

# Determining the amount of waste plastics in the feed of Austrian waste-to-energy facilities

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## Abstract

Although thermal recovery of waste plastics is widely practiced in many European countries, reliable information on the amount of waste plastics in the feed of waste-to-energy plants is rare. In most cases the amount of plastics present in commingled waste, such as municipal solid waste, commercial, or industrial waste, is estimated based on a few waste sorting campaigns, which are of limited significance with regard to the characterisation of plastic flows. In the present study, an alternative approach, the so-called Balance Method, is used to determine the total amount of plastics thermally recovered in Austria's waste incineration facilities in 2014. The results indicate that the plastics content in the waste feed may vary considerably among different plants but also over time. Monthly averages determined range between 8 and 26 wt% of waste plastics. The study reveals an average waste plastics content in the feed of Austria's waste-to-energy plants of 16.5 wt%, which is considerably above findings from sorting campaigns conducted in Austria. In total, about 385 kt of waste plastics were thermally recovered in all Austrian waste-to-energy plants in 2014, which equals to 45 kg plastics cap<sup>-1</sup>. In addition, the amount of plastics co-combusted in industrial plants yields a total thermal utilisation rate of 70 kg cap<sup>-1</sup> a<sup>-1</sup> for Austria. This is significantly above published rates, for example, in Germany reported rates for 2013 are in the range of only 40 kg of waste plastics combusted per capita.

## Keywords

Plastics waste generation, plastic content, thermal utilisation, waste-to-energy, waste incineration, Balance Method, municipal solid waste

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