

Energy recovery of urban waste

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The use of urban waste for energy creation, especially the use of technologies based in gasification, is presented as a more sustainable alternative than controlled dumping at a tip.

According to data from the European agency EUROSTAT, 13 of the 28 countries in the EU are still dumping more than 50 percent of their solid urban [waste](#). These are mainly the member states situated in the south and east of the continent. Spain is seventh last in this list, with a dumping level of 251 kg per person per year.

Researchers from the Higher Technical School of Engineering (Escuela Técnica Superior de Ingeniería—ETSI) of the University of Seville have proposed a system capable of converting waste in a more controlled manner in two stages: First, the solid is converted to gas in reducing conditions (that is, in the presence of little oxygen), and then the generated gas is burned very efficiently in specifically optimised equipment. "The great environmental advantage of this method as opposed to incineration is that in reducing conditions the generation of toxic substances is minimised. The energetic efficiency of the process is, on the other hand, similar to incineration."

The environmental advantage of gasification, therefore, would be to avoid the emission of the equivalent of up to 300 kg of CO₂ per ton of solid urban waste treated, while the economic impact would be to increase the rate of management of solid urban waste. The transformation of the current system of solid urban waste management would mean the fomenting, also, of the sustainable industrial activity

necessary for complying with the objectives of the struggle against climate change to which Europe has committed.

Today, Finland has continually experienced this type of industrial activity since 1998, and there have been pilot programmes in Germany, Norway and, above all, the United Kingdom, where the rate of solid urban waste management is significantly higher than in the other countries, "which clearly indicates the interest in promoting energy recovery as a method for managing the fraction of solid urban waste which cannot be recycled."

More information: Cristina Aracil et al. Implementation of waste-to-energy options in landfill-dominated countries: Economic evaluation and GHG impact, *Waste Management* (2018). [DOI: 10.1016/j.wasman.2018.03.039](https://doi.org/10.1016/j.wasman.2018.03.039)

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