UN environment programme

ELLEN MACARTHUR FOUNDATION

THE GLOBAL COMMITMENT 2030

PLASTIC POLLUTION ACTION DIALOGUES

WEBINAR 3 Wednesday, 25th November 2026, 15:00 – 16:15 EAT (Virtual)

The role of product design to reduce plastic pollution



Elisa Tonda

Chief, Industry Innovation Branch
Industry and Economy Division
UNEP

Moderator

WEBINAR 1 - 13 October 2026

Scaling **reuse** through system design and investment

WEBINAR 2 - 5 November 2026

Implementing **Extended Producer Responsibility**: lessons learnt from regulatory development and operation of EPR schemes

WEBINAR 3 - 25 November 2026

The role of **product design** to reduce plastic pollution: principles, key aspects, and examples

WEBINAR 4 - 15 December 2026

Unlocking **finance and investment** opportunities to scale up innovative, transformative, and outcome-driven solutions: finance gaps, available finance approaches, and pathway to impacts

AGENDA

Meeting opening and welcome remarks - **Elisa Tonda** (UNEP)

13:05-12:25 **FRAMING PRESENTATIONS**

Jocelyn Bleriot, Ellen MacArthur Foundation
Ryan Parmenter, ECCC, Canada
Sirikarn Wisetsuwannaphum, MTEC, Thailand

13:25-14:00 **PANEL DISCUSSION**

Moderated Panel - **Elisa Tonda** (UNEP)

Q&A - Moderated by **Elisa Tonda** (UNEP)

Wrap-up - **Elisa Tonda** (UNEP)



Jocelyn Bleriot

Policy, China and Latin American Executive Lead
Ellen MacArthur Foundation

International Expert Presentation

Product Design for the Circular Economy

Jocelyn Blériot

Policy, China, and Latin America Executive Lead

25 November 2026

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Making Circular Systems the Norm

GOAL 1
STIMULATE DESIGN FOR
THE CIRCULAR ECONOMY

GOAL 5
COLLABORATE FOR
SYSTEM CHANGE



GOAL 2
MANAGE RESOURCES
TO PRESERVE VALUE

GOAL 4
INVEST IN INNOVATION,
INFRASTRUCTURE,
AND SKILLS

GOAL 3
MAKE THE
ECONOMICS WORK

Designing Out Pollution

GACERE Policy Brief: Circular Design of Plastic Products

Identifying the design pillars and cross-cutting criteria to prevent plastic pollution and keep materials in the economy.

1. Reduction & Optimization

Making sure that all materials that enter the economy are utilised in the most efficiency way. Excessive use of material does not necessarily enhance the user experience, but does cause negative environmental impacts.

2. Prolonged Use & Reuse

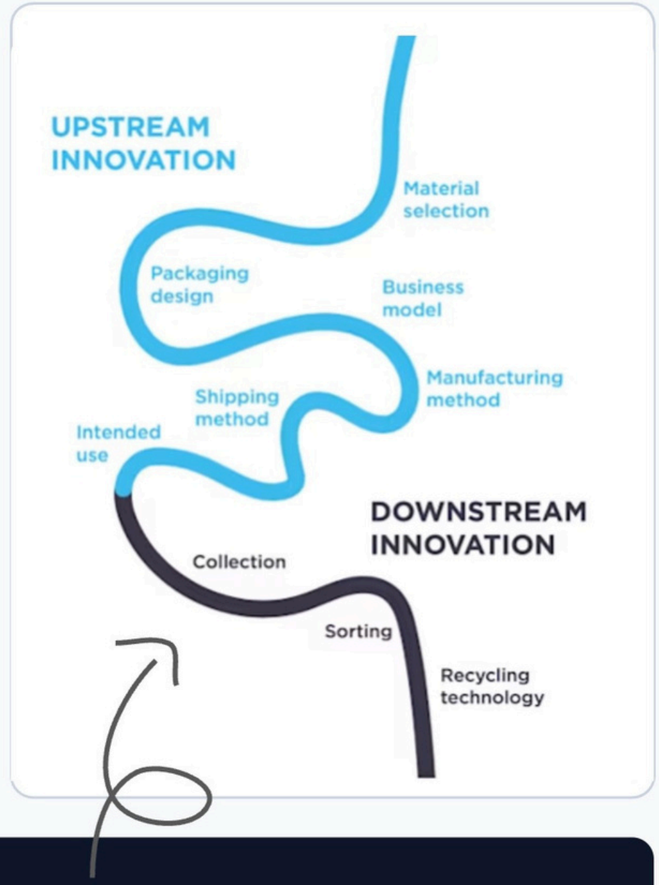
Moving from single use to reuse models presents one of the biggest opportunities to reduce plastic pollution by reducing virgin material use and extending the time that products and materials are kept in the economy.

3. Repairability & Refurbishability

Repairability and refurbishability are important to prompt technical feasibility and cost-effectiveness related to repairing products, thereby preventing use of new material, retain value of products, and prevent waste generation.

4. Recyclability

Designing for recyclability adds to and complements all of this by making sure that, at the end of its lifecycle, the product can and is ultimately be recycled.



The GACERE Policy Brief helps us build on the insights outlined in EMF's 2020 **Upstream Innovation Guide**. This guide provides us additional tools for how to harness the power of upstream innovation as a root-cause solution to plastic waste by rethinking products and services at the design stage.

Scaling up and Mainstreaming Circular Design of Plastic Products

Policies and voluntary commitments are vital

- Examples include EU legislation on Ecodesign for Sustainable Product Regulation (ESPR), Global Commitment, Plastic Pacts and Japan's approach combining regulatory and voluntary approaches

Harmonization of Criteria: Global adoption of circular design requires harmonized criteria and policies at national and international levels.

Clear provisions can prompt coordinated action via a stepwise approach

Step 1: Establish common definitions and design criteria on the approaches for circular design
Step 2: Develop specific criteria and technical specifications tailored to sectors and products

Regulatory Interventions can incentivize producers for circular product design, for example extended producer responsibility via eco-modulation

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Ryan Parmenter

Director of Plastics and Marine Litter at
Environment and Climate Change Canada

National experience
Canada

Environment and Climate Change Canada | Environnement et Changement climatique Canada

National experience
Canada

PLASTIC POLLUTION ACTION DIALOGUES

Webinar 3: The role of product design to reduce plastic pollution

Ryan Parmenter,
Director, Plastics and Marine Litter Division
Environment and Climate Change Canada
Ryan.Parmenter@ec.gc.ca

25 November 2026

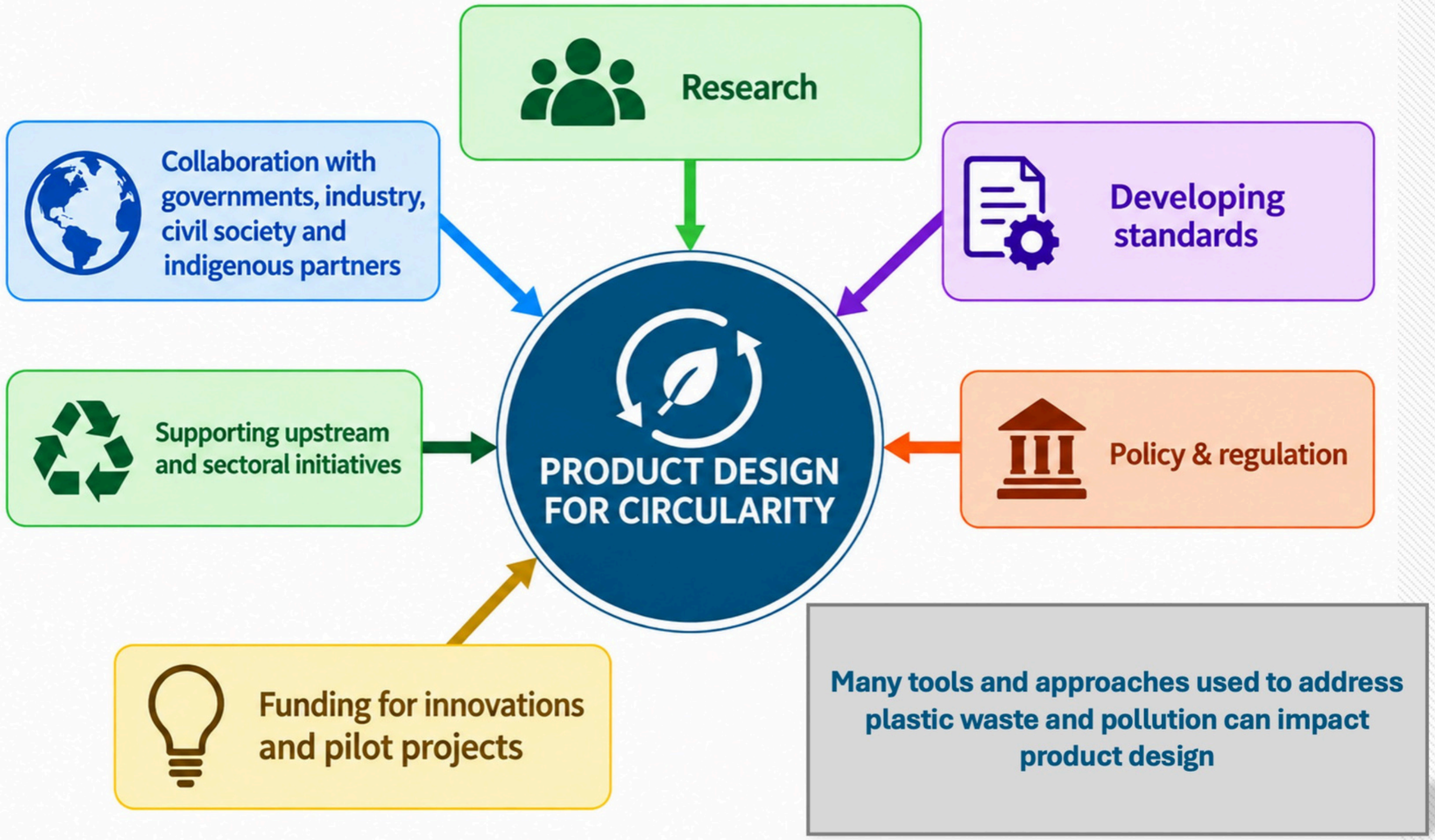
Canada



The role of product design in Canada

- Canada has a comprehensive plan to reduce plastic waste and pollution and move towards a strong, safe, and resilient circular plastics economy that works for all
- This includes a wide range of complementary actions across the entire plastics lifecycle
- Upstream measures, such as eliminating unnecessary plastics, **designing products for greater circularity,** and replacing single-use items with reusable alternatives, are among the most effective ways to prevent plastic waste and pollution
- Designing products for safe circularity helps keep plastics in the economy, and out of waste streams and the natural environment, where they can harm habitats and burden communities
- The waste hierarchy is one of the key overarching principles guiding the design of products and systems for greater circularity
- Product design is a strong driver of plastic waste and pollution reduction, while also helping foster economic resilience for Canadians

Key levers supporting product design for circularity



Success Story 1

Developing standards

Reusable packaging system design standard

The Government of Canada is working with the Canadian Standards Association and PR3 to develop bi-national (Canada-US) standards for reuse systems.

These six standards are :

- Container Design & Performance (Published)
- Container Washing, Inspection & Packing (Published)
- Marking and Labeling (In development)
- Digital Tagging & Data (In development)
- System Operations & Performance (In development)
- Collection Points (In development)



Success Story 2

Funding for innovations and pilot projects

Advancement of a Reuse/Refill Framework for Plastic Packaging in Canada
Developed and commercialized reusable coffee cups and cutlery, with coffee cup programs launched at various universities and colleges. The project also piloted reusable cutlery and introduced a reusable pizza plate solution with positive early results.

Reusable Tim Horton Cups (Cups on Campus)
Tim Hortons is working and finalizing reusable cups design, featuring a cup suitable for hot and cold beverages, frosted with ribbing to help with handling hot beverages, with a sip lid with a location to allow for a straw for certain drinks.

Canada Reuse City
Reuse City Canada is a large-scale demonstration project in Ottawa for reusable packaging. Consumers purchase selected home and personal-care products in durable, reusable containers with a refundable deposit. The empty packaging can than be returned to any participating retailer, where it is collected, professionally washed, and recirculated back into the system.



Success Story 3

Working with governments, industry, civil society and Indigenous partners

International Fishing Gear Innovation Summit

Addressing ghost gear, in part through design, is important to protect marine environments and ensure our fisheries are sustainable.

Experts shared advances, innovations and experiences on innovative solutions to common operational challenges in the fishing and aquaculture industry, and marine environments.

Some examples included:

- Low breaking-strength gear to reduce marine animal entanglement
- On-demand (ropeless) fishing gear to reduce the amount of vertical line in the water and lower entanglement risks
- Gear tracking and data-sharing technologies to locate submerged gear, prevent conflicts, and support safe ocean use

What We Heard Report: Gear Innovation Summit



Success Story 4

Policy & regulation

Regulations such as the **Single-Use Plastic Prohibition Regulation**, help create **clear market signals and guardrails** that encourage innovation towards more circular, sustainable and resource-efficient systems.

Canada has also launched the **Federal Plastics Registry** which helps provide better data on how plastics flow in our economy, helping identify priority sectors, products, and material streams where improved design could have the greatest impact.





Sirikarn Wisetsuwannaphum

Research Specialist, National Metal and Materials Technology Center (MTEC)

National experience
Thailand

From Eco-design to High-Quality PCR: Thailand’s Progress towards Plastics Circularity

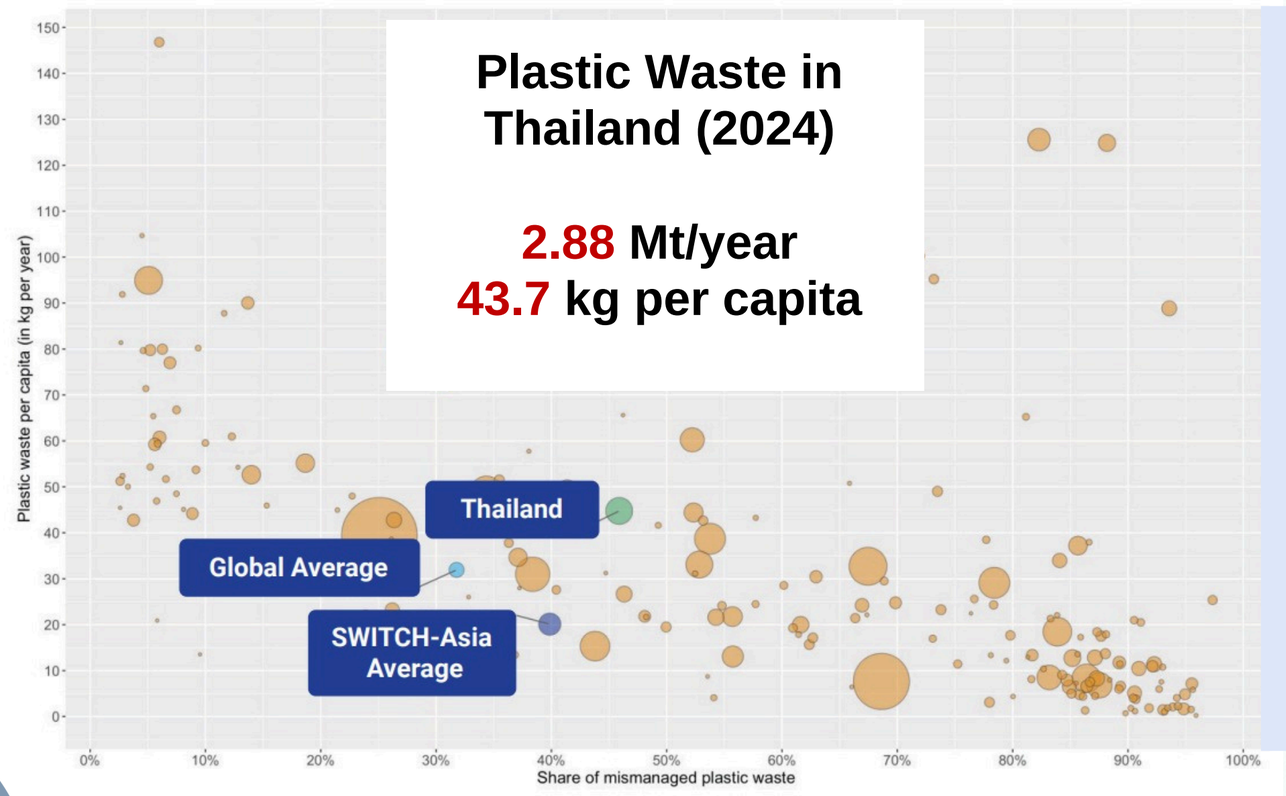
Plastic PollutionActionDialogues:
The role of product design to reduce plastic pollution
25 November 2026

Dr. Sirikarn Wisetsuwannaphum
Research Specialist, National Metal and Materials Technology Center (MTEC), NSTDA



Thailand’s Plastic Landscape

Thailand’s plasticrecyclingrate hasimproved from 18% to 25% between 2020 and 2024. But significant systemic gaps remain, including fragmented efforts, a lack of harmonized standards, weak market drivers and inadequate law enforcement.



8.7 Mt$_{\text{Plastic}}$ Production

5.9 Mt Domestic Consumption

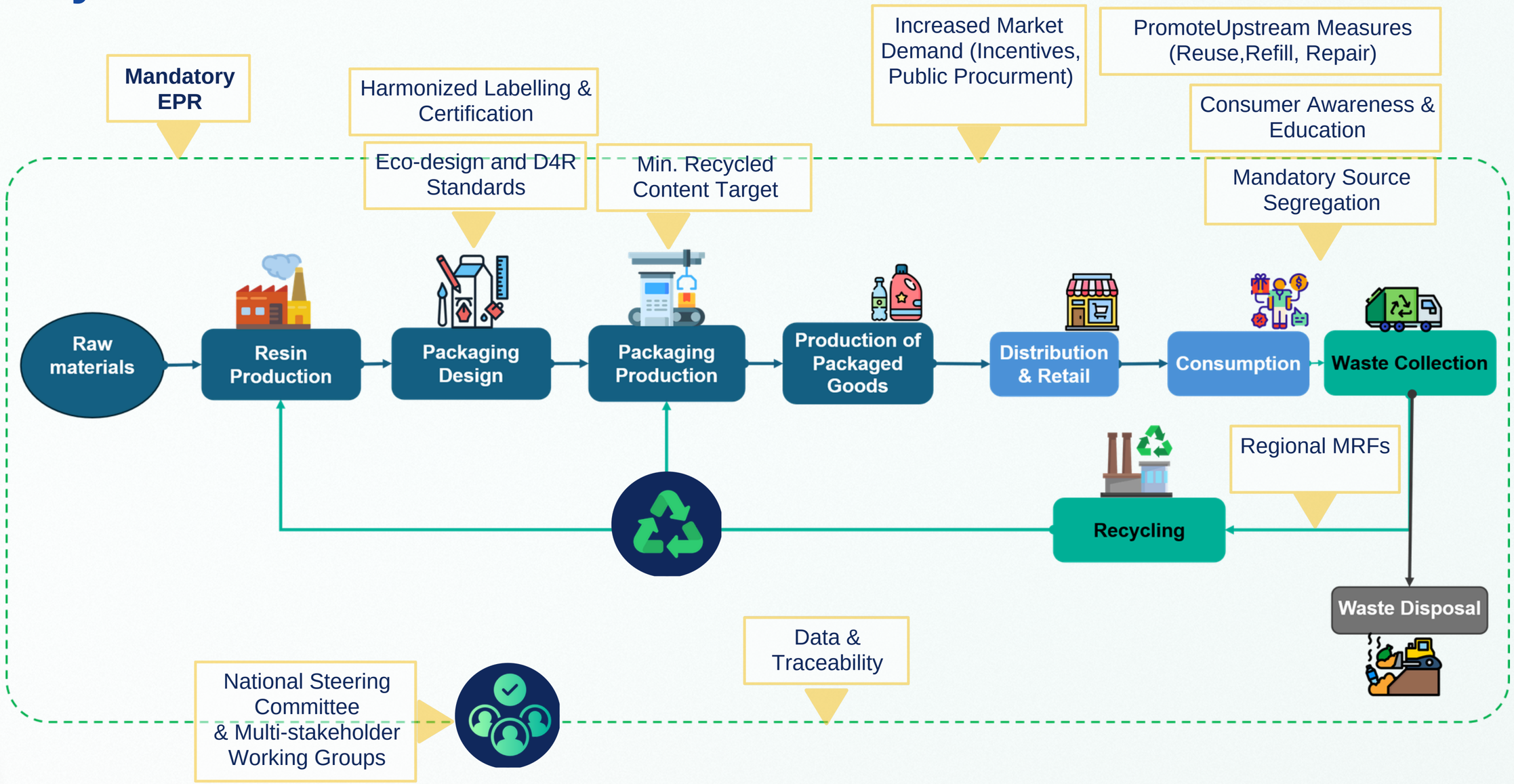
2.88 Mt Plastic Waste Generation

25% Recycled Plastic Waste (0.72 Mt)

Source: Thailand’s Plastic Policies (SwitchAsia, 2025), Thai PBS News (2025), https://www.thaipbs.or.th/news/content/352888

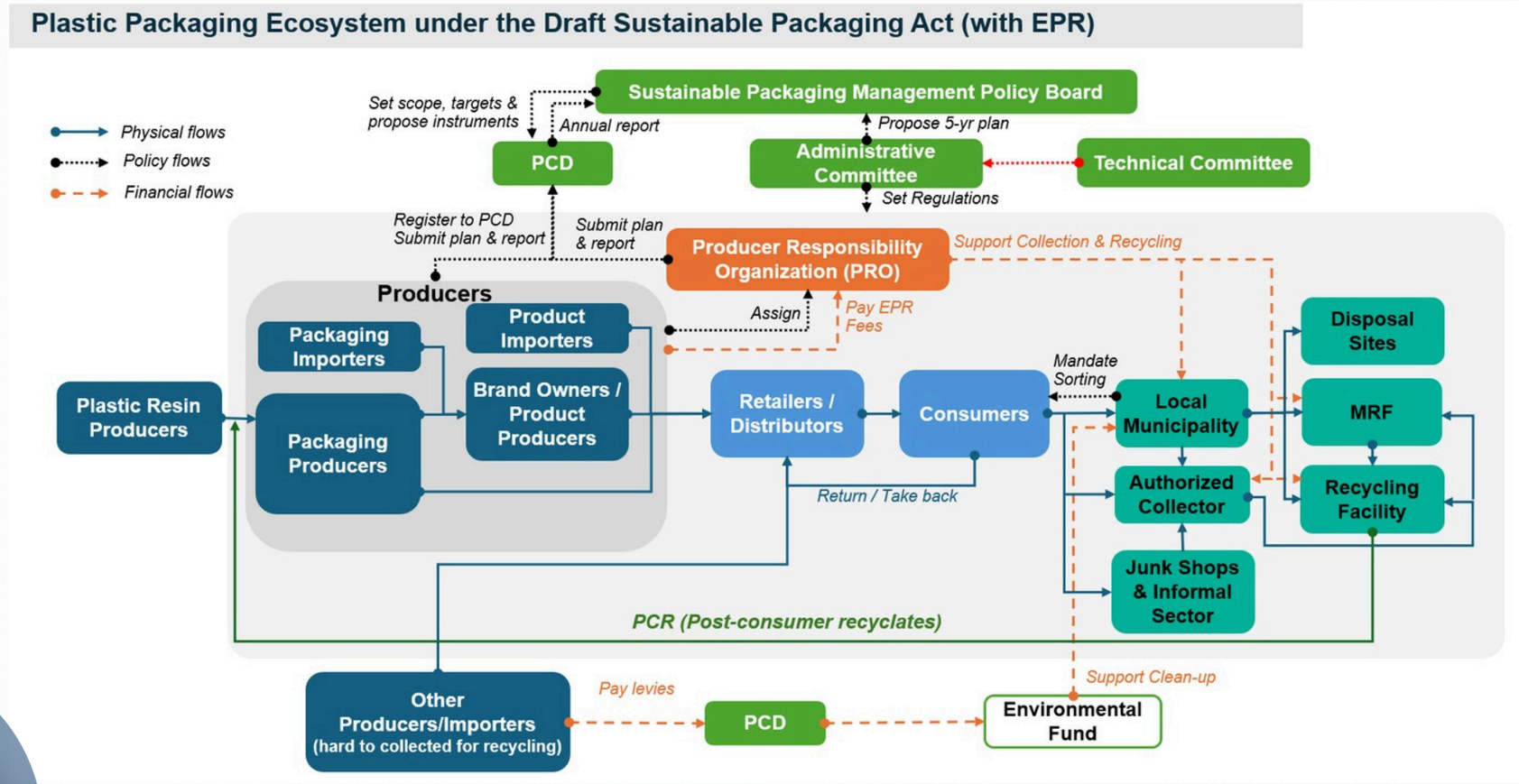
Source: Plastics Institute of Thailand (2026), *Draft Strategy for the Development of Thailand’s Plastics Industry* (Draft).

Key Interventions across the Plastic Value Network



Thailand’s Progress: EPR & Eco-design

DraftSustainable Packaging ManagementAct: *UnderCabinet review, with formal enactment currently anticipated by 2028.*





Voluntary PRO Thailand
TIPMSE (FTI) and the Pollution Control Department (PCD) announced a voluntary Packaging PRO initiative on 11 Nov 2026. The 24-month initiative (2027–2028) aims to develop a National PRO Model through 5 pilot areas, covering 8 packaging categories and taking into account material characteristics and local contexts.

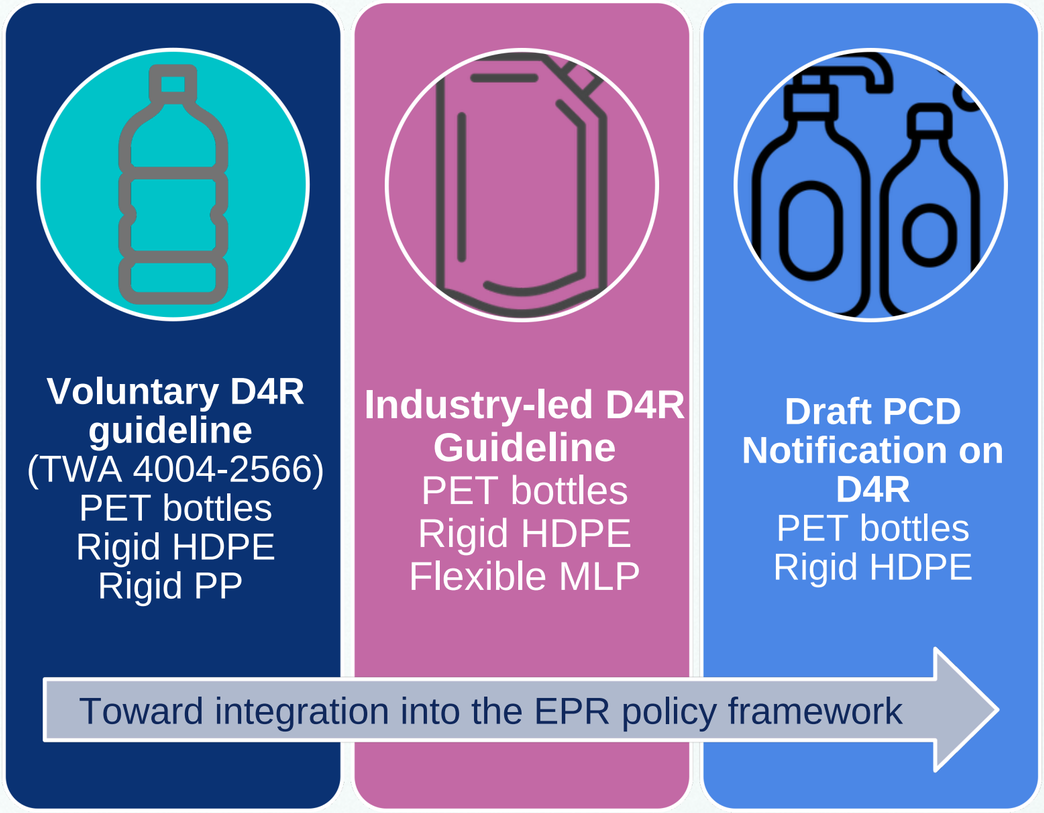


Thailand’s Draft Circular Economy Act: The People’s Bill
A coalition of 28 organizations submitted more than 21,000 public signatures to Parliament. The bill is awaiting Prime Ministerial certification before parliamentary consideration.

Thailand’s Progress: EPR & Eco-design

Advancing Design for Recycling (D4R) in Thailand

- **Current framework:** D4R is part of the Phase 2 Action Plan on Plastic Waste Management by the Pollution Control Department
- **Voluntary guidance:** TWA 4004-2566 covers three packaging groups: *PET beverage bottles*, HDPE bottles for personal care and household products, and rigid PP food and beverage containers.
- **Proposed next step:** Update the guidelines in line with international requirements, including the **EU PPWR**, and integrate the **PET and HDPE** guidelines into the policy framework through a departmental notification.



Findings from a study conducted under the UNEP-funded project ***“Emergent Plastic Pollution Reduction and Management for Recovery from the Livelihoods and Health Crisis (Thailand and Fiji)”***

Current Practices: Eco-design & PCR Integration in Packaging

Thaicompanies areadoptingD4RandPCRpackaging,butimplementationremainslargelyvoluntaryand uneven across product groups.







Eco-design Packaging



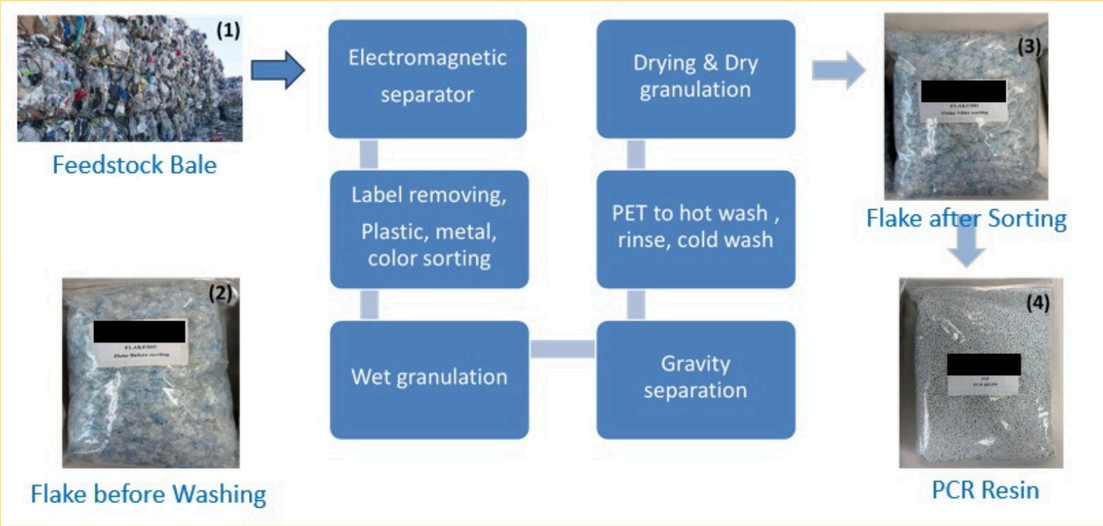




PCR-containing Packaging

The Quality of rPET and rHDPE

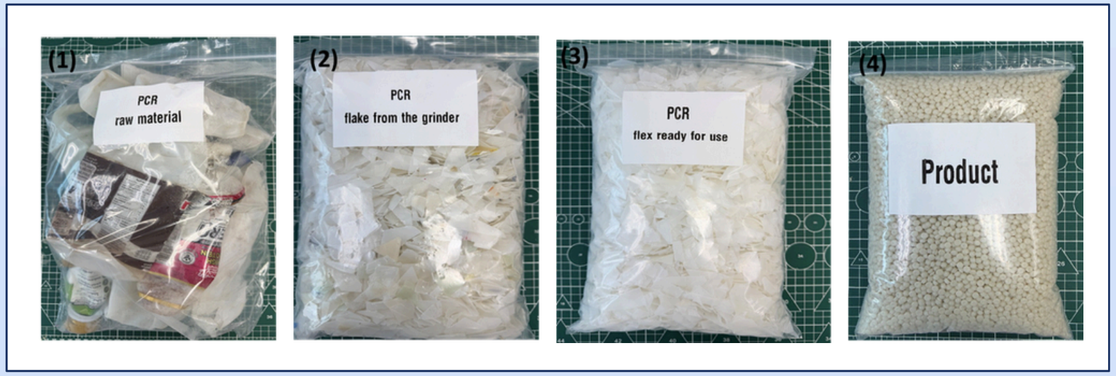
- Heavy metals complied with the limits under Ministry of Public Health Notification No. 435.
- No phthalates, PBDEs or chlorinated paraffins were detected.
- The results support the technical feasibility of recycled-content requirements, subject to quality assurance and traceability.



Sampling of rPET along the Recycling Processes

Key Implications

- Thailand needs application-specific PCR grades, particularly for rHDPE and rPP.
- PVC labels reduce rPET quality and are currently removed and sent to RDF.
- Independent intrinsic viscosity testing for PET and rPET is currently unavailable in Thailand.
- Perforated sleeves are strongly recommended



Sampling of rHDPE along the Recycling Processes

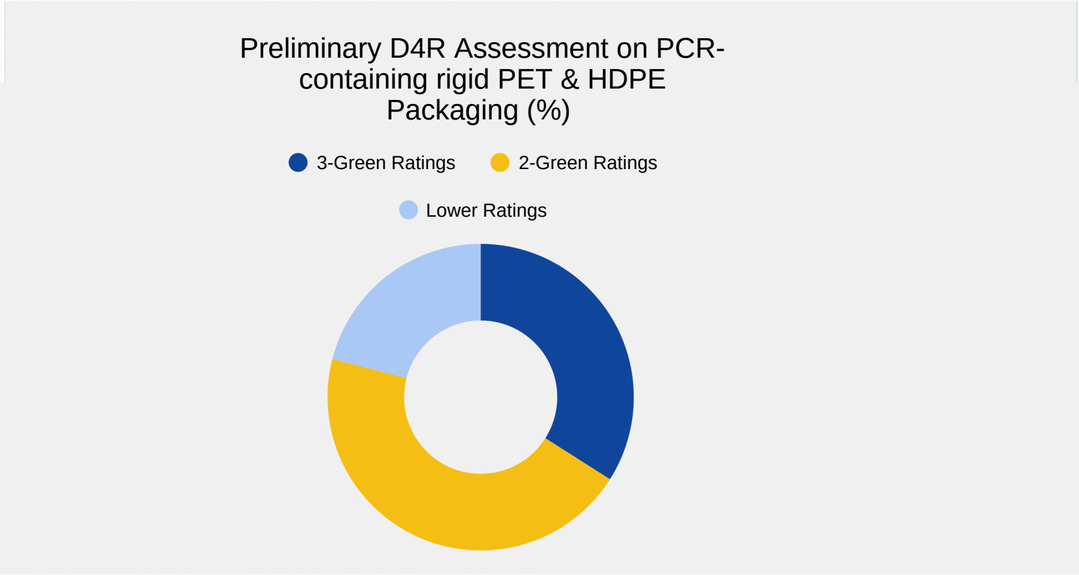
D4R Assessment of Packaging made with PCR

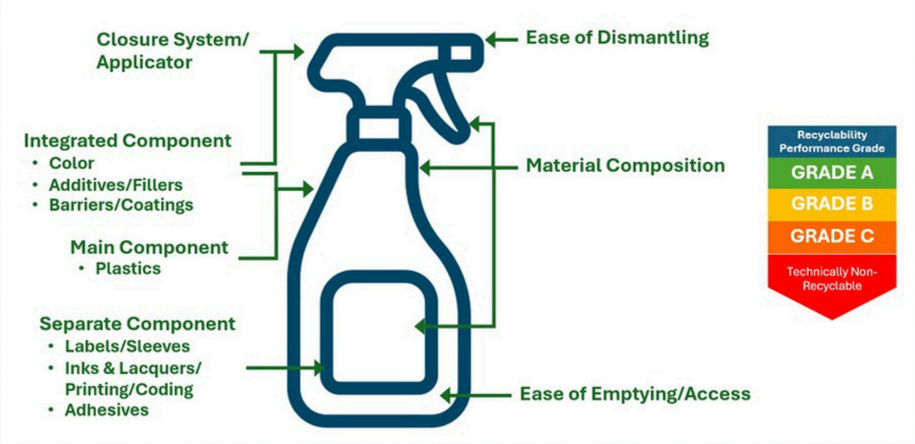
The D4R assessment was conducted based on the criteria developed by the Thailand Institute of Packaging and Recycling Management for Sustainable Environment (TIPMSE, 2025).

- 99 packaging samples containing PCR were screened for D4R compliance; detailed analysis covered 77 rigid PET and HDPE samples.
- For material, color and additives, 34% achieved three-green ratings, 45% achieved two-green ratings, and 21% received lower ratings.

Packaging Colour Was the Main D4R Constraint

Colour limited the quality and potential applications of recycled materials in subsequent cycles.
Material properties were generally suitable for recycling, with acceptable density, processability and thermal stability.





Note: This was a preliminary screening based on three of the 11 D4R criteria; it should not be interpreted as confirmation of full packaging recyclability.

Creating Demand for High-Quality PCR

Phased minimum recycled-content requirements



Introduce mandatory targets gradually by product category to create predictable demand while giving industry time to adapt.

Green public procurement and targeted incentives



Prioritize products with verified PCR in government purchasing and provide incentives to offset initial cost barriers.

Application-specific PCR standards, testing and certification



Define quality grades, test methods and certification requirements based on each PCR application.

EPR fees linked to recyclability and recycled-content performance



Apply lower fees to recyclable packaging with verified PCR content and higher fees to difficult-to-recycle packaging.

Thank You

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PANEL DISCUSSION



Yan Chen
Secretary-General and Vice President of the China National Resources Recycling Association



Jocelyn Bleriot
Policy, China and Latin American Executive Lead
Ellen MacArthur Foundation



Larissa Sakamoto
Director of Corporate Sustainability, Amcor

Thank you!

WEBINAR 4 - 15 December 2026



Unlocking **finance and investment** opportunities to scale up innovative, transformative, and outcome-driven solutions

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