

# Plastic waste: better to burn?

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(PhysOrg.com) -- Burning plastic can give off less carbon dioxide than burying it, scientists claim in a Royal Society of Chemistry journal.

Swedish scientists studied the CO<sub>2</sub> produced when unrecyclable [plastics](#) are incinerated and the energy given off is recovered, compared with putting them into [landfill](#).

The authors of the *Energy and [Environmental Science](#)* article, Ola Eriksson (University of Gävle, Sweden) and Göran Finnveden (Royal Institute of Technology, Stockholm, Sweden), initially disagreed on which of these methods of disposal would be lower in CO<sub>2</sub> emissions.

Looking only at CO<sub>2</sub> emissions, incineration of plastics produces a much greater amount of CO<sub>2</sub> than landfill.

However, in the special case when incineration is performed with high-efficiency energy recovery, it provides power normally generated by plants burning fossil fuels, and can produce less CO<sub>2</sub> than would otherwise have been released into the atmosphere, making the overall process CO<sub>2</sub>-negative.

In Sweden, as in other European countries, the disposal of non-recyclable plastics in landfill is expensive and greatly discouraged, they prefer to incinerate it.

The researchers found the results surprising: “It showed we both were right,” said Eriksson.

These highly-efficient plastic incineration plants are not common throughout Europe and in most cases plastic incineration produces a high net emission of CO<sub>2</sub>.

Eriksson emphasises that they want European policy makers to think carefully about how they dispose of non-recyclable plastics. He wants them to “reconsider this policy to not put any plastic in landfill because, in some cases, it can be worth it,” he said.

More information: Ola Eriksson, *Energy Environ. Sci.*, 2009, [DOI: 10.1039/b908135f](https://doi.org/10.1039/b908135f)

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