Newsletter IEA Bioenergy Task 37: 06/2020

Task 37 and IEA reports

Task 37 Country Report Summaries 2019

This is the third annual country report of Task 37 in a row. It shows that the biogas production in the 15 IEA Bioenergy Task 37-member countries is clearly dominated by Germany with more than 10,000 biogas plants, followed by UK with nearly 1,000 plants. Apart from an overview on production of biogas in the member countries, the report gives an analysis of each country including production of biogas, utilisation of biogas, financial support systems and innovative biogas projects.
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Task 37 seminar on Drivers for Successful and Sustainable Biogas Projects

In March 2020 Task 37 held an international webinar in collaboration with the Canadian Biogas Association. Topics included an overview on Australian biogas development, biogas road maps of Sweden and The Netherlands, results of a 4-year monitoring program on 60 plants in Germany as well as a new concept integrating AD, thermochemical treatment and P2G. The slides are available on the website.
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Biomethane plant list of the Task 37 countries

Recently an update of the biogas upgrading plants within the 15 member states was published by Task 37. Germany (203), UK (96) and Sweden (69) are the leading countries with the highest number of plants. The list includes information on plant location, upgrading technology and capacity, substrate digested and utilization of the gas. In total 606 plants have been registered. In addition, 72 plants of non-member countries are recorded, most of them in the USA. In total, six technologies are accounted. Water scrubbers (181), membranes (173) and chemical scrubbers (103) are the three most popular technologies followed by The Netherlands, France and Denmark.
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Compact and automated on-farm biogas production

A brand new success story was published by Task 37, describing a compact on-farm biogas system in south-western Ontario, Canada. Canada has 37 operating on-farm anaerobic digestion systems, with most of these located on larger dairy farms in the Province of Ontario thanks to supportive policies, programs and incentives to develop biogas production over the last 10 years. The most significant adopters were larger dairy farms, with 250 to 1,000 head of cows, that co-digest dairy manure with locally available organic material from restaurants, grocery stores, abattoirs and food processors. With the ending of the feed-in tariffs, larger farms are now investigating the production of renewable natural gas (RNG or biomethane). Under the current energy and climate change policy framework, biogas upgrading is financially viable only at a large scale of production.
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Advanced Biofuels – Potential for Cost Reduction

Dearbonizing transport will require a range of bio-based transport fuels, and especially advanced low carbon fuels which are suitable for long-haul transport applications including aviation. A number of appropriate technologies to produce such fuels are being developed and commercialised. However so far, their production has only reached a limited scale. The costs of these advanced biofuels are currently higher than those of the fossil fuels which they can displace and of more conventional biofuels such as ethanol from sugar or corn, or biodiesel. The project of IEA Bioenergy used as its starting point a study on the costs of advanced biofuels carried out within the programme of work of the Sub-Group on Advanced Biofuels (SGAB) (under the European Commission's Sustainable Transport Forum (STF)) and published in 2017. The report on this study reviewed data available on the current costs of producing a range of advanced biofuels, based on extensive contact with industry and other players active in the field. Information gathered in this study has largely confirmed the estimates of the current costs of producing advanced biofuels contained in the earlier SGAB cost analysis report. Costs lie in the range of 65 to 158 EUR/MWh (17-44 EUR/GJ) for production based on biomass feedstocks and 48 to 104 EUR/MWh (13-29 EUR/GJ) for waste-based production, illustrating the cost advantages of using waste feedstocks. This compares with a recent range of fossil fuel prices of 30-50 EUR/MWh (8–14 EUR/GJ).
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China joins the IEA Bioenergy Technology Collaboration Programme

After years of mutual exchanges and visits the long-awaited moment has arrived: The Peoples Repbulic of China (PRC) has joined IEA Bioenergy as 26th contracting party. With the world's largest population, China has a huge impact on the global climate and energy use. PRC has actively developed biomass resources and issued a series of important policies on biogas, biofuel, biopower and bio-heating in the past two years. Initially CNREC plans to join two IEA Bioenergy tasks: "Energy from Biogas" (Task 37) and "Climate and sustainability effects of bioenergy within the broader bioeconomy" (Task 45).The China National Renewable Energy Centre (CNREC) operates under the Energy Research Institute (ERI) of the National Development and Reform Commission (NDRC), China. It is the ERI that has accepted the invitation from the Executive Committee of the IEA Bioenergy Technology Collaboration Programme.
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Worldwide renewable energy data base

The IEA and IRENA have recently stepped up cooperative efforts, signing a Memorandum of Understanding that builds upon long-standing collaboration on data and statistics, renewable energy technology costs, and renewable policies. In particular, the agencies are the joint custodians of the IEA/IRENA Renewables Policies Database. It includes energy policies related to renewables, energy efficiency, climate change and CCUS.
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IEA Methane Tracker 2020

Methane emissions are the second largest cause of global warming. While methane tends to receive less attention than carbon dioxide (CO_2), reducing methane emissions will be critical for avoiding the worst effects of climate change. Estimates of methane emissions are subject to a high degree of uncertainty, but the most recent comprehensive estimate suggests that annual global methane emissions are around 570 million tonnes (Mt). This includes emissions from natural sources (around 40% of emissions), and those originating from human activity (the remaining 60% - known as anthropogenic emissions). Wetlands have the highest (natural) methane emission followed by agriculture. However, the energy sector – including oil, natural gas, coal and bioenergy – is a large source of anthropogenic methane emissions. IEA launched its Methane Tracker last year in an effort to reconcile the various and often conflicting sources of data into a coherent set of estimates. This interactive online tool focuses on emissions from oil and gas operations – the area with the greatest and most cost-effective potential for reducing methane emissions. Now fully updated and expanded in

its 2020 edition, the Tracker provides a comprehensive picture of these emissions across more than 70 countries – as well of as the technologies and measures that can bring them down. Oil and gas extraction, processing and transportation were responsible for 5.2 gigatonnes of CO2 equivalent (GtCO2-eq) emissions in 2017 – nearly 15% of global energy sector GHG emissions. Half of these emissions (2.6 GtCO2-eq) are from flaring and from methane released during oil and gas operations. In the SDS, these flared and vented emissions fall to less than 1.2 Gt CO2-eq by 2025.
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Outlook for biogas and biomethane

According to the World Energy Outlook special report of the International Energy Agency (IEA), in the scenarios for 2040 there is talk of a 40% growth in terms of availability of sustainable raw materials for the production of biogas and/or biomethane. Especially in the Asia and Pacific region where imports have grown, without neglecting the areas of North and South America, Europe and Asia where the possibilities are also growing. Likewise, the sustainable potential for the supply of biogas and biomethane is taken into account, based on a detailed assessment of the availability of raw material and production costs in all regions of the world. Taking into account, as reflected in the report, that the recognition of the value of avoided emissions of carbon dioxide and methane contributes greatly to improving the cost competitiveness of biomethane. Biogas and biomethane, generated from agricultural residues, animal manure and food waste, could cover 20% of global gas demand, according to the results released in the report. To achieve the multiple benefits of biogas and biomethane, the coordinated formulation of policies in the areas of energy, transport, agriculture, the environment and waste management is important, since the evolution of the industry of these elements will depend on each country, the sector approach, as well as the availability of raw materials. Elements that, when properly carried, can contribute to the transformation of the global energy system in the face of great opportunities and even difficulties, which in the end will contribute to the sustainable growth of the sector.
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