**JRC questions to stakeholders:**

**Question 1 - QUALITY:** **Do you want to discuss the quality of recycling framework in a dedicated meeting with JRC?**

**Yes**

**If YES, please indicate contact email for this**

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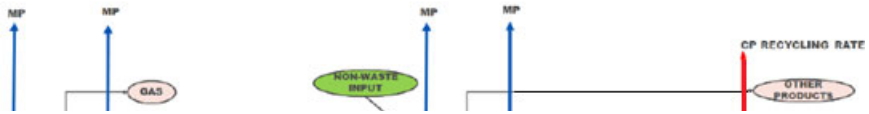
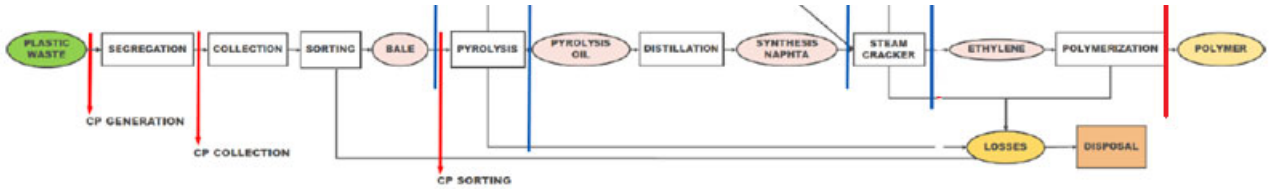
**Question 2 - MASS BALANCE:** **Do you agree with the definition of calculation and measurament points used in the report? (Figure 11 - Page 56)**

**No**

**If NO, please explain why**

In Figure 11 a chemical recycling scheme for plastic waste is represented, showing the calculation points and the measurement points. The report contains a proper pragmatic definition of "calculation point for plastic": *plastic separated by polymer that does not undergo further processing before entering pelletisation, extrusion, or moulding operations or plastic flakes that do not undergo further processing before their use in a final product.*
FEAD agrees with the assumption that not all the materials or substances derived from chemical recycling may necessarily be used to synthesize new plastics, but could be used for other purposes in the chemical industry. Therefore the calculation point should be based at the end of the process considering the output materials and chemicals used to manufacture new (non-fuel) products. Process losses and inherent losses shall not be accounted as part of recycled material.
Please, find below the revised Figure, according to FEAD's proposal.
Moreover, further work is needed to establish a strict, certified monitoring/tracking method, allowing chemical recycling to count towards recycling targets if intermediate products (e.g. pyrolysis oil) are used in plastic-to-plastic (or plastic-to-products) recycling schemes.






**Question 3 - MASS BALANCE:** **Do you agree with the allocation used for calculating the recycling rate for input waste (waste feedstock - non-waste feedstock)? (Equation 6 - Page 60)**

**Yes**

**If NO, please explain why**

The proposed equation 6, a standard proportion between waste and non-waste feedstock and the mass of recycled material, seems to be a logical and good compromise, when the stoichiometry is unknow.
It is important to emphasise that the chemical recycling process is, in most cases, a "black box", from which it is impossible to determine the stoichiometry. Unlike the mechanical recycling process, which is very transparent and straightforward. It would be necessary for the chemical process to be, first of all, validated by an external entity/body able to certify the technology and reveal the mathematical model of the relationship between input and output.
This could also be an opportunity for the chemical industry to demonstrate exactly how much waste input is involved in the production of secondary raw materials, and thus overcome the necessary simplification of the linear proportion.

**Question 4 - BIO-WASTE:** **Article 1.13 of the Directive (EU) 2018/851 states "For the purpose of calculating whether the targets laid down in points (c), (d) and (e) of Article 11(2) and in Article 11(3) have been attained, the amount of municipal biodegradable waste that enters aerobic or anaerobic treatment may be counted as recycled where that treatment generates compost, digestate, or other output with a similar quantity of recycled content in relation to input, which is to be used as a recycled product, material or substance." This rule is also similarly stated in in Recital (48) of the same Directive. We propose that this calculation rule becomes technology neutral (i.e., not just mentioning aerobic or anaerobic treatment but including any biological, chemical or physical biowaste recycling technology). Do you agree? (Page 80)**

**No**

**If NO, please explain the reason(s) why this rule should only apply to aerobic or anaerobic treatment**

FEAD is not in favour of chainging the definition and of opening up the bio-waste recycling process to "any other technology", that are currently unable to provide adequate standards of quality and efficiency.
The use of technologies such as pyrolysis for biochar should be thoroughly assessed before deciding on how inherent losses should be reported. It is therefore premature to assume that the amount of waste entering these operations could be counted as recycled (as it is the case for aerobic or anaerobic treatments). This

is especially true for biodegradable plastics. We do understand the logic behind the need for a level playing field, but actual inherent losses need to be checked for each technology.
It would be necessary for the new technology to be, first of all, validated by an external entity/body able to certify it and reveal the mathematical model of the relationship between input and output.
The current legislative framework has already taken a clear direction with regard to organic waste and everything is moving towards a higher quality of separate collection in order to improve subsequent treatment. Most of the investments made by the waste management industry are going in this direction and many efforts are being made to raise the level throughout the whole chain, from collection to final recycling. It is important to continue on this path and to continue to obtain a high quality material that can be returned to nature and give added value and nutrients to the soil, through aerobic and anaerobic treatments.

**Question 5 - BIO-WASTE:**

**In the same articles of Question 3: "For the purpose of calculating whether the targets laid down in points (c), (d) and (e) of Article 11(2) and in Article 11(3) have been attained, the amount of municipal biodegradable waste that enters aerobic or anaerobic treatment may be counted as recycled where that treatment generates compost, digestate, or other output with a similar quantity of recycled content in relation to input, which is to be used as a recycled product, material or substance." We find that the concept of recycled content in this context is confusing and needs to be clarified. Do you agree? (Page 81)**

**No**

**If NO, please explain why not.**

The reccomendations made for the mentioned article, as stated in the Report, are related to the calculation rules of recycling rate for biodegradable waste and compostable plastic waste. FEAD does not agree with this premise, because compostable plastic waste cannot be associated and compared with biodegradable waste at all.
The current definition refers to products obtained at the end of aerobic and anaerobic treatment processes. FEAD does not believe that opening up to any other (still premature) technology and to compostable plastic waste is acceptable.

**Question 6 - BIO-WASTE:** **Concerning inherent losses, Recital (46) of the Directive (EU) 2018/851 states: "Losses in weight of materials or substances due to physical or chemical transformation processes inherent in the recycling operation whereby waste materials are actually reprocessed into products, materials or substances should not be deducted from the weight of the waste reported as recycled.". We propose that inherent losses are technology neutral and linked to the type of waste material rather than the specific recycling technology. E.g. for bio-waste inherent losses could be equal to, at most, the maximum amount of material that could be degraded according to EN 13432. Do you agree? (Page 81)**

**No**

**If NO, please explain why.**

The harmonisation of criteria concerning the inclusion of inherent losses along any other technilogies used for recycling both bio-waste and compostable plastic waste, regardless of the process occuring, is not consistent with the state of art.
First of all a clear definition of "inherent losses" is needed in order to be able to evalute objectively the proposals. Here again, the concept of 'technology neutral' must be avoided, as we do not know the mechanisms of the new processes that may be used in the near future. It would be necessary for the new technology to be validated by an external entity/body able to certify it and reveal the mathematical model of the relationship between input and output.
The use of ‘other’ technologies such as pyrolysis for biochar should be thoroughly assessed before deciding on how inherent losses should be reported. It is also premature to assume that the amount of waste entering these operations could be counted as recycled (as it is the case for aerobic or anaerobic treatments). This is especially true for biodegradable plastics entering those operations. FEAD does understand the logic behind the need for a level playing field, but actual inherent losses need to be checked for each technology.

**Question 7 - BIO-WASTE:** **Our understanding is that compostable plastic in compost is a carbon (cellulose) source that acts as a soil improver (Page 71). Do you agree?**

**No**

**If NO, could you please give a reason why not? Please, provide details on the reasoning.**

Compostable plastics are plastics which degrade through the process of composting, which is a controlled aerobic process. A distinction between industrial composting and home composting is necessary. Industrial composting conditions require an elevated temperature between 50 °C and 60°C combined with a

relatively high humidity and the presence of oxygen. EN 13432 is a product norm for packaging materials, not a waste treatment norm, and complying with it cannot be considered a guarantee of complete industrial compostability. Home composting conditions have lower and less constant temperatures, making it a slower process, depending on the type of material. The existing standard for home composting is NF T 51800.
In the waste management system, compostable plastics only bring environmental benefits when there is a clear co-benefit: separating more bio-waste from residual waste without harming the quality of organic waste.
Given these points there should be an assessment framework with clear criteria that assesses in which applications the use of compostable plastics is indeed beneficial to the environment.
As long as the EN13432 conditions do not always correspond to the practical conditions in the existing industrial composting plants for bio-waste, the European norm on industrial compostability should be revised to reach the highest environmental benefit and efficiency in the composting process.
Moreover, at this moment there are no rules or policies looking at avoiding the use of non-biodegradable additives, which could harm the quality of compost. Even the EN 13432 standard allows for 10% non-biodegradable additives in packages. That is undesirable and potentially harmful for the quality of the compost and, subsequently, our soils. Furthermore, there are no policies regarding substances of concern, such as PFAS, that address the impact of compostable or biodegradable plastics on the quality of compost.
With this in mind, to achieve the goals of the circular economy, for the compostable plastics is essential to:
- set criteria for their use, in order to restrict the types of plastics that can be discarded in the bio-waste and that assess in which applications the use of compostable plastics is environmentally beneficial
- limit the use of compostable plastics to products that are difficult to separate from food waste and are likely to end up with food waste
- require that the limited and sustainable applications labelled as 'compostable' are certified according to an updated and improved EN 13432.

**Question 8 - BIO-WASTE:**

**Could you identify any relevant recycling process affected by the changes proposed (Page 80) on the rules (apart from composting and anaerobic digestion)?**

FEAD would prefer the JRC to assess each technology (pyrolysis for instance), instead of proposing an all-encompassing approach. Being more specific on the type of technology would help to check the impact on well-established treatment options such as aerobic or anaerobic digestion.

**Question 9 - POTENTIAL IMPACTS:**

**The changes proposed to the calculation rules, if implemented in the EC legislation, will likely have impacts. Do you think that the list of impacts reported in Table 15 is comprehensive?**

**No**

**If NO, please describe missing impacts**

The table does not offer enough clarity and results too generic. A deep and structures impact assessment is needed, considering that the openness towards "any other technology" and compostable plastic waste, could change and damage the big efforts made by tha waste industry in the management of bio-waste.

**Question 10 - GENERAL:** **Is there any other relevant issue in relation to the report you would like to flag?**

**Yes**

**If YES, please indicate herein**

FEAD considers that the definition of “recycling” is clear and well defined in the Waste Framework Directive. The majority of investments made by the mechanical recycling industry are based on this particular definition. Therefore, FEAD reiterates its support to the existing legislative framework, as providing a clear level-playing field for all actors involved.