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Small-scale flares and booster stations for special on-site tests and/or training of the staff to enable them to operate the gas extraction system

Wolfgang H. Stachowitz*, Marcel Mattern

DAS – IB GmbH, LFG - & Biogas - Technology, D 24113Kiel, Germany

Summary: It is not easy to determine the design (size) of the "suitable" booster and CHP unit for a landfill site. Gas prognoses versus actual pumping trails – what is the truest?. During the past 25 years, we found out: a combination of suitable components is advisable. Therefore, we use different gas prognosis models for different sites and countries, and we compare them with pumping trails in different sizes. For gas wells and manifold stations, small-scale mobile flares and boosters 1- 100 kW_{th} would be best, and for larger manifold stations and the whole site up to 2.5 MW_{th} mobile flares and boosters. All of the mobile systems can be hired, so that the landfill operator benefits from an investment in the "most suitable" and best-sized system. Furthermore, we aerate (vent) the landfill site using a booster system in order to reduce the methane (global warming) in the landfill site: $CH_4 + 2\ O_2$ - > $CO_2 + 2\ H_2O$. The Global warming potential (GWP) of CO_2 is 28 times lower than the GWP of CH_4 (see IPCC).

Index words

Staff training, Staff education, small-scale flares and boosters, mobile flares, pumping trails, landfill gas, optimisation, gas collection system, landfill, optimisation, extraction system, aeration, methane emission, reducing global warming



From left to right:
Small scale booster / flare (0-100kW_{th}): training of the site staff & extraction of LFG from one of the gas wells
1.0 MW_{th} and 1.6 MW_{th} flares/boosters in order to double-check a gas prognosis model in a pumping trail;
Landfill aeration with a booster in order to reduce the methane production of the site