



Waste to energy – key element for sustainable waste management



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ABSTRACT

Human activities inevitably result in wastes. The higher the material turnover, and the more complex and diverse the materials produced, the more challenging it is for waste management to reach the goals of “protection of men and environment” and “resource conservation”. Waste incineration, introduced originally for volume reduction and hygienic reasons, went through a long and intense development. Together with prevention and recycling measures, waste to energy (WTE) facilities contribute significantly to reaching the goals of waste management. Sophisticated air pollution control (APC) devices ensure that emissions are environmentally safe. Incinerators are crucial and unique for the complete destruction of hazardous organic materials, to reduce risks due to pathogenic microorganisms and viruses, and for concentrating valuable as well as toxic metals in certain fractions. Bottom ash and APC residues have become new sources of secondary metals, hence incineration has become a materials recycling facility, too. WTE plants are supporting decisions about waste and environmental management: They can routinely and cost effectively supply information about chemical waste composition as well as about the ratio of biogenic to fossil carbon in MSW and off-gas.

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