

Methodology for the EEA's 'Early warning' assessments – Prevention of packaging waste target



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Introduction

This document describes the methodology for the input of the EEA to the Early Warning mechanism according to Art. 41 of the Packaging and Packaging Waste Regulation (PPWR), with the aim to assess the 27 EU Member States' and 3 EEA-EFTA States' prospects of meeting the **target to reduce 5% of packaging waste generated per capita by 2030** compared to the packaging waste generated per capita in 2018, as laid down in Art. 43(1)a.

The methodology uses a set of 'success/risk factors' (SRFs). An SRF is assumed to influence the probability of meeting the target. For each SRF, the robustness of the underlying data/information will be assessed qualitatively. Regarding numeric reported data, the EEA will rely on Eurostat's quality checking and validation process.

The assessment of each SRF is done through threshold values or qualitative assessment categories that categorize each factor into green, orange or red:

| | | |
|---|---|---|
| on track target reached favorable | additional effort needed medium uncertain | unfavorable highly uncertain no information |
|---|---|---|

The assessment should indicate whether a country is at risk of not meeting the target. The 'total score' is the sum of the individual points given for each SRF, where the assessment of each SRF results in 2 points (green), 1 point (orange) or 0 points (red), depending on the assessment of the SRF. As some SRFs are considered to have a higher impact on meeting the target, the points given to the SRF are multiplied by the defined weight of the SRF. This weighting factor is included in the description of the SRF. A MS is considered to be 'not at risk' if its total risk score is more than 50 % of this maximum score. A MS is considered to be 'at risk' if its score is less than 50 % of this maximum score.

Table 1 illustrates how the final overall risk is calculated.

Table 1: Mock-up of how the final overall risk is calculated (general approach)

| Relevant success and risk factors | Assessment result | Points | Weight of the SRF | Score |
|---|---|--------|-------------------|-------------|
| SRF 1 | | 2 | 1 | 2 |
| SRF 2 | | 2 | 2 | 4 |
| SRF 3 | | 0 | 1 | 0 |
| SRF 4 | | 1 | 1 | 1 |
| SRF 5 | | 2 | 1 | 2 |
| ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... |
| Total score (= sum of scores of all relevant SRFs) | | | | 9 |
| Maximum score (= highest total possible score of all relevant SRFs) | | | | 12 |
| Assessment score (= total score divided by the maximum score) | | | | 75% |
| Final overall risk | Not at risk if assessment score > or = 50% of maximum score | | | Not at risk |
| | At risk if assessment score < 50% of maximum score | | | |

The PPWR includes a number of legal obligations for economic operators that are expected to contribute to the reduction of packaging waste generation, especially those related to reuse and refill, packaging minimisation and excessive packaging. However, current evidence on the effectiveness of these obligations and the potential size of their contribution to the packaging reduction target is scarcely available. Moreover, the early warning methodology is not intended to evaluate compliance with specific legal obligations imposed on economic operators or Member States, nor with voluntary or mandatory

commitments outlined in the Regulation. Instead, it focuses on assessing progress toward the reduction target by examining the presence, absence, and coverage of contributing factors. These factors include dedicated policies and instruments designed to support, enable, or drive both binding and non-binding obligations under the Regulation. Importantly, the assessment does not require exhaustive overviews with details of all existing or planned measures. Member States are instead encouraged to provide sufficient evidence that meaningful efforts—whether mandatory or voluntary—are being made to achieve the packaging waste reduction targets.

Plastic packaging reduction

Art. 43(4) of the PPWR asks Member States to implement measures to reduce plastics packaging, however, there is no specific target defined. The EEA and ETC CE will therefore compile concise information on the situation in the generation of plastic packaging and Member States' measures to reduce it in a separate section of the early warning assessments, however, without any colour-coded risk assessment.

1 Current situation and past trends

1.1 SRF PWP–1.1 Distance to target

Description and relevance

By 2030, MS will have to reduce packaging waste generated per capita by 5%, as compared to the packaging waste generated per capita in 2018 (base year). The distance to the target (being a reduction of 5%) at the most recent data point is a key factor in assessing the likelihood of meeting it. Generally, the closer a Member State is to the target, the higher the probability of achievement, assuming current trends continue. This assessment considers total packaging waste, including all packaging material types.

Source

Data reported according to Art. 56(2), point (a) of the PPWR ((EU) 2025/40 repealing 94/62/EC) and Commission Implementing Decision 2019/665.

These data come from MS’s reporting according to Art. 6(g) PPWD (94/62/EC as amended by 2018/852) and Commission Implementing Decision 2019/665. The assessment is therefore based on the existing dataset reported according to the PPWD, as published by Eurostat in the dataset ‘Packaging waste by waste management operations’ [*env_waspac*].

Data for the early warning assessment on the quantity of packaging waste generated are or will be available for the seven-year period from 2018 to 2024.

Assessment

| | | |
|---|---|---|
| Decrease in packaging waste generated by more than 2.5% in 2024 compared to the base year | Decrease in packaging waste generated by 0%–2.5% in 2024 compared to the baseline | Increase in packaging waste generated compared to the baseline OR Data according to reporting rules not available |
|---|---|---|

Note: The threshold of 2.5% is derived from a linear path for meeting the target between the baseline value and the target value in the period 2023-2030.

Weight

2

In the Early Warning methodologies related to recycling targets, the ‘distance to target’ SRF is assigned a weight of 5. However, due to the significantly smaller number of SRFs used for assessing the packaging waste reduction target, a lower weight of 2 is considered more appropriate to reflect the relative importance of this SRF within the limited set of packaging-related SRFs.

Considerations for the assessment

According to Art. 43(8) of the PPWR, by way of derogation, MS may, by 31 December 2025, request the Commission to use a base year other than 2018 for showing compliance with the target. If a MS makes such request, the Commission may allow the MS to use such other base year for the purpose of calculating the target on the condition that the MS provides substantiated evidence. In the early warning assessment, a different base year will be used in case the derogation has been formally accepted by the European Commission.

According to Article 43(2) PPWR the European Commission should develop a tourism correction factor for the generation of packaging waste. However, as the methodology is due by February 2027, such a correction factor is not taken into account in this methodology.

Specific for the EEA-EFTA States: Due to delays inherent in the EEA Agreement, the new reporting rules enter into force later in time for the EEA EFTA States than for the EU Member States. The EEA EFTA States will therefore be assessed based on the reporting rules legally in force at the time of the assessment, or upcoming reporting rules in case of voluntary reporting.

1.2 SRF PWP–1.2 Past trend in packaging waste generation

Description and relevance

The historical trend in per capita packaging waste generation provides an indication of a Member State’s past efforts in packaging waste prevention. A consistent decrease over the past three years may reflect effective policy measures or systemic changes supporting waste reduction, while an upward or fluctuating trend could suggest limited or ineffective action. MS showing a significant or sustained decline in packaging waste generation can offer valuable insights on the impact and success of implemented prevention measures.

Source

These data come from MS’s reporting according to Art. 6(g) PPWD (94/62/EC as amended by 2018/852) and Commission Implementing Decision 2019/665. The assessment is therefore based on the existing dataset reported according to the PPWD, as published by Eurostat in the dataset ‘Packaging waste by waste management operations’ [*env_waspac*].

Data for the early warning assessment on the quantity of packaging waste generated are or will become available for the seven-year period from 2018 to 2024.

Assessment

| | | |
|--|---|--|
| Decrease in each of the last 3 years compared to each preceding year | 2 years with decrease over the last 3 years | None or only one year with decrease over the last 3 years or no data available |
|--|---|--|

Weight

1

2 National measures to reduce packaging waste, beyond PPWR obligations

The European Commission's [Impact Assessment accompanying the PPWR](#) proposal stated that the obligations defined in the PPWR on reuse and reducing unnecessary packaging and empty space in packaging would contribute about 60% of the waste reduction needed to meet the 5% reduction target. The SRFs 2.1-2.3 therefore assess MS's efforts to close the gap to the 5% reduction target.

According to Article 43(5) PPWR, MS shall complement the packaging waste prevention obligations defined in the Regulation with measures that aim to prevent the generation of packaging waste. Options for measures beyond the PPWR obligations on the economic operators are especially, but not only, feasible in the area of reuse and refill. In Article 51(1), the PPWR calls MS to take measures to encourage the establishment of re-use systems for packaging with sufficient incentives for return and of refill systems. These systems should operate in an environmentally sound manner without compromising food hygiene or consumer safety.

Article 51(2) further specifies that such measures may include:

- (a) the use of deposit and return systems for reusable packaging;
- (b) the use of economic incentives;
- (c) obligations on manufacturers or final distributors to make available in reusable packaging within a re-use system or through refill a certain percentage of products.

The implementation of each of the suggested types of measures for encouraging re-use systems and the development of other strategies to prevent packaging waste is evaluated through the following SRFs.

In this methodology, firm plans are plans with legislative proposals in place and a publicly announced start date (within the next two years).

It is important to stress that the early warning methodology is not intended to evaluate compliance with specific legal obligations imposed on economic operators or Member States, nor with voluntary or mandatory commitments outlined in the Regulation. Instead, it focuses on assessing progress toward the reduction target by examining the presence, absence, and coverage of contributing factors.

2.1 SRF PWP-2.1 Economic instruments and complementary support tools that provide incentives for preventing packaging waste

Description and relevance

The SRF investigates the **economic instruments** to promote packaging waste reduction. Examples include:

- **Instruments for the financing of packaging waste prevention**, such as minimum requirements for Producer Responsibility Organisations (PRO) on financing waste prevention measures.
- **Economic instruments to reduce single-use packaging and promote reuse/refill systems**, such as charges/levies/taxes on single-use packaging; subsidies for reuse systems, or for companies that improve packaging design, e.g. by reducing the weight of packaging per unit of packaged goods.

This SRF also investigates whether **complementary support tools** are in place or have been firmly planned that enable and strengthen the effectiveness of these instruments. These tools must specifically support packaging waste prevention, e.g. to establish reuse and refill systems for the take-away sector. Examples of support tools that complement and enable the economic instruments can refer to the presence or availability of mechanisms (a) to **monitor** the functioning and effectiveness of the economic instruments and (b) to assure **cooperation and good practice sharing** with governmental bodies responsible for environmental and consumer health, safety, quality and hygiene. Measures targeting regular and continued **awareness raising** can also constitute complementary support tools.

Source

Questionnaire to the Member States.

Assessment

| | | |
|---|---|---|
| Economic instruments and complementary support tools designed to prevent packaging waste are in place or are firmly planned | Economic instruments and complementary support tools designed to prevent packaging waste have been proposed, but no firm plans exist OR Economic instruments designed to prevent packaging waste are in place or firmly planned but no complementary support tools are in place or are firmly planned | Economic instruments nor complementary support tools designed to prevent packaging waste are in place and neither have been proposed so far |
|---|---|---|

Weight

1

2.2 SRF PWP-2.2 Deposit-Return Systems (DRS) for reusable packaging

Description and relevance

Deposit-Return Systems (DRS) will become mandatory for various types of single-use packaging unless certain minimum collection rates are achieved. Article 50(8) of the PPWR also calls on MS to strive to ensure that such systems are equally available for **reusable packaging** where technically and economically feasible. A DRS that ensures that reusable packaging is collected for reuse can be an essential part of a so-called ‘re-use system’, meaning the organisational, technical or financial arrangements, together with incentives, that allow re-use either in a closed-loop or open-loop system, as defined in Article 3(13) of the PPWR.

Reusable packaging that is collected through a DRS and cleaned and reused within the same supply chain or company constitutes a closed-loop-system– e.g. reusable glass bottles or crates used by a specific manufacturer or retailer, or pallet pooling systems. Reusable packaging can also be repurposed outside the original supply chain in a so-called open-loop-system, like in the case of reusable plastic food containers.

DRS for reusable packaging generally result in high return rates, thereby supporting packaging waste reduction. This SRF will assess whether mandatory or voluntary DRS for reusable packaging are in place or firmly planned, ensuring efficient and effective collection for reuse, either in a closed-loop or open-loop system. It will also qualitatively evaluate the coverage of these systems, considering the significance of their market share.

In this assessment, firm plans are plans with legislative proposals in place and a publicly announced start date (within the next two years) introducing the aforementioned economic measures.

Source
Questionnaire

Assessment

| | | |
|---|--|--|
| DRS with significant coverage are in place for reusable packaging | DRS for reusable packaging are absent or have low coverage BUT at least two of the following arrangements or mechanisms are either already in place or backed by firm plans to support the creation of effective re-use systems: organisational structures, technical solutions, financial instruments or end-user information initiatives | DRS for reusable packaging are absent or have low coverage AND none or only one of the following arrangements or mechanisms are in place or backed by firm plans to support the creation of effective re-use systems: organisational structures, technical solutions, financial instruments, or end-user information initiatives |
|---|--|--|

Weight
1

2.3 SRF PWP-2.3 Legal requirements for making reusable packaging available

Description and relevance

The replacement of single-use packaging with reusable or refillable packaging can help reduce packaging waste generation. To this end, MS may introduce legal requirements on manufacturers, final distributors, or other economic operators, to make a certain percentage of products available in reusable packaging within a re-use system or through refills, beyond those already covered by the re-use targets in the PPWR (such as alcoholic and non-alcoholic beverages in sales packaging). Such measures should be implemented in a way that does not create distortions in the internal market or trade barriers for products from other MS. This SRF will assess whether MS have put in place legal requirements, or have firm plans to do so, regarding the availability of products in reusable packaging, complementing or reinforcing the PPWR obligations put on manufacturers and final distributors to make reusable packaging available.

Source

Questionnaire

Assessment

| | | |
|--|--|---|
| Legal requirements on manufacturers or final distributors to make products available in reusable packaging are in place OR firm plans exist to introduce such requirements | Guidance and/or draft legislation has been proposed by the relevant authorities that outlines possible legal requirements on manufacturers or final distributors to ensure the availability of products in reusable packaging, but no firm plans exist | Legal requirements beyond the PPWR obligations on manufacturers or final distributors to make products available in reusable packaging are not in place and neither have been proposed so far |
|--|--|---|

Weight

1

3 Other measures or initiatives for advancing packaging waste reduction

3.1 SRF PWP-3.1 Initiatives for advancing packaging waste reduction (bonus success factor)

Description and relevance

This SRF awards MS that have implemented national initiatives that contribute significantly to improving packaging waste prevention and that are not yet covered under any of the previous SRFs. Illustrative examples of such initiatives include (but are not restricted to) voluntary agreements with retailers on reusable containers; reusable takeaway packaging initiatives supported by national authorities; voluntary certification schemes with labels for retailers and manufacturers on eco-design and reuse; nationally coordinated initiatives in support of retailer-led refill stations; voluntary industry-government agreements aiming for packaging waste reduction; requirements or guidelines on reuseable packaging in public procurement, etc.

The assessment is based on the following criteria:

- The measure/initiative is coordinated at national or (multi-)regional level and its findings, methodologies and lessons learnt are actively shared – ensuring broad applicability and scaling potential. Or, if the measure/initiative is a pilot project on local or regional level and its findings, methodologies and lessons learnt are actively shared to enable scaling across the whole country.
- The measure/initiative has a documented quantitative or qualitative impact on packaging waste reduction, either measurable or supported by expert judgement.

Source

Questionnaire

Assessment

| | | |
|---|--|-----|
| MS has implemented at least one measure or initiative to advance packaging waste reduction that meets all criteria. | MS has implemented at least one measure or initiative to advance packaging waste reduction that meets one of the two criteria. | N/A |
|---|--|-----|

Weight

1

Considerations for the assessment

This SRF provides an opportunity to gain additional points in the overall assessment. Importantly, MS that do not have such initiatives will not be penalized, as this SRF will simply not be taken into account in their scoring.

4 List of abbreviations

| | |
|---------------|--|
| EEA | European Environment Agency |
| EC | European Commission |
| ETC CE | European Topic Center on Circular Economy and Resource Use |
| DRS | Deposit-return system |
| MS | (EU) Member States (European Union) |
| PPWR | Packaging and Packaging Waste Regulation |
| SRF | Success/risk factor |
| WFD | Waste Framework Directive |
| Questionnaire | One of the key sources for collecting information mentioned in the methodology is a questionnaire to MS, designed by the EEA and ETC CE to collect information on a voluntary basis. |

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