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FEAD position paper – permanent emissions storage through carbon capture and utilisation in the EU ETS

FEAD, the European Waste Management Association, representing the private waste and resource management industry across Europe, **welcomes the consideration of CCU in the EU ETS** as well as the possibility to provide feedback to the Commission's Proposal about the requirements for considering that greenhouse gases have become permanently chemically bound in a product.

It is widely acknowledged that to reach climate neutrality by 2050, carbon capture, utilisation and storage (CCUS) and carbon recycling solutions are needed. At the same time, **the strong synergies between climate change mitigation objectives and the transition to a circular economy are becoming more and more evident**. A viable climate neutral economy and a working circular economy, where recycled materials and captured CO₂ replace the use of virgin raw materials and carbon sources, go hand in hand. It is thus important that the utilisation of secondary raw materials and of CO₂ is encouraged and specifically facilitated to reduce emissions and to create a functioning and circular carbon economy.

FEAD notes the following points:

I. Implementation of the polluter pays principle

It is important to stress that waste management, and specifically waste-to-energy operators are located at the receiving end of products' lifecycle and, as such, are unable to control the nature of the CO₂ content in the waste streams they receive for treatment. This reality can lead to products that contain captured CO₂ ending up among the waste streams conferred to waste incineration plants. Therefore, **when defining the regulatory framework for permanent and non-permanent CCU, it is important to underline that the responsibility to ensure a proper end-of-life pathway is followed, and the release of captured CO₂ in the atmosphere is avoided, should rely on the producer of the specific product**.

CO₂ emissions should be accounted for at the moment in which the product that will cause such an emission is placed on the market, be it with or without the subsequent capture of the carbon molecule ('upstream accounting'), and not at the end-of-life stage ('downstream accounting'). **The proper application of upstream accounting of CO₂ emissions is crucial to ensure the correct application of the polluter pays principle and to encourage full circularity**.

The European waste management sector has been advocating for waste management models where informed and responsible behaviors lay the ground for efficient source

separation of waste and quality recycling, ultimately reducing the sector's CO2 emissions. Producers and consumers should take responsibility for the environmental and climate cost of non-recycled waste since, as mentioned before, WtE operators cannot control the carbon footprint of the waste streams they are conferred for treatment. Climate mitigation policies like the ETS Directive cannot ignore how consumer behaviors and producer responsibility ultimately shape, for better or worse, the climate footprint of the waste sector. This principle must guide the EU also in its path towards defining the proper regulatory environment to encourage truly sustainable products based on permanent and non-permanent carbon capture and utilisation.

II. Acknowledgement of the contribution of other activities

Overall, the notion of CCUS technologies should not be considered only under the prism of activities subject to the EU ETS, as it may lead to a loss of opportunity for carbon offsetting in other activities. Therefore, the current approach focusing on ETS and CCU should be complemented by a broader approach giving also visibility to non-ETS sectors and efficient technologies in order to fully exploit the potential of decarbonisation. This should recognise the potential contribution of and incentivise business models developed by:

- non-ETS sectors and;
- alternative technologies which may or may not require CCU devices, but which ensure that carbon has been captured and used in such a way that actual or avoided emissions have become chemically bound in a product.

III. Limitations of a restriction to permanent CCU

The application of CCU processes within the waste management sector, but specifically for waste recovery plants through incineration, faces a significant uphill battle due to the low 'readiness level' of the available technologies. **Restrictions to permanent CCU, strongly limit its application.** Such limitation is twofold. On one hand and in a general sense, **it accentuates the lack of viable business models and**, on the other hand, **the particular permanent CCU proposed has a limited potential per se.**

a. Lack of viable CCUS business models

While it may seem like the perfect solution for processes where CO2 emissions cannot be entirely eliminated, the technology and infrastructure to support its industrial use, especially for CCU, are not yet sufficiently developed and will likely not be for several years. This creates a gap between the political ambition that is enshrined into law and the realistic options for implementation. To facilitate a bridging of this gap the application of CCU has to be encouraged by providing and strengthening viable business models. Without these, the new technology cannot take root in the EU as quickly as envisioned and needed. Due to the enormous investment requirements, the high running costs for CCS, CCU and the volatile CO2 price supporting measures for the CAPEX and OPEX costs are essential in order to minimise risk. The industry, including small emitters, should therefore be given access to protective measures, such as Carbon Contracts for Difference (CCfD), as quickly as possible.

b. Limited potential of mineralisation as permanent CCU

In the mineralisation method, which is the most viable option at present, CO₂ is typically captured and bound directly at the chimney where the flue gases containing greenhouse gasses are emitted. However, the current binding potential of these technologies is only 1-10%, which means great quantities of binding agents are needed in order to capture all of the emissions. For an improved application of CCU the binding capabilities need to be significantly enhanced, which is a time-consuming and energy intensive process, thereby limiting the present use case of permanent CCU.

IV. Proposal to link the EU ETS and carbon removals systems, and to incorporate avoided emissions

To overcome these limitations, the future revision of the EU Emissions Trading System should strongly consider the linkage with the carbon removals certification system as well as the incorporation of avoided emissions. This applies, in terms of CCU, to the use of CO₂ as a basic material for so-called e-fuels or synthetic fuels (gasoline, diesel, kerosene) to meet energy requirements in the mobility sector (primarily shipping and aviation) and as a basic material for products such as methanol, ethanol, or polycarbonates in the chemical industry. But it also applies to the emissions saved thanks to recycling activities. For example, mechanical recycling of plastic waste saves on average 20 to 70% or more of CO₂ equivalent compared to the corresponding production of virgin plastics from fossil sources. **It must be acknowledged that these activities and applications avoid the use of fossil resources and thus prevent additional emissions.** The EU needs to recognise these net savings, for example, by using a methodology similar to that of the Innovation Fund. In addition, carbon removals should also be counted in the EU ETS considering removals from both, activities included in it and those not included.

FEAD is the European Waste Management Association, representing the private waste and resource management industry across Europe, including 19 national waste management federations and 3,000 waste management companies. Private waste management companies operate in 60% of municipal waste markets in Europe and in 75% of industrial and commercial waste. This means more than 320,000 local jobs, fuelling €5 billion of investments into the economy every year. For more information, please contact:

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