WWF’S EPR PROJECT

Jazlyn Lee, SEA EPR regional coordinator, WWF
Outline of presentation:

WWF’s No Plastic In Nature – EPR project

Studies on EPR assessment for plastic packaging - Malaysia and Philippines
  • Material flow analysis for post-consumer plastic
  • Key implications
  • Proposed EPR scheme

Conclusion
WWF’s No Plastic in Nature by 2030 – EPR project

**Strategies**
- Eliminate unnecessary plastics
- Double global plastic recovery
- Shift to sustainable sources for remaining plastic

**THREE key pillars**
- Global policy/international treaty
- Business engagement
- Action programs – Plastic Smart Cities (PSC)

---

**WWF’s “No Plastic in Nature” Initiative**

**WWF’s “Extended Producer Responsibility” (EPR) project**

1. **Mobilize governments** in targeted countries to incorporate EPR into their legal framework
2. **Support businesses to create an ecosystem for circular economy** for plastic and packaging
3. **Facilitate multi-national and local companies** to take responsibility for end-of-life impacts of their products and packaging
4. **Develop studies and analysis**, provide science-based recommendations and guideline

---

**WWF’s “No Plastic in Nature” Initiative**
WWF’s EPR project scope
What is Extended Producer Responsibility (EPR) scheme

Producers to take greater responsibility of their products’ end-of-life management

- **Encourage product eco-design**: reduction, reuse model, higher recyclability, increase recycled content in products and packaging
- **Reduce environmental Impacts**: increase end-of-life product waste collection, treatment & reuse/recycling, materials recovery to extend life cycles, reduce virgin materials used
- EPR fee is different from tax or public fee as fees are not collected by public fiscal authorities and does not flow into public budget.
- **EPR fees** are collected and managed by a system operator and should be exclusively used to fund packaging waste management related activities.
How does an EPR scheme look like

[Diagram showing the flow of a Producer Responsibility Organisation (PRO) scheme]
### Roles and responsibilities of stakeholders in EPR schemes

<table>
<thead>
<tr>
<th>Involved stakeholder</th>
<th>Role in EPR</th>
</tr>
</thead>
</table>
| Manufacturers of packaging material or of packaging | • Enable reuse & recyclability  
• Use secondary raw materials   |
| Consumer goods companies (fillers and importers)  | • Pay for EPR system  
• Form the PRO  
• Influence up & down value chain |
| Distributors / retailers of packaged goods        | • Ensure suppliers participate in EPR  
• (Take-back obligation)                                      |
| Consumers                                         | • Sort & dispose packaging correctly  
• Reduce purchase of packaging                           |
| Waste management operators                        | • Receive payments from EPR  
• Waste management & recycling                             |
| National government                               | • Definition of products & actors’ responsibilities  
• Accreditation & monitoring of EPR schemes               |
| Local governments                                 | • Waste collection  
• Information to the public                               |

**Government, businesses & consumers must be involved to guarantee its success**
Why EPR is an effective tool

- Reduce materials and packaging use
- Improve collection and recycling
- Improve products and packaging designs – recyclability and reusability
- Increase materials recovery and reduce use of virgin materials

- Strengthen interaction along the value chain – materials supplier, producers, brands, waste management operators
- Job creation – boost recycling industry
- Integrate informal sector

- Collective action to transition to circular economy
- Boost recycling market, improve market mechanism, align demand and supply of waste and recycling sector
- Reduce dependency on virgin material
- Minimize landfill dependency and environmental abatement cost, externalities
Studies on EPR scheme assessment for packaging by WWF

Introduction of the studies

- Country-specific studies: Malaysia, Philippines, Thailand and Vietnam
- Analysis of the current waste management system and recycling market for plastic packaging waste
- Propose customized EPR schemes based on local implications
- Support policy makers in policy formulation to transition a circular economy
- Reference for industry players to become an informed change maker and innovator
Studies on EPR scheme assessment for packaging by WWF
Three significant characteristics shape the Malaysian context:

1. **High-value recyclable packaging already separated from household waste to a very relevant extent and transferred to recycling systems.**
   This applies especially to rigid HDPE, PP and PET. Extraction is largely informal and the subsequent value chain is based on a functioning market.

2. **Malaysia has large recycling capacities are sufficient for above-mentioned, locally generated, high-value recyclables.**
   However, a huge number of recyclers and aggregators import and process imported recyclables, occupying large capacities.
   There is no fully traceable documentation of the imported material.

3. **Low value and non-recyclables are mostly disposed of and collected together.**
   There is no systematic separate collection and recycling of the low-value recyclables.
Material Flow Analysis for Post-Consumer Plastic Packaging Waste

Post-consumer plastic volume

Post-consumer plastic data was estimated based on

1. Baseline figures for 7 types plastic waste generation from the Survey on Solid Waste Composition, Characteristics & Existing Practices of Solid Waste in Malaysia commissioned by JPSPN (2013)

2. Estimated household incomes (Household Income & Basic Amenities Survey Report 2016)

3. District populations (Department of Statistics)

An estimated annual post-consumer plastic waste generation of 1,070,064 tonnes in 2016

Note: The waste stream does not only include plastic from packaging but also chemically identical non-packaging plastic waste such as toiletries (e.g. toothbrushes, combs), stationary (e.g. plastic pens, rules) and other small discarded plastic items.

Daily post-consumer plastic composition grams/per capita

<table>
<thead>
<tr>
<th>Region</th>
<th>Plastics (grams / capita)</th>
<th>PET</th>
<th>HDPE</th>
<th>PVC</th>
<th>LDPE</th>
<th>Polypropylene (PP)</th>
<th>Polystyrene (PS)</th>
<th>Other Plastics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td></td>
<td>21.29</td>
<td>22.38</td>
<td>4.46</td>
<td>27.18</td>
<td>9.45</td>
<td>2.47</td>
<td>2.13</td>
</tr>
<tr>
<td>Southern</td>
<td></td>
<td>18.18</td>
<td>31.71</td>
<td>2.07</td>
<td>35.85</td>
<td>13.79</td>
<td>10.02</td>
<td>6.82</td>
</tr>
<tr>
<td>Klang Valley</td>
<td></td>
<td>19.11</td>
<td>33.35</td>
<td>3.44</td>
<td>32.13</td>
<td>11.13</td>
<td>10.39</td>
<td>6.00</td>
</tr>
<tr>
<td>East Coast</td>
<td></td>
<td>12.70</td>
<td>17.32</td>
<td>3.17</td>
<td>24.30</td>
<td>7.29</td>
<td>10.16</td>
<td>6.00</td>
</tr>
<tr>
<td>Sarawak</td>
<td></td>
<td>15.34</td>
<td>31.44</td>
<td>1.47</td>
<td>31.82</td>
<td>16.87</td>
<td>13.26</td>
<td>6.00</td>
</tr>
<tr>
<td>Sabah</td>
<td></td>
<td>19.17</td>
<td>28.23</td>
<td>3.23</td>
<td>27.84</td>
<td>9.50</td>
<td>15.68</td>
<td>6.48</td>
</tr>
</tbody>
</table>

Source: Survey on Solid Waste Composition, Characteristics & Existing Practice of Solid Waste Recycling in Malaysia, Main Report (JPSPN)

Post-consumer plastic waste generation in Malaysia, 2016 estimation

<table>
<thead>
<tr>
<th>Region</th>
<th>Plastics (tonnes)</th>
<th>PET</th>
<th>HDPE</th>
<th>PVC</th>
<th>LDPE</th>
<th>PP</th>
<th>PS</th>
<th>Other Plastics</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klang Valley</td>
<td></td>
<td>67.402</td>
<td>113.538</td>
<td>11.174</td>
<td>118.109</td>
<td>421.23</td>
<td>37.270</td>
<td>1.500</td>
<td>391.365</td>
</tr>
<tr>
<td>East Coast</td>
<td></td>
<td>24.334</td>
<td>38.674</td>
<td>5.274</td>
<td>41.351</td>
<td>15.458</td>
<td>16.526</td>
<td>864</td>
<td>134.482</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>188.366</td>
<td>293.485</td>
<td>32.721</td>
<td>323.370</td>
<td>112.643</td>
<td>113.245</td>
<td>6.231</td>
<td>1,070.064</td>
</tr>
</tbody>
</table>

Source: Lasaj Consulting
For the rigid portion of HDPE, PET, PP, most recycling processors estimated the recycling rate to be very high between 70% to 90% depending on local collection, sorting and aggregation infra-structures.

Some of these rigid mono-materials are not recycled due to property changes limiting the mechanical recycling.
Implications for an effective EPR system for Malaysia

- **Clear responsibility within the government** – ministries and departments at federal, state and local level

- **Include civil society** – leverage both in the current decision-making process as well as the design of a future EPR scheme

- **Include and private sector stakeholders and industry led platform** – collectors, aggregators, processors, consumer good companies, MPP

- **Engage informal sector** - provide incentives to increase the collection, improve livelihood and working conditions

- **Greater effort to manage flexible packaging** - EPR scheme with appropriate incentives to recover and recycle flexible plastics while reducing the amount of non-recyclable materials

- **Ensure that a higher share of rigid plastic packaging is recyclable** – EPR modulated fees that favour recyclable materials and discourage mixed materials

- **Ensure traceability and monitoring** - from the point of collection up to processing

Photo by Jazlyn Lee
### Proposed customized EPR system for Malaysia

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandatory EPR scheme</strong></td>
<td>• Reliable financial basis for large-scale collection, sorting and recycling of packaging which is crucial for creating sufficient business cases along the value chains</td>
</tr>
<tr>
<td><strong>Inclusion of system-relevant packaging, products and obliged companies</strong></td>
<td>• Covering all packaging materials (e.g. plastics, paper, metals, composites) from households and equivalent places of origination (e.g. service packaging)</td>
</tr>
<tr>
<td><strong>One, non-profit Producer Responsibility Organization (PRO)</strong></td>
<td>• To ensure a holistic, reliable and fair manner waste management in which the responsibility is collectively assumed through one, industry-led system operator</td>
</tr>
<tr>
<td><strong>Modulated fees</strong></td>
<td>• Steered recycling market through application of reduced EPR fees for high-value recyclable packaging and an increased EPR fee for low-value and non-recyclable packaging, paid by the obliged companies</td>
</tr>
<tr>
<td><strong>Strict monitoring and control systems</strong></td>
<td>• To avoid fraud, strict and enforced monitoring, controls and penalties are indispensable and shall be carried out by KASA and KPKT to ensure compliance of all actors</td>
</tr>
</tbody>
</table>
Studies on EPR scheme assessment for packaging by WWF

Philippines

EPR SCHEME ASSESSMENT FOR PLASTIC PACKAGING WASTE IN THE PHILIPPINES

PUBLISHED BY WWF-PHILIPPINES
OCTOBER 2020
Status Quo of Waste Management System

Three significant characteristics shape the Philippines context:

1. **High-value recyclable packaging already separated from household waste to a very limited extent and transferred to recycling systems.**
   A sizeable volume of these high-value recyclable packaging still ends up in disposal sites or leaked to the environment.

2. **The recycling capacities are insufficient for locally generated recyclables**
   However, recyclers and aggregators import and process imported recyclables, occupying large capacities.

3. **Low value and non-recyclables are mostly disposed of and collected together.**
   There is no systematic separate collection and recycling of the low-value recyclables. Often end up in landfills, open dumpsites and littered.

4. **Philippines at the early stage of sustainable waste management.**
   No uniformity in implementation of national regulations, recycling infrastructure is limited.
Out of the 2,150k tonnes of plastic that are available for local consumption, 760k tonnes or 35% are leaked to the open environment while 706k tonnes or 33% are disposed to landfills and dumpsites. Approximately 345k tonnes or 16% are stored and in-use.

Around 183k tonnes or 9% are considered recycled.
Geographical challenge - there is no centralized waste collection system for rural and island communities

Insufficient recycling capacities - most of the materials are discarded in open dumpsites, controlled disposal facilities, sanitary landfills

Fragmented, misaligned implementation of legal framework - Missing adequate technical and financial resources, willingness of stakeholders, and minimal awareness instead of a holistic approach are present.
### Proposed customized EPR system for Malaysia

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandatory EPR scheme with clear timeframe</strong></td>
<td>• Provide reliable financial basis for large-scale collection, sorting and recycling of packaging which is crucial for creating sufficient business cases along the value chains</td>
</tr>
<tr>
<td><strong>Inclusion of system-relevant packaging, products</strong></td>
<td>• Covering all packaging materials from households and service packaging to avoid substitution negative effect</td>
</tr>
<tr>
<td><strong>One, non-profit Producer Responsibility Organization (PRO)</strong></td>
<td>• To ensure a holistic, reliable and fair manner waste management in which the responsibility is collectively assumed through one, industry-led system operator. Minimal supervision from government</td>
</tr>
<tr>
<td><strong>Build high quality recycling capacity</strong></td>
<td>• The financial flow from EPR scheme should be channeled towards improving recycling infrastructure</td>
</tr>
<tr>
<td><strong>Strict monitoring and control systems</strong></td>
<td>• To avoid fraud, strict and enforced monitoring, controls and penalties are indispensable and shall be carried out by DENR to ensure compliance of all actors</td>
</tr>
</tbody>
</table>
We cannot do this alone!

The issues we are working to address are too big for any one person or any one organization.

- Governments' roles in policy formulation and implementation, including laying down legislation for EPR
- Businesses transform business models through EPR
- Consumers make smart choices to shape supply and demand
- Civil society support government efforts and assist society
- Schools educate and facilitate behavior change
Together Possible

Jazlyn Lee, SEA EPR regional coordinator
fylee@wwf.org.my

WWF EPR page: panda.org/epr