

From Waste to Wealth

**Operationalising EPR Through
Digital Innovation in ASEAN**

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2025

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Advancing ASEAN's Circular Economy
through EPR Alignment



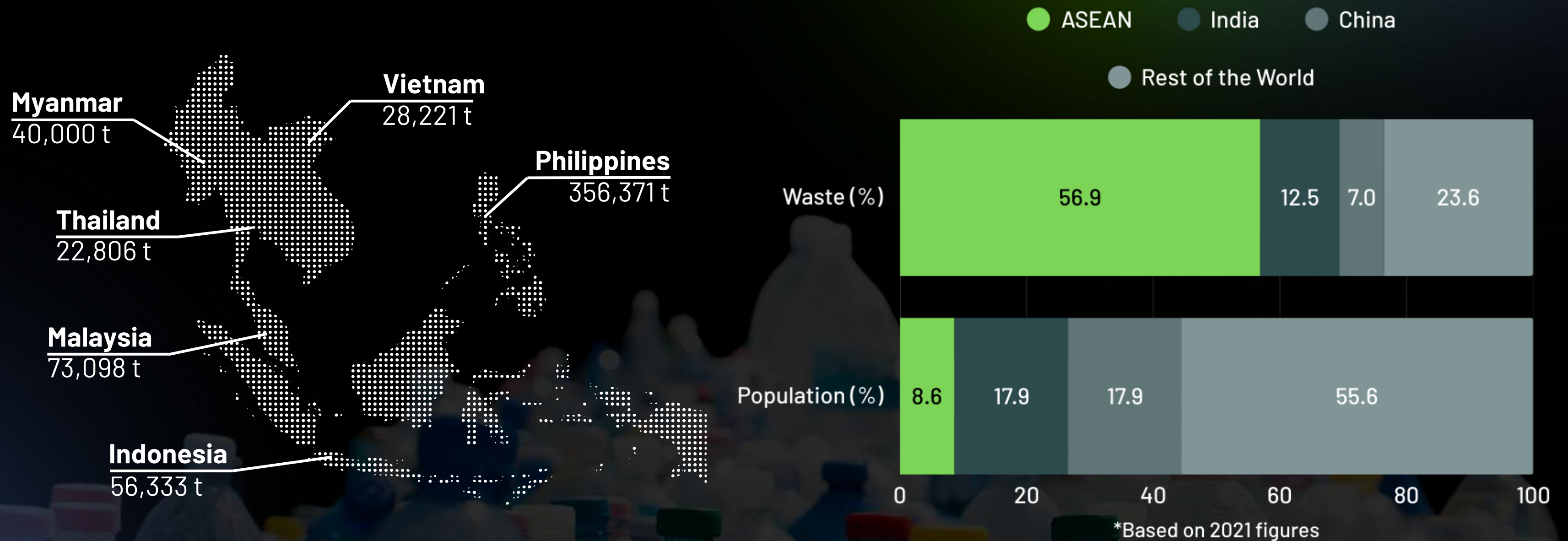
Agenda

- 1 The Problem – ASEAN's Waste Crisis
- 2 The Policy Solution – Extended Producer Responsibility
- 3 The Enabler – Digital Standards & Smart Packaging
- 4 The Way Forward – A Digitally Enabled Circular ASEAN

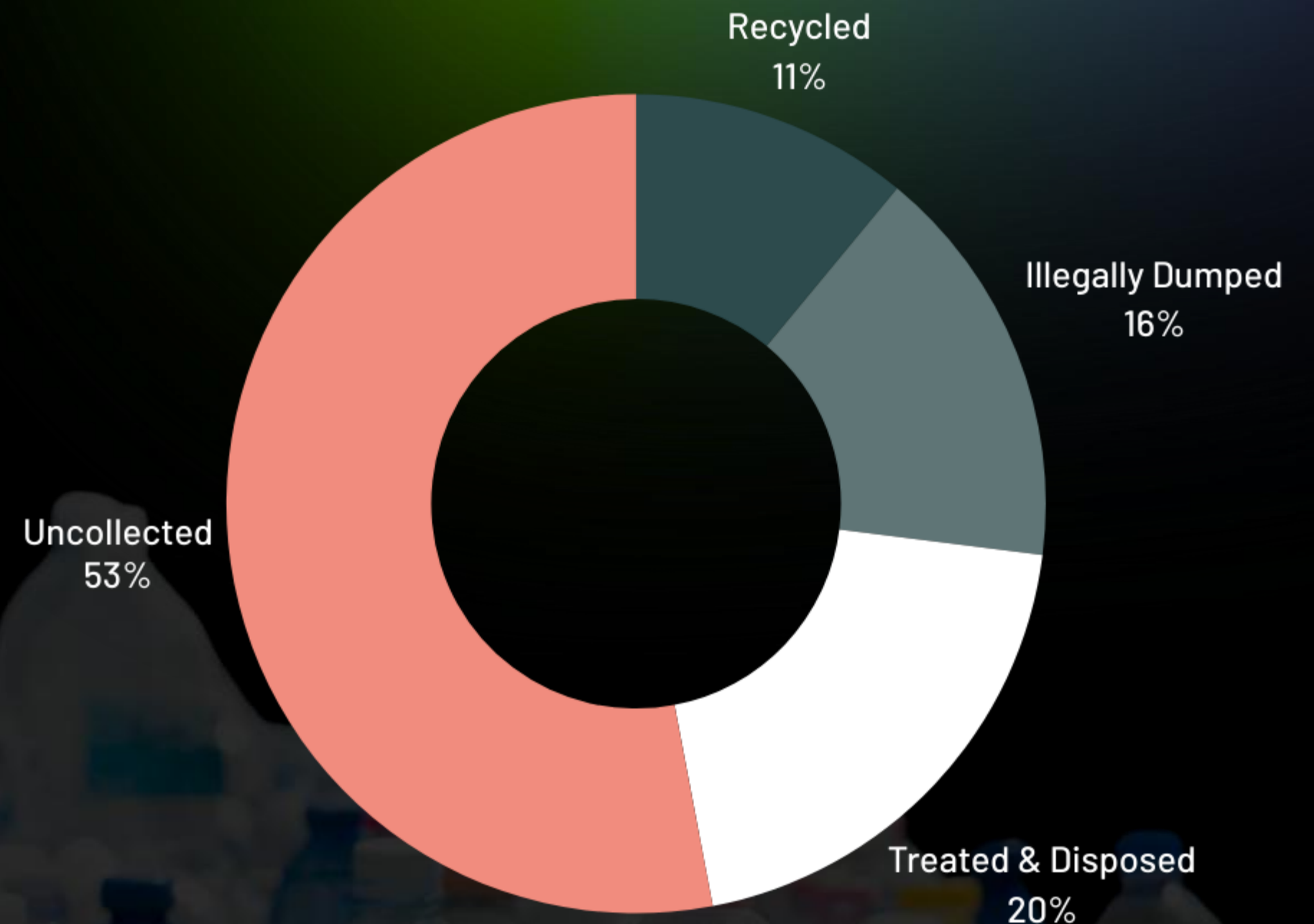
I. The Problem: ASEAN's Waste Crisis



Annual Ocean Plastic Waste



Waste Treatment in ASEAN

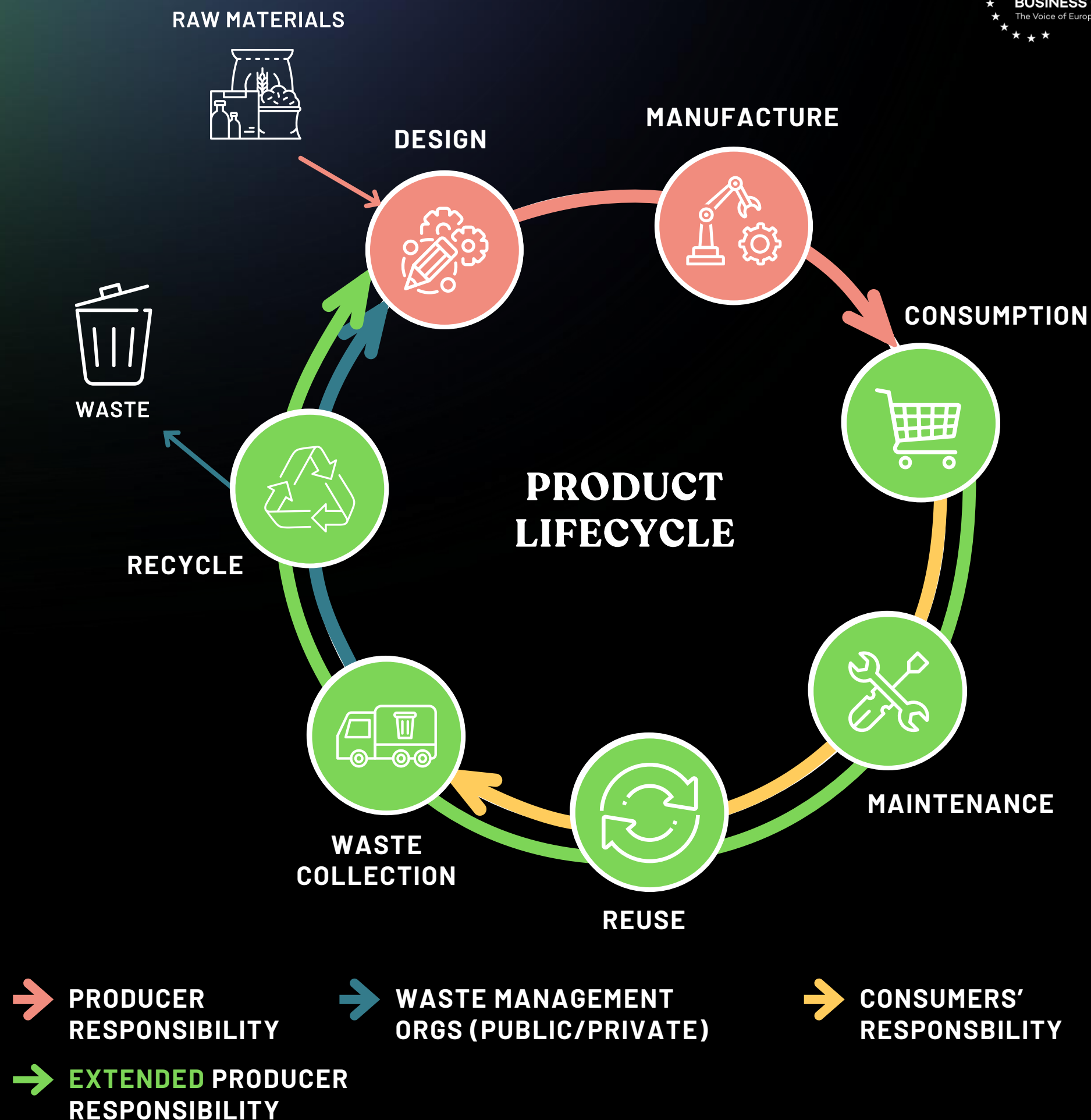


II. The Policy Solution: Extended Producer Responsibility

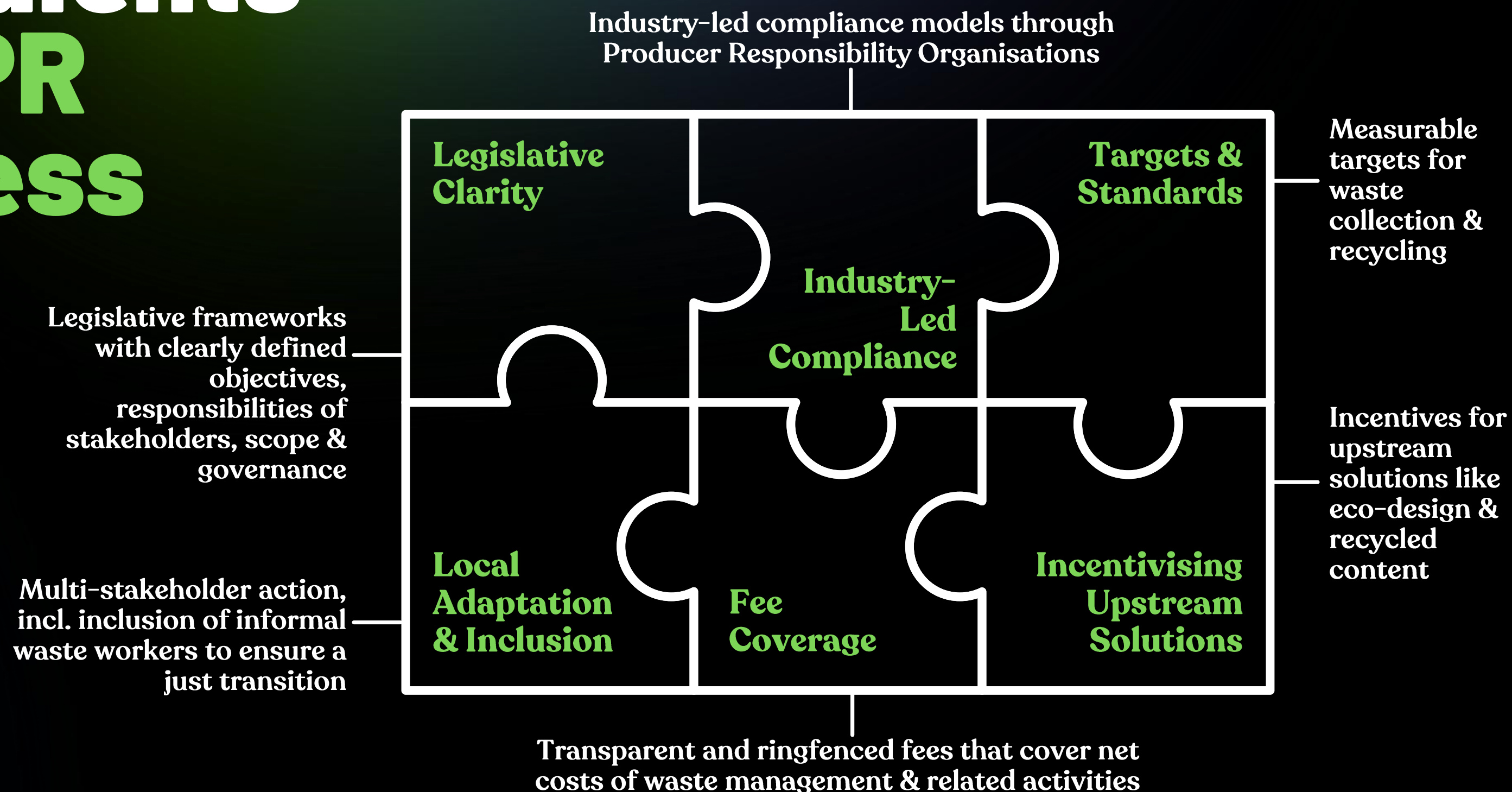


How Can EPR Help?

- Holds **manufacturers responsible** for the **entire lifecycle** of the products they introduce to the market, **incentivising** sustainable design, material recovery and waste reduction.



Ingredients for **EPR** Success



Where **ASEAN** Stands



The **Philippines & Vietnam** have passed EPR laws in 2022

Indonesia & Singapore have started implementing legal frameworks

Malaysia & Thailand are developing and drafting EPR frameworks

No timeline for EPR development yet in **Brunei, Cambodia, Laos & Myanmar**

6 /10

6 ASEAN MEMBER STATES
HAVE IMPLEMENTED OR ARE
ACTIVELY DEVELOPING
EPR FRAMEWORKS

2 /10

MOST COUNTRIES ARE **NOT**
FULLY ALIGNED WITH MORE
THAN 2 PRINCIPLES

Key Challenges

1

Underdeveloped National Policy Frameworks & Infrastructure

- Gaps & ambiguities in national EPR regulations
- Weak waste infrastructure and uneven system coverage
- Misalignment with local realities

2

Fragmented EPR Regulations Across ASEAN

- Lack of regulatory alignment, especially in:
 - Material scope
 - Producer responsibility
 - Data reporting
 - Eco-design incentives

3

Market Barriers for Recycled Materials

- Underdeveloped demand for recycled materials
- Trade restrictions for recyclable materials
- Fragmented standards and material classifications

Our Recommendations

1

Strengthen National-Level EPR Policies & Waste Management Infrastructure

- Develop clear, mandatory, sector-specific EPR frameworks based on design principles
- Strengthen waste collection, sorting, and recycling infrastructure
- Enhance consumer awareness and involvement

2

Improve Regional Regulatory Alignment in EPR Policies

- Align key policy elements across ASEAN
- Support cross-border interoperability of EPR compliance systems
- Promote bilateral and regional cooperation

3

Develop a Regional Market for Recycled Materials

- Align recycled content standards
- Establish mutual recognition of eco-labels
- Refine trade classifications to prevent trade barriers for recyclables

III. The Enabler: Digital Standards & Smart Packaging



Digital Foundation for EPR

- EPR systems depend on accurate, accessible, and standardised product data to function at scale.
- Digital infrastructure enables implementation, traceability, and compliance across national and regional systems.
- GSI's global standards provide a ready-to-use foundation for aligning data, labels, and reporting across stakeholders.



Digital Tools in Action

For Consumers

- Real-time recycling guidance
- Product lifecycle information
- Incentivises sustainable choices

For Businesses

- Easier producer reporting
- Supply chain traceability
- Streamlined compliance & labelling
- Facilitates cross-border compliance

For Regulators

- Improved oversight of EPR performance
- Data to support enforcement, e.g. for eco-modulated fees
- Supports verification and harmonisation

IV. The Way Forward

A Digitally-Enabled Circular ASEAN

A hand made of moss holding a blue butterfly

Building **Smart, Circular** Systems

- ASEAN has the opportunity to lead in circularity through clear EPR policy, regional cooperation, and enabling markets for recycled content.
- A shared digital infrastructure, built on global standards, is essential to make this vision operational and scalable.
- GS1 tools like Digital Link can support real-time data exchange, traceability, and consumer engagement – all critical for EPR success.



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