



## Green power from landfill gas with low methane content

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Green power from landfill gas with low methane content is a collaborative project with NSR AB, Avfall Sverige, Deponigas ApS and Baltic Energy Innovation Centre (coordinator) as project partners. The project is co-funded by the Regional Council of Skåne.



*Figure 1. A dual fuel engine at Hedeland, Denmark, using landfill gas as main fuel and diesel as pilot fuel.*

*Photo: Jörgen Held*

### Project objectives

Perform a feasibility study in which dual fuel engines with landfill gas with low methane content (<40%) and a renewable pilot fuel are investigated under Swedish conditions.

Organize a study tour to some of the landfills in Denmark, where Deponigas ApS is operating dual fuel engines for power production.

Make preparations for an application for public co-funding related to lab scale engine tests at Lund University and a pilot installation at Tjöröd landfill outside Höganäs.

In Sweden, there is a ban to landfill organic material since 1 January 2005. As the landfill gas production decreases, due to no new organic material being added, and the methane content drops below about 40%, the energy content of the landfill gas is insufficient to drive conventional gas engines that work according to the Otto principle (spark ignition). In Denmark, Deponigas ApS, has developed a new technology, based on the Diesel principle, where landfill gas with methane contents down to 10-15% is sucked into the engine and a small proportion of diesel is used as pilot fuel for the ignition. In Sweden, there is an interest to use a renewable fuel as pilot fuel for the ignition, e.g. RME (rapeseed methyl ester), HVO (hydrogenated vegetable oils) and pyrolysis oil. Green power from landfill gas with low methane content is a response to this interest.