

ESWET response to draft revised MRV rules under the EU ETS

ESWET reply to the EC consultation on the proposed revision of the Implementing Regulation on the monitoring and reporting of greenhouse gas emissions

ESWET – the European Suppliers of Waste to Energy Technology represents companies that have built and supplied over 95% of the Waste-to-Energy (waste incineration with energy recovery, or WtE) plants in operation in Europe.

The association seeks to promote the technology which, within the framework of the Waste Hierarchy, recovers energy from waste that would otherwise end up in landfills.

ESWET welcomes the European Commission's proposal to revise the rules for the monitoring and reporting of greenhouse gas emissions (Implementing Regulation (EU) 2018/2066) following the recent revision of the EU ETS (Directive 2003/87/EC), incorporating new definitions and reporting requirements for renewable fuels of non-biological origin (RFNBOs) and recycled carbon fuels (RCFs), extending the EU ETS to additional sectors (e.g., buildings and transport), mandating compliance with sustainability criteria, introducing provisions for non-CO₂ aviation effects monitoring, emphasising improved data accuracy and reporting, and including provisions for CO₂ transport and storage monitoring, ensuring the integrity of stored CO₂. These changes are crucial for meeting the EU's climate goals.

However, ESWET was surprised to see the inclusion in the draft act of a small provision affecting Waste-to-Energy (WtE) plants. The concern lies in the fact that nowhere on the preambulatory clauses of the draft act does it mention that waste incineration is addressed with this piece of legislation, and also in the fact that just less than a year ago, Waste-to-Energy plants were specifically addressed in another dedicated revision of the Monitoring, Reporting and Verification (MRV) rules.

In light of this, we would like to reiterate some core messages that we shared with the European Commission in August 2023, as part of the consultation on the MRV revision to include emissions from the waste incineration sector.

1) The important thing to consider when it comes to monitoring, reporting, and verification (MRV) rules with regards to waste incineration, is that these have to be designed in such a way that truly corresponds to the sector, which has the unique feature of having a mixed feedstock. In general, monitoring and reporting of the CO₂ fossil fraction in heterogeneous waste is very complex and uncertain, and it can also be very expensive. Unfortunately, the tiers and uncertainty levels foreseen for WtE plants in the revised MRV rules have been set on the same values as for conventional combustion plants. However, the values should differ for WtE plants, as their feedstock is highly heterogeneous.

2) On the other hand, fortunately and also logically, the MRV rules allow for flexibility to operators to apply either a calculation-based methodology or a measurement-based methodology to monitor the emissions of their plant (Article 21).

Each methodology has **pros and cons**: e.g., calculation-based is generally less expensive and easier to implement, suitable for standard emissions factors, but prone to higher uncertainties and may not accurately reflect the biogenic content of emissions from heterogeneous waste, while measurement-based provides more accurate and specific data [1] tailored to actual emissions, particularly for complex and variable feedstocks like mixed waste, but requires expensive equipment and laboratory analyses, and achieving the necessary accuracy thresholds can be challenging, particularly for total (flow) CO₂ emissions.

Despite these pros and cons, it is appropriate that operators are the ones to choose which methodology works best for them and collaborate closely with the competent authorities to apply this methodology for the most accurate results. In light of the 2023 revision of the MRV legislation, one of the arguments that we raised was the fact that in both cases of calculation-based and measurement-based methodologies, **the tiers and uncertainty levels** proposed for WtE plants had been set on the same values as for conventional combustion plants.

In the end, this was not taken into consideration in the final text. Today, WtE plants are struggling to meet the uncertainty thresholds for any of the methodologies they choose, and this is because of the very heterogeneous nature of the feedstock, but also because of the high fluctuations of waste depending on seasons/times.

We call again on the European Commission to revise the uncertainty thresholds for WtE plants as soon as possible and in any case before any inclusion of the sector in the EU ETS.

ESWET wants to underline that all methodologies have positive and negative attributes, and we are not currently favouring one method over another. However, the current revision of the MRV rules has an impact on the C-14 methodology, so we would like to elaborate further on some aspects of it.

[1] IPCC Guidelines for National Greenhouse Gas Inventories, 2006. Volume 5 Waste. Available at: https://www.ipcc.ch/site/assets/uploads/2018/03/5_Waste-1.pdf

When it comes to measurement-based methodologies, **measurement of biogenic emissions through radiocarbon C-14 testing** is an accurate method to account for the share of biogenic emissions. There are instruments that determine the biogenic fraction with very good results in terms of meeting the MRV uncertainty levels.

The C-14 measurement methodology has been used for a major study in France (conducted by ADEME in 2018 [2]), involving 148 samples in total from 10 Waste-to-Energy plants across France that participated in the study.

This study concluded that the plants reached overall 58% of biogenic emissions to 42% of fossil CO₂ emissions in those plants. According to this study, France currently applies these figures as an emission factor for WtE plants for the time being.

However, measurement of biogenic emissions through C-14 testing requires laboratory analysis: today, there are only a few laboratories providing this analysis that are also certified with EN ISO 13833, but the number is expected to grow rapidly.

Until this happens, the process seems to be expensive with long turnaround times for the sampling. The EU needs to support the creation of more certified laboratories so that the overall process is not slow and burdensome for the operators to individually check the content of emissions.

Issues with the current revision of the MRV legislation

With regards to the ongoing revision of the MRV Regulation, we would like to draw attention to page 57 of the proposed act, and specifically to the amendment to the **Table of Annex VII on minimum frequency of analyses** stating the following:

[2] Frédéric Giouse, Elise Ravache et Léa Moutte. « Détermination des contenus biogène et fossile des ordures ménagères résiduelles et d'un CSR.» 2020. [ADEME - Cabinet Merlin – ENVEA. Détermination Des Contenus Biogène Et Fossile Des Ordures Ménagères Résiduelles Et D'un Csr, A Partir D'une Analyse 14c Du CO₂ Des Gaz De Post-Combustion. Programme UIOM 14C – Campagne de mesures sur UIOM et chaufferie CSR.] Available at: <https://bibliothèque.ademe.fr/energies-renouvelables-reseaux-et-stockage/4007-determination-des-contenus-biogene-et-fossile-des-ordures-menageres-residuelles-et-d-un-csr-a-partir-d-une-analyse-14c-du-co2-des-gaz-de-post-combustion.htm>

"Flue gas for the purpose of Article 43(4) [3]: Every 50 000 tonnes of total CO₂, but at least once a month"

This requirement creates a considerable additional burden for the operators that have chosen to monitor and report their emissions using the C-14 analysis at the stack.

Mandatory monthly measurements exceed the spirit of "flexibility" as elaborated above, and would definitely lead to an increase of sampling needs in specialised labs, while this lab capacity is currently not yet there, as mentioned earlier.

Furthermore, the proposed amendment for a minimum of monthly sampling, apart from the above argumentation on the extra burden to the operators, and the heavier signal towards C-14 analysis, seems to also refer to **manual** flue gas sampling.

For such an activity, a **stack sampling company**, which is accredited for manual stack sampling according to **specific ISO standards, would be needed**. This means that in addition to the accredited C-14 laboratory capacity, the stack sampling capacity would also be needed, which is surely also not available now.

Therefore, ESWET calls on the European Commission to allow for **automatic long-term sampling** with certified automatic samplers as well (again with at least a monthly sampling).

As reference, ESWET would like to mention that the Environment Agency of the UK published on 14.06.2024 a performance standard, which describes the QAL1 test procedure for such samplers. By using such QAL1-certified automatic samplers, at least the problem of stack sampling capacity will not occur and the hurdle will be more controlled.

But the most important thing to note is that **the European WtE operators have already submitted their monitoring plans for 2024 and are already applying major changes in their operations with the implementation of the (2023) MRV rules**. Changing these rules less than a year after they came into effect is a big administrative hurdle for the operators of WtE plants and does not provide the regulatory certainty that businesses need.

[3] Article 43(4) of MRV Regulation: "Where relevant, the operator shall determine separately any CO₂ amount stemming from biomass and subtract it from the total measured CO₂ emissions. For this purpose the operator may use: (a) a calculation based approach, including approaches using analyses and sampling based on EN ISO 13833 (Stationary source emissions – Determination of the ratio of biomass (biogenic) and fossil derived carbon dioxide – Radiocarbon sampling and determination); (b) another method based on a relevant standard, including ISO 18466 (Stationary source emissions – Determination of the biogenic fraction in CO₂ in stack gas using the balance method); (c) an estimation method published by the Commission."

Concluding remarks

Overall, it is vital that the MRV rules establish a flexible approach, allowing operators to choose the method that works best for them.

The whole process of setting up rules for the monitoring and reporting of CO₂ emissions from WtE plants is not an activity only for today. It will take years and many trials with different approaches as well as a collection of a significant amount of data. The new MRV should allow for flexibility while operators determine the optimal means of monitoring and reporting.

According to the outcomes of the dedicated impact assessment to be finalised by the European Commission in July 2026 and ahead of any inclusion of the sector in the EU ETS in 2028, the MRV rules will most likely need to be revised again, so we hope to see a set of rules which allow for optimal reporting and monitoring without overburdening operators fixed by then.

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