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COMMISSION STAFF WORKING DOCUMENT
EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT

Accompanying the document

Proposal for a Directive of the European Parliament and of the Council
reviewing the targets in Directives 2008/98/EC on waste, 94/62/EC on packaging and packaging waste, and 1999/31/EC on the landfill of waste, amending Directives 2000/53/EC on end-of-life vehicles, 2006/66/EC on batteries and accumulators and waste batteries and accumulators, and 2012/19/EU on waste electrical and electronic equipment

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1. PROBLEM DEFINITION

Although waste management continues to improve in the EU, the EU's economy currently loses a significant amount of potential secondary raw material. In 2010, total waste production in the EU amounted to 2,520 million tons. From this total only a limited share (36%) was recycled, with the rest being landfilled or burnt of which around 600 million tons could be recycled or reused. The EU thus misses out on significant opportunities to improve resource efficiency and create a more circular economy, create growth and jobs, take cost-effective measures to reduce greenhouse gas emissions and reduce its dependency on imported raw materials.

Without new initiatives to improve waste management in the EU, significant amounts of valuable resources will continue to be lost in the coming years. Without a clear midterm perspective, including through the setting of targets, the EU risks seeing increased investments in inflexible, large-scale projects focused on the treatment of 'residual' waste, which may stand in the way of longer-term ambitions to improve resource efficiency.

The dissemination of best practices between Member States (MS) will remain limited and economic conditions will not enough incentive waste prevention, re-use or recycling leading to the persistence of large divergences in terms of waste management performances between MS. In addition, the quality of essential monitoring tools such as statistics on waste generation and management will remain sub-optimal and a number of reporting obligations will remain complex without having much added value.

2. ANALYSIS OF SUBSIDIARITY

The proposal contributes directly to the EU's 2020 Strategy, in particular its flagship initiative on "A Resource Efficient Europe", and is closely related to the EU's Resource Efficiency Roadmap and its Raw Materials Initiative. It also provides a direct response to the EU's shared environmental and waste-related ambitions as laid down in the 7th Environment Action Programme.

Union competence to take action on waste management derives from Article 191 of the Treaty on the Functioning of the European Union related to the protection of the environment, according to which "Union policy on the environment shall contribute, among other things, to protecting and improving the quality of the environment, protecting human health, ensuring prudent and rational utilisation of natural resources, and combating climate change".

More specifically, the proposal responds to specific review clauses in three pieces of EU waste legislation (the Waste Framework Directive, the Landfill Directive and the Packaging and Packaging Waste Directive) requiring the Commission to review existing waste management targets. Past experience shows that EU-wide objectives and targets for waste management have been a key driver for better resource and waste management in the vast majority of Member States. Common objectives and targets also help improve the functioning of the EU waste market, e.g. by providing guidance to investment decisions, ensuring cooperation between Member States and ensuring some harmonization between the national producer responsibility schemes. EU wide targets are also needed to create the minimum scale for the EU industry to invest in new recycling techniques.

The proposal addresses environmental problems with transnational implications including the impacts of inappropriate waste management on greenhouse gas emissions, air pollution and littering, especially in the marine environment.

3. OBJECTIVES

The proposal's main general objective is to ensure that valuable material embedded in waste is effectively re-used, recycled and re-injected into the European economy, i.e. to help make progress towards a circular economy where waste is progressively used as resource and new economic opportunities and jobs are created.

The proposal's specific objectives are to:

- **Simplify EU waste legislation** by clarifying and simplifying measurements methods related to targets, adapting and clarifying key definitions, enhancing consistency in target-setting, removing obsolete requirements and simplifying reporting obligations.
- **Improve monitoring** by improving the quality of waste statistics, particularly as regards targets, and anticipating possible implementation problems through an “early warning” procedure.
- **Ensure optimal waste management in all Member States** by promoting dissemination of best practices and key instruments such as the economic instruments, and ensuring a minimum level of harmonization of Extended Producer Responsibility (EPR) schemes.
- Establish mid-term waste targets in line with **EU ambitions** regarding **resource efficiency** and access to **raw materials**.

The proposed operational objectives reflect the ambitions set out in the recently adopted by the Council and Parliament EU's 7th Environmental Action Program (7th EAP):

- Waste generation should decline and be decoupled from GDP evolution;
- Reuse and recycling should be at the highest level feasible;
- Incineration should be limited to waste which is not recyclable;
- Landfilling of recoverable waste should be phased out;;
- Marine litter should be significantly reduced.

The objectives to simplify legislation and reduce regulatory burdens (including for SMEs) as well as to ensure that targets are 'fit for purpose' are in fully line with the Commission's efforts to ensure regulatory fitness. In addition, the proposal takes close account of the findings of the "fitness check" (ex post evaluation) of five EU waste stream directives (including the Packaging and Packaging Waste Directive) which was conducted in parallel to the review of EU waste targets.

4. POLICY OPTIONS

On the basis of an in depth analysis of what has worked and not worked in the past and after a large consultation of the stakeholder, the following three options (and a series of sub-options and specific measures) were retained for more detailed analysis:

Option 1 – Ensuring full implementation:

- No additional EU action apart from compliance promotion

Option 2 – Simplification, improved monitoring, diffusion of best practices:

- Align definitions of key concepts (e.g. ‘recycling’ and ‘reuse’) and remove obsolete requirements
- Simplify measurement methods (only one method to measure 'household waste and similar waste') and reporting obligations
- Create national registries on waste collection and management and require third party verification of key data and statistics
- Introduce an early warning procedure to monitor Member States performance and require timely correcting measures when needed
- Establish minimum conditions for the operation of EPR schemes

Option 3 – Upgrade EU targets:

The current performances of the most advanced Member States and the time which was needed to meet these targets was taken into account to propose realistic targets and deadlines for all MS while meeting the main objectives of the 7th EAP.

Option 3.1 – Increase the recycling/reuse target for municipal waste:

- Low: 60% reuse/recycling target by 2030; 50% by 2025
- High: 70% reuse/recycling target by 2030; 60% by 2025

Option 3.2 – Increase the re-use/recycling targets for packaging waste:

- Increased material based targets between 2020 and 2030 (80% overall reuse/recycling)
- Variant: specific separate target for nonferrous metals (‘metal split’)

Option 3.3 – Phasing out landfilling of recoverable municipal waste:

- Ban on plastic/paper/glass/metals by 2025 (max 25% landfilling), global ban by 2030 (max 5%)

Option 3.4 – Combination of options 3.1, 3.2 and 3.3:

Option 3.5 – Same as option 3.4 with different deadlines for different groups of countries

Option 3.6 – Same as option 3.4 with a more rapid deadline for all Member States with the possibility of time derogations for some of them

Option 3.7 – Same as option 3.4 with an extension of landfill ban to all waste similar to municipal waste

5. ASSESSMENT OF IMPACTS

The impacts of the identified policy options relate to the following main aspects:

- **Costs and savings** of improved waste collection and treatment (e.g. more reuse and recycling). In order to increase recycling rates, waste collection systems will have to evolve over time, e.g. away from ‘bring systems’ towards to ‘door to door’ collection. The additional investment costs that this involves will be progressively mitigated by the fact that the collection and treatment costs for mixed residual waste are expected to fall while revenues from recycled materials are expected to increase.
- **Benefits** related to **the greater availability of (secondary) raw materials**, thus mitigating the risks of future price increases of primary materials that the EU manufacturing industry is likely to face.
- **Benefits flowing from enhanced waste recovery and recycling opportunities** in the EU internal market (better use of existing and development of new, innovative waste treatment infrastructure, thus favouring the EU waste managing sector)
- **Costs and benefits** related to **better monitoring, reduced administrative burdens and simplification**.
- **Creation of jobs**, owing to the fact that the upper tiers of the waste hierarchy (including separate collection, reuse and recycling) are known to be much more labour intensive than waste disposal and incineration.
- **Benefits in terms of social acceptance**. Infrastructure needed for the reuse and recycling of waste generally has much greater social acceptance than waste disposal and incineration facilities.
- **Positive environmental impacts**, both direct (better waste management, reduced littering rates including in the marine environment) and indirect (lower levels of greenhouse gas emissions and air pollution thanks to the avoided use of virgin raw materials and energy). As a result, effects on human health will also be positive.

While a number of these impacts (in particular those related to better waste collection, environmental benefits and job creation) can be quantified and monetized, other aspects can only be described in a more qualitative way (for instance reduced dependency on imported raw materials).

Whereas the impacts resulting from option 1 (‘full implementation’) were assessed in comparison to the business-as-usual scenario, the impacts of option 2 and 3 were identified taking ‘full implementation’ as the starting point.

Option 1 – Full implementation of existing legislation

The annual net costs (higher collection/treatment costs minus environmental benefits) of this option are estimated to amount to €1500 million by 2020 and progressively

decrease to less than €600 million by 2035 across the EU28. The estimated increase in direct employment is 36,761 full-time equivalents (FTE's).

Option 2 – Simplification, improved monitoring, diffusion of best practices

While improving statistics, e.g. through national registries, will require additional efforts from some Members States at the same time it will help drive reporting costs down. The proposed ‘early warning system’ will require efforts from both Commission and Member States, but may reduce the need for infringement procedures at a later stage while preventing inappropriate investments. A significant simplification of reporting requirements facing Member States will result in costs savings; these can be used to cover any net costs due to measures to improve monitoring. Finally, defining minimum conditions for the operation of EPR schemes will inter alia increase their cost-effectiveness.

Option 3 – Upgrade EU targets

For the years 2014 to 2030 the key impacts of the various sub-options 3 described in section 4 above are summarised in the table below. As can be seen from the table, a combination of sub-options 3.1, 3.2 and 3.3 (i.e. sub-options 3.4-7) provides the highest cost-benefit ratio while creating more jobs and reducing more GHG emissions:

Option	Financial costs (NPV 2014-2030), € billion (1)	External costs (NPV 2014-2030) € billion (2)	Net social costs (1+2)	Jobs (FTEs in 2030)	GHG million tonnes CO ₂ eq (2030)	GHG million tonnes CO ₂ eq (2014-2030)
Option 3.1- low	-3.73	-3.96	-7.69	78,519	-23	-107
Option 3.1- high	-8.41	-8.49	-16.91	137,585	-39	-214
Option 3.2	-11.2	-8.45	-19.66	107,725	-20	-183
Option 3.2 – metal split	-13.48	-10.05	-23.53	107,643	-24	-250
Option 3.3	5.64	-0.65	4.99	46,165	-13	-49
Option 3.4	-12.65	-13	-25.65	177,637	-44	-308
(1) Option 3.5 and 3.6	-13.62	-13.58	-27.2	177,628	-44	-320
(2) Option 3.7	-10.7	-18.3	-29		-62	-443

Note, negative costs represent a benefit

Options 3.4-7 give a consistent perspective on waste management in the EU on the basis of past experience of the most advanced Member States: landfill restrictions are progressively introduced, in parallel with a gradual increase of recycling targets; this helps avoid the creation of overcapacities of residual waste treatment facilities such as incinerators or other low performing facilities.

Compared to ‘full implementation’, options 3.4-7 will also lead to an additional reduction of marine litter of 7% by 2020 and 23% by 2030. Additional savings coming from reduced marine litter inflows are estimated at 136 m€ by 2030, mainly as a result of reduced beach cleaning and avoided damage to fishing vessels and gear.

6. COMPARISON OF OPTIONS

The table below summarizes the relative contribution of each option to the main objectives as described in section 3. On this basis the following conclusions can be drawn:

- Option 2 would be useful to support the implementation of existing targets but seems indispensable if the proposed new targets are applied. The measures proposed in option 2 contribute to most of the identified objectives and should be seen as ‘accompanying measures’ to help improve compliance with legislation and achievement of the targets.
- Options 3.1, 3.2 and 3.3 taken in isolation will not deliver the best results in terms of consistency between the proposed targets and cost/benefit ratio. Option 3.4 with an extended ban on landfilling (i.e. option 3.7) seems to be the most attractive.
- There is no clear preference between the option 3.4 and options 3.5 and 3.6: defining differentiated targets for the MS leads to an increased net present value as benefits from improved waste management are more rapidly captured by some MS but it complicates the legislation.

	Objective 1 - Simplification	Objective 2 - Improving Monitoring	Objective 3 - Best practices dissemination	Objective 4 – Resource efficiency
Option 1	0	0	0	0
Option 2	+++	+++	++	+
Option 3				
Option 3.1 - low	+	+	++	+
Option 3.1 - high	+	+	+++	++
Option 3.2	+	+	++	++
Option 3.3	+	+	++	+
Option 3.4	+++	++	+++	++
Option 3.5	++	++	+++	+++

Option 3.6	++	++	+++	+++
Option 3.7	+++	+++	+++	+++

A combination of options 2 and 3.7 is therefore proposed. Compared to full implementation (option 1), this combination will bring several benefits in terms of:

- Administrative burden reduction in particular for SMEs, simplification and better implementation including by keeping targets ‘fits for purpose’.
- Job creation – more than 180.000 direct jobs could be created by 2030, most of them impossible to delocalize outside the EU.
- Greenhouse gas emission reduction – around 443 millions of tons could be avoided between 2014 and 2030.
- Secondary raw materials will be re-injected in the economy – more than doubling what was recycled in 2011 for municipal and packaging waste. Proposed measures will serve as catalyst for ensuring the implementation of all EU targets which will contribute to cover between 10% and 40% (depending of the material) of the EU total raw material demand.
- Positive effects on the competitiveness of the EU waste management and recycling sectors as well as on the EU the manufacturing sector (better EPR, reduced risks in terms of raw material access and prices).
- Marine litter levels 7% lower by 2020 and by 24% lower by 2030.

The proposed midterm targets will give the needed clear signal to MS and waste operators so that new strategies and investments can be adapted on time and with the required certainty. Past experience has shown that improving municipal and packaging waste management while banning landfilling will act as catalyst for the management of all other type of waste.

7. MONITORING AND EVALUATION

Most of the statistics related to waste generation and treatment (recycling, recovery, landfilling) are already collected by Member States and transmitted to the Commission (Eurostat/DG ENV). No new targets are proposed, existing target would be upgraded and clarified for some of them though obsolete targets would be removed.

With the support of the European Environment Agency (EEA) at three-year intervals, the 'distance to target' as reflected in the latest available statistics and projected data will be established, notably in the context of the proposed 'early warning' procedure. It is also the EEA's intention to regularly update its ex ante (model) and ex post evaluation of Member State municipal waste management performance. In the future, other types of indicators may also be generated such as the potential tonnage of waste lost for the EU economy each year, the use of secondary raw materials in products and on the market.