

Newsletter IEA Bioenergy Task 37: 04/2019 GHG and Methane Emission Reduction

Project promotes voluntary action for GHG emissions control

The EvEmBi project (Evaluation and reduction of methane emissions from different European biogas plant concepts), launched last year in Lund, Sweden, will evaluate methane emissions from European biogas plants to develop a European voluntary system for greenhouse gas (GHG) emission mitigation in the biogas sector. EU countries are obliged to report their national inventories for GHG emissions, according to the United Nations Framework Convention on Climate Change. The Intergovernmental Panel on Climate Change (IPCC) guidelines require emission factors estimates for this annual reporting. However, the current factors used in IPCC are based on a limited amount of studies which result in a broad range of values and thus in low accuracy. The project picks up the first series of emission measurements in Germany that have been compiled in Task 37 report on “Methane emissions from biogas plants” and uses a previously developed measurement guideline (current research project MetHarmo). The EvEmBi project is funded in the 11th Joint Call for Research and Development Proposals of the ERA-NET Bioenergy.

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Wärtsilä biogas plant to reduce methane emissions

A part of the technology group Wärtsilä, Puregas solutions, has been contracted to supply a turnkey biogas upgrading plant to the USA. The plant is set to upgrade an existing anaerobic digester (AD) to produce biomethane. It has been ordered by a leader in sustainable agricultural practices, located in the state of Oregon. The Puregas solution will process 5250 cubic meters per hour of biogas from the anaerobic digestion of manure, which will come from over 50,000 dairy cows. The renewable natural gas is then to be injected into a pipeline for use as transportation fuel in the adjoining state of California. The plant is expected to produce around 240 MWh of biomethane a year. This is the equivalent to the annual energy consumption of over 15,000 households, 570 city buses, or 10,000 cars, with an annual CO₂ reduction of 51,000 tons.

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Forecast of the energy transition to 2050

DNV GL has published a new energy forecast to 2050. The intention was to construct what DNV GL see as ‘a most likely future’ for energy through to 2050. This contrasts with scenario-based approaches. Typically, scenarios are set up to contrast possible futures, for example varying the speed of the transition from the current energy mix to one dominated by renewables. As an organization with equal exposure to both the fossil and renewable energy worlds, DNV GL’s aim was to produce an objective, balanced view of the future. The main publication deals with a model-based forecast of the world’s energy system through to 2050. There are also partial reports on renewables, power and energy use and oil and gas forecast available as well as an executive summary. Unfortunately, the outlook does not see the world on track to meet the Paris Agreement climate goal.

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Nature Energy to utilize excess CO2 in biogas agreement

Renewable energy firm Nature Energy entered into a partnership with biogas producer Strandmøllen A/S where both will collaborate to recycle excess CO2 from the 'world's largest' biogas plant in Esbjerg, Denmark, i.e. sequestrating 40% of CO2. When the construction of Nature Energy's 'world's largest' biogas plant in Korskro near Esbjerg is completed, Strandmøllen will build one of the 'world's first' CO2 and use it for, for example, carbon dioxide in soda. The biogas plant is expected to be completed at the beginning of 2019 and Strandmøllen's CO2 plant will deliver its first supply of CO2 during the summer of 2019.

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New environmental standards for waste treatment

The European Commission has set new environmental requirements for waste treatment. This initiative comes after the review of the Best Available Techniques (BATs) to reduce the environmental impact of largest waste treatment installations. The measure will affect approximately 4,000 installations, including waste-based AD plants, across the EU. The European Commission has established new environmental standards for setting permit conditions for them, which shall be transposed by national authorities into domestic law. Existing waste treatment installations will have four years to comply with the EC requirements. New installations will have to conform to BAT measures immediately. The adopted decision covers emissions from different waste treatment systems and includes new conclusions for energy efficiency, resource efficiency, accident prevention, noise and odor, as well as management of residues. For the first time, the Commission has set out the emission levels associated with BATs from the aerobic treatment of waste, which will have to be taken into account for biogas production. It notes that these new levels could drive a significant reduction in emissions from the waste treatment sector.

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