Commission Implementing Decision of XX March 2019
establishing rules for the calculation, verification and reporting of data for verifying compliance with the targets set in Article 11(2) of Directive 2008/98/EC of the European Parliament and of the Council

(notified under document xxx)

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 Directives, and in particular Article 11 and 11a(9) thereof,

Whereas:

(1) In order to ensure an effective implementation of the targets set in Article 11 of Directive 2008/98/EC, it is appropriate to define rules on the application of those targets.

(2) Directive 2008/98/EC as amended by Directive 2018/851/EU defines rules for the calculation of the targets set out in Article 11 for municipal and construction and demolition waste. The Directive envisages that implementing rules for the calculation, verification and reporting of data shall be established in order to ensure uniform conditions for the application of the calculation rules.

(3) 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) provides 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, in particular as Article 11(2)(a) leaves a certain flexibility to Member States as regards the municipal waste streams to which the target is applied.

(4) Directive 2018/851/EU of the European Parliament and of the Council of 30 May 2018 incorporated certain provisions of Decision 2011/753/EU in the text of Directive 2008/98/EC, while other provisions are no longer in line with it. Therefore, Decision 2011/753/EU should be repealed and the rules applicable to the targets in Article 11(2) points (a) and (b) should be integrated in a common set of rules concerning the verification of compliance with the all targets established in Article 11 of Directive 2008/98/EC.

(5) The rules established in Directive 2008/98/EC for the calculation of the recycling targets laid down in points (c), (d) and (e) of Article 11(2) and in Article 11(3) distinguish between the point where the weight of waste should be taken into account for the purposes of calculating the recycling target, and the point where the weight of waste should be measured for the purposes of data collection to calculate and verify
compliance with the target. Only waste that enters a recycling operation should be used for the calculation of the recycling target and, as a general rule, the actual measurement of waste should be at that point. However, Member States may make use of a derogation and measure the weight of waste at the output of a sorting operation, provided that all waste materials that are removed by further preparation of the waste prior to the recycling operation are deducted from the weight of waste reported as recycled and there is evidence that that waste is actually recycled.

(6) Article 11a (5) of Directive 2008/98/EC envisages that there are cases, where waste materials may cease to be waste as a result of a preparatory operation before these materials are actually reprocessed into products, materials and substances to be used for the original or for other purposes. In order to ensure a uniform application of that rule and comparability of data among Member States, it is necessary to specify in which cases that rule should apply, for instance where waste materials may cease to be waste following a sorting operation in accordance with Article 6 of Directive 2008/98/EC.

(7) With a view to ensure harmonised reporting on metals separated after incineration of municipal waste and high-quality recycling, a common methodology for the calculation of the weight of those metals should be established that takes account only of the metal content of the materials that are separated from incineration bottom ash in order to be recycled into metals.

(8) While Member States may include bio-waste separated and recycled at source (home composting) in the calculation of targets under points (c), (d) and (e) of Article 11(2) of Directive 2008/98/EC, there are challenges to the actual measurement of that waste and to ensuring that the methodology to establish the weight of that waste reflects accurately the amounts that are actually composted by citizens. Therefore, a common methodology that ensures high level of accuracy and certainly should be applied by Member States that opt to include such waste treatment in their reporting.

(9) 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 from economic operators and by using electronic registries and technical specifications applied to sorted waste.

(10) 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.

(11) 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 can be reprocessed in a given recycling operation into products, materials or substances that are not waste.

2. ‘non-targeted materials’ means waste materials that cannot be reprocessed in a given recycling operation into products, materials or substances that are not waste.

3. ‘preparation’ 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 waste materials are measured in weight 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)

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 generated by households;
b) the preparation for reuse and the recycling of paper, metal, plastic, glass and other single types of waste generated by households or of municipal waste;
c) the preparation for reuse and the recycling of waste generated by 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 States 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)**

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 directly reused and shall exclude any products or component of products that are directed 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 only targeted materials. It may include non-targeted waste materials only to the extent that the presence of those non-targeted materials is permissible for the specific recycling operation and does not impede high-quality recycling.

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. Where a facility carries out preparatory operations prior to the calculation point, the waste removed during those operations shall not be included in the weight of the waste recycled.

5. Pursuant to Article 11a(5) of Directive 2008/98/EC, concerning metals and glass, the weight of waste recycled shall be the weight of the materials corresponding to the
end-of-waste criteria set in EU legislation\(^1\). Where other recognised standards or end-of-waste criteria are used to determine the quality of sorted waste materials that can be reprocessed without further preparation, such as standards for sorted paper, the weight of materials meeting those standards may be considered as the weight of the waste recycled.

6. 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 amount of recycled material for the attainment of the targets.

7. Where a Member State derogates from measuring the weight of waste at the calculation point, the output of a sorting operation, or the input to a sorting operation except the first sorting operation following waste collection, shall be used as a measurement point provided that the data on the weight of sorted waste is accompanied by:

   a. reliable data on the waste materials that are removed by further preparation prior to the calculation point, and that must be deducted
   b. evidence that the waste is actually recycled.

8. Where the measurement point relates to the output of a facility that prepares the waste for recycling, or to the input of a facility where waste directly enters the recycling operation, any sorted waste that is rejected by the recycling facility shall not be included in the weight of recycled waste. Where sorted waste is accepted for recycling but its amount or value is altered, for example due to excessive presence of non-target materials or moisture, the quantity of waste reported as recycled shall be reduced accordingly.

9. Where municipal waste has been mixed with other waste before the measurement point, the proportion of municipal waste shall be identified using appropriate methods, such as electronic registries and sampling surveys. When such waste undergoes further preparation, the amount of non-target materials removed as a result of such operation shall be deducted taking into account the proportion and the quality of waste materials coming from municipal waste.

10. 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 recycled, such as the mineral fraction of incineration bottom ash, shall not be included in the weight of municipal waste recycled with the exception of metals separated and recycled after incineration of municipal waste.

11. Without prejudice to Article 11(a) of Directive 2008/98/EC, where waste materials enter recovery operations whereby those materials are not principally used as a fuel or other means to generate energy, or for material recovery, but result in output that includes recycled materials, fuels or backfilling materials in significant proportions, the weight of recycled waste shall be determined by a mass balance approach which

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results in taking account only of the waste materials entering the operation that are actually recycled.

Article 4
Recycling of metals separated from incinerator bottom ash

1. The weight of recycled metals separated from incineration bottom ash shall be the weight of the metal content of the metal concentrate which is separated from raw incineration bottom ash originating from municipal waste and shall not include other materials contained the metal concentrate such as mineral adhesions.

2. Member States shall apply the methodology for calculating the weight of recycled metals separated from incineration bottom laid out in Annex IV.

Article 5
Bio-waste separated and recycled at source (home composting)

1. Where a Member State includes the weight of bio-waste that is separated and recycled at source in the weight of municipal waste recycled, the weight of this waste shall be established by applying the methodology set out in Annex V.

2. The amount of waste established pursuant to paragraph 1 shall be added both to the amount of municipal waste recycled and to the total amount of municipal waste generated.

Article 6
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. Surveys, including those underpinning sampling methodologies, should be carried out to a minimum standard which shall include the following minimum requirements:
   a. the surveys should be carried out at regular, specified intervals
   b. the confidence level of the surveys should be 95% within a margin of error of +/- 5%.
   c. the surveys shall be based on a representative sample of the population to which its results shall be 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 7
Commission Decision 2011/753/EU is hereby repealed.

Addressees
This Decision is addressed to the Member States.
Done at Brussels, XX March 2019.

For the Commission
Karmenu Vella
Member of the Commission
ANNEX I

(Changes in comparison to the current annex are marked in TC; it is also proposed that annex II is not included in this decision but in the decision on the reporting formats)

METHODS FOR THE CALCULATION OF THE TARGET ON MUNICIPAL WASTE PURSUANT TO ARTICLE 23(3) OF THIS DECISION

<table>
<thead>
<tr>
<th>Option referred to in Article 32(31) of this Decision</th>
<th>Calculation method</th>
<th>Specific reporting requirements for Member State implementation reports</th>
</tr>
</thead>
</table>
| Preparation for reuse and recycling of paper, metal, plastic, and glass household waste generated by households | **Calculation method 1**
Recycling rate of paper, metal, plastic and glass household waste, in % = \( \frac{\text{Recycled amount of paper, metal, plastic, glass household waste}}{\text{Total generated amount of paper, metal, plastic, glass household waste}} \)

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. |

| Preparation for reuse and recycling of paper, metal, plastic, glass household waste—and other single types of household waste generated by households or of municipal similar waste | **Calculation method 2**
Recycling rate of household and similar waste, in % = \( \frac{\text{Recycled amount of paper, metal, plastic, glass waste}}{\text{Total generated amount of paper, metal, plastic, glass waste}} \)

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, by marking the relevant cells in the table in Annex II to this Decision 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. 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. |
<table>
<thead>
<tr>
<th>Preparation for reuse and recycling of household waste generated by households</th>
<th><strong>Calculation method 3</strong></th>
</tr>
</thead>
</table>
| Recyclers rate of household waste in % = \[
\frac{\text{Recycled amount of household waste}}{\text{Total household waste amounts excluding certain waste categories}}
\] | 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 by marking the relevant cells in the table in Annex II to this Decision and how the amounts recycled have been calculated. 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. 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. 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. Waste of the following waste codes shall be excluded from the calculation: 08.1 - Discarded vehicles 11-13 - Sludges and mineral wastes |

<table>
<thead>
<tr>
<th>Preparation for reuse and recycling of municipal waste</th>
<th><strong>Calculation method 4</strong></th>
</tr>
</thead>
</table>
| Recycling of municipal waste, in % = \[
\frac{\text{Municipal waste recycled}}{\text{Municipal waste generated}}
\] | Member States shall rely on the statistical data on municipal waste reported annually to the Commission (Eurostat). |
### Annex II

*(changes in comparison to the current annex are marked in TC)*

**METHODS FOR THE CALCULATION OF THE TARGET FOR CONSTRUCTION AND DEMOLITION WASTE REFERRED TO IN ARTICLE 24(15) OF THIS DECISION**

<table>
<thead>
<tr>
<th>Calculation method</th>
<th>Specific reporting requirements for Member State implementation reports</th>
</tr>
</thead>
</table>
| Recovery rate of construction and demolition waste, in % = \( \frac{\text{Materially recovered amount of construction and demolition waste}}{\text{Total amount of generated construction and demolition waste}} \) | (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:  
   List of Waste, Chapter 17 – Construction and demolition waste:  
   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  
   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:  
   19 12 01, 19 12 02, 19 12 03, 19 12 04, 19 12 05, 19 12 07, 19 12 09  
   Member States shall explain, in a report to be submitted together with the data, how double-counting of waste is avoided.  
(2) Construction and demolition waste generation shall be reported according to Regulation (EC) No 2150/2002 (denominator of the formula) containing:  
(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, Section 2 to that Regulation:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>06.1</td>
<td>Metallic waste, ferrous</td>
</tr>
<tr>
<td>06.2</td>
<td>Metallic waste, non-ferrous</td>
</tr>
<tr>
<td>06.3</td>
<td>Metallic waste, mixed</td>
</tr>
<tr>
<td>07.1</td>
<td>Glass waste</td>
</tr>
<tr>
<td>07.4</td>
<td>Plastics</td>
</tr>
<tr>
<td>07.5</td>
<td>Wood</td>
</tr>
</tbody>
</table>

(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**

<table>
<thead>
<tr>
<th>Material</th>
<th>Calculation Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biowaste</td>
<td>Entry to composting / AD operation (within a facility)</td>
</tr>
<tr>
<td>Glass</td>
<td>Entry to the glass furnace</td>
</tr>
<tr>
<td></td>
<td>Entry to an operation with no further preparation which converts inputs to materials, products or substances (e.g. for production of filtration media, abrasive materials, glass fibre insulation, road construction etc)</td>
</tr>
<tr>
<td>Metals</td>
<td>Entry to the metal smelter / furnace</td>
</tr>
<tr>
<td>Paper / board</td>
<td>Entry to the pulping operation (within a facility)</td>
</tr>
<tr>
<td></td>
<td>Entry to an operation with no further preparation which converts inputs to materials, products or substances (e.g. insulation material)</td>
</tr>
<tr>
<td>Plastics</td>
<td>Entry to operation utilising flakes in final product (i.e. not when further processed)</td>
</tr>
<tr>
<td></td>
<td>Entry to pelletisation, extrusion, or moulding operation (within a facility)</td>
</tr>
<tr>
<td>Wood</td>
<td>Entry to an operation with no further preparation which converts inputs to materials, products or substances (e.g. chipboard manufacture)</td>
</tr>
<tr>
<td>Textiles</td>
<td>Entry to an operation with no further preparation which converts inputs to materials, products or substances (e.g. production of rags)</td>
</tr>
</tbody>
</table>
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:

- \( m_{\text{total IBA metal content}} \): total weight of the metal content of incineration bottom ash a given year
- \( m_{\text{IBA metal concentrates}} \): weight of metal concentrates separated from raw municipal waste incineration bottom ash in a given year
- \( c_{\text{IBA metal content}} \): concentration of metals in metal concentrates
- \( m_{\text{IBA metal content}} \): weight of the metal content in the metal concentrate separated from incineration bottom ash in a given year
- \( m_{\text{adhesions}} \): weight of mineral adhesions contained in specific metal concentrate
- \( m_{\text{MSW}} \): weight of municipal waste entering an incineration operation in a given year
- \( c_{\text{metals MSW}} \): concentration of metals in municipal waste entering an incineration operation
- \( m_{\text{w}} \): weight of all waste entering an incineration operation in a given year
- \( c_{\text{metals input MSWI}} \): concentration of metals in all waste entering an incineration operation
- \( m_{\text{IBA metal concentrates}} \): weight of metal concentrates separated from raw municipal waste incineration bottom ash in a given year
- \( m_{\text{IBA metal content}} \): weight of the metal content of incineration bottom ash in a given year
- \( m_{\text{adhesions}} \): weight of mineral adhesions contained in specific metal concentrate

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

\[
m_{\text{total IBA metal content}} = \sum (m_{\text{IBA metal concentrates}} \cdot c_{\text{IBA metal content}})
\]

3. Data on the weight 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.

\[
c_{\text{IBA metal content}} = \frac{m_{\text{IBA metal concentrates}}}{m_{\text{IBA metal concentrates}}} = \frac{m_{\text{IBA metal concentrates}} - m_{\text{adhesions}}}{m_{\text{IBA metal concentrates}}}
\]
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 weight of metal content originating from municipal waste shall be calculated by applying the following formula:

\[ m_{\text{MSW IBA metal content}} = \frac{m_{\text{MSW}}}{m_w} \cdot m_{\text{total IBA metal content}} \]

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 weight of metals originating from municipal waste shall be calculated by the following formula:

\[ m_{\text{MSW IBA metal content}} = \frac{m_{\text{MSW}} \cdot c_{\text{metals MSW}}}{m_w \cdot c_{\text{metals MSWI}}} \cdot m_{\text{total IBA metal content}} \]
Annex V
Methodology for determining the weight of waste separated and recycled at source
(home composting)

(to be developed)