

Press release

Leipzig, 09.04.2020

Research project "Biogas2030" shows new concepts for the biogas plant stock

The portfolio of biogas plants in Germany currently comprises around 9,000 biogas plants, which mainly generate renewable electricity and heat. As the EEG fixed remuneration will expire for a large number of plants by 2030, new requirements and challenges will arise for biogas plants as well. The aim of the now completed project "Biogas2030" was to show ecologically and economically sensible plant concepts for the biogas plant stock. The final report is available under the following link: www.dbfz.de/biogas2030

Based on the existing stock of plants for the production of biogas in Germany, the research project "Options for existing biogas plants until 2030 from an economic and energy management point of view" (acronym: Biogas2030) identified plant concepts for which three different operating models were examined in detail. On the basis of the selected models (substrate reduction, flex concept, conversion of VOV to biomethane), cost considerations and GHG balances were drawn up, obstacles to their implementation identified and options for action derived. For an appropriate consideration of the ecological, economical and energy system technical aspects, the scientists of the project consortium recommend to differentiate according to plant size and regional framework conditions. While for the smaller existing plants incentives for substrate reduction (operating model 1) or for making the plants more flexible (operating model 2) should be set, for the larger biogas plants (> 250 m³ biogas/h) only the conversion of the plant to provide biomethane (operating model 3) is recommended.

In order to stimulate the reduction of the renewable resources (NawaRo) share of the substrate (operating model 1) for agricultural biogas plants, the EEG fixed remuneration should be continued for plants with a high liquid manure share, or consideration should be given to a statutory follow-up subsidy. According to the scientists, the reduction of the substrate quantity in operating model 1 (50% energetic) ultimately leads to a flexibilisation of the plant and thus also opens up the possibility of being able to make use of the flexibility premium. For the flexibilisation of the biogas plant (operating model 2), adjustments to the legal framework conditions by optimising the tender management for existing plants are also recommended. First and foremost, concrete tender volumes for electricity from biomass for the period from 2023 should be defined and announced at an early stage. The conversion to biomethane (operating model 3) requires, among other things, a change in the legal regulatory framework in order to increase the incentives for the full-cost-optimised production and feed-in of biomethane. One option to reduce the specific supply costs of biomethane could be, for example, in the area of gas conditioning (including calorific value adjustment) and an adjustment to the 38th BImSchV. According to the project consortium, steering the development of existing biogas plants in the strategically desired direction requires not only the adjustment of the economic and regulatory framework conditions, but primarily an overall strategy for biogas and biomethane, in which a clear

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directional decision and steering mechanisms for the existing biogas plants are laid down.

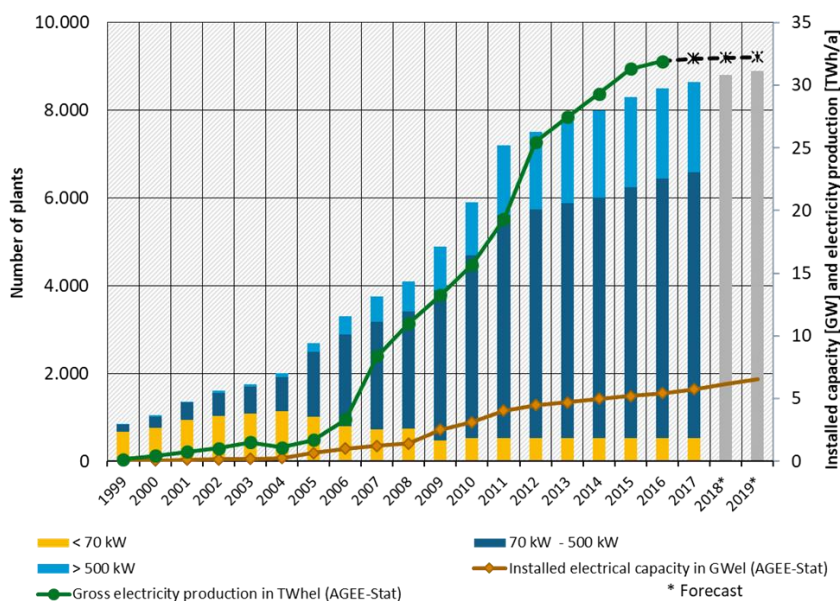


Figure: Distribution of biogas plants by plant size on the basis of the DBFZ plant database; installed plant capacity and electricity generation according to AGEE-Stat 2/2019 (UBA 2019), *DBFZ forecast (modified according to Lenz et al. 2019)

The project was carried out on behalf of the German Environment Agency (UBA) within the framework of the Energy Research Plan - research code 37EV 16 111 0 - under the technical supervision of the Federal Ministry of Economic Affairs and Energy and financed with federal funds.

On behalf of:



Project partner:



Smart Bioenergy – innovations for a sustainable future

The DBFZ works as a central and independent thinker in the field of energy and material use of biomass on the question of how the limited available biomass resources can contribute to the existing and future energy system with sustainability and high efficiency. As part of the research the DBFZ identifies, develops, accompanies, evaluates and demonstrates the most promising fields of application for bioenergy and the especially positively outstanding examples together with partners from research, industry and public. With the scientific work of the DBFZ, the knowledge of the possibilities and limitations of energy and integrated material use of renewable raw materials in a biobased economy as a whole should be expanded and the outstanding position of the industrial location Germany in this sector permanently secured – www.dbfz.de/en/

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