

*EPR Policies for
Electronics:
A Phase-in Approach*

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1 Increasing Concerns on E-waste

- Rapid increase in consumption of e-products.
- Possible source of recyclable resources.
- Informal and often improper treatment of e-waste.
- Disguised and illegal trade of e-waste for resource recovery purposes.
- Heavy metal pollution and air pollution such as dioxin from de-soldering, wet chemical leaching of PCBs, and open burning of plastics and wires.

Three Priority Areas for Implementing Recycling Policy

Institution/governance

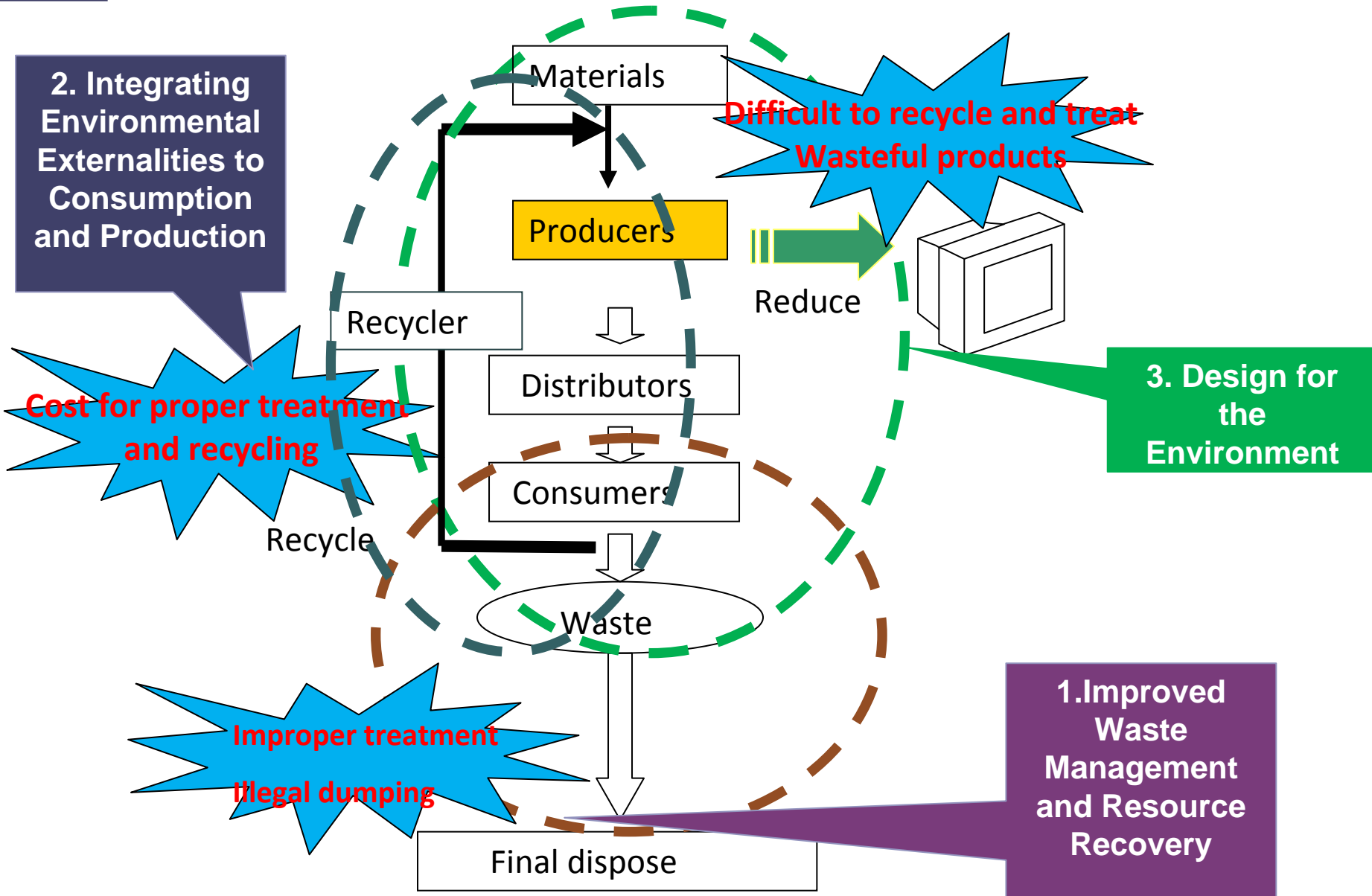
- Establishment of formal collection and management mechanisms.
- Established capacity of local government to implement regulation.
- Clear policy priorities and direction and financial support.

Recycling industrial infrastructure

- Technology and industrial infrastructure backed by proper environmental management
- Development of recycling industries with scale and financial base

Recycling market

- Environmentally unsound and cheap treatment of EOL goods only by evaluating economic and resource value.
- Needs of reform in supply-demand control which only depends on market



3 Current Status of EPR in Asia

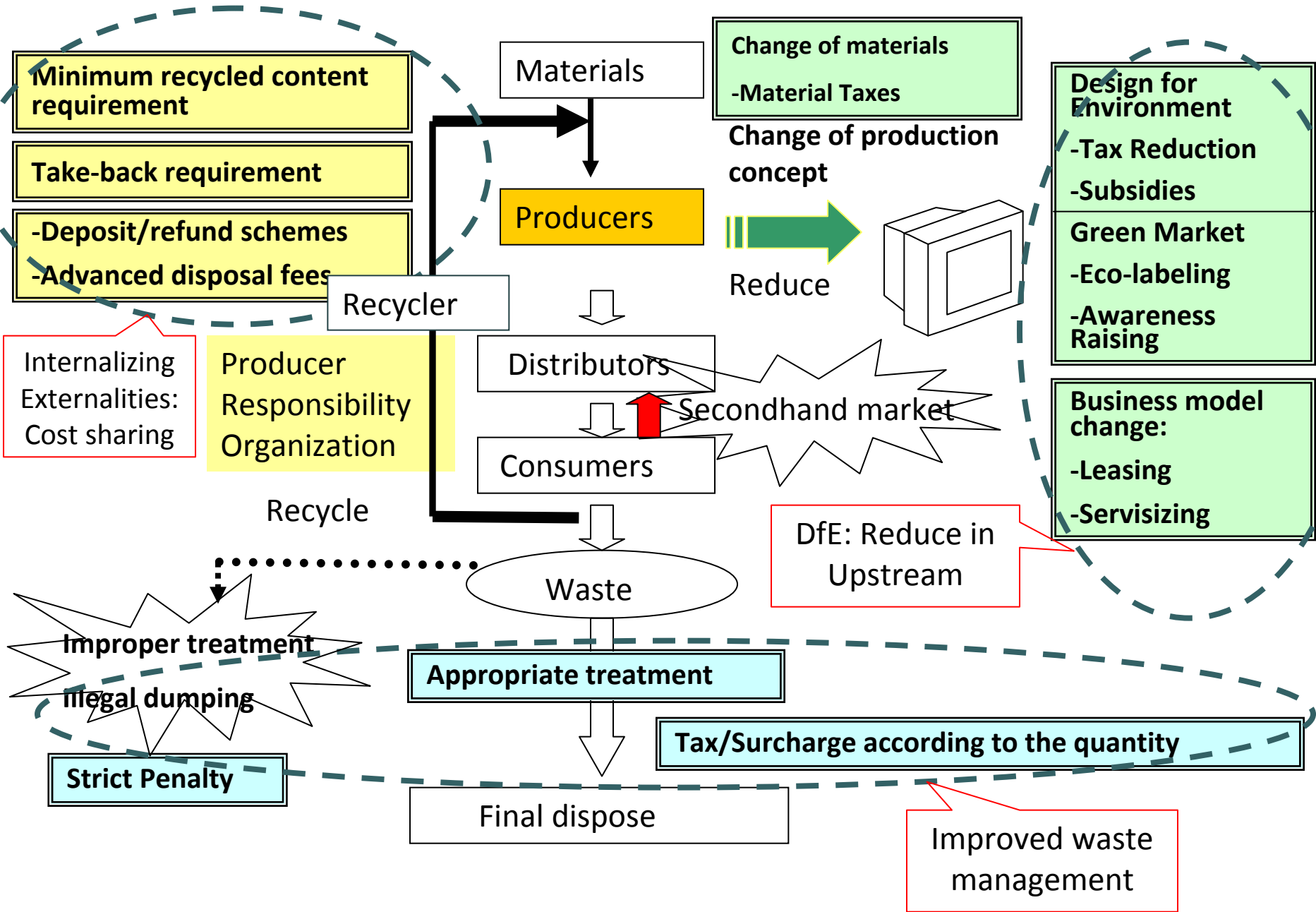
	Industrialized <i>(e.g. Japan's Home Appliance Recycling Law)</i>	Emerging <i>(e.g. China's Regulations on Recovery Processing of Waste Electrical and Electronic Products)</i>	Least developed <i>(e.g. Cambodia)</i>
EPR-related specific legislation for e-waste	○	□	×
Producers' responsibility for take-back in legislation	□	□	□ (products in general)
Producers' responsibility for take-back in practice	□	×	×
Producers' responsibility for recycling and treatment in legislation	○	×	×
Producers' responsibility for recycling and treatment in practice	○	□	×
Existence of strong informal market	For export of second-hand goods and scraps	○	○
Monitoring/enforcement	○	□	×
Financial mechanism	○	□	×

○, Full application/development; □, partial application/development; ×, no application/development.

Progress of EPR Legislations in Asia

Countries	Specific legislation or draft legislations
China	Rules on the Administration of the Recovery and Disposal of Discarded Electronic and Electrical Products (promulgated in 2009, effective in 2011)
India	E-waste Management and Handling Rules (promulgated in 2010, effective in 2012)
Indonesia	specific article on EPR is under preparation under Solid Waste Management Act 2008.
Malaysia	specific article on take-back and deposit refund in Solid Waste and Public Cleansing Management Act 2007. Draft Regulation on Recycling and Disposal of End-of-life Electrical and Electronic Equipment.
Thailand	WEEE Strategic Plan in 2007 and Draft Act on Economic Instruments for Environmental Management (under development)
Viet Nam	Draft regulations on the reclamation and treatment processes for disposal products (under planning: draft was released in 2010)

Model of the 3R system based on EPR and its instruments

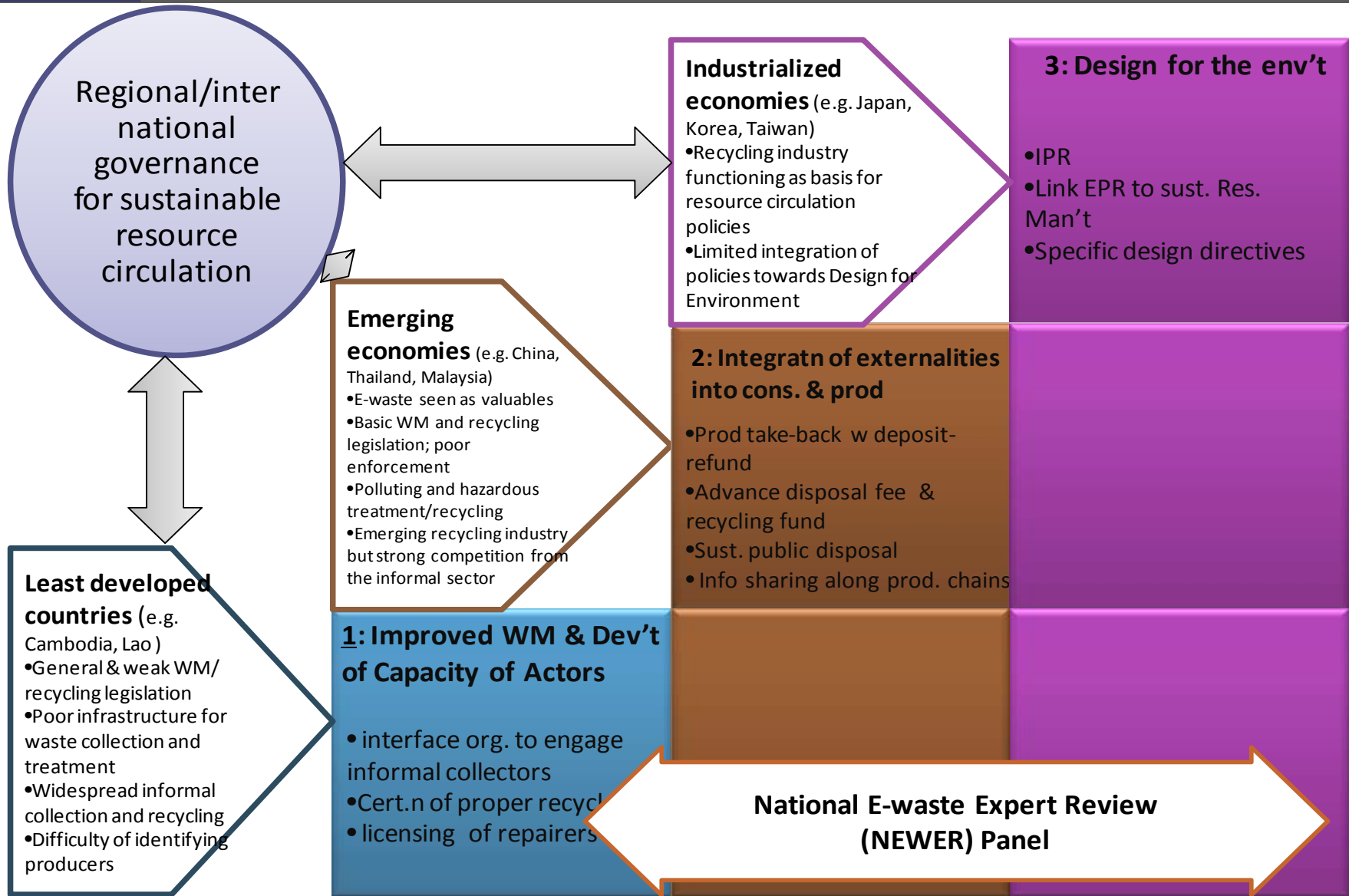


Implementation Challenges for Policy Makers in Developing Asia

1. Poor infrastructure for waste collection and treatment
2. Perception of e-waste as valuables
3. Competition with the informal waste management sector
4. Difficulty of identifying the producer
5. Needs for better control of international movement of e-waste

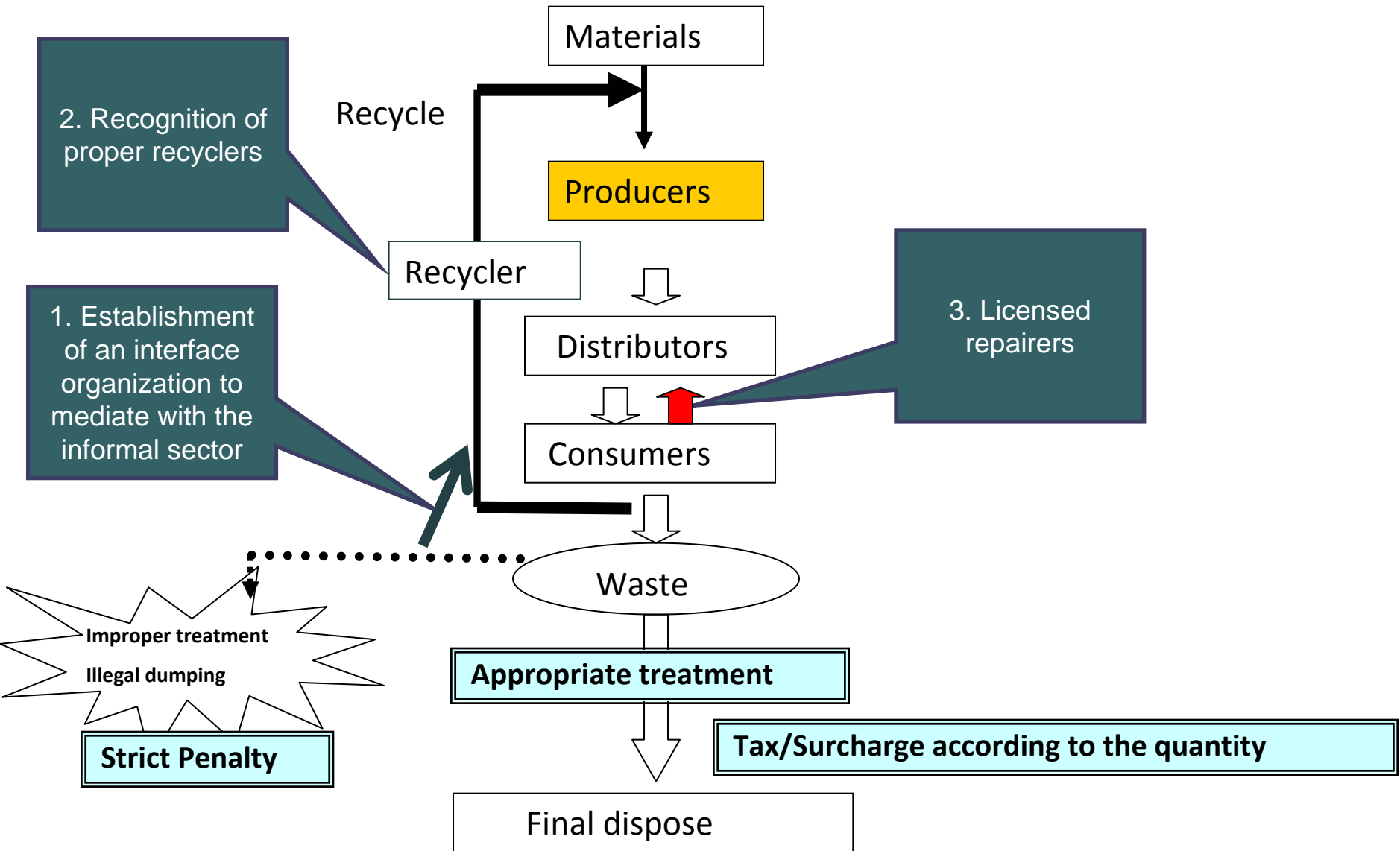
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A Phase-in Approach to EPR in Developing Asia



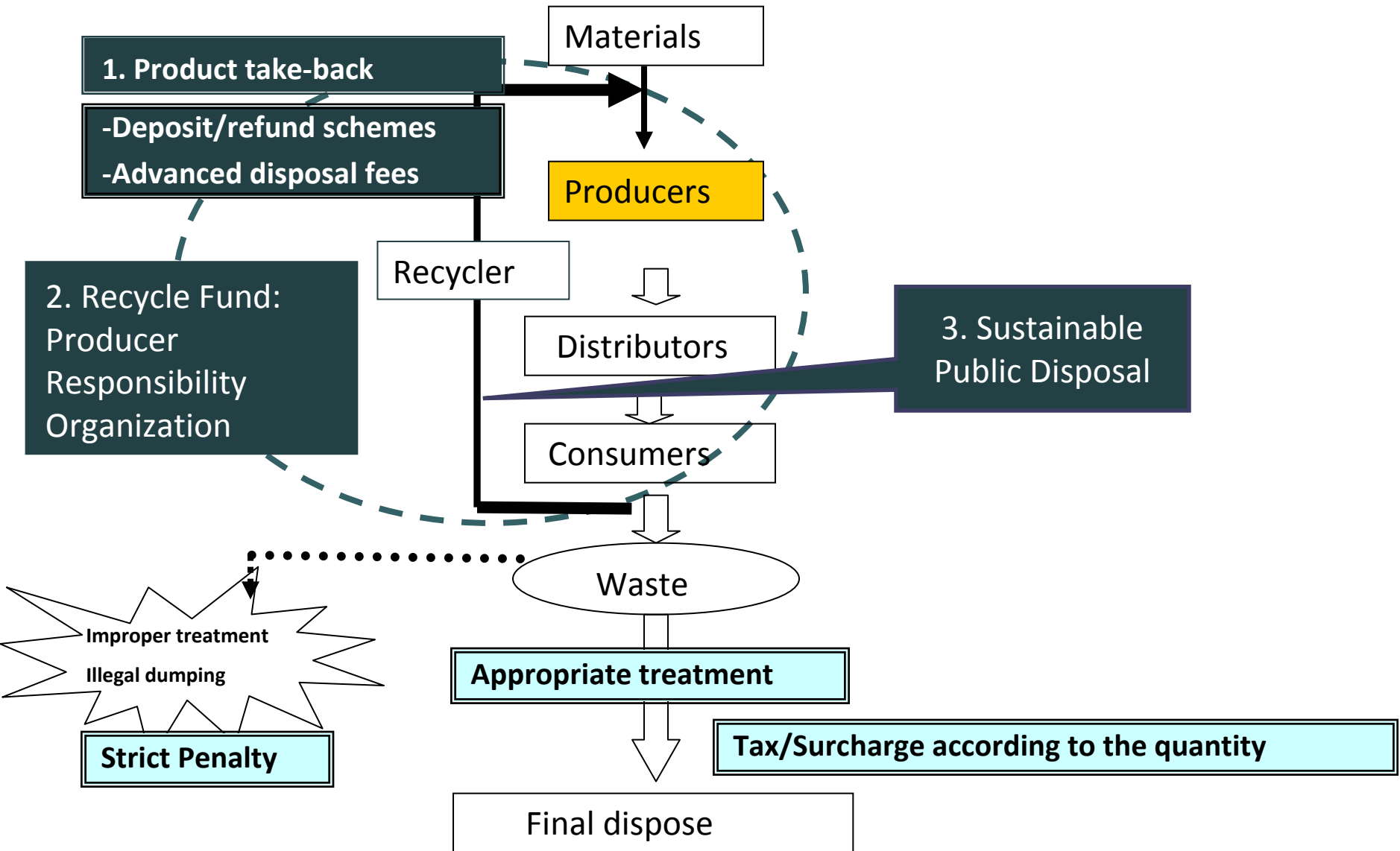
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Phase One: Improving waste management and resource recovery

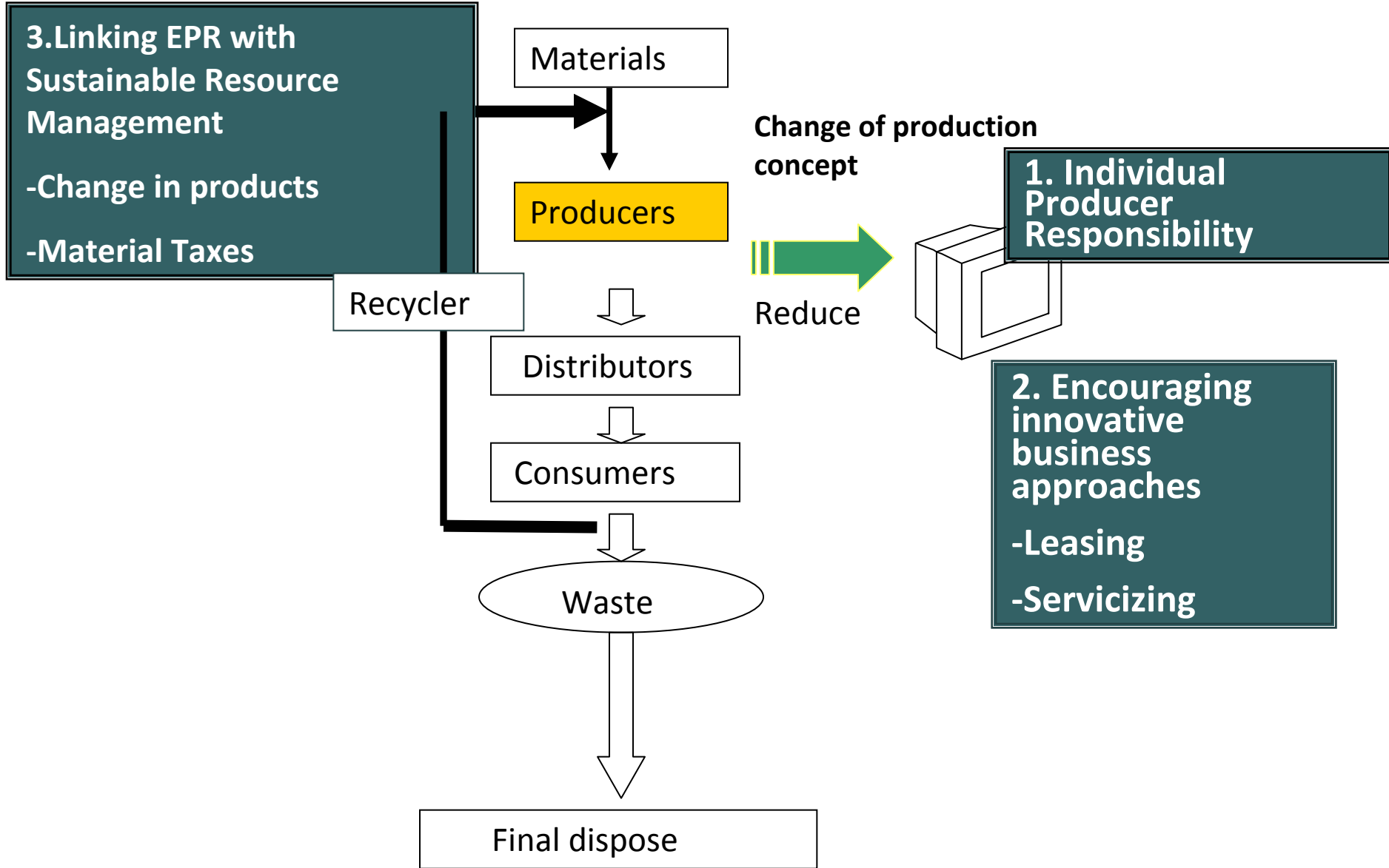


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Phase Two: Integration of externalities into consumption and production



5-3 Phase Three: Design for the Environment



5-4 Regional/international collaboration

1. Domestic EPR system can be undermined by international trade of e-wastes.
2. At the same time, many countries face difficulties in dealing e-waste domestically.
3. The major existing global financing mechanisms emphasizes climate change.
4. If EPR is extended to export of sechondhand e-products, we can estimate about 14.8 billion to 22 billion Japanese yen will be collected for exported used electronics and home appliances in Japan.
5. This approach may become a significant source of funding for international collaboration for sustainable resource circulation both domestically and internationally.

Phase-in for Sustainable Resource Management

Phases	Examples of Policy Concepts
Phase 1 Improvement in Resource Recovery and Capacity of Actors	<ul style="list-style-type: none"> ●Interface organization to engage the informal sectors ●Nurturing formal industries for resource recovery ●Subsidies for recyclers ●Certification of good recyclers
Phase 2 Internalizing Externalities	<ul style="list-style-type: none"> ●EPR ●Zero waste factory ●Eco-industrial parks ●Quality standards for recyclables ●Green public disposal ●Product replacement campaign
Phase3: Reconsideration of Product System and Social Infrastructure	<ul style="list-style-type: none"> ●Greening of Supply chain ●Green purchasing ●Ban of throw-away products ●Virgin material tax ●EPR to IPR ●Local production and consumption
Phase 4: International Collaboration	<ul style="list-style-type: none"> ●Climate co-benefit ●Multi-lateral financial mechanism for sustainable resource management and resource circulation ●Policy collaboration on resource reduction ●International funds for sustainable resource management

6 Conclusion

- **EPR should be adjusted to the level of national economic development, capacity for environmental policy enforcement, market structure of products and recyclables.**
- **EPR implementation should go from a basic focus on improved waste management to finally achieving design for environment.**
- **Regional collaboration is needed for improved management of e-waste not only between developed and developing countries. Such scheme can include international certification of good recyclers or international fund for recycling.**

Reference

- **IGES Policy Brief**

- EPR Policies for Electronics in Developing Asia: A Phase-in Approach**

- September 2011,

- Author: Akenji, Lewis; Bengtsson, Magnus; Hotta, Yasuhiko and Hayashi, Shiko

- Download:

- <http://enviroscope.iges.or.jp/modules/envirolib/view.php?docid=3347>

- **Journal Article**

- Akenji Lewis, Hotta Yasuhiko, Bengtsson Magnus, Hayashi Shiko (2011) EPR policies for electronics in developing Asia: an adapted phase-in approach. *Waste Management and Research*, September 2011 29: 919-930.

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- Hotta, Yasuhiko, Hayashi, Shiko, Bengtsson, Magnus, & Mori, Hideyuki (eds.) (2009), *Extended Producer Responsibility Policy in East Asia – in Consideration of International Resource Circulation* -, IGES, Hayama, Japan.