



Assessing, Capturing and Utilising Methane from Expired and Non-operational landfills

**An EU LIFE+ project
for 2012-2015**

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The goal of the ACUMEN project is to demonstrate approaches to reducing methane emissions from closed landfills. We have now identified several closed landfill sites where we will demonstrate a range of approaches to assessing, capturing and utilising methane. Our plans for work at these sites are briefly outlined below.

For background information on the project, please visit www.environment-agency.gov.uk/acumen

Assessing the methane potential of closed landfills

This work comprises two phases: desk study and site investigation. Building on existing work, the desk study and modelling work (Phase 1) will focus on techniques for assessing the *methane generation* potential of closed landfill sites. We will compare this desk study work with the findings from on-site monitoring work (Phase 2). The monitoring work will involve walkover surveys using hand held monitoring equipment and methane flux surveys and will give us a picture of surface methane emissions.

We will also be installing in-ground monitoring equipment at each site, to allow us to estimate methane generation using borehole purge - recovery tests. We can then compare these results to the modelled generation estimates from Phase 1. This will help us to determine whether purge - recovery tests can provide a valid insight into the gas generating potential of a site, and so inform decisions about proceeding to a full scale pumping trial.

Depending on the outcome of our initial investigations (Phases 1 & 2), we plan to demonstrate a number of landfill gas management techniques that will include:

- Installing a prototype low-calorific flare in place of an existing gas flare at a large closed landfill site;
- A bio-remediation trial that will involve passing the gas through a compost-based medium;
- Installing small scale gas engines capable of operating at low flow rates at with gases containing low concentrations of methane. We hope to demonstrate these at several sites which will allow us to look at the costs and benefits associated with exporting electricity to the grid as well as local energy use (such as combined heat and power), generated from landfill gas.

Further information

We will provide regular updates on our work as the project progresses – If you would like to receive these by email please email us at acumen@environment-agency.gov.uk and we will include you on our mailing list.

