

*The*  
**Energy** from  
**Waste**  
*Essays*

*Thought-provoking analysis  
from industry leaders*

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## The policy environment for Waste-to-Energy: where it's heading, and what the future holds for our industry

If Europe minimised landfilling and maximised the use of waste as a resource, the future would look great for recycling and Waste-to-Energy (WtE). At the same time this would be beneficial for environment, jobs and growth in Europe.

In order to achieve this, the right steps have to be undertaken by EU policy makers. An important step will be the future 'Circular Economy' package. The European Commission should come up soon with 'a broader and more ambitious' proposal, as announced in the European Parliament on 16th December 2014 when the Commission Work Programme for 2015 was presented, withdrawing the current Circular Economy proposal.

### Minimising landfilling

In the new proposal a particular emphasis should be given to phasing out landfilling as soon and as much as possible as it would unleash the full potential of waste as a resource by increasing recycling and energy generation from the remaining waste.

This opportunity should not be missed or delayed considering the significant amount of waste that is still landfilled in EU28: more than 80 million tonnes of municipal waste alone every year. This is a tremendous amount taking into account the potential danger of landfilling for groundwater due to possible leachate and the fact that methane emissions from landfills are significant contributors to Greenhouse gases.

### Boosting quality recycling

Quality recycling is a vital issue. Rather than just focusing on quantity, quality should receive greater attention in the on-going revision. For this we need clear definitions, accurate measurement, better data and transparency about what goes in and what goes out of sorting and recycling facilities.

These mass balances exist for WtE. Information is widely available as WtE plant operators strictly document what goes into the plant and what goes out, i.e. energy and residues. From the latter precious metals are recycled.

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Greater transparency is also necessary in order to avoid that the EU's "recycling" targets are simply achieved by shipping the waste to countries with poorer environmental and social standards than those in Europe.

Quality criteria for recycling, similar to the R1 Energy Efficiency formula introduced in the Waste Framework

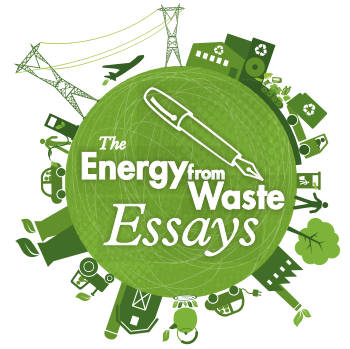
Directive 2008/98/EC for WtE, would be useful. The latter has proven to be instrumental in increasing energy efficiency of WtE plants.

WtE contributes to ensuring sustainable recycling in a clean circular economy by using the waste that is too polluted for Quality Recycling, to generate local, affordable and reliable energy in WtE plants, thereby contributing to security of energy supply and reduction of green house gasses, rather than having the waste sent to landfills. And in a 'broader' approach that is "not just half the circle", as stated by Mr Timmermans, the First Vice-President of the European Commission, energy aspects definitely deserve more attention in the circular economy.

### Providing affordable local energy

Indeed, a holistic approach that not only looks at raw material supply, but also considers affordable and secure energy delivery must be taken. Supplying citizens and industry with cost-effective and reliable local energy is an important aspect with regard to Europe's growth, security of energy supply as well as energy and climate goals, which are in the focus of the European Energy Union. This kind of energy is generated by WtE plants from waste that is not good enough for recycling.

In some European cities WtE plants cover 50% and more of the local heat demand - at a very cost-effective price. In Europe, recovered energy from waste for District Heating systems represents 50 TWh per year, i.e.



around 10% of the total heat delivered through District Heating systems. Studies suggest that the potential for using heat from waste equals to 200 TWh per year by 2050, which means there are considerable opportunities for further development.

Furthermore, it is expected that DHC (District Heating and Cooling) will function as the backbone of smart cities. DHC will be used as infrastructure to provide efficient exchange and redistribution of energy, including better use of local resources like waste.

Transition from individual heating based on fossil fuels to a combination of more efficient, renewable and competitive energy supplies, incl. WtE, will improve air quality significantly.

Considering that in 2012 the EU 28 imported 106 billion m<sup>3</sup> of natural gas from Russia (Eurostat), it is worth noting that the energy content of the waste treated by WtE plants in the EU equals to 19% of Russian gas imports (2012). And in 2020 it could reach even 33% of Russian gas imports, if non-recyclable waste is diverted from landfills to efficient WtE plants.

### WtE capacity

The amount of waste sent to WtE plants is determined by quality recycling, and the acceptance of recycled materials on the market. WtE plants take the rejects from sorting and recycling facilities, as normally not 100% of the waste collected for recycling becomes recycled products in the end, e.g. due to poor quality. They have to be treated in WtE plants to ensure that pollutants do not enter the circular economy.

If Europe is serious in minimising landfilling and maximising the use

of waste as a resource, we need investment in treatment capacity, i.e. sorting, recycling and other recovery options. WtE capacity in EU28 varies a lot. Some Member States have practically no WtE capacity, but landfill most of their municipal waste. At the same time there is a great discussion about so-called overcapacities for WtE in some regions, mostly where the use of waste for heating purposes or combined heat and power is highly appreciated.

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It must be considered that the Member States which have some spare WtE capacity are also the ones to achieve high recycling rates. They have progressive source separation systems and work to ensure that only waste that has gone through these systems enters WtE plants.

It is worth mentioning that sometimes WtE “overcapacity” might be overestimated as often only the amount of municipal waste generated in the region is taken into account. However, apart from municipal waste, WtE plants also treat considerable amounts of commercial and industrial waste. Although data for the latter is not as easily available as for municipal waste, it has to be considered for the

assessment of the total European waste incineration market.

Nevertheless, Waste-to-Energy overcapacities should be avoided. Careful capacity planning is necessary and cooperation between the regions should be stimulated.

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CEWEP (Confederation of European Waste-to-Energy Plants) is the umbrella association of the owners and operators of Waste-to-Energy plants (waste incineration with energy recovery) across Europe. CEWEP’s members are committed to ensuring high environmental standards, achieving low emissions and maintaining state of the art energy production from remaining waste that cannot be recycled in a sustainable way.

Waste-to-Energy: Creating reliable, cost-effective, local energy from waste, which is not feasible for recycling.

