



Brussels, **XXX**
[...] (2018) **XXX** draft

COMMISSION IMPLEMENTING DECISION

of **XXX**

establishing rules for the calculation, verification and reporting of data for verifying compliance with the targets set in Article 11(2) and (3) of Directive 2008/98/EC of the European Parliament and of the Council on waste

(Text with EEA relevance)

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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives¹, and in particular Article 11a(9) thereof,

Whereas:

- (1) In order to ensure the reliability and comparability of data concerning the targets for municipal and construction and demolition waste set in Article 11 of Directive 2008/98/EC, it is appropriate to define common rules for the application of the Directive in relation to the calculation, verification and reporting of data on those targets.
- (2) Commission Decision of 18 November 2011 establishing rules and calculation methods for verifying compliance with the targets set in Article 11(2) of Directive 2008/98/EC of the European Parliament and of the Council (2011/753/EU)² provides certain rules that are still relevant for verifying compliance with the targets set in Article 11(2), points (a) and (b) of Directive 2008/98/EC.
- (3) However, Directive 2018/851/EU³, which amended Directive 2008/98/EC, incorporated certain provisions of Commission Decision 2011/753/EU into the text of Directive 2008/98/EC, while other provisions of the Decision are no longer in line with the Directive. Therefore, Decision 2011/753/EU should be repealed and the rules applicable to the targets in Article 11(2), points (a) and (b), should be integrated into a common set of rules concerning the verification of compliance with the all targets established in Article 11 of Directive 2008/98/EC. The four methods for calculating the 2020 target for the recycling of household and similar waste should be kept, while for the new recycling targets for 2025, 2035 and 2035 the definition of municipal waste laid down in Article 3 of Directive 2008/98/EC should be applied.
- (4) The rules established in Article 11a(1) and (2) of Directive 2008/98/EC for the calculation of the new recycling targets for municipal waste distinguish between the point where the weight of municipal waste should be taken into account for the purpose of calculating whether the recycling targets have been attained, and the point

¹ OJ L 312 22.11.2008, p. 3

² OJ L 310, 25.11.2011, p. 11–16

³ OJ L 150, 14.6.2018, p. 109–140

where the weight of municipal waste should be measured and subsequently reported to the authorities. Only waste that enters a recycling operation should be used for the calculation of the new recycling targets and, as a general rule, the measurement of waste should be at that point. However, Member States may use a derogation and measure the weight of waste at the output of a sorting operation, provided that further losses prior to the recycling operation are deducted and that waste is actually recycled.

- (5) As the actual measurement of waste that is subject to home composting and other private or community composting initiatives is not feasible, and ensuring a high level of accuracy and certainty in establishing those amounts would be disproportionate in terms of administrative burden, such waste should not be included in the amount of municipal waste generated and recycled.
- (6) With a view to ensuring harmonised reporting on metals separated after incineration of municipal waste and high-quality recycling, a common methodology for the calculation of the amount of those metals should be established. The methodology should take account only of the metal content of the materials that are separated from incineration bottom ash in order to be recycled into metals and should ensure that only metals originating from the incineration of municipal waste are taken into account.
- (7) The data reported in accordance with this Decision should be underpinned by an effective system of quality control and traceability of waste material streams. Member States should take measures to ensure high reliability and accuracy of the data gathered on generated and recycled municipal waste, in particular by collecting data directly from economic operators and by using electronic registries and technical specifications applied to sorted waste.
- (8) The methodology to establish average loss rates for the materials removed from sorted waste by further preparation prior to recycling is subject to a separate Commission delegated decision.
- (9) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 39 of Directive 2008/98/EC,

HAS ADOPTED THIS DECISION:

Article 1

Definitions

In addition to the definitions laid down in Article 3 of Directive 2008/98/EC, the following definitions shall apply for the purposes of this Decision:

1. ‘targeted materials’ means waste materials that are reprocessed in a given recycling operation into products, materials or substances that are not waste.
2. ‘non-targeted materials’ means waste materials that are not reprocessed in a given recycling operation into products, materials or substances that are not waste.
3. ‘preliminary treatment’ means any treatment operation that waste materials undergo before submission to the recycling operation whereby these materials are actually reprocessed into products, materials or substances that are not waste. This includes

checking, sorting and other preliminary operations to remove non-targeted materials and to ensure high-quality recycling.

4. 'calculation point' means the point where waste materials enter the recycling operation whereby waste is actually reprocessed into products, materials or substances that are not waste.
5. 'measurement point' means the point where the mass of waste materials is measured with a view to determining the weight of waste at the calculation point.

Article 2

Calculation rules for targets set in Article 11(2)(a) and (b) of Directive 2008/98/EC

For the purposes of verifying compliance with the targets set in Article 11(2), points (a) and (b), of Directive 2008/98/EC:

1. The rules established in Article 11a(1)(a), (4), (5), (6), (7) and (8) of Directive 2008/98/EC shall apply.
2. The weight of waste prepared for reuse, recycled or materially recovered shall be determined by calculating the input waste used in the preparation for reuse or the final recycling or other final material recovery processes. A preparatory operation prior to the submission of the waste to a recovery or a disposal operation is not a final recycling or other final material recovery operation. Where separately collected waste or the output of a sorting plant is sent to recycling or other material recovery processes without significant losses, that waste may be considered the weight of the waste which is prepared for reuse, recycled or has undergone other material recovery.
3. Member States shall apply the target set in Article 11(2)(a) of Directive 2008/98/EC to one of the following:
 - (a) the preparation for reuse and the recycling of paper, metal, plastic and glass waste from households;
 - (b) the preparation for reuse and the recycling of paper, metal, plastic, glass and other single types of waste from households and possibly from other origins as far as these waste streams are similar to waste from households;
 - (c) the preparation for reuse and the recycling of waste from households;
 - (d) the preparation for reuse and the recycling of municipal waste.

The target shall apply to the total amount of waste of the waste streams in the option chosen by the Member State and shall be calculated and reported in accordance with Annex I.

A Member State may change the option until the submission of the data covering the year 2020 provided that it can ensure consistency in the data reported.

4. A Member State may apply the rules for the calculation of the targets for municipal waste set in Article 11(2) points (c), (d) and (e) to the target set in Article 11(2)(a) of

Directive 2008/98/EC. In this case, the Member State shall submit a single set of data covering these targets.

5. For the calculation of the target set in Article 11(2)(b) of Directive 2008/98/EC with regard to construction and demolition waste, Member States shall apply the calculation method set out in Annex II to this Decision.

Article 3

Calculation rules for targets set in Article 11(2)(c), (d) and (e) and Article 11(3) of Directive 2008/98/EC

For the purposes of verifying compliance with the targets set in Article 11(2) points (c), (d) and (e) and Article 11(3) of Directive 2008/98/EC:

1. The weight of waste prepared for reuse shall include only products or components of products that can be reused following the preparing for reuse operation without further processing, and shall exclude any products or component of products that are sent to other waste treatment operations.
2. The weight of municipal waste recycled shall be the weight of waste at the calculation point. The weight of waste entering the recycling operation shall include targeted materials. It may include non-targeted materials only to the extent that their presence is permissible for the specific recycling operation.
3. The calculation points applicable to certain waste materials and recycling operations are specified in a non-exhaustive list in Annex III of this Decision.
4. The calculation point regarding the composting or anaerobic digestion of biowaste shall apply only to the amount of biodegradable material at that point. Non-biodegradable materials removed during or after the recycling operation shall be deducted from the input to that operation.
5. Biowaste that is separated and recycled at source at home or as part of private or community initiatives that are not managed by establishments or undertakings managing waste shall not be included in the amount of municipal waste that is generated and recycled.
6. Where the measurement point relates to the output of a facility that sends waste for recycling without further preliminary treatment, or to the input of a facility where waste enters the recycling operation without further preliminary treatment, the amount of sorted waste that is rejected by the recycling facility shall not be included in the amount of recycled waste.
7. Where a facility carries out preliminary treatment prior to the calculation point in that facility, the waste removed during the preliminary treatment shall not be included in the amount of recycled waste reported by that facility.
8. Where municipal waste generated by a given Member State has been mixed with other waste before the measurement point or the calculation point, the proportion of municipal waste shall be identified using appropriate methods, such as electronic registries. If such waste undergoes further preliminary treatment, the amount of non-target materials removed by that treatment shall be deducted taking into account the

proportion and, where appropriate, the quality of waste materials coming from municipal waste.

9. Where waste materials enter recovery operations whereby those materials are used principally as a fuel or other means to generate energy, the output of such operations that is subject to material recovery, such as the mineral fraction of incineration bottom ash or clinker resulting from co-incineration, shall not be included in the amount of municipal waste recycled with the exception of metals separated and recycled after incineration of municipal waste. Metals incorporated in the mineral output of the co-incineration process of municipal waste shall not be reported as recycled
10. Without prejudice to Article 11(a) of Directive 2008/98/EC, where waste materials enter recovery operations whereby those materials are neither principally used as a fuel or other means to generate energy, nor for material recovery, but result in output that includes recycled materials, fuels or backfilling materials in significant proportions, the amount of recycled waste shall be determined by a mass balance approach which results in taking account only of the waste materials that are actually recycled.

Article 4

Recycling of metals separated from incinerator bottom ash

1. The amount of recycled metals separated from incineration bottom ash shall be the mass of metals in the metal concentrate that is separated from raw incineration bottom ash originating from municipal waste, and shall not include other materials contained in the metal concentrate such as mineral adhesions.
2. Member States shall apply the methodology for calculating the mass of recycled metals separated from incineration bottom ash laid out in Annex IV.

Article 5

Data collection and reporting by Member States

1. Data shall be obtained directly from establishments or undertakings managing waste as appropriate. Member States shall consider the use of electronic registries in order to simplify data reporting requirements and automate the data collection process.
2. Where data collection is based on surveys, including those underpinning sampling methodologies, those surveys shall be carried out to a minimum standard which shall include the following minimum requirements:
 - (a) the surveys are carried out at regular, specified intervals, to adequately meet the variation in the data to be surveyed,
 - (b) the confidence level of the surveys is 95% within a margin of error of +/-5%,
 - (c) the surveys are based on a representative sample of the population to which its results are applied.

3. Member States shall transmit to the Commission the data required by Directive 2008/98/EC and this Decision in accordance with the formats established in Commission Implementing Decision XXXX in electronic form, by means of the interchange standard set up by Eurostat.

Article 6

Commission Decision 2011/753/EU is hereby repealed.

This Decision is addressed to the Member States.

Done at Brussels,

For the Commission
Karmenu VELLA

Member of the Commission

ANNEX I

METHODS FOR THE CALCULATION OF THE TARGET ON MUNICIPAL WASTE PURSUANT TO ARTICLE 2(3) OF THIS DECISION

Option referred to in Article 2(3) of this Decision	Calculation method	Specific reporting requirements
Preparation for reuse and recycling of paper, metal, plastic and glass waste generated by households	<p>Calculation method 1</p> <p>Recycling rate of paper, metal, plastic and glass household waste, in % = $\frac{\text{Recycled amount of paper, metal, plastic and glass household waste}}{\text{Total generated amount of paper, metal, plastic and glass household waste}}$</p>	<p>Member States shall use national data. Data from other waste reporting obligations can be used and adapted to national conditions. Member States shall submit, together with the data, a report explaining how the amounts generated and recycled have been calculated and how these amounts relate to the data on household waste to be reported under Regulation (EC) No 2150/2002.</p>
Preparation for reuse and recycling of paper, metal, plastic, glass and other single types of waste generated by households or of municipal waste	<p>Calculation method 2</p> <p>Recycling rate of household and similar waste, in % = $\frac{\text{Recycled amount of paper, metal, plastic, glass waste and other single types of waste}}{\text{Total generated amount of paper, metal, plastic, glass waste and other single types of waste}}$</p>	<p>Member States shall use national data. Data from other waste reporting obligations can be used and adapted to national conditions. Member States shall submit, together with the data, a report explaining which materials are covered, from which activities they result, and how the amounts generated and recycled have been calculated. Where a Member State includes home-composted waste in the calculation and applies a different methodology than the methodology established in Annex VI, it shall explain how the amounts generated and recycled have been calculated.</p> <p>The report shall also explain how these amounts relate to the data on household waste and other economic activities to be reported under Regulation (EC) No 2150/2002.</p>
Preparation for reuse and recycling of waste generated by households	<p>Calculation method 3</p> <p>Recycling rate of household waste in % = $\frac{\text{Recycled amount of household waste}}{\text{Total household waste amounts excluding certain waste categories}}$</p>	<p>Member States shall use national data to report on the recycled amount of household waste. They shall submit, together with the data, a report explaining which materials are covered and how the amounts recycled have been calculated.</p> <p>The report shall also explain how these amounts relate to the data on household waste and other economic activities to be reported under Regulation (EC) No 2150/2002.</p>

		<p>The total amounts of household waste shall be taken from the data to be reported according to point 1.2 of Section 8 of Annex I to Regulation (EC) No 2150/2002.</p> <p>Waste generated by households which is not covered by the definition of municipal waste, such as discarded vehicles and sewage sludge, shall be excluded from the calculation.</p>
Preparation for reuse and recycling of municipal waste	<p>Calculation method 4</p> $\text{Recycling of municipal waste, in \%} = \frac{\text{Municipal waste recycled}}{\text{Municipal waste generated}}$	<p>Member States shall rely on the statistical data on municipal waste reported annually to the Commission (Eurostat).</p>

ANNEX II

METHODS FOR THE CALCULATION OF THE TARGET FOR CONSTRUCTION AND DEMOLITION WASTE REFERRED TO IN ARTICLE 2(5) OF THIS DECISION

Calculation method	Specific reporting requirements
<p>Recovery rate of construction and demolition waste, in % = $\frac{\text{Materially recovered amount of construction and d}}{\text{Total amount of generated construction and dem}}$</p>	<p>(1) Reporting on the materially recovered amounts of construction and demolition waste (numerator of the formula) shall include only the following codes of the Annex to Decision 2000/532/EC:</p> <p style="padding-left: 40px;">List of Waste, Chapter 17 – Construction and demolition waste:</p> <p style="padding-left: 80px;">17 01 01, 17 01 02, 17 01 03, 17 01 07, 17 02 01, 17 02 02, 17 02 03, 17 03 02, 17 04 01, 17 04 02, 17 04 03, 17 04 04, 17 04 05, 17 04 06, 17 04 07, 17 04 11, 17 05 08, 17 06 04, 17 08 02, 17 09 04</p> <p style="padding-left: 40px;">List of Waste, subchapter 19 12 – Waste from mechanical treatment of waste (for example sorting, crushing, compacting or pelletising), if it is generated from the treatment of construction and demolition waste:</p> <p style="padding-left: 80px;">19 12 01, 19 12 02, 19 12 03, 19 12 04, 19 12 05, 19 12 07, 19 12 09</p> <p>Member States shall explain, in a report to be submitted together with the data, how double-counting of waste is avoided.</p> <p>(2) Construction and demolition waste generation shall be reported according to Regulation (EC) No 2150/2002 (denominator of the formula) containing:</p> <p style="padding-left: 40px;">(a) waste generated by Section F of the NACE Rev. 2 code as mentioned in Annex I, Section 8, item No 17 to that Regulation consisting of the following waste codes as defined in Annex I,</p>

Section 2 to that Regulation:

06.1. – Metallic waste, ferrous

06.2. – Metallic waste, non-ferrous

06.3. – Metallic waste, mixed

07.1. – Glass waste

07.4. – Plastics

07.5. – Wood

(b) the total of the waste category (over all economic activities):

— Mineral construction and demolition waste

as defined in Annex III to that Regulation.

(3) Member States may alternatively report on the recycling and material recovery of construction and demolition waste based on their own reporting system. In this case they shall submit, together with the data, a report explaining which materials are covered, and how the data relates to the data on construction and demolition waste to be reported pursuant to Regulation (EC) No 2150/2002. If the data based on the reporting system of the Member State are more precise than the data provided according to that Regulation the compliance with the target shall be assessed based on the data from the Member State's reporting system.

ANNEX III
NON-EXHAUSTIVE LIST OF CALCULATION POINTS REFERRED TO IN
ARTICLE 3(3) OF THIS DECISION

Material	Calculation Point
Biowaste	Biodegradable material entering a composting / AD operation
Glass	Sorted glass that does not undergo further processing before entering a glass furnace or the production of filtration media, abrasive materials, glass fibre insulation and construction materials.
Metals	Sorted metal that does not undergo further processing before entering a metal smelter or furnace
Paper / board	Sorted paper that does not undergo further processing before entering a pulping operation
Plastics	Plastic separated by polymer that does not undergo further processing before entering pelletisation, extrusion, or moulding operations; Plastic flakes that do not undergo further processing before their use in a final product.
Wood	Sorted wood that does not undergo further treatment before utilisation in particleboard manufacture. Sorted wood entering a composting operation (to avoid double counting, the repeated use of wooden chips in composting shall not be taken into account).
Textiles	Sorted textile that does not undergo further processing before its utilisation for the production of textile fibres, rags or granulates.
Composite items, furniture and other bulky waste	Wood, metal, plastic, textile and other materials resulting from the preliminary treatment of waste that can be used without further processing in line with the calculation points for specific materials in this Annex.
Waste Electric and Electronic Equipment (WEEE)	WEEE entering the recovery or recycling/preparing for re-use facility after proper treatment and completion of preliminary activities in accordance with Article 11 of Directive 2012/19/EU of the European Parliament and the Council of 4 July 2012 on waste electrical and electronic equipment.
Batteries	Input fractions entering the battery recycling process in accordance with Commission Regulation (EU) No 493/2012 of 11 June 2012 laying down, pursuant to Directive 2006/66/EC

	of the European Parliament and of the Council, detailed rules regarding the calculation of recycling efficiencies of the recycling processes of waste batteries and accumulators.
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ANNEX IV

METHODOLOGY FOR CALCULATING THE RECYCLED METALS SEPARATED AFTER INCINERATION OF MUNICIPAL WASTE

1. The following terms shall apply in relation to the formulas set out in this annex:

<i>m</i> _{total IBA metals}	total mass of metals in incineration bottom ash a given year
<i>m</i> _{IBA metal concentrates}	mass of metal concentrates separated from raw municipal waste incineration bottom ash in a given year
<i>c</i> _{IBA metals}	concentration of metals in metal concentrates
<i>m</i> _{IBA metals}	mass of metals in the metal concentrate separated from incineration bottom ash in a given year
<i>m</i> _{adhesions}	mass of mineral adhesions contained in specific metal concentrate
<i>m</i> _{MSW}	mass of municipal waste entering an incineration operation in a given year
<i>c</i> _{metals MSW}	concentration of metals in municipal waste entering an incineration operation
<i>m</i> _w	mass of all waste entering an incineration operation in a given year
<i>c</i> _{metals input MSWI}	concentration of metals in all waste entering an incineration operation
<i>m</i> _{MSW IBA metals}	mass of metals originating from municipal waste in a given year

2. Following the separation of metal concentrate from raw incineration bottom ash, the metal content of the metal concentrate shall be calculated by applying the following formula:

$$m_{total\ IBA\ metals} = \sum (m_{IBA\ metal\ concentrates} \cdot c_{IBA\ metals})$$

3. Data on the mass of metal concentrates shall be obtained from facilities that separate metal concentrates from raw incineration bottom ash.
4. The concentration of metals resulting from the processing of raw incineration bottom ash shall be calculated by using data collected by regular surveys from facilities that treat metal concentrates and deliver their output to facilities producing metal products. Distinction shall be made between ferrous metals, non-ferrous metals and stainless steel.

$$c_{IBA\ metals} = \frac{m_{IBA\ metals}}{m_{IBA\ metal\ concentrates}} = \frac{m_{IBA\ metal\ concentrates} - m_{adhesions}}{m_{IBA\ metal\ concentrates}}$$

5. Where municipal waste is mixed with waste from other sources in the incineration operation and the share of municipal waste in all incinerated waste is above 75% ,

the mass of metal content originating from municipal waste shall be calculated by applying the following formula:

$$m_{MSW\ IBA\ metal\ content} = \frac{m_{MSW} \cdot c_{metals\ MSW}}{m_W \cdot c_{metals\ MSWI}} \cdot m_{total\ IBA\ metal\ content}$$

6. Where the amount of municipal waste incinerated is less than 75% of the total amount of incinerated waste, the concentration of the metals in the incinerated waste from various sources shall be determined through sampling surveys of the waste that enters the incineration operation. This survey shall be carried out at least every five years and when there are reasons to expect that the composition of the waste has significantly changed. The mass of metals originating from municipal waste shall be calculated by the following formula:

$$m_{MSW\ IBA\ metals} = \frac{m_{MSW}}{m_W} \cdot m_{total\ IBA\ metals}$$