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DEVELOPMENTS IN WTE WITHIN EUROPE

Jan L.C. Manders

Deputy President CEWEP
Director External Affairs, AVR-van Gansewinkel, The Netherlands

A description is given of the key elements of European Union (EU) policy and EU directives, which may affect the desired switch from landfill to Waste-to-Energy (WTE) and recycling of waste within the 27 EU countries. The most important directive is the one which forces individual member states to reduce the landfill levels for MSW to 35 % of the quantity of the base year 1995.

The latest European insights about how further investment into WTE can contribute to meeting the ambitious EU goals on production of renewable energy and reduction of greenhouse gases are given.

At present the 420 WTE plants within Europe incinerate about 53 million tonnes of Municipal Solid Waste, and they produce electrical power for 7 million households and at the same time heat for 13 million households. By doing so, they avoid the emission of about 23 million tonnes of CO_2 equivalent, through a combination of reducing methane emission from landfills and avoiding the burning of fossil fuels. If the entire EU successfully made the switch from landfill to a combination of recycling and WTE, as is the case in countries such as Denmark and the Netherlands, then this requires more than doubling of WTE capacity, but it would probably nearly triple the amount of avoided CO_2 equivalent emission of greenhouse gases.

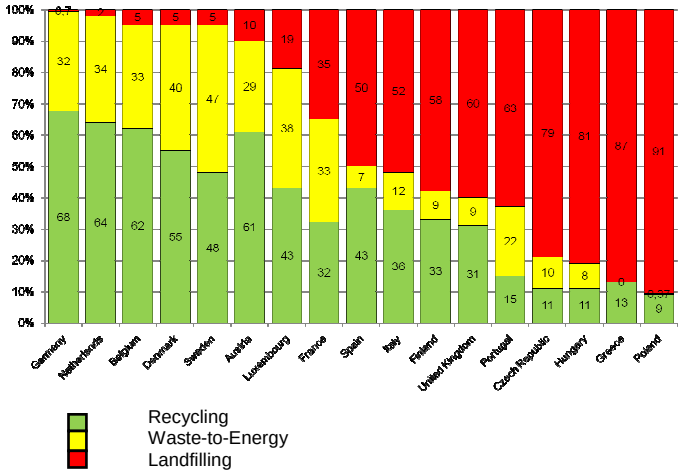
This would be a major contribution to the ambitious EU target of achieving 20 % sustainable energy production by 2020, as it would contribute 6% of the overall EU CO_2 reduction target.

An EU directive is in preparation, which foresees the inclusion of an energy recovery criterion for current and future WTE plants in order to classify the operation at the level of Recovery within the EU waste hierarchy (rather than disposal). Plants which are able to supply energy, both in terms of power and heat, will find it relatively easy to meet this criterion, but those which can only supply power will be challenged.

This is put into the perspective of the challenges that various groups of EU countries are facing in terms of getting their waste management systems in order, and significantly reducing the dependency on landfill as seen from the chart below.

A survey of current WTE capacity and EU investment opportunities will be given. It is clear that in the Nordic countries, as well as in The Netherlands, Germany, Austria and Switzerland, sufficient capacity will be available soon to incinerate all MSW in the market.

Treatment of MSW in the EU 27 in 2006
Source: EUROSTAT



However, many others, in particularly the UK, France and the new EU entrants offer substantial opportunities for growth and investment.

The best practice experience of European WTE plants is being reviewed in particular from an energy efficiency point of view.

Recommendations for maximizing energy recovery in planning new WTE projects are also given, both in terms of infrastructure and planning for the supply of both power and heat, as well as key plant design elements. In essence, these are:

- go for a substantial scale of operation in order to optimize capital and operating cost
- find a location close to a customer for heat, preferably of an industrial nature or otherwise for district heating
- choose a design based on state of the art proven technology: grate furnace in combination with medium to high steam conditions

JLC MANDERS SHORT CV

Jan Manders is the Director External Affairs of AVR-Van Gansewinkel which is the major Environmental Management and Waste Treatment company within the Benelux and the number 5 company in this field within Europe. Previously he was responsible for the AVR Waste Processing business.

Mr. Manders is also a Deputy President of the Confederation of European Waste to Energy Plants and as such closely involved in various European policy matters in Waste management and Renewable Energy.