Congress 2018 - Bilbao

Summary

9th CEWEP Congress – 20th September 2018 in Bilbao

Waste-to-Energy: Making Circular Economy Happen

Welcome Address

Paul De Bruycker, CEWEP President: - **link to presentation**

CEWEP's President welcomed more than 200 participants from 28 different countries to the 9th CEWEP Waste-to-Energy Congress.

In his welcome address, Paul De Bruycker put the circular economy into perspective: in order to achieve a sustainable circular economy, we have to keep the circle clean. In this context, Waste-to-Energy steps in and gets rid of the contaminants and unwanted substances.

The main goals of CEWEP were reminded to participants: reducing dependency on landfills, supporting quality recycling, generating value from bottom ash, and producing sustainable and reliable energy.

Finally, Paul De Bruycker tackled the topic of Waste-to-Energy capacity. He demonstrated that, taking into account the Circular Economy Package targets, population growth and rejects from recycling, there was no Waste-to-Energy overcapacity at the European level.

Unai Rementeria Maiz, President of the Government of Biscay:

Unai Rementeria thanked CEWEP for choosing Bizkaia as the venue for the Congress and highlighted that the province is an example of an advanced municipal waste management, with recycling rates very close to the target levels set by the European Union. He reminded participants that Biscay's waste management plan centres on meeting the targets in the EU's new Circular Economy Package.

Walk the talk in a Circular Economy

Keynote Speech: Implementation of the Circular Economy, Non-Toxic Environment, Interface between Chemical and Waste Legislation, Plastic Strategy… What's Next?

William Neale, Adviser Circular Economy and Green Growth, DG Environment, European Commission:

William Neale started his keynote speech by stating that Waste-to-Energy is dealing with a problem that society wants to ignore, but is there and that Waste-to-Energy has a role to play in an integrated waste management system.

He highlighted the achievements of the European Commission in the past years:

- Adoption of the Circular Economy package;
- Waste review based on cornerstone of waste hierarchy as agreed by Member States and European Parliament;
- Strengthened separate collection rules, with separately collected waste not to be incinerated unless being the best environmental outcome;
- New targets for recycling and landfilling, which provide clear political signals, predictability for industry and are higher than the previous targets;
- Work on product design, and ongoing studies on substances of concern;
- Introduction of the mandatory separate collection of biowaste;

He acknowledged that Waste-to-Energy has a role to play in diverting from landfills, in treating the residuals, in dealing with legacy substances, hazardous substances and in producing energy. But even if there is no overcapacity at EU level, care is needed to avoid stranded assets. The circular economy is here to stay and will continue to drive up the waste hierarchy in the quest to maximise value.

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Implementation of the Circular Economy in Spain

Margarita Ruiz Saiz-Aja, Assistant Deputy Director General for Waste, Ministry of Agriculture, Food and Environment of Spain: **- link to the presentation**

Margarita Ruiz Saiz-Aja presented the Spanish strategy on circular economy, published in early 2018 and pending approval, possibly at the end of the year.

The strategy was built at the governmental level through a horizontal approach involving various ministries together with regions and local entities. It involves a long term strategy for 2030, and a short term action plan for 2018-2020 in order to tackle the most pressing issues. The action plan contains 111 measures for a total budget of more than 600m€.

On Waste-to-Energy, Margarita Ruiz Saiz-Aja said that Spain's main efforts are to comply with recycling and landfill targets. Waste-to-Energy plants are important to do that but, for her, their capacity has to be planned correctly in order not to prevent the compliance. We have to convey that Waste-to-Energy plants are safe and controlled. The new BREFs will make controls even stricter.

Panel Discussion: Will Europe Achieve its Waste Targets? Will the Chinese Ban on Waste Imports Help Europe to be More Resource Efficient?

William Neale, Adviser Circular Economy and Green Growth, DG Environment, European Commission:

For William Neale, the dialogue between actors is the key for efficient EPR schemes. The experience proves that EPR has not been spread enough.

The European Commission has many tools in its hands in order to strengthen the demand side of the recycling market.

Retailers also have a role to play in achieving higher recycling rates.

On 24th September 2018, the European Commission will publish an early warning report in order to help Member States at risk of not meeting the 2020 waste targets.

Rafael Guinea Mairlot, President, AEVERSU:

Rafael Guinea talked about today´s situation of waste management in Spain, threats and opportunities for new Waste-to-Energy developments in the legal and political framework we have. The facts need to be put on the table, according to him.

Antonello Ciotti, President, Corepla: **- link to the presentation**

Corepla is the Consortium for the recycling of plastic packaging wastes in Italy, managing more than 1,2 million / per annum of plastic packaging waste.

For Antonello Ciotti, EPR should go with ECR (consumer responsibility). The consumer needs to be taught that if he keeps buying the same product and disposing of the waste in the same way, the recycling targets will never be reached. For instance, consumer should buy products packed in easy to be recycled packaging and dispose it correctly through the proper collection scheme.

The plastic packaging that today is not economically recyclable have to be taken care of, and Antonello Ciotti stressed that Waste-to-Energy plants are needed if we want to achieve the waste targets.

Christine Leveque, Director Business Innovation, SUEZ:

Keeping molecules circulating in the economy requires high quality recycling; the production yield of these high quality recyclates will remain low - and rejects still burnt - as long as incoming post-consumer products are not designed for recycling.

Producers and brands could also educate the consumer through advertisement.

Jarno Stet, Waste Services Manager, Waste & Cleansing Team, Westminster City Council:

Energy from Waste complements recycling and has an important role to play, now and in the future, safeguarding public hygiene and taking care of those (combustible) materials for which no or limited recycling options (will) exist.

There is still a lot of work to be done for EPR not to be simply a 'get-out-of-jail-free card'.

Energy and Climate

Heat Roadmap Europe: Potential for Waste-to-Energy in District Heating Systems

Susana Paardekooper, Research assistant, PhD Fellow, Aalborg University Copenhagen: - **link to the presentation**

Susana Paardekooper unveiled some of the key findings of the Heat Roadmap Europe project relative to the role of Waste-to-Energy in district heating systems.

There is an important potential for the development of district heating in Europe, including in Southern Europe (e.g. for industry). Expanding district heating networks would additionally create a possibility for the efficient use of Waste-to-Energy as it plays a part as base load energy source and is well integrated in these networks. In general, the existence of district heating is a very important driver to develop the efficient use of Waste-to-Energy.

In order to have a more efficient use of the resources made available by WtE, the research shows that Waste-to-Energy plants should ideally be situated close to urban centres.

Waste-to-Energy and CO_2 Accounting

Alessio Boldrin, Senior Researcher, Technical University of Denmark: - **link to the presentation**

CO_2 accounting is a key issue in order to achieve targets in reduction of CO_2 emissions. Alessio Boldrin illustrated the issue with the example of the city of Copenhagen, which aims to be carbon-neutral by 2025. The most challenging aspect of reaching this goal will be to decarbonise the energy production, in particular the baseline production.

He presented the upstream-direct-downstream method of quantification. This method provides one value of CO_2 emissions/savings for each step. It is a useful way of presenting data when considering different options, it is however not a Life Cycle Approach: for Waste-to-Energy, it does not consider landfill diversion in the CO_2 emission reduction.

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Carbon Capture from Waste and Usage in Horticulture, a Unique Dutch Cooperation

Liane Schoonus, Policy Officer, Dutch Waste Management Association and Dennis Medema, Innovation Specialist, LTO Glaskracht: - **link to the presentation**

Dutch horticulture has a high demand in CO_2. CHP is now the main source of CO_2 by burning natural gas. The sector has also an ambition to get rid of the use of natural gas for their energy supply to cut on CO_2 emissions. Therefore, the sector needs CO_2 from a different source.

Waste-to-Energy can provide CO_2 all year, at a high availability.

Liane Schoonus and Dennis Medema presented the unique partnership between Waste-to-Energy and horticulture in the Netherlands in order to implement Carbon Capture and Usage (CCU). As the Dutch Waste-to-Energy plants are already state of the art, the natural next step is to focus on Carbon Capture. The CO_2 will partly be supplied through already existing pipelines.

This partnership shows that CCU in horticulture is cost-effective, and achievable in the short-term.

Waste-to-Energy: Raising efficiency with Energy Storage Technologies – Potential and Best Practice

Helena Teschner, Senior Expert for Politics and Regulatory Affairs, German Energy Storage Association: - **link to presentation**

As regards energy storage, the heating sector – and in particular the Waste-to-Energy side of it – is the "sleeping giant". For Helena Teschner, heat is too good to waste and many projects are implemented in order to save this resource.

Energy storage is a Swiss army knife, allowing for more control of grid stability, raising efficiency, peak load smoothing.

Helena Teschner presented both heat and electricity storage projects undergoing around Europe.

Technical Session

Best Available Technology for Waste Incineration

Lighea Speziale, Technical & Scientific Officer, CEWEP: - **link to presentation**

All the permits of Waste-to-Energy plants throughout the EU will have to be reviewed within 4 years of the publication of the new Waste Incineration (WI) BREF. Emission Limit Values of all the permits will have to be set within the range of the new Best Available Techniques – Associated Emission Levels (BATAELs).

Lighea Speziale highlighted the main critical aspects of the BREF WI Review, from CEWEP's perspective:

- BATAELs are derived in Normal Operating Conditions, while the Industrial Emissions Directive requires Emission Limit Values to be set in Effective Operating Time.
- How will the Member States implement BATAELs in permits if BAT Conclusions do not specify the uncertainty associated to the ranges?

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If Earthworms Cannot Help: Tiered Approach in Line with Chemical Legislation

Carsten Spohn, Managing Director, ITAD (German Waste-to-Energy Association), Chair of CEWEP Working Group Residues: - **link to presentation**

Carsten Spohn presented an overview of the methods historically and currently used in order to assess the ecotoxicity of bottom ash (HP14).

The first attempts of using biological testing were not conclusive: results were strongly fluctuating, the testing was time consuming, costly and not reliably reproducible. A few years later waste and chemical legislation were aligned at the EU level, which means that classification of hazardous/non-hazardous waste would take into account the approaches of the chemical legislation. However, basing classification of waste only on chemical analysis leads to inaccuracy compared to a risk-based approach.

A tiered approach allows focusing only on specific Hazardous Properties (HP), but the result for HP14 varies depending on the final assessment method (total content vs. risk-based approach). The German classification approach found another alternative: tiered approach for HP1 – HP13 and HP15, and total content analysis for HP14 stringently following European Waste Framework Directive, European List of Waste rules and the EU-calculation method with subtracting pure and bound metals which are not water-soluble. Additionally, a risk-based assessment (eluate check) is done for safeguarding. On the basis on representative number of samples it shows that bottom ash from MSW-grate-incineration is typically non-hazardous.

Bottom Ash: How Much Gold is Actually in it?

Jan-Peter Born, Business Manager, HVC Alkmaar: - **link to presentation**

The wet treatment of bottom ash implemented by HVC and Boskalis in the context of the Green Deal produces a clean aggregate and compensates the additional operating costs by maximising the metal recovery, particularly of precious metals.

The ash goes through a wet sieving prior to Eddy currents, which rinses particles. This allows for a higher efficiency of Eddy currents and increases yields of non-ferrous concentrate. Particles smaller than 4 mm are also separated and heavy non-ferrous particles are recovered from this fraction.

In 2017, the facility recovered more than 1.5 tonnes of silver and some 60 kg of gold.

Perception of Waste-to-Energy and lessons to learn

Zero Waste

Peter Quicker, Director Unit of Technology of Fuels, RWTH Aachen University: - **link to presentation**

For Peter Quicker, Zero Waste - a society completely without waste - is a utopia that cannot be achieved. Only a few material flows (e.g. glass, metal) are permanently recyclable. Most other materials - the best-known example is paper - are subject to a reduction in quality during the recycling process, so that sooner or later the material has to be sorted out and disposed of.

In addition, large quantities of mixed residual waste will continue to be produced in the future, which cannot be recycled and must be treated in Waste-to-Energy plants. Alternative thermal processes that promise high-quality products from the residual waste have not yet been able to demonstrate their functionality and have therefore not established themselves as an alternative to waste incineration.

Product design, composite materials, consumer behavior and entropy make zero waste a utopia. Pollutant sinks will always be needed in order to eliminate, concentrate and destroy (or stabilise) toxic substances. Incineration plants and inert landfills provide this indispensable service.

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Panel Discussion: Fake News on the Waste-to-Energy Sector

Luke Walsh, Editor ENDs Waste and Bioenergy:

Fake news is clearly a problem that has been blamed for both: Brexit and Trump's election. But there are actions the media and Waste-to-Energy industry can do to lessen its impact on the sector. For example, the industry has to engage more with NGOs, even online.

Ana Loureiro, Communication Director at Environmental Global Facilities, Portugal:

Effective communication is about building trust. Even when it hurts, it is better that bad news come directly from the source. It is important to be committed to the message of defending public health, community wellbeing and common targets.

Dan Cooke, Group Head of Sustainability, Viridor: - **link to presentation**

There is a growing recognition in the UK of the vital role of Energy from Waste in a more circular economy.

The solution for an effective communication is to be consistent and to engage in dialogue with communities. The discussion should be focused on the community benefits provided.

Philip Heylen, ISVAG (Antwerp inter-municipal waste management organization):

The key challenge is the moving of goalposts: the emissions were criticised, we proved that their impact is null. Then, energy efficiency was debated. It improved thanks to district heating. Now, we have to tackle the "there is no residual waste" argument.

Conclusions

Ella Stengler, Managing Director, CEWEP:

The last session demonstrated again that what the Waste-to-Energy sector considers as providing a good and necessary service to society is not shared by everyone. CEWEP will continue to communicate the facts and performances of the sector to the public. And we should not get tired to appeal to decision makers to have an honest discussion, not talking only about numbers, but to take the – admittedly more challenging – aspect of quality and feasibility into account.

With China's new demand for minimum quality criteria for imported waste streams, people realise that our responsibility does not end when we separate the waste.

Waste-to-Energy is there when needed, to take care of the difficult waste streams. This is a very important service that the sector delivers as despite all wishes and zero waste attempts, there will always be residual waste that needs to be treated in order to be diverted from landfills.

Ella Stengler finished with the announcement of **the next CEWEP Congress taking place on 24-25 September 2020 in Prague.**