

Waste-to-energy technologies: Impact on environment

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2012 august

This paper provides an overview of thermal treatment methods for waste-to-energy (WTE) processes technologies in terms of their performance and environmental impact. It presents the possibilities of waste treatments and related legislation by the European Communities. In the Czech Republic there are 19 industrial waste incinerators in wide range of process capacities from 15 kt/y to 0.3 kt/y, and three municipal waste incinerators with nominal capacity 300, 250 and 9 kt/y. The pathways of energy production and the treatment of undesirable outputs are considered. There are analysed issues related to the WTE, technologies for thermal treatment of waste, heat recovery systems, flue gas issues and measures for flue gas cleaning. Up-to-date equipment used in WTE technologies is presented. Also different WTE performance techniques are included to provide a basis for comparison of different technologies. Available software for simulation the WTE processes are overviewed as well. The paper has been concluded with some promising future trends and approaches.