Fédération Européenne des Activités de la Dépollution et de l'Environnement
European Federation of Waste Management and Environmental Services
Europäische Föderation der Entsorgungswirtschaft

8 June 2020

FEAD feedback for the public consultation on the Roadmap for an EU Smart Sector Integration Strategy

FEAD, the European Federation for private waste and resource management, supports the adoption and implementation of an EU Smart Sector Integration Strategy (EU SSIS), as one of the instruments of the European Green Deal. We understand that such strategy, allowing to combine and optimise the different energy systems across EU, on one hand the electricity system and on the other hand other forms of energy (e.g. gas, liquid fuels, and heat), should work together with other legislative tools, in particular the soon-to-be-revised Energy Taxation Directive and the Circular Economy Action Plan (CEAP), and increase the energy efficiency, while boosting the circular economy in the Union. This should also result in achieving the decarbonisation of the energy sector, in providing secure and affordable energy, in promoting synergies between sectors, in enabling new investments and creating economic growth and jobs. Waste management activities have a key role to play in this regard, however there are still challenges that must be overcome. The proposed initiative can allow for the elimination of the market barriers for the use of alternative fuels and energy that derive from waste and can help gradually evade the use of fossil fuels.

FEAD key priorities:

- Acknowledging the positive role that waste management activities have in avoiding CO_2 emissions in the overall energy sector.

- Allowing renewable energy derived from waste to be placed in the market at competitive prices and acknowledging recovering waste heat and energy from waste in general as virtuous.

- Ensuring implementation in a homogeneous way in the whole EU economy while designing the strategy, in order to avoid market-handling variations between EU Member States.

Pursuant to the new EU SSIS initiative, low-carbon fuels resulting from waste should be positively treated in the EU energy market compared to fossil fuels, insofar as they are unavoidable in the waste treatment cycle, and avoid the

consumption of fuels with a higher carbon footprint. This requires that the proposed initiative should include waste-based fuels, and in particular the following:

1) **Solid Recovered Fuel (SRF)**: waste that cannot be recycled (residues of non-recyclable, non-hazardous municipal or industrial and commercial waste, such as paper, cardboard, wood, textiles, plastic, construction waste, shredding of vehicles, tyres, etc.) can be used to produce high-quality, standardised alternative fuels, while reducing the amount of landfilled waste. SRF is a virtuous use of residues that would otherwise be lost if incinerated without energy recovery or landfilled. SRF allows to avoid the use of fossil fuels for the purposes of its users and avoids CO2 emissions. SFR constitutes a crucial link in the recycling chain, by giving to residues an economic value. Recovering the energy content of waste is an essential complement of material recovery and the circular economy.

2) **Waste-to-Energy (W-t-E)**: R1 waste-to-energy installations allow to recover the energy content of non-recyclable waste. The whole recycling process after selective collection results in non-recyclable residues that account for 25% to 30% in average (residues from sorting and residues after sorting). Stronger eco-design rules, waste prevention schemes, will not significantly reduce the amount of residual waste. Less landfilling (municipal and industrial and commercial waste) will inevitably be accompanied by an increase of waste-to-energy facilities. Heat from W-t-E installations account for around 50% as renewable (with slightly different percentages in each Member State), due to the organic fraction in municipal waste that ends up in R1 installations. This share is consequently considered renewable energy (biomass) under the Directive on Renewable Energy 2019-2001. FEAD very much supports the need that Waste-to-Energy activity be included in the taxonomy. The European Commission[1] has recognised the potential and need for energy recovery from waste. Finally, R1 Waste-to Energy installations are an important component to efficient district heating and cooling networks, with a view to the 2050 carbon neutrality target.

3) **Waste heat recovery**: Waste heat, also known as "excess heat", is defined in the Renewable Energy Directive 2018/2001 (as "unavoidable heat or cold which is generated as by-product in industrial installations, which would be dissipated unused in air or water without access to a district heating or cooling system") and can take the form of vapor, hot water, oil or hot air. While it is originally created as an undesired by-product of the operation of a piece of equipment or machinery, or by W-t-E plants, as well as by other industrial installations, it can be used to fill a desired purpose elsewhere. Waste heat can become subject to another process to provide clean energy, or it can be used by other economic operators in their

[1] https://ec.europa.eu/environment/waste/waste-to-energy.pdf

commercial or industrial activities, or even to cover domestic electricity demand of end-users. Generally, the EU is losing on energy efficiency by not taking advantage and promoting waste heat recovery, which would help avoid additional energy consumption while at the same time reduce GHG emissions.

4) **Biomass and waste**: Biomass is defined in the Renewable Energy Directive 2018/2001 as "the biodegradable fraction of products, waste and residues from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste". Biomass from landfill sites can be converted to bioenergy through various processes including pyrolysis, liquefaction, and gasification.

"The key benefit of fuels produced using regenerative energy is clearly a small carbon footprint. Among these fuels, first-generation biodiesel has a relatively low CO_2 reduction potential. However, liquefied methane produced from biomass (biogas) has extremely high CO_2 reduction potential. It should be noted that the main component of LNG is also methane; therefore, both liquefied gases are equivalent."[2] Besides, local biomass residues and wastes can also be processed into liquid biomethane to make a closed loop system for remote applications.[3]

[2] DNV-GL. (June 2019). ASSESSMENT OF SELECTED ALTERNATIVE FUELS AND TECHNOLOGIES. p. 9. Available at: https://www.dnvgl.com/publications/assessment-of-selected-alternative-fuels-and-technologies-rev-june-2019--116334 ; last accessed on 16/04/2020.

[3] IRENA - International Renewable Energy Agency. (2015). RENEWABLE ENERGY OPTIONS FOR SHIPPING - TECHNOLOGY BRIEF. p. 42. Available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2015/IRENA_Tech_Brief_RE_for-Shipping_2015.pdf ; last accessed on 16/04/2020.