

Welcome to the Global Action Partnership for EPR Technical Webinar

Session II: Data needs & monitoring



We will start in a few minutes!



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GAP for EPR Technical Sessions with EPR Experts

Session I

Common EPR set-ups
and architectures

05th December 2023

Session II

Data needs and
monitoring

11th December 2023

Session III

Costs, fees, and eco-
modulation

20th December 2023

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Today's speakers



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Agenda

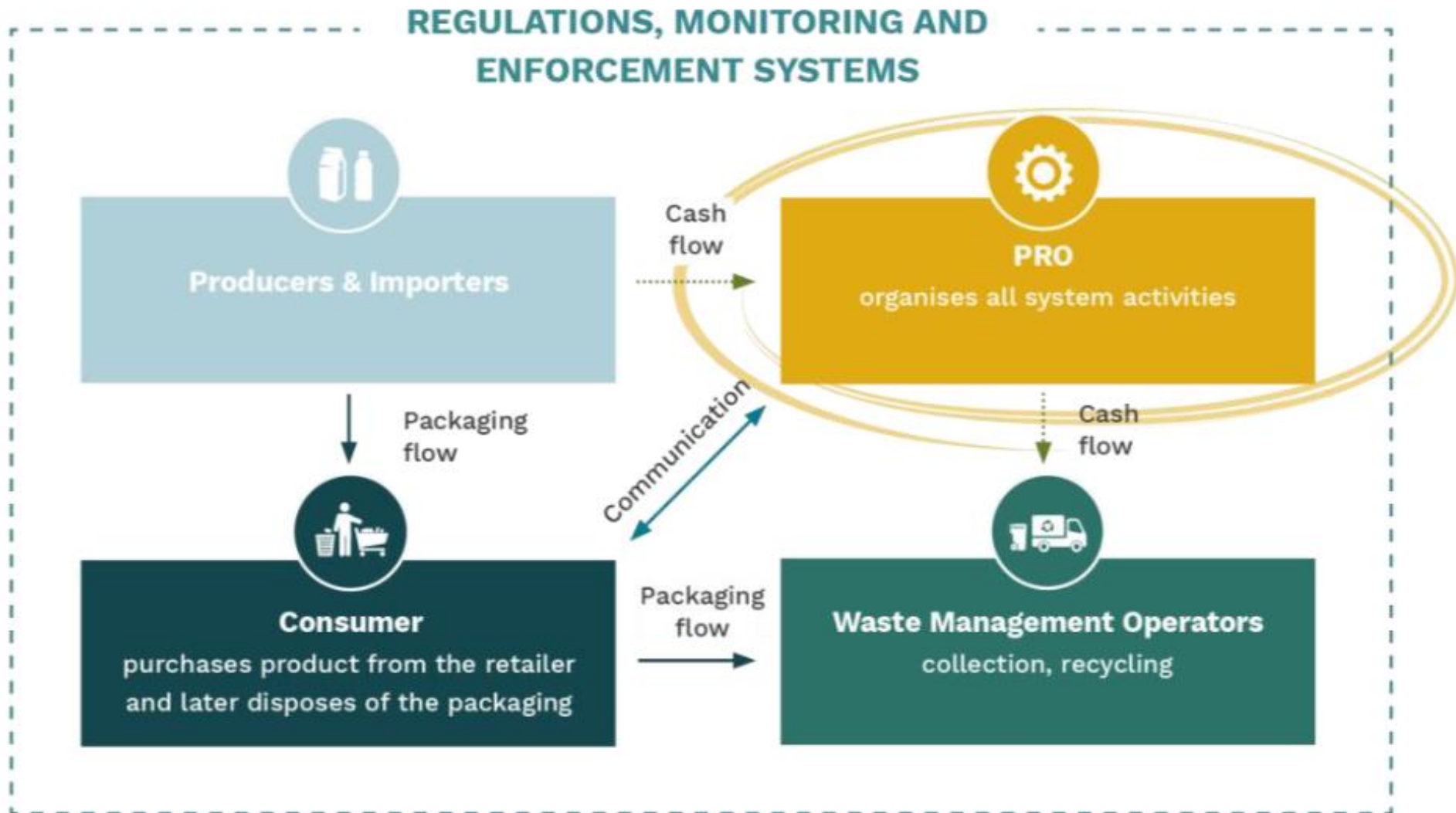
1. Recap: Role of PROs in an EPR system
2. Data needs and monitoring
3. Questions





1. Recap: Role of PROs in an EPR system

Recap: Producer Responsibility Organisations (PROs)





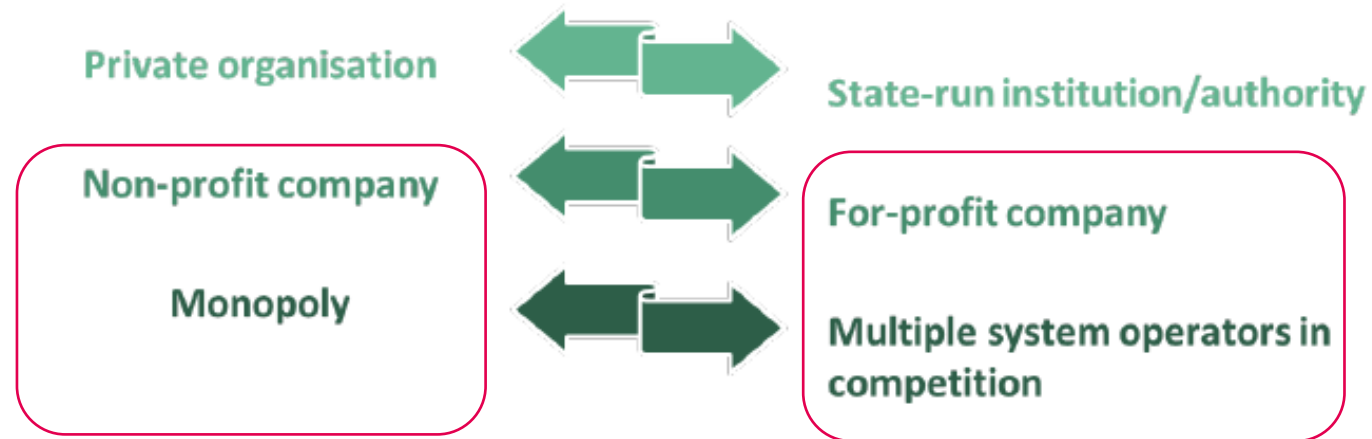
Role of PROs in an EPR system

Tasks of a Producer Responsibility Organisation:

- Registration of obliged companies and their product/waste volumes
- Collection & administration of funds
- Tendering and contracting of waste collection and management services
- Monitoring waste collection & management activities
- Documentation of waste collection and management
- Information campaigns for consumers (e.g. on source segregation)
- Providing proof to government authorities and producers/importers on compliance with EPR obligations

Different types of PROs

Organizational considerations



- No competition but oversight by companies
- Comparably easy monitoring
- Funds are transparent and traceable

- Competition between profit orientated PROs
- Economically efficient
- More difficult to monitor as financial information not transparent



2. Data needs and monitoring

Data Needs and monitoring in EPR systems

1. Obligated Parties



Registration with authorities

2. Objectives & Requirements



Volumes put on market
Volumes collected/recycled

3. Additional goals e.g. Source segregation & collection



Number of households serviced

Monitoring



1. Obligated parties

'obliged party' refers to *any* company that introduces packaged goods for consumption to a national market. Also, the product will be discarded in the same national market.

Complete overview of obliged parties:

- Who will be subject to a mandatory EPR system (also beyond PRO members)?
 - 1st step:
 - Clear definition of obliged parties
 - Consider exemption/flat-fee solution for small enterprises
 - 2nd step:
 - Link-up with business registration, taxation & customs authorities



2. Data needs depend on...

Illustrative example

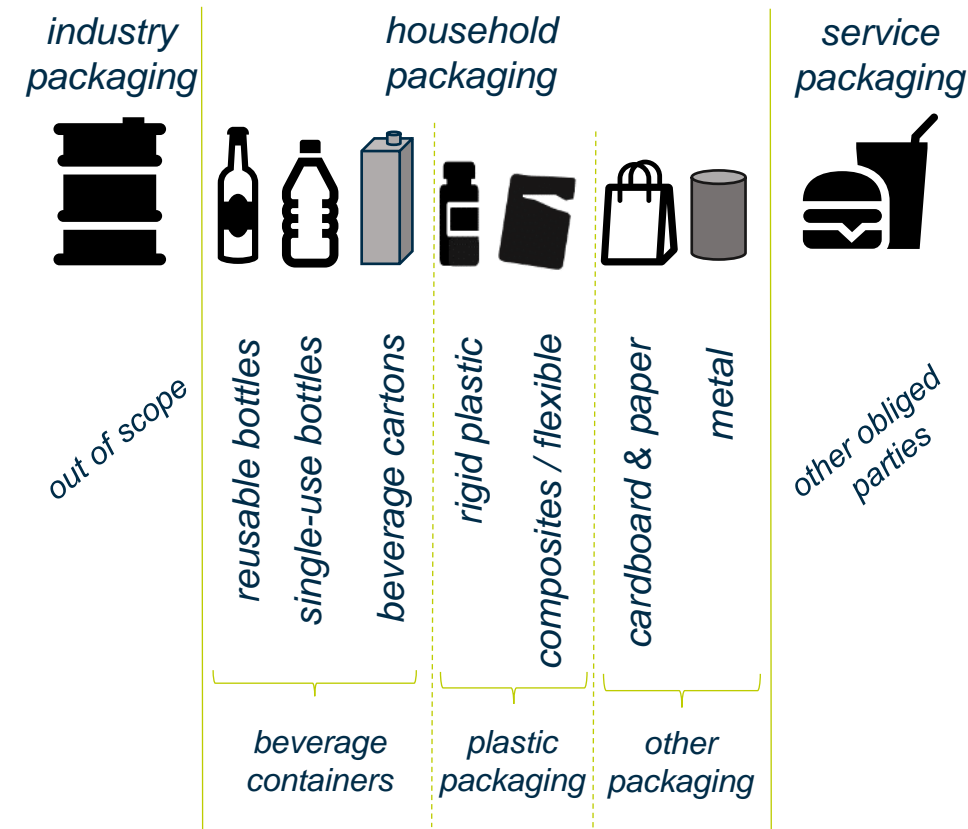
Objectives

- 1 The EPR System shall ensure that packaging waste is managed in an environmentally sound manner
 - significant reduction of littering and disposal
 - increase of high quality recycling

Requirements

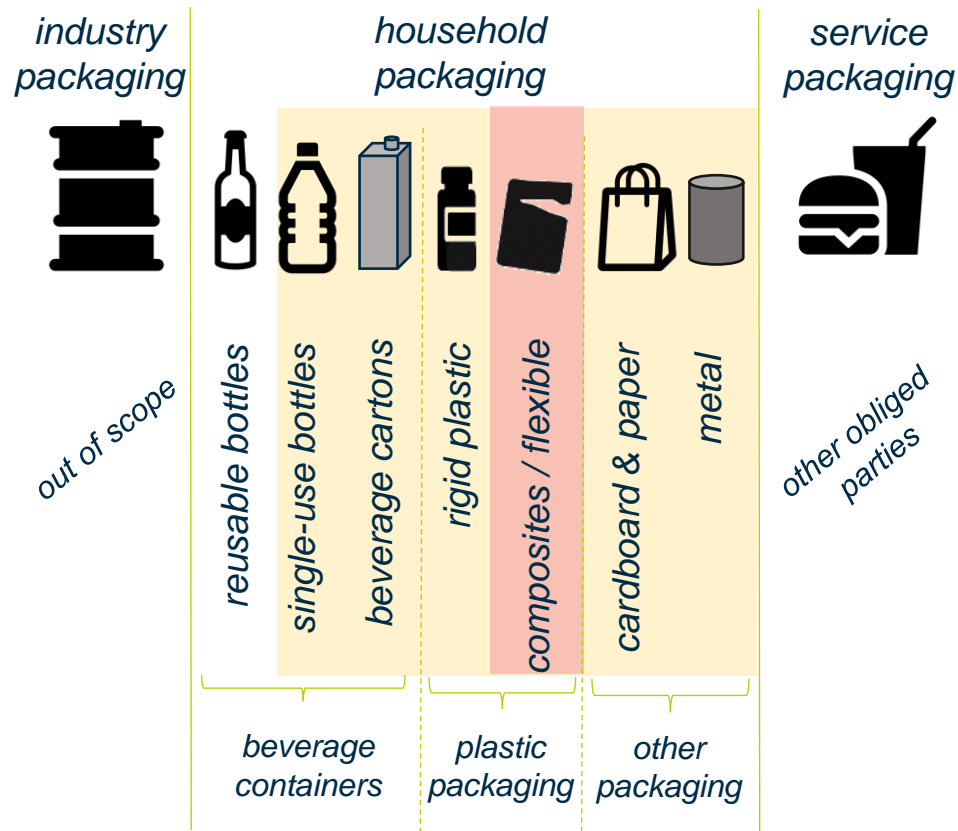
- 1 Obligated parties shall ensure that the packaging used for their products are collected and environmentally sound managed at their end of life
- 2 Obligated parties shall gradually increase the level of source segregation on a household level with an interim target of 40% of households being attached to separate collection systems

First step: Subclasses & definitions



Prioritisation & targets...

First step: Subclasses & definitions



Obliged parties shall set-up separate collection system for household packaging and achieve the following collection & recycling targets:

Phase 1 (year 1 & 2):

- Separate collection in 10% of all households
- Collection & sound management of 50% of composite/flexible materials

Phase 2 (year 3 & 4):

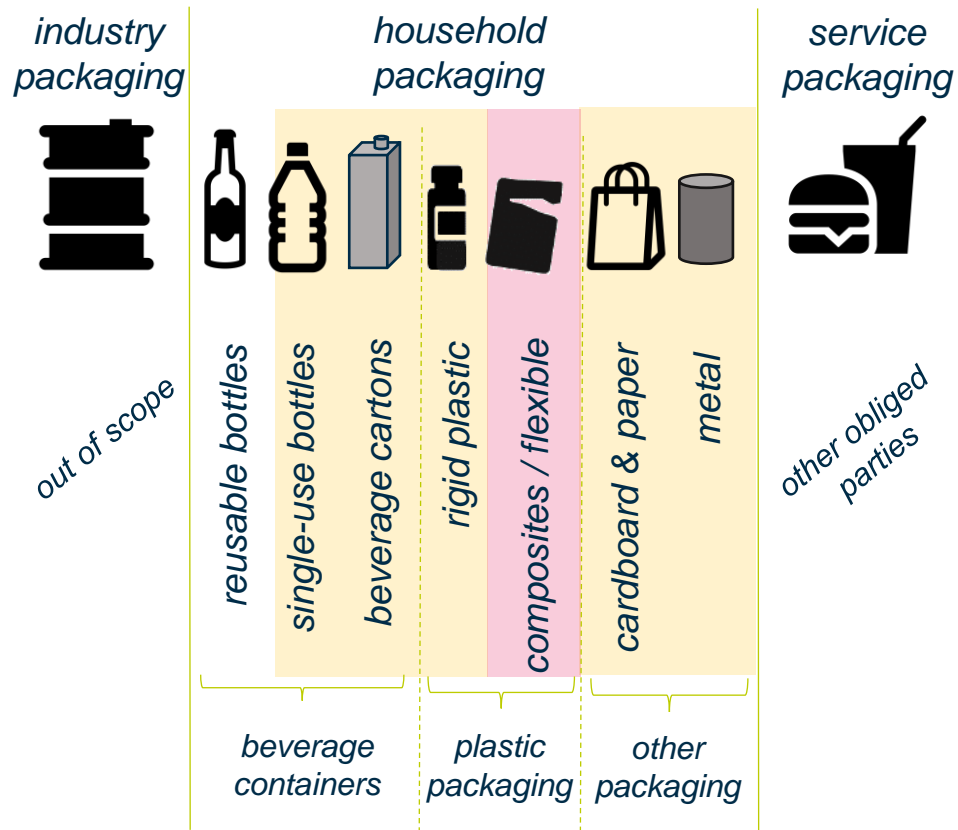
- Separate collection in 30% of the households
- Collection & sound management of 50% single-use household packaging

Phase 3 (year 5 - X):

- ...

Data needs...

First step: Subclasses & definitions



... to track the following targets:

- Collection & sound management of 50% of composite materials
- Collection & sound management of 50% single-use household packaging

Main consideration:

- Targets are company specific (not country specific)
- Each obliged company must ensure that it (or the assigned PRO) collects and manages a volume of at least 50% of what has been brought onto the market by this company
- Every company knows its sales and packaging volumes
- It is about volume equivalents of a certain packaging type (not necessarily from the same brand)

Illustrative example: Company “Snack-king”

Sales in Country

Crisps in flexible packaging
50 t of composite material per year



Soft-drinks in single-use PET bottles
150 t of PET per year



Snack-king must report these volumes
to a PRO and the authorities

EPR obligations

Collection & sound management of
25 t of composite material per year



Collection & sound recycling of 75 t
of PET bottles per year



The PRO must prove that obligations are
fulfilled (data & evidence must be provided
to the authorities)

Notes:

- All producers know their packaging volumes!
- Recyclers know their recycling volumes!
- Well-designed EPR systems will use this data and generate an overview after the EPR system has been started
- A lack of data is no reason not to start an EPR system.
- Data on the national or state level are only needed to measure the overall effectiveness of the system.
- This data can be extrapolated based on market studies (e.g. market shares of certain companies in the soft-drink market)

From the Coca-Cola 2022 Business & Sustainability Report

PACKAGING

Year ended December 31,	2014	2015	2016	2017	2018	2019	2020	2021	2022
World Without Waste									
Total weight of our packaging (metric tons) ¹							5.10M ²	5.30M	5.95M
Percentage of recycled material in our packaging ³					30%	20% ⁴	22%	23%	25%
Percentage of recycled material used in our PET plastic packaging globally					9%	9.4%	11.5%	13.6%	15%
Percentage of bottles and cans we collected and refilled or collected for recycling ⁵	61%	59%	59%	59%	58%				
Percentage of bottles and cans we collected and refilled or collected for recycling ⁶					56%	60%	60%	61%	61%
Percentage of packaging recyclable globally ⁷				85%	88%	88%	90%	90%	90%
Packaging Mix (by units)									
Plastic (primarily PET) bottles					45.5%	45.2%	44.9%	47.3%	47.4%
Aluminum and steel bottles and cans					23.5%	23.8%	24.7%	25.7%	25.9%
Other					12.1%	11.8%	13.4%	9.7%	11.3%
Refillable glass bottles					11.7%	11.1%	9.3%	9.4%	9.0%
Non-refillable glass bottles					2.3%	2.0%	1.4%	1.6%	1.6%
Beverage cartons and juice boxes					2.5%	2.8%	2.7%	3.0%	2.9%
Refillable (primarily PET) plastic bottles					1.6%	1.5%	1.6%	1.5%	1.4%
Pouches					0.6%	0.5%	0.4%	0.4%	0.5%
Number of Packages									
Plastic (primarily PET) bottles					~117B	~120B	~112B	~125B	~134B
Aluminum and steel bottles and cans					~60B	~63B	~62B	~68B	~73B
Refillable glass bottles					~30B	~30B	~23B	~25B	~25B
Non-refillable glass bottles					~6B	~5B	~4B	~4B	~4.5B
Refillable (primarily PET) plastic bottles					~4B	~4B	~4B	~4B	~4B
Beverage cartons and juice boxes					~6.7B	~7.3B	~6.8B	~7.9B	~8B
Pouches					~1.7B	~1.3B	~0.9B	~1.0B	~1.3B

From a recycler

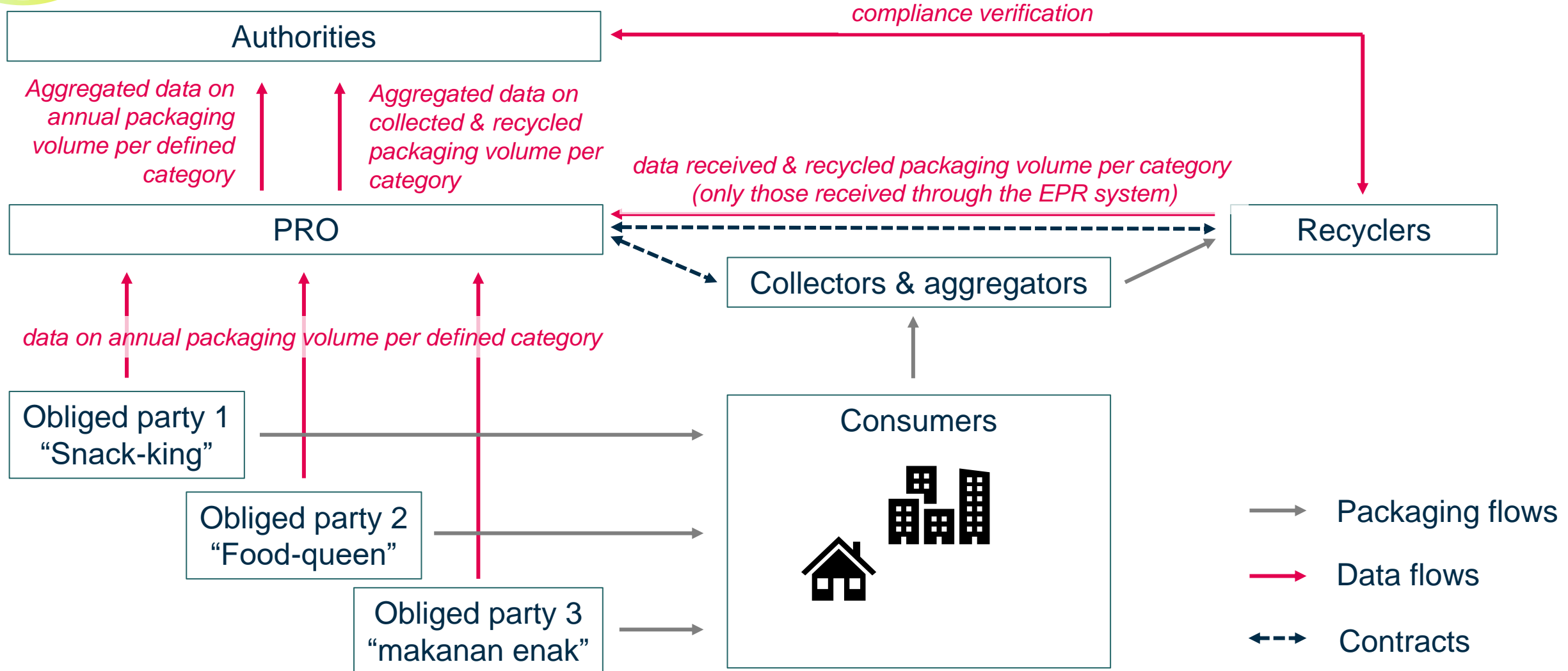


Source: Öko-Institut

Daily routine:

- Recording of weight of each delivery
- Quality control of each delivery (type of recyclable waste, compliance with specifications...)

How to build a data system (basic version)





Source: Öko-Institut

Interim conclusion

EPR data systems primarily require:

- A sound definition of packaging categories

Based on this:

- Data on packaging volumes brought onto the market by each obliged company
 - Annual data
 - Differentiated into pre-defined packaging categories
- Data on packaging waste volumes collected and recycled through the system
 - Batch specific data + annual data
 - Differentiated into pre-defined packaging categories

Example EPR System (fictional)

1st step - state sets goals, e.g.:

- Minimum collection & recycling target X% of packaging volumes
- Obligated parties to increase separation and collection at source

PRO's material focus:

- Plastic
 - Rigid plastic
 - Flexible, composites, foams
- Cardboard and paper
- Glass
- Metal

Can set specific targets for different subcategories (e.g. higher for flexibles/composites)

Example: What is brought onto the market?

2nd step:

- Every PRO member should report the packaging volume brought onto the market in each category

Suggestion:

Type	Unit	Year		Add-on
Plastics – rigid (subtypes)	t/a	Previous calendar year	Projections for ongoing year	Market share
Plastics – flexible, composite, foam	t/a	Previous calendar year	Projections for ongoing year	Market share
Cardboard and paper	t/a	Previous calendar year	Projections for ongoing year	Market share
Glass	t/a	Previous calendar year	Projections for ongoing year	Market share
Metal	t/a	Previous calendar year	Projections for ongoing year	Market share

Example: What is collected & recycled?

3rd step:

- Collect data from PRO contractors on how much was collected & managed through these systems (broken down in pre-defined categories)
- Input – output analysis:

Type	Unit	Additional information as applicable (per type & batch)
Plastics – rigid (subtypes)	Tonnes	<ul style="list-style-type: none">• Date of collection / reception → when was it received?• Data on location → where was it received?• Information on source → where did it come from?• Information on further treatment: Recycling / energy-recovery / disposal → what was done with the batch?
Plastics – flexible, composite, foam		
Cardboard and paper		
Glass		
Metal		

Data synthesis

Type	How much was brought onto the market by PRO members?	How much was collected and recycled through PRO's efforts?	Effectiveness
Plastics – rigid (subtypes)	t/a	t/a	%
Plastics – flexible, composite, foam	t/a	t/a	%
Cardboard and paper	t/a	t/a	%
Glass	t/a	t/a	%
Metal	t/a	t/a	%
Plastics – rigid (subtypes)	t/a	t/a	%
Sum	t/a	t/a	%

Is the X% target achieved?

- Data on this aggregation level should be made available to the public
- More detailed data for PRO members & authorities

3. Additional goals

Example: source segregation & collection

Decisive indicator:

Number and share of households equipped

Data to measure achievement of further goals:

- Promote separation and collection at source
- Level of achievement can and should be measured



It starts with a collection concept

Example:

- The PRO(s) reach agreements with (selected) municipalities
- Based on these agreements PRO(s) care for the introduction of source segregation on a household level (packaging waste / dry waste)
 - Introduction of bins
 - Consumer awareness
 - Regular servicing (e.g. weekly)





Based on the collection model, data can be generated

- Number of municipalities the PRO(s) have agreements with
- Number of households serviced by the PRO(s)
- Packaging volumes collected through this system (also as share of total EPR collection volume)
- Countrywide share of households serviced by the PRO(s) – in %



Monitoring – what needs to be monitored?

- PRO performance is monitored, possibly via third parties (e.g. auditor or state authority)
- All obliged operators are registered with a central agency (potentially via PRO).
- Obligated operators must report the total weight of the sales packaging they have marketed, broken down by material, to the central agency
- Documentation of volume flows and recycling quotas is verified with reports from recyclers
- Should an obliged operator fail to register or distribute goods it has failed to register correctly, they are liable for a fine

Sanctions in Germany:

Up to 100.000 EUR per instance of non-compliance. Or 200.000 EUR if not participating in any system and potential market ban.



3. Questions: Data & Monitoring

(also raised at GAP for EPR launch event)

1. Effectiveness of definitions

Does it influence the effectiveness of EPR Schemes if the 'Producer' is the packaging raw material supplier, OR packaging converter, OR the Brand owner?

- Define who is putting it on the market, and ensure you capture **all** obliged parties.

*'obliged party' refers to **any** company that introduces packaged goods for consumption to a national market. Also, the product will be discarded in the same national market.*

- For consumer packaging it is those who fill the packaging
- For service packaging it is better to target brand owner of packaging, not the service businesses (e.g. restaurants).

2. Missing data collection and traceability

Is there any existing intermediate solution which government and private sector can leverage to start implementation and tracking?

- The packaging producers have the data, recyclers also track input-output flows as part of their business. EPR scheme obligates reporting of this data to a central registry, facilitated by a PRO.
- Start the system and make sure there are provisions in place (in legal framework) to continuously adjust to data inputs & market conditions

3. Indicators

What are the best indicators to assess EPR? Indicators such as recycling rates or cost/ton can be flawed because of non-transparent calculations and comparability between states.

- Focus on the objectives/requirements set in legislation:
 - Volume brought on the market
 - Volume collected and recycled
 - Number of households served
- Other indicators can be derived from these, although cost/ton may be internal as PRO determines costs for producers based on the service contracts

4. Data flows

In Ghana data flows from the industry to the PRO then the Government. Can the data rather flow from the Government side to the PRO?

- The state must set the framework conditions, rather than provide data.
- The key data that the government can provide to a PRO is from business registration, tax and customs authorities (identification of all obliged parties).
- Otherwise the data flows from the system actors to the monitoring authorities.

5. Digital Technologies

How could digital technology support the success of EPR implementation?

- Digital tools are necessary, but only useful if you set the right definitions, categories, targets, roles and responsibilities. Data analytics/automation above a certain scale is absolutely necessary (e.g. ten thousand obliged parties)
- A range of software tools exist to support service provision in PROs (contracts, billing, documentation, reporting)
- Digital tools can also potentially be used to support traceability & monitoring in the system, e.g. through picture-based verification of waste flows between waste management operators, inventories

Thank you for your attention!

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