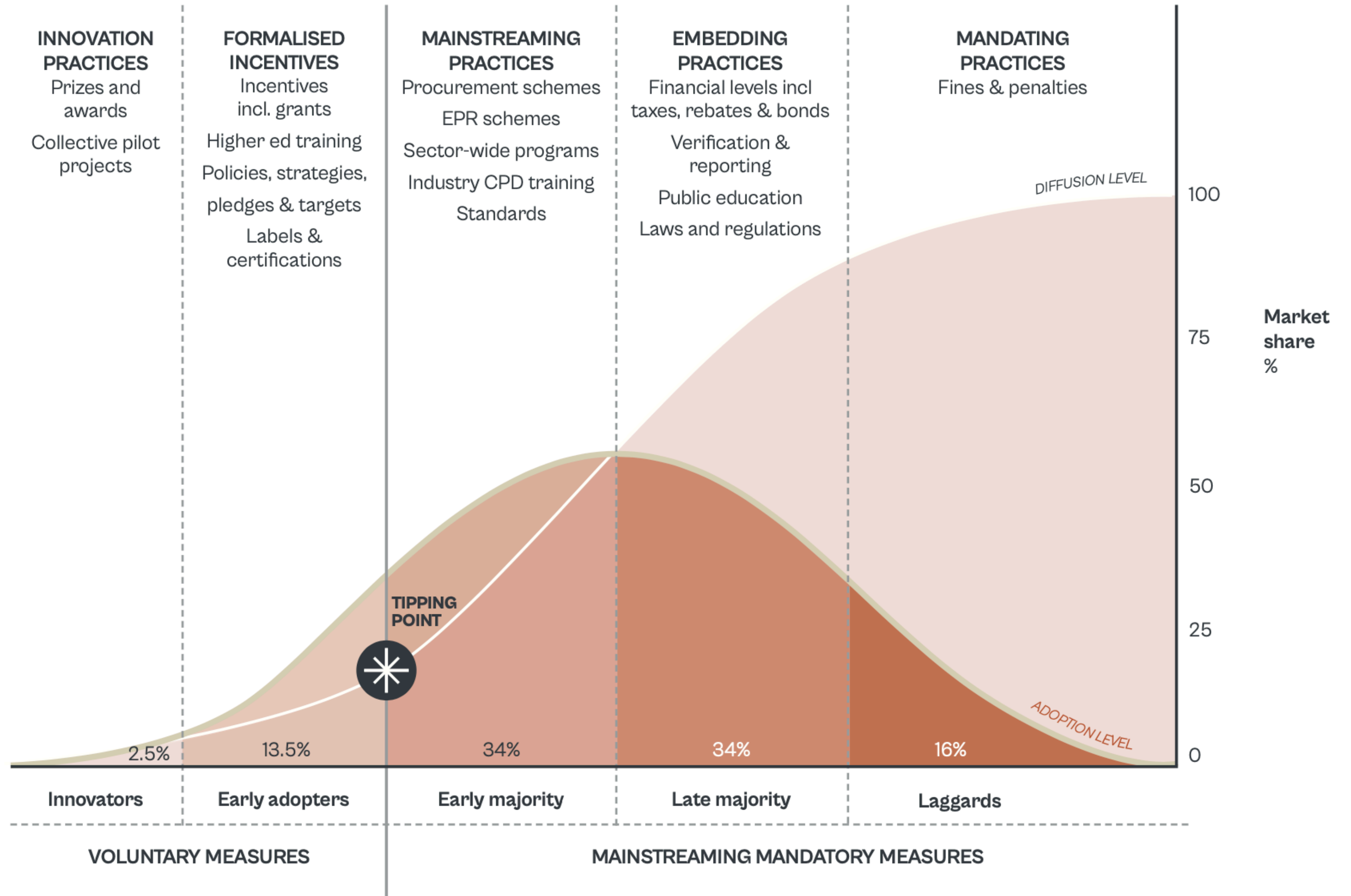
Undertaken by industry associations, governments, education/research institutions, non-profit organisations, international stakeholders and others. Levers can set a new course to enable better environmental outcomes through design.





Cross Cutting Levers

Mapping success and gaps



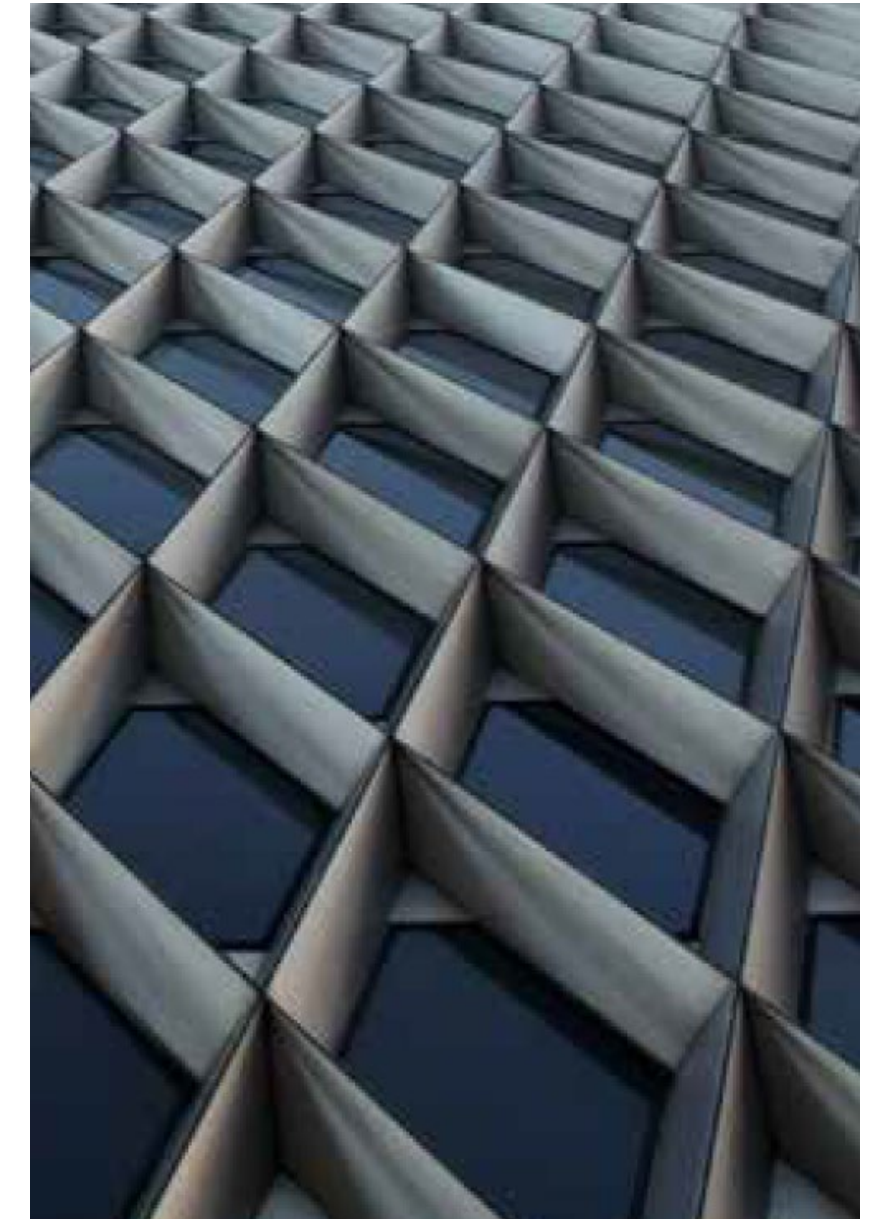
Adopted by Millicer,
from Rogers
(1962, 2020)



Cross Cutting Levers

Findings for Australia

1. Many voluntary measures but few mandatory steps to embed and mainstream improvements
2. Recommended 10 measures for responsible stakeholders across sectors to improve design of products and systems, covering: policy, strategy, financial/ economic, legal/ regulatory (although a regulatory review is also recommended beyond this project), training/ education, and behaviour change mechanisms.
3. Recommended 10 measures will look to reinvigorate key manufacturing sectors, modernise recycling sector, increase resource security/ productivity, and strengthen Australia's position in the competitive circular low emissions economy.





Cross Cutting Levers

10 Levers

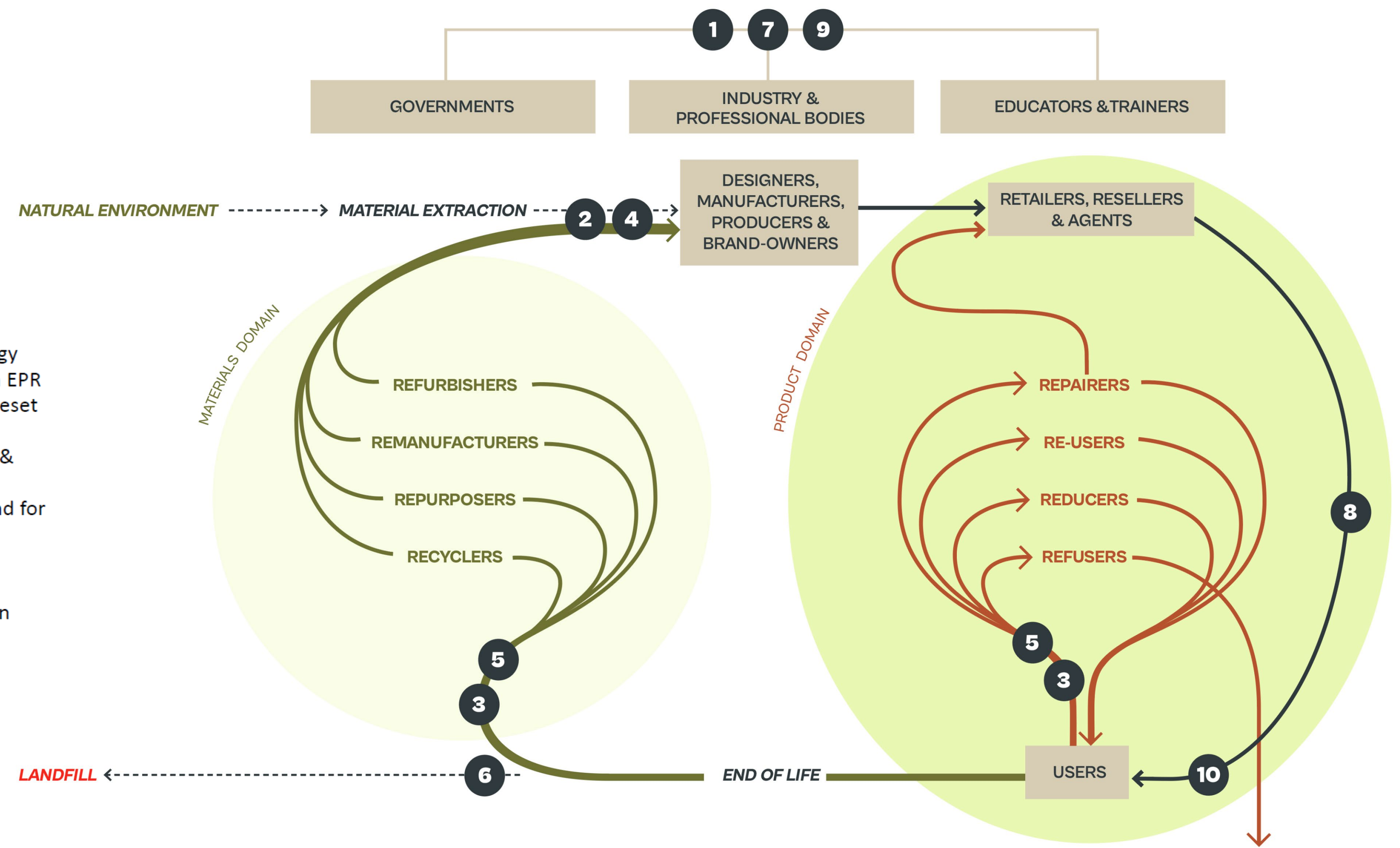
Recommended

- 1 **Circular Australia Strategy** for eco-design product
- 2 Improve **Stewardship** and **introduce EPR**
- 3 Activate **Reuse and Repair Reset Program**
- 4 Align **product standards and specifications with global best**
- 5 Establish **Eco-Design Innovation Fund** for national circular, supply chains
- 6 Accelerate recycling by raising **landfill fees** on priority products
- 7 **Financial and regulatory mechanisms** addressing negative externalities
- 8 **Buy for Good Program** procurement for government and industry
- 9 **Learning and Upskilling Program** for Environmental Good
- 10 **Public education**



Levers, roles and points of influence (who, what, where)

1. Eco-design Circular Strategy
2. Improve stewardship with EPR
3. Activate Reuse & Repair Reset program
4. Align to global best specs & standards
5. Eco-Design Innovation fund for supply chains
6. Raise landfill fees on recyclables
7. Apply financial and regs on negative externalities
8. Buy for Good program
9. Learning and Upskilling
10. Public education





Applied to 4x Priority Sectors

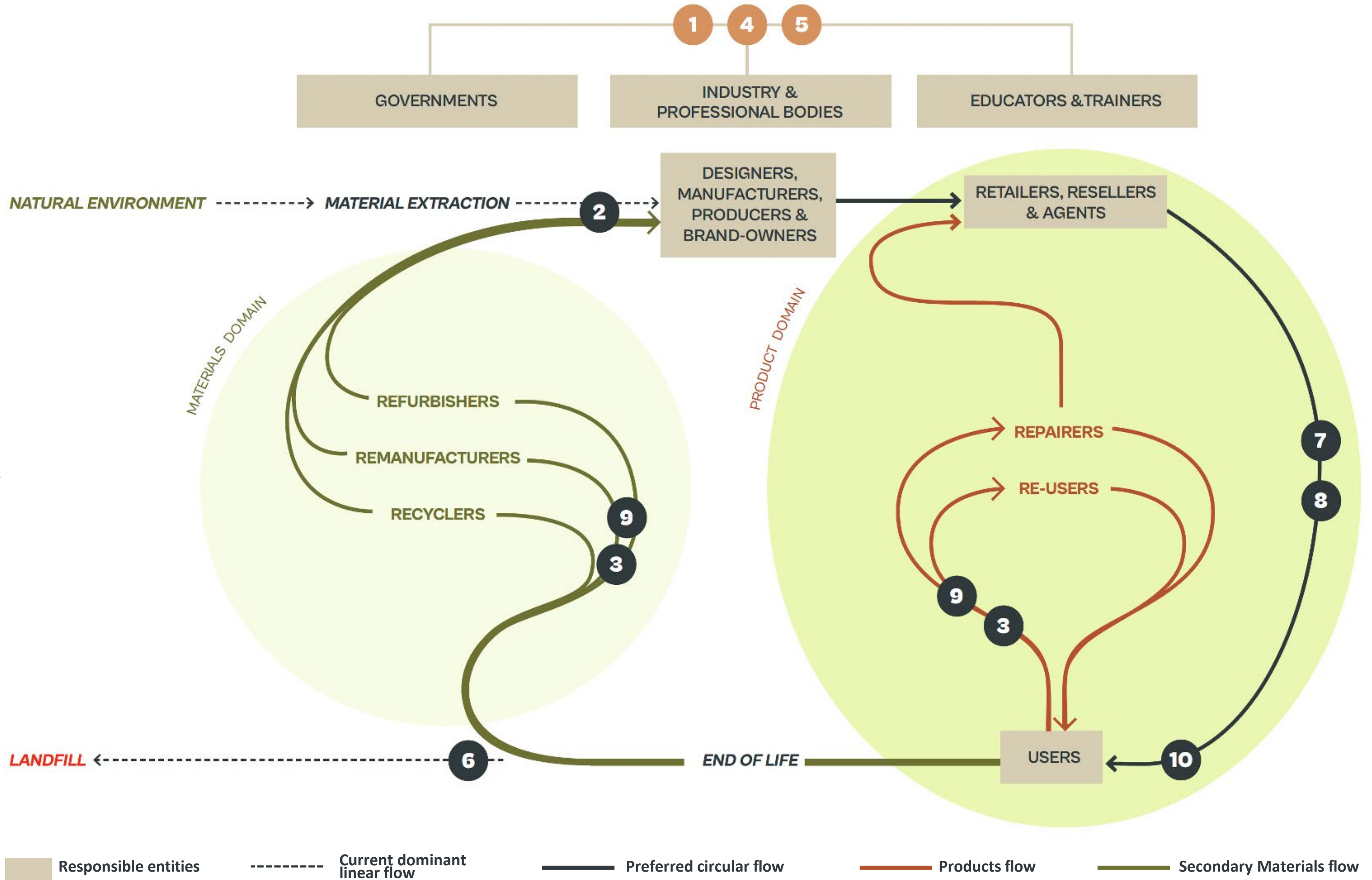




Impacts of levers for Eco-Design within a product supply chain

Example: time-framed window (buildings sector)

- 1** Cross-cutting lever 1: Strategy for Eco-Design for a Circular Australia
- 2** Cross-cutting lever 2: Revise and energise product stewardship and extended producer responsibility
- 3** Cross-cutting lever 3: Activate design for reuse, repair and refurbishment: the Reuse & Repair Reset program
- 4** Cross-cutting lever 4: Raise standards and specifications for products and materials for national alignment with global best practice producer responsibility
- 5** Cross-cutting lever 5: National funding for Eco-Design, circular initiatives and supply chain innovation: the Eco-Design Innovation Fund
- 6** Cross-cutting lever 6: Phase in Accelerating Recyclables from Landfill Fees on priority products
- 7** Cross-cutting lever 7: Financial and regulatory mechanisms addressing negative externalities
- 8** Cross-cutting lever 8: Procurement power and market pull: the Buy for Good program
- 9** Cross-cutting lever 9: Professional education program to activate skills and capacity: the Learning for Environmental Good and Up-skilling Program
- 10** Cross-cutting lever 10: Accelerate public acceptance and support of design for environmental good

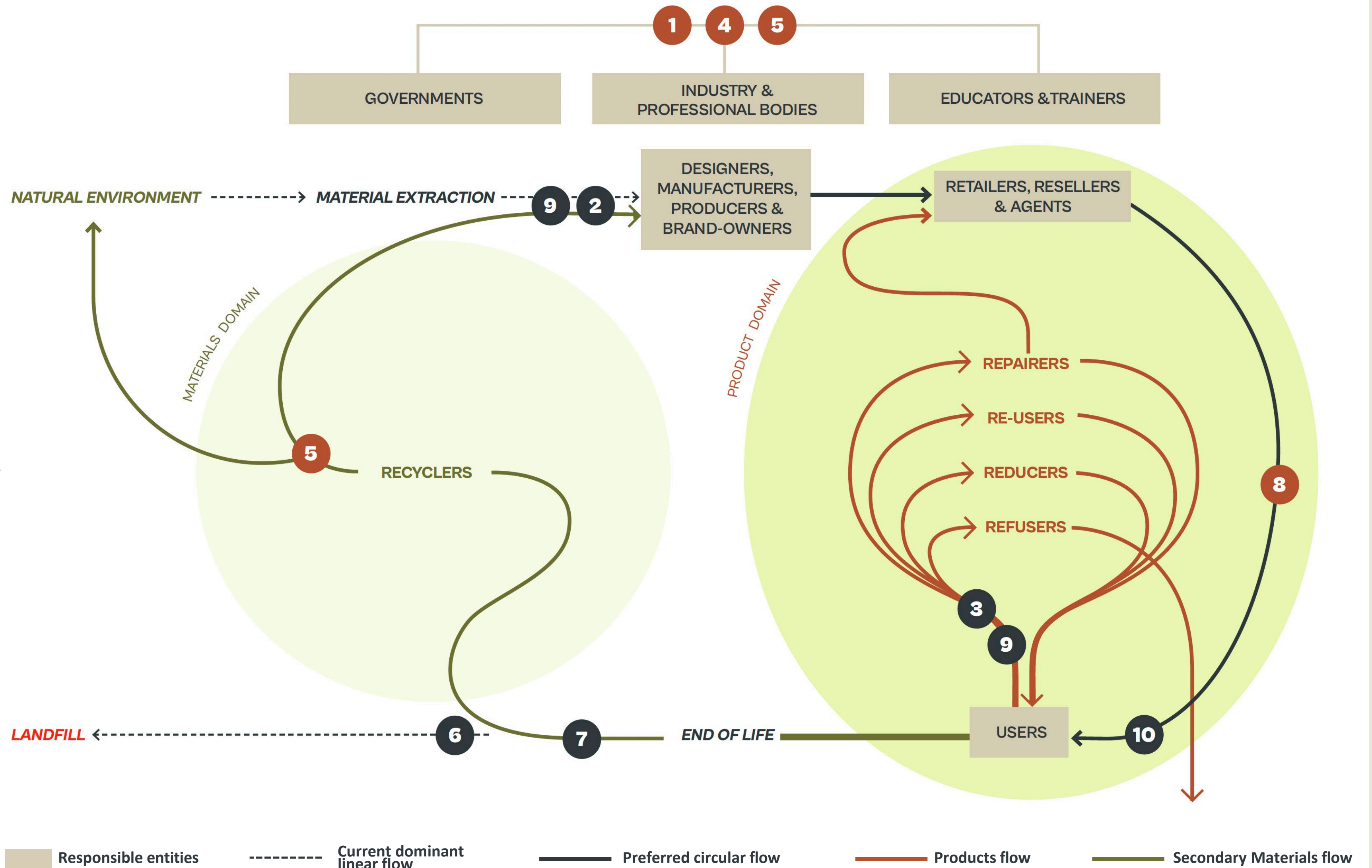


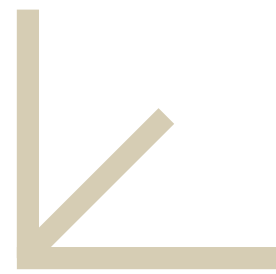


Impacts of levers for Eco-Design within a product supply chain

Example: high visibility work wear (textiles sector)

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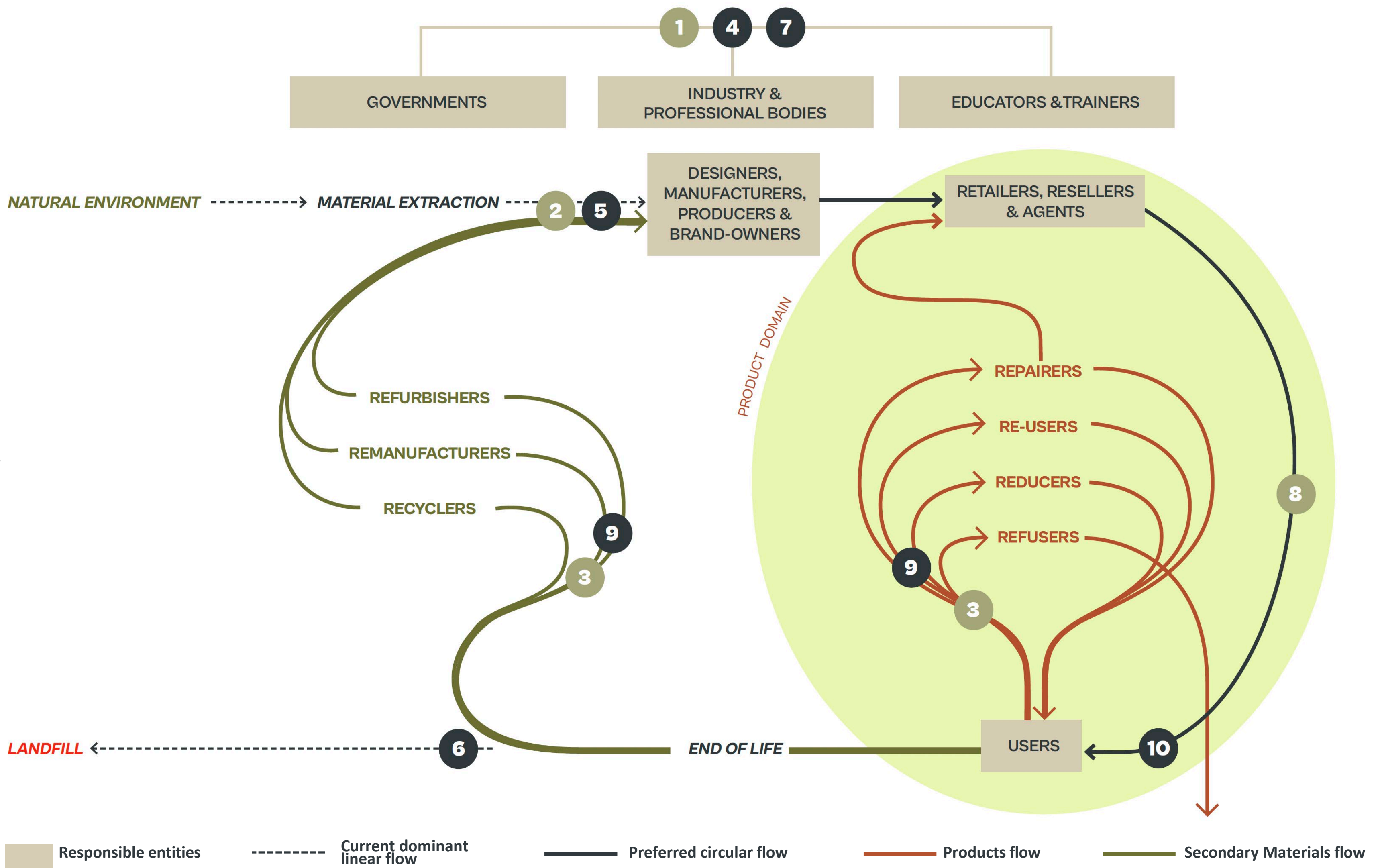


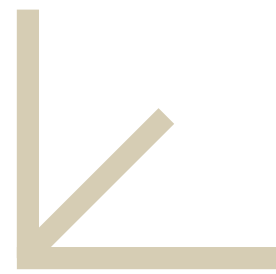


Impacts of levers for Eco-Design within a product supply chain

Example: mobile phone (electronic goods sector)

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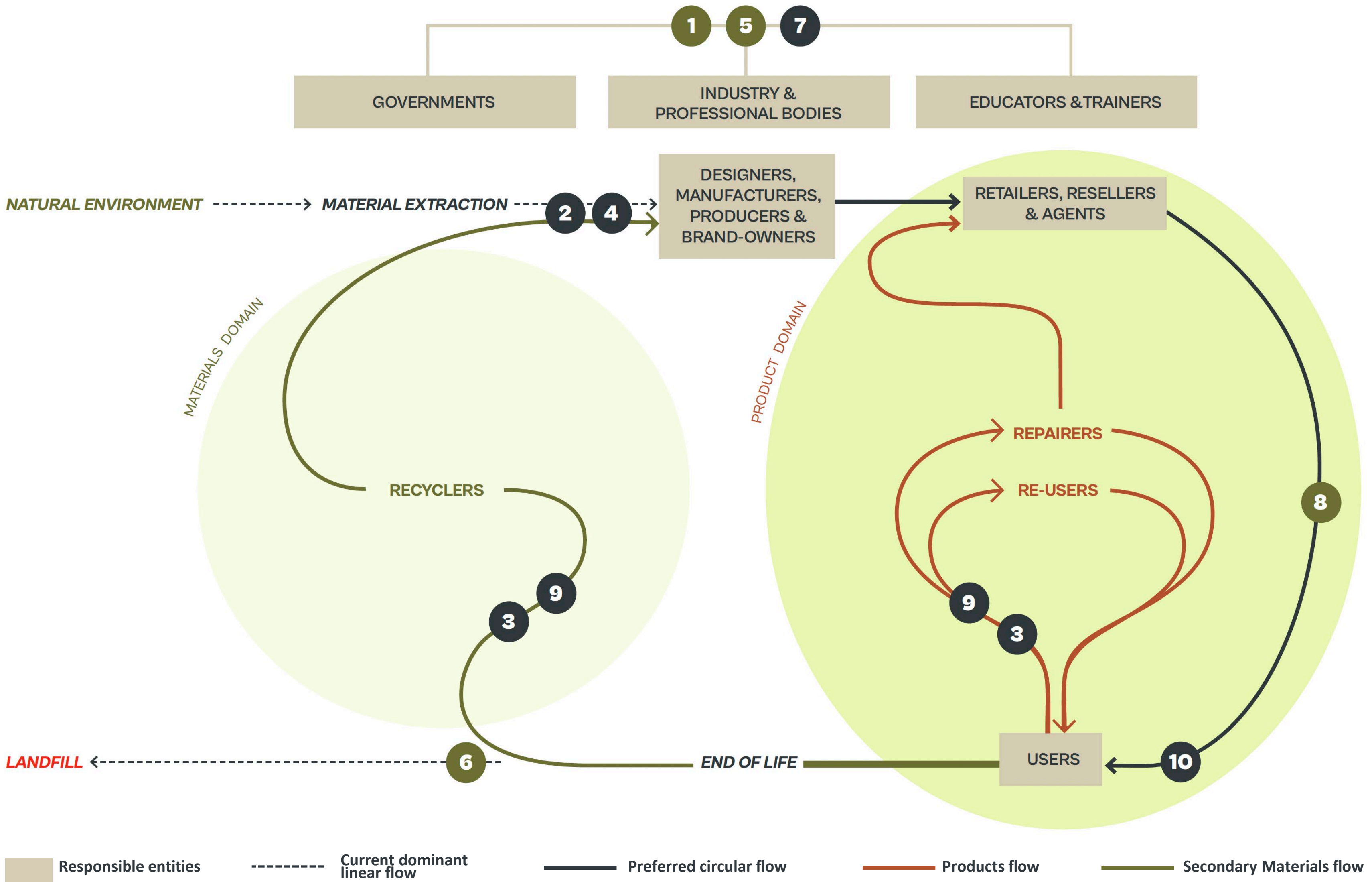




Impacts of levers for Eco-Design within a product supply chain

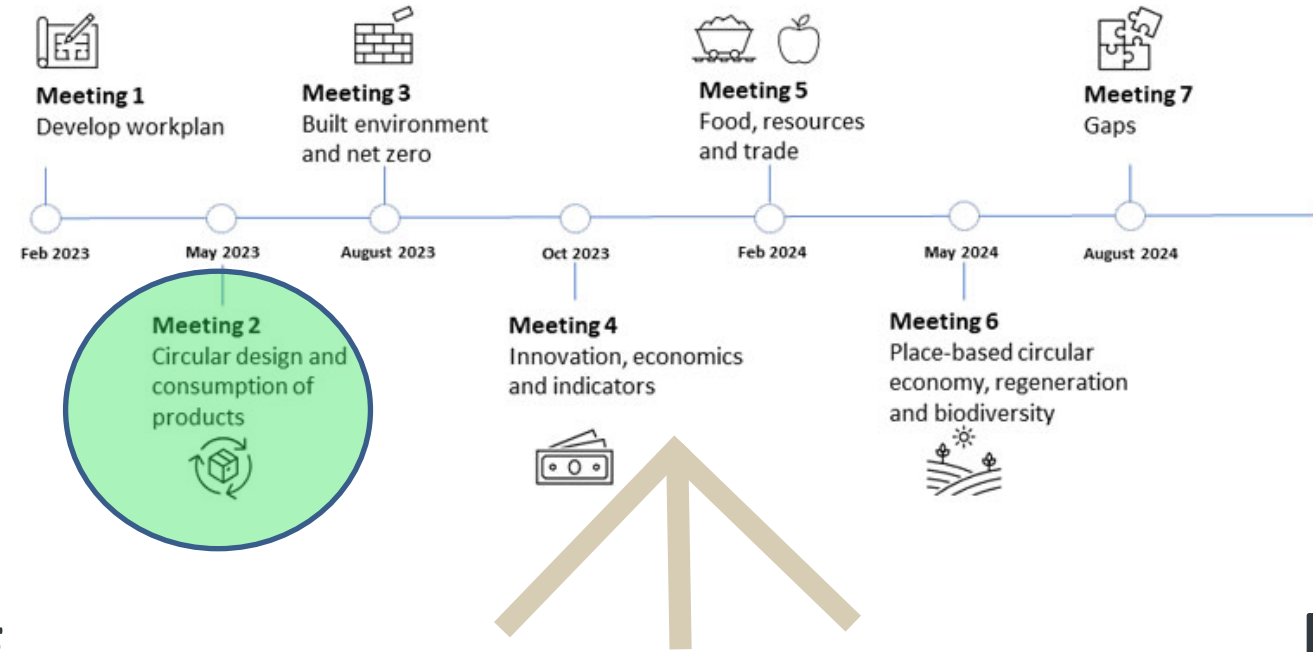
Example: pvc plumbing pipe (plastics sector)

- 1** Cross-cutting level 1 Strategy for Eco-Design for a Circular Australia
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- 3** Cross-cutting level 3 Activate design for reuse, repair and refurbishment: the Reuse & Repair Reset program
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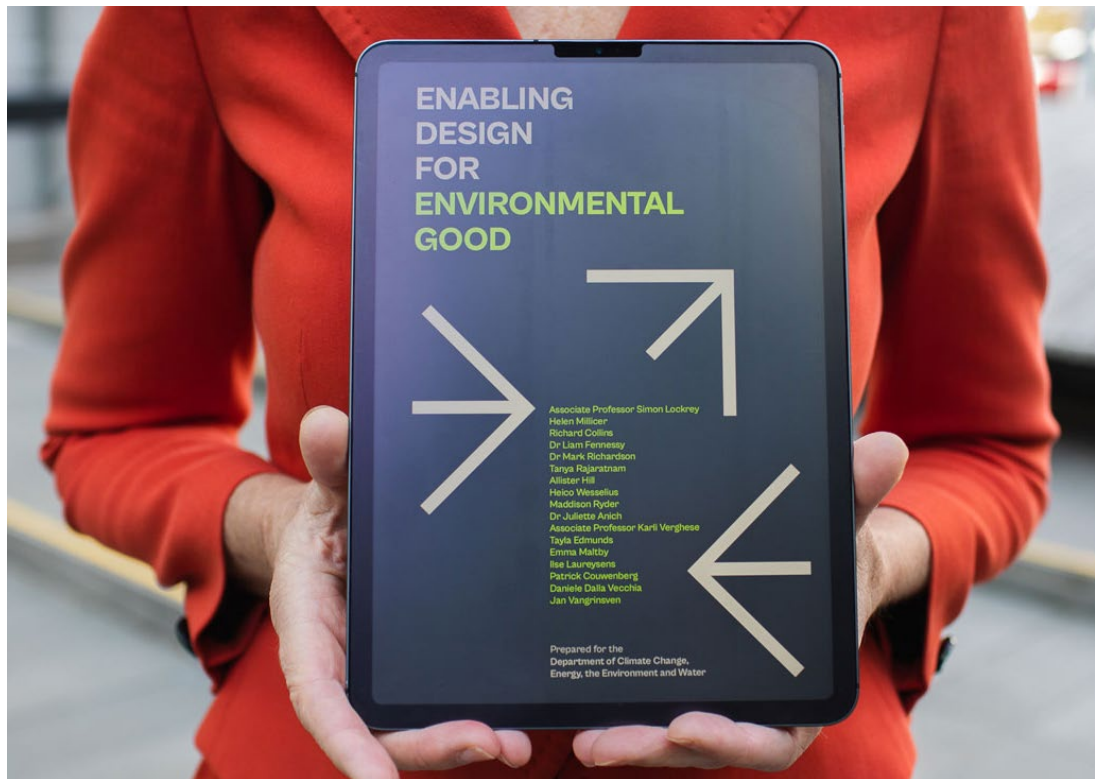
CE Ministerial Advisory Group meeting (2) on CE design (May, 2023)

Impacts
Thus far...



Meeting of Environment Ministers statement on CE design (late 2022, press release)

Press comment from Hon. Tanya Plibersek MP + action i.e. proposed policy/ regulatory change



National design award (September 2023)

New EPR schemes + material passport proposals from project partners





Reflections



PATRIZIA TORELLI

CEO, The Australian
Furniture Association

"The Australian Furniture Association (AFA) supports the findings and 10 recommendations of this report which intersect with other policies and legislation - that add value to circular economy philosophies and practices - working to identify and deliver relevant and meaningful accreditation, certifications and standards systems. The AFA anticipates this leading to a furniture procurement and certification scheme that reduces the waste generation of commercial and residential furnishing products in the Australian market."



DR. BRANDON GIEN

CEO, Good Design Australia

"The Enabling Design for Environmental Good Report comes at a critical time for Australia as we grapple with the urgency to transition towards a less carbon intensive economy. The report outlines several cross-cutting enablers and recommendations that reinforce the importance of embedding and aligning design capability into government policy, programs and business strategies to achieve the desired outcomes."



Reflections



JOHN GERTSAKIS

Director, Product Stewardship
Centre of Excellence

"This is a comprehensive piece of work with many strong points and no shortage of potential actions for adoption by governments, industries, sectors and communities."



LISA HOOYER

Engagement and Impact Manager,
Minderoo Foundation

"We were very proud to contribute to this project and keen to call out the health impacts of plastics, and potential for redesign or alternatives to be safer for humans and the environment."

ENABLING DESIGN FOR ENVIRONMENTAL GOOD



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Full reports: www.dccew.gov.au/environment/protection/publications/enabling-design-for-environmental-good

Videos: <https://www.dccew.gov.au/environment/protection/circular-economy/design>

