

- **Republic of Korea:** Extended Producer Responsibility (EPR) System (covering electronic products, tires, lubricants, batteries, packaging materials, etc., 2003), Act on the Recycling of Electrical and Electronic Equipment and Vehicles (2008)

Further, Indonesia, Malaysia, Thailand, and Viet Nam are currently planning or drafting legislation or policies based on the EPR concept.

Resource Recycling Management Fund of Taiwan Province of China

Currently, ad valorem fees are collected from firms for 14 kinds of recyclable products and are pooled in the Fund. Recycling operators and treatment contractors receive subsidies via the Fund if they conform to certain environmental and quality standards. The Fund is also used to adjust for any volatility in the recycling market.

12 Conclusion

Many countries in the region, including China, India, Indonesia and Malaysia have introduced or are considering EPR-based legislation, especially that targeting electronic or packaging wastes. One of the ultimate goals of EPR is to promote design for the environment of target products. This indicator would assist in sharing information on EPR schemes between countries, promote resource efficiency throughout Asia and contribute to sustainable consumption and production.

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Recycling Legislation based on the Concept of Extended Producer Responsibility [EPR]

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01 Outline of indicator

The EPR indicator refers to the existence or strengthening of policies on recycling and waste management targeting specific end-of-life products or waste streams, and involves producers in recycling or waste management activities. Such policies make producers and importers physically and financially responsible for used product take-back, collection and treatment, and over the last two decades have broadened in scope to cover products such as used packaging, electronics, batteries, and end-of-life vehicles. Asian economies are currently facing increases in amounts of difficult-to-treat wastes and associated environmental risks, and many, including China, India, Indonesia, or Malaysia, have already introduced or are considering EPR-based legislation, particularly that targeting electronic and packaging wastes. In addition to recycling legislation, EPR can be implemented to promote design for the environment (DfE), recycling and the used product take-back system either on a voluntary basis, by individual producers or producer associations, or as a voluntary agreement between government and individual producers or producer associations.

02 Type of indicator

Qualitative Indicator, Response Indicator

03 Policy goals to be monitored by this indicator

This indicator can be used to monitor to what extent EPR is reflected in national recycling policies in encouraging manufacturers, importers and retailers to share the financial and physical responsibilities of collecting, recycling, and disposal of recyclable wastes. The element of EPR that obliges producers to provide information on environmental features and composition of their products to consumers and recyclers is also important.

The table below is an example for reporting on the status of preparation, development and implementation of EPR-based recycling legislation or policies.

Status of implementation	Name of policy (Year)	Type of product items covered by the policy
Fully implemented		
Postponement period before full implementation		
Under preparation of specific legislations		
Existence of provisions supporting EPR principle		
Based on voluntary approach/agreement		

04 Definition

The definition of extended producer responsibility (EPR), according to the Organisation for Economic Co-operation and Development (OECD), is “an environmental policy approach in which a producer’s responsibility, physical and/or financial, for a product is extended to the post-consumer stage of the product’s life cycle”, and in several countries, EPR-based recycling programmes are termed “product stewardship programmes”, and are very similar in nature. The distinction is not explained in this document.

05 Policy instruments that can be used within, or in conjunction with EPR-based legislation

Administrative instruments	Collection and/or take-back of discarded products, substance and landfill restrictions, achievement of collection, re-use (refill) and recycling targets, fulfillment of environmentally sound treatment standards, fulfillment of minimum recycled material content standards, product standard, utilisation mandates.
Economic instruments	Material/product taxes, subsidies, advance disposal fee systems, deposit-refund systems, upstream combined tax/subsidies, tradable recycling credits
Information-based instruments	Reporting to authorities, marking/labeling of products and components, consultation with local governments about the collection network, information provision to consumers about producer responsibility/source separation, information provision to recyclers about the structure and substances used in products

Source: Tojo, N. 2004. Extended Producer Responsibility as a Driver for Design Change – Utopia or Reality? IIIIEE Dissertation 2004:2. IIIIEE: Lund.

06 Merits of implementation

Combining various instruments, EPR-based legislation aims at achieving at least one of the following three distinct objectives:

- 1) Improved waste management and resource recovery: To establish effective collection of end-of-life (EoL) products from consumers, promote environmentally sound treatment and efficient recycling, and reduce the amount of wastes from landfills.
- 2) Changing allocations of cost for waste management and recycling: To reduce financial and physical burdens of waste management on the public sector, necessary costs for recycling are collected and utilised from various stakeholders related to waste generation in certain product categories.
- 3) Design for the environment: To provide economic incentives for producers to make design changes towards easier recycling.

07 Similar indicators and supporting indicators

- List of products and/or product group targeted by recycling legislations nationally.
- Collection rate and recycling rate of targeted used products under the specific recycling legislation (see Factsheet on Recycling Rate and Target: Hotta, Kojima and Visvanathan 2013)

08 Challenges and concerns

- Interpretation of EPR: The purpose of introducing EPR varies by country; for example, EPR can be interpreted as a voluntary environmental management initiative or voluntary recycling and take-back activity similar in concept to Corporate Social Responsibility.
- Difficulty of identifying producers: When non-brand, counterfeit, secondhand or repaired products are common in the market, it is often very difficult to identify who the producers are in the context of EPR.
- Infeasibility of take-back scheme: Some products preclude the use of the physical responsibility take-back scheme due to the transportation distance between country of origin and sale.
- Competition with the informal waste management sector: The informal recycling sector has low operating costs and can therefore offer higher cash payments for end-of-life products compared to formal government-approved recycling businesses.
- Infrastructure for waste collection and treatment: Many cities have no established collection system for recyclables and are purely market-based. This means recyclables are recycled under market mechanisms, which is not problematic except that the existing infrastructure for recycling is often small-scale and unsafe for workers and the environment. Thus, once EPR-based recycling mechanisms are up and running, substantial investments in physical infrastructure as well as human and institutional capacity for collection and treatment will be needed.
- Import and export of recyclables: Policy intervention in the collection of recyclables would release a huge amount of recyclables on to the market. In combination with strong demands for resources outside the country, this would lead to an economic driver for export of recyclables for those introduced under EPR-based legislation.

09 Appropriate data management by stakeholders

- Central government: Information management on recycling standards, recycling targets, overall status of recycling mechanisms under legislation.
- Producer: Information on producer/manufacturer, shipments, materials used in products, dismantling procedures, etc.
- Local government: Information on collection schemes, source separation, if local government has responsibility in collection.
- Designated/registered recyclers: Amount of used products received and recycled; environmental information related to recycling process, etc.
- Producer Responsibility Organisations: Ideally, under the EPR principle, each individual manufacturer/producer has to be responsible for the treatment of its products physically and financially. However, in practice, producer responsibility organisations (PRO) are often established to share these producer responsibilities under more formal recycling policy. Since PROs are often managing a common recycling fund, they would be the focus of data management.

10 Direct and indirect impacts

The presence of actual legislation or interest therein as regards EPR in a certain country may point to the following several challenges being faced by such country: 1) Market-based recycling is dysfunctional for the products targeted under EPR-based legislation; 2) Rising financial costs of management and physical handling of solid waste born by local governments due to rising volumes of emerging wastes such as packaging and e-waste; 3) Rising consumer awareness has become a ‘push’ factor in increased recycling of waste products; 4) Increasing concerns over improper treatment of recyclables containing hazardous substances has triggered policy intervention to establish environmentally-sound recycling and management mechanisms.

11 Best practices

A number of Asian countries have introduced legislation based on the EPR concept:

- **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)
- **Japan:** Packaging Recycling Law (1995, revised in 2006), Home Appliance Recycling Law (1998), End of Life Vehicle Recycling Law (2002)