

The slide features several decorative blue rounded shapes: a large vertical pill shape on the left, a smaller vertical pill shape at the top center, a large horizontal pill shape on the right, a vertical pill shape on the far right, a vertical pill shape on the bottom left, and a large horizontal pill shape at the bottom center.

Data-driven Development and Implementation of National Action Plan on Plastic waste management - A policy perspective

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Stakeholders involved in plastic management in Thailand

1. Government Agencies

- Ministry of Natural Resources and Environment
- Ministry of Industry
- Ministry of Interior
- Ministry of Commerce
- Ministry of Public Health
- Ministry of Agriculture and cooperatives

2. Research & Academic

- Research Institutes
- University

3. Private sector

- Plastic club / Federation of Thai industries (FTI)
- Thai plastic Association
- Plastic recycling network

4. NGOs

- The Environmental Justice Foundation (EJF)
- Ecological Alert and Recovery – Thailand (EARTH)
- Greenpeace Thailand
- Trash Hero Thailand / Precious Plastic Thailand
- Others agencies

Stakeholders involved in plastic management in Thailand

Ministry of Natural Resources and Environment

- **Pollution Control Department (PCD)** - Policy on plastic waste management / circular economy
- **Department of Marine and Coastal Resources (DMCR)** - Preventing waste leakage from sources /Applying technologies to intercept waste in rivers before it reaches the sea /Organizing International Coastal research and monitoring the impacts of marine debris and microplastics on marine organisms and ecosystems

Ministry of Industry

- Regulate the plastic manufacturing industry, including raw materials and product design, as well as promote the recycling industry

Ministry of Commerce

- Oversee the trade of plastic products and regulate labeling and product safety

Ministry of Interior

- **Department of Local Administration (DLA)** – Oversees municipal solid waste management at the local government level
- **Municipalities / Subdistrict Administrative Organizations (SAOs)** – Responsible for the collection, separation, and disposal of waste, including plastic waste

Ministry of Public Health

- Oversee the health impacts of chemicals from plastics.
- **Food and Drug Administration (FDA)** – Regulates food-contact packaging

Ministry of Agriculture and cooperatives

- The use of plastics in the agricultural sector, such as ground cover films, nursery bags, and fertilizers in plastic packaging

The necessary elements for plastic data monitoring

1. Standardized Methodologies

- Without harmonized definitions and methods, data from different sources or countries are not comparable. (e.g. what counts as plastic leakage, or how to measure recycling)
- Examples needed: Common frameworks for measuring plastic production, consumption, waste generation, and leakage (such as UNEP's methodology or national material flow analysis).

2. Comprehensive Data Coverage Across the Value Chain

- Upstream data: Plastic production, import/export, product types, polymer types, additives.
- Midstream data: Usage patterns, product lifespan, business models (e.g. reuse or single-use).
- Downstream data: Waste collection, treatment, recycling rates, landfill, incineration, and environmental leakage (e.g. mismanaged waste, marine litter).

3. Institutional Capacity & Coordination

- Data collection and reporting require trained personnel, clear institutional mandates, and coordination across ministries (e.g. environment, industry, customs).
- Strengthen data systems at national level and designate clear data responsibilities.

4. Accessibility & Interoperability of Data

- Data is often fragmented or locked in silos; without easy access, it cannot inform decision-making.
- Create centralized national plastic data platforms or integrate plastic data into national environmental information systems.

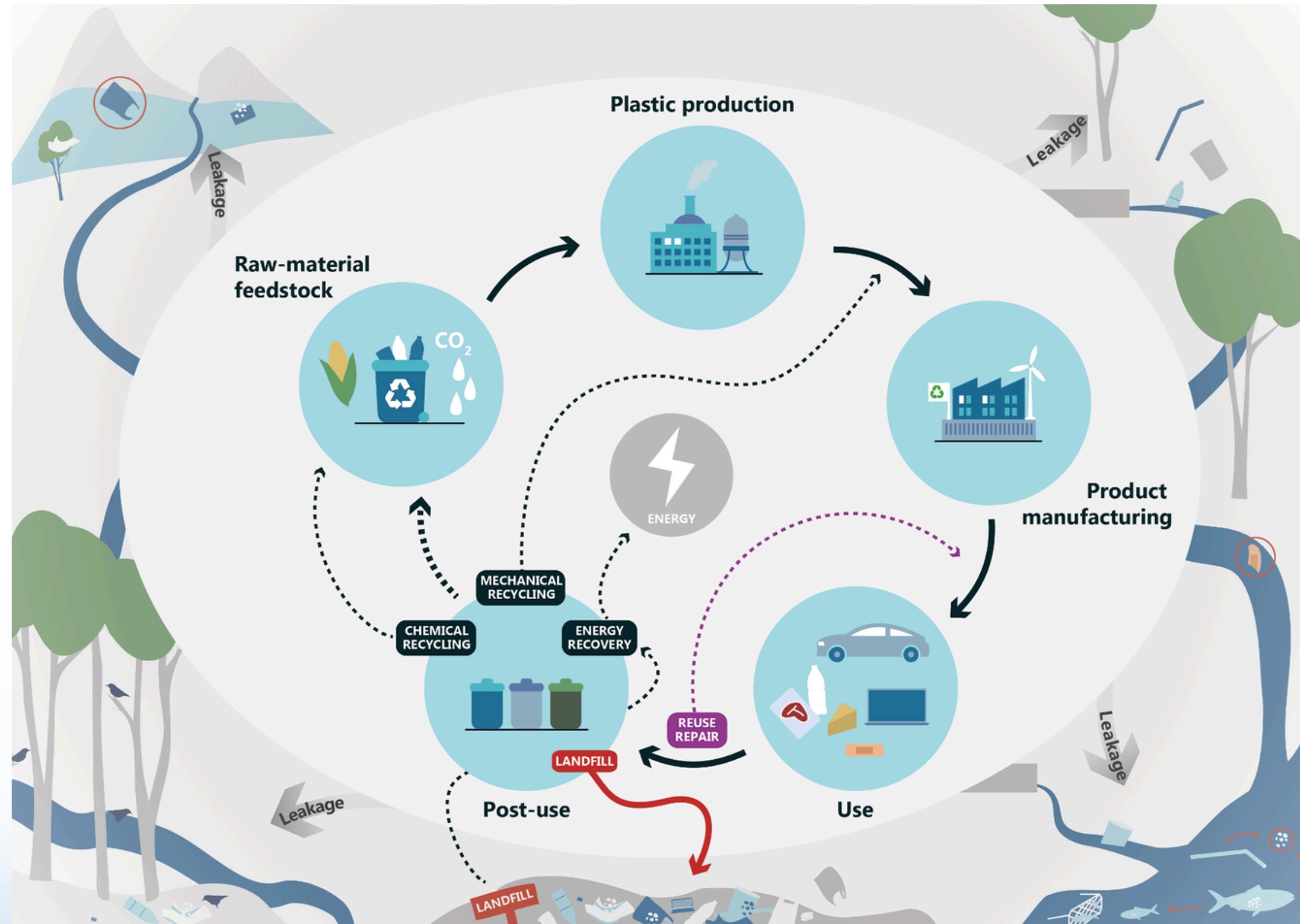
5. Policy Relevance & Integration

- Data must be used to shape and track policies—otherwise it remains academic.
- Examples of use: Setting targets (e.g. EPR compliance, recycling rates), monitoring bans or restrictions (e.g. on single-use plastics), or evaluating progress toward international commitments.

Example : data needed through entire life cycle of plastic

Downstream data

- Waste collection
- treatment
- recycling rates
- landfill
- incineration
- environmental leakage (e.g. mismanaged waste, marine litter)



Upstream data

- Plastic production
- import/export
- product types
- polymer types
- additives

Target setting:
recycling/reuse rate
/recycle content

Midstream data

- Usage patterns
- product lifespan
- business models (e.g. reuse or single-use)

Example : data needed for EPR on packaging management

- Monitoring and compliance data ensure transparency and accountability
- Accurate waste collection and recycling rates
- data on public behavior and participation can guide more user-friendly system design



- information on the types and volumes of plastic packaging placed on the market
- data on producers and importers
- Financial data is critical for determining fair and efficient fee structures
- Infrastructure data helps identify service and capacity gaps

Essential elements of a data-driven approach

- **Reliable and High-Quality Data** – Accurate, comprehensive data across the plastic lifecycle
- **Standardization** – Harmonized definitions and methods across regions
- **Capacity Building** – Support for national institutions and technical skills
- **Integrated Systems** – Link data from government, industry, and communities
- **Transparency** – Open, accessible data for accountability and engagement
- **Monitoring & Verification** – Clear frameworks to track progress and outcomes
- **Innovative Tools** – Use of digital tech like AI, GIS, and remote sensing
- **Collaboration** – Multi-stakeholder partnerships to share data and insights
- **Policy-Focused Metrics** – Data that directly supports effective decisions
- **Sustainable Funding** – Long-term investment in data infrastructure and use



Thank you

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