

While the sands of political time shift slowly in Brussels, a number of EU waste policies are converging, with imminent implications for the waste to energy industry.



THE SHIFTING SANDS OF EUROPEAN WASTE TO ENERGY POLICY

While the Circular Economy Package was widely welcomed by the European waste to energy industry, a number of other EU policies are also likely to have a positive impact. With REDII and the Energy Union gathering pace, waste to energy should tick a lot of boxes for the policy makers. *By Ben Messenger*

In the European Union the waste to energy industry is governed by a multitude of regulations, policies and directives. But those rules are not carved in stone. Over recent months many of the regulations affecting the industry have been reviewed and updated.

The Circular Energy Package has recognised the importance of recovering energy from unrecyclable waste, as well as the value of metals recycled from bottom ash. More recently in February the consultation on the Renewable Energy Directive (RED) for the period 2020-2030 closed. While the outcome of the consultation remains to be seen, the opportunity to comment on the security of electricity supply was welcomed by the waste to energy industry.

REDII

Trade body, the European Suppliers of Waste to Energy Technology (ESWET) are confident that the decision-makers will maintain the current recognition of the renewable energy contributions from waste to energy. However, the organisation took the opportunity to call for clarification on the merit order for access to the grid for partly-renewable electricity sources such as waste to energy.

According to ESWET the merit order should be detailed to better recognise the specifics of waste to energy so that it can maximise its contribution to more sustainable and secure electricity for the EU.

The trade body argues that the new RED should avoid the squandering of valuable energy from waste, which risks happening if waste to energy plants are ordered to curtail their electricity output – something which they are technically able to do but which goes against the Waste Framework Directive's R1 Formula.

ENERGY UNION ROADMAP

In addition to the Circular Economy Package and the RED revisions, another important area of shifting EU policy is its Energy Union program. It was launched back in February last year to reduce dependence on fossil fuels, reduce green-

“TODAY’S PACKAGE FOCUSES ON THE SECURITY OF OUR SUPPLY, BUT TOUCHES UPON ALL THREE OVERARCHING GOALS. BY REDUCING OUR ENERGY DEMAND AND BETTER MANAGING OUR SUPPLY FROM EXTERNAL SOURCES, WE ARE DELIVERING ON OUR PROMISE AND ENHANCING THE STABILITY OF EUROPE’S ENERGY MARKET.”



Maroš Šefčovič
Vice-President of the EU Commission
responsible for Energy Union

house gas emissions and increase the affordability of energy for households and businesses. As part of this strategy, the Commission said at the time that it would establish further synergies between energy efficiency policies, resource efficiency policies and the circular economy, including exploiting the potential of waste to energy.

Twelve months on the Commission has launched a Roadmap to further explore the role waste to energy should play in the implementation of the Energy Union Framework Strategy. In addition to coming under the Energy Union Framework, the Roadmap also constitutes one of the actions on waste management listed in the annex to the Commission's Communication on an EU action plan for the Circular Economy.

According to the Roadmap, statistics from a number of reports suggest an important implementation gap amongst Member States that needs to be addressed at EU level in line with the waste hierarchy and circular economy principles. It says that in a majority of Member States energy and other resources contained in waste are being lost through improper management.

The Roadmap urges Member States to prioritise actions targeting the highest ranks of the waste hierarchy - waste prevention, product reuse and recycling – through effective separate waste collections schemes and economic instruments such as landfill taxes or charges. It also calls for more action at national level to curtail the current high landfill rate and turn it into opportunities directed at meeting the recycling targets and extracting the energy from non-recyclable waste in an efficient manner.

ROADMAP OBJECTIVES

The initiative seeks synergies amongst the various EU policies: the Circular Economy; the Energy Union Strategy; and the EU Climate Change and the Renewable Energy policies. Waste to energy it says displaces the use of virgin fossil fuels and contributes to the security

of energy in the EU by producing energy from a renewable source.

This Roadmap aims to inform, clarify and provide inputs to relevant existing policies, especially to the Energy Union Strategy. In this respect, the Commission says that the output energy obtained through waste to energy processes represents “a secure, renewable and possibly more affordable source of energy in line with the Strategy”. The specific objectives are fivefold.

The first objective is to present the contribution of energy recovery from waste to energy plants to the EU energy mix, both from dedicated mass burn plants, and from those which co-combust waste with other fuels, as well as gasification and anaerobic digestion facilities, where the main purpose is to generate energy and recover residual material wherever possible. The ongoing work on the Best Available Techniques Reference Document (BREF) can contribute to this.

Secondly, the Commission aims to highlight the potential of the main waste derived fuels (WDF) and to propose some general criteria to achieve the best possible outcome from a Circular Economy and environmental protection perspective.

Thirdly, the Commission intends to analyse the optimal utilisation of existing incineration capacity in Member States and to make recommendations for the transition from mass incineration of mixed waste as a result of poor waste management in certain Member States to a better application of the waste hierarchy and a transition towards the most efficient waste to energy processes.

The fourth objective of the Roadmap is to help build industrial synergies and symbioses between waste to energy plants and energy-intensive industrial processes, e.g. industrial clusters. The final objective is to examine the best ways that waste to energy can contribute to the EU energy mix without compromising the achievement of the EU’s long-term reuse and recycling targets.

HEATING & COOLING

As part of the overarching Energy Union Framework, in mid-February this year the Commission presented its Energy

“THE ENERGY UNION IS STARTING TO TAKE SHAPE. A LOT OF PROGRESS HAS BEEN MADE IN THESE FEW MONTHS, BUT WE SHOULD NOW MOVE TO FULL-SCALE DELIVERY OF ALL ACTIONS NEEDED.”



Miguel Arias Cañete
Commissioner for Climate Action and Energy

Security Package, which includes a Heating & Cooling strategy. According to the package the heating and cooling of buildings and industry consumes half of the EU’s energy, 75% of which come from fossil fuels.

The proposed Heating and Cooling strategy focuses on removing barriers to decarbonisation in buildings and industry. It also stresses that increased energy efficiency and use of renewables will have an impact on energy security. As part of this, the Commission notes the benefits of district heating, particularly when fed by waste industrial heat or heat from waste to energy facilities.

To underline the potential energy efficiency benefits, the Commission highlighted the Swedish city of Gothenburg, where more than 90% of all apartment blocks are heated with waste heat from nearby industrial plants and waste incineration through a 1000 km district heating network.

Another possible efficiency gain is district cooling via cogeneration and absorption chillers that transform heat into cold and can be used in buildings through a district network. Absorption is a process which can convert heat from waste to energy plants into cold for use during the summer months. This is already practiced in many district cooling systems such as the Vienna district cooling system which uses the heat produced by the CHP waste incineration plant during summer to supply cooling.

CONVERGENCE

The Commission is working on a number of policies which converge towards the same objectives. One year in the Energy Union is very much a work in progress, but waste to energy clearly ticks a number of boxes in terms of reducing reliance on energy imports and increasing efficiency – particularly in the form of heat.

Added to the requirements of the Circular Economy Package and the expected opportunity for outcome from the Renewable Energy Directive consultation, the shifting sands of European waste and energy policy are shaping up to be positive for the waste to energy industry. —

THE EU ENERGY CONUNDRUM IN NUMBERS

50
TWH
PER YEAR

Heat from recovered waste to energy plants used for District Heating systems in Europe each year

50%

Fraction considered renewable of the energy generated from MSW and industrial wastes

74
MILLION
TONNES

Quantity of waste sent to landfill in the EU each year

SIX

Number of Member States which depend on a single external supplier for their entire gas imports

120
BILLION
EURO

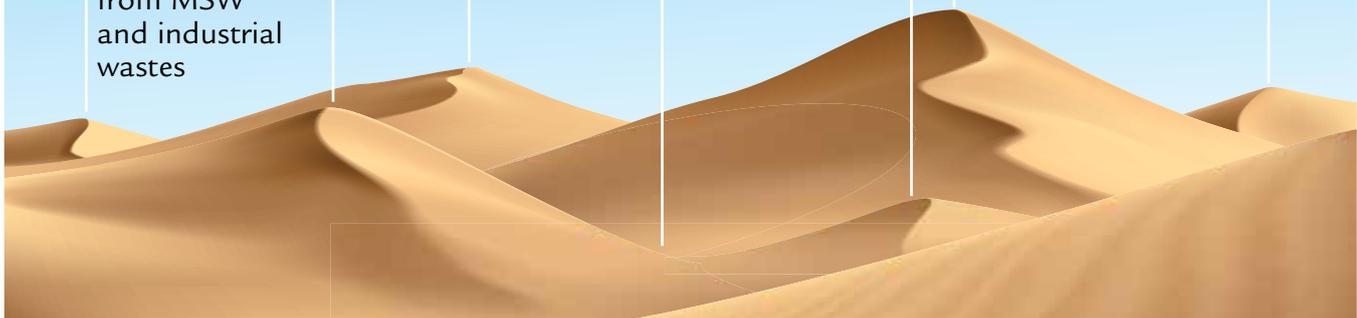
Amount spent either directly or indirectly in the EU on energy subsidies

400
BILLION
EURO

Cost of energy imports to the EU

1 TRILLION
EURO

Investment needed in the EU energy sector by 2020



The European Union is the **WORLD'S BIGGEST IMPORTER** of energy



53%

PERCENTAGE OF ENERGY consumed in the EU which is imported



JOINED UP THINKING FOR EUROPE'S WASTE TO ENERGY POLICIES

With so much going on with the EU waste to energy policy, Ben Messenger speaks with Guillaume Perron-Piché, Policy Officer at the European Suppliers of Waste-to-Energy Technology, to shed some light on how it all fits together.

The European Suppliers of Waste to Energy Technology (ESWET) has been unsurprisingly vocal in its backing of waste to energy technology during the consultation on the Renewable Energy Directive (RED) for the period 2020-2030, but that's far from all that's going on in the corridors of Brussels at the moment.

"The first important thing to know is that this is a consultation which is quite far upstream of the publication of the new renewable energy targets proposal, based on the European Council political agreement, which will come in a package later this year," Guillaume Perron-Piché tells WMW. "This package will contain the renewable energy aspects, and probably climate change discussions on the ETS (the EU Emissions Trading System)."

He adds that following new information he now expects this package on energy and climate to also include the communication on waste to energy that has been announced as part of the Energy Union Framework.

"From what we understand, the communication will look at different waste streams. We have been saying for a while, along with other waste management stakeholders in Brussels, that we should not only be looking at municipal solid waste, but also at commercial and industrial waste that can also be used for energy recovery," Perron-Piché continues.

"From this waste it's difficult to know how much will be finally available for recycling and for energy recovery, and

that's what the communication is intending to do."

"The main question for waste-derived fuels is not the number of different classifications of wastes, but the actual quantity of each," adds Perron-Piché. "We should focus on only a handful which are available in the largest quantities and which are currently being landfilled. The main ones are household and similar waste, sorting residues, and mixed and undifferentiated materials – and those are wastes which have to be handled in an efficient way."

Concerning the Energy Union Waste to Energy Roadmap, Perron-Piché says that it is very important to bear in mind that waste to energy technology is active in two regards – diverting unrecyclable waste from landfill, and the production of partly-renewable energy, ideally with heat use.

"It's very important that a link is being made between the Energy Union and the Circular Economy," he asserts. "We are quite happy to see that finally there is this communication that will look at what waste is available, and also at what are the best technologies. For this, clearly [mass burn] waste to energy plants have a very well proven track record and are the main, or even only, source of energy from residual waste if you exclude anaerobic digestion for fermentable waste."

EFFICIENCY

One of the main areas that the Roadmap aims to address is that of how waste

to energy plants can be made more efficient.

“We are also looking at what technologies are currently used in Europe and could be used in other areas where waste is currently being landfilled,” comments Perron-Piché. “The experts, including ESWET, see waste incineration, with energy recovery and flue gas treatment being the main option. And the best way to make waste to energy even more efficient is to use the heat in district heating or industrial settings.”

The important thing is that we are talking about reindustrialising Europe,” he continues. “It’s a very positive trend. It’s something that we need for jobs, for the environment and for sustainability if we want to be making the products that we consume here instead of on the other side of the Earth. Those new industries will require a stable source of energy and waste to energy plants are ideally suited to supply that energy, both in terms of electricity and heat.”

For this scenario to flourish, Perron-Piché says that it is important that for both politicians and civil society endorse industries being developed near existing waste to energy plants. Likewise, where new waste to energy plants are to be built, they should ideally be located in areas of high heat demand.

EVENING OUT CAPACITY

Another key point the Roadmap is intended to explore is the uneven geographical spread of waste to energy capacity. There has been much discussion about growing exports from the UK and Southern Europe to plants in Northern Europe, but Perron-Piché sees it as a sensible interim solution.

“The R1 Formula means that these plants are able to accept waste coming from different areas,” he says. “There are, for the moment, about 75 million tonnes of waste being landfilled in the EU, so it is filling the existing capacity with waste that would have gone to landfill.”

“The simple way forward is that waste should normally be treated near to where it has been generated,” continues Perron-Piché. “This is the best way of engaging

GUILLAUME PERRON-PICHÉ

Policy Officer for the European Suppliers of Waste to Energy Technology, Guillaume Perron-Piché, speaks with WMW about the exciting policy developments in the pipeline from Brussels.

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Guillaume Perron-Piché
Policy Officer for the European Suppliers of Waste to Energy Technology

the citizens to notice the amount of waste they are producing, and it is also a way to retain locally the energy, the jobs and the benefits from the plants. The best solution is that everybody has the capacity to treat the bulk of their waste locally, but with the possibility to top up elsewhere if needed.”

BREF REVIEW

Another important topic is the ongoing work on the Best Available Techniques Reference documents (BREFs).

“BATAELs (Best Available Techniques Associated Emission Levels) are part of the Waste Incineration BREF which is being reviewed since 2014. ESWET is a very active participant of the technical working group in Seville. There is a relatively long timeframe before we can see final values published, at least two years before anything is finalised,” explains Perron-Piché.

“The main thing that we’re all very eager to see, is that the EIPPCB (the European Integrated Pollution Prevention and Control Bureau) are the ones who will propose BATAEL figures. Unfortunately we have not been able to understand how the collected data will be used to make the proposed BATAEL figures,” he adds. “We are working with the Commission and need to find an agreement. There are many Member States that are also eager to understand what will happen to the data that will underpin the BATAELs.”

Perron-Piché expects the first draft of those figures some time in 2017.

CONCLUSION

In conclusion, Perron-Piché notes that with the Circular Economy package there is finally a good message that landfill should cease by 2030. He also notes the joined up nature of the current round of consultations and roadmaps.

“It is a matter of political will. I am confident that Member States will see the added value of moving up the Waste Hierarchy because the Waste Hierarchy creates jobs,” he concludes. “The Waste Hierarchy is a Jobs Hierarchy. There are more jobs sorting, recycling and recovering energy than there are in landfilling.” —