

Press release

Leipzig, 19/03/2025

From biogenic residues to renewable methane and green hydrogen: DBFZ puts modern pilot plant into operation

The 'Pilot-SBG' project, funded by the Federal Ministry for Digital and Transport (BMDV), is focussing on the provision of renewable methane as an energy source for transport sectors that are difficult to electrify. The central components of the research and demonstration project being carried out by the German Institute for Biomass Research, DBFZ, are the planning, construction and successful trial operation of a pilot plant for synthesised biogas (SBG) on a pilot plant scale. In the presence of around 120 guests from research, politics and industry, the new research plant was officially put into operation in a ceremony on 18 March 2025.

The concept of the new research plant on the site of the DBFZ in Leipzig combines both established and innovative technologies and processes biogenic residues, by-products and waste as well as green hydrogen to provide renewable methane as the main product and valuable by-products. The biomethane produced in the plant is to be used in compressed form as renewable CNG in the DBFZ vehicle fleet in a subsequent refuelling facility. As part of an innovation support service, the project will carry out extensive trials, continuously optimise process parameters and comprehensively analyse and evaluate the data collected in the process. The aim is to further develop the overall concept and to accompany and support its scaling up to commercial scale.

Hartmut Höppner, State Secretary at the BMDV: 'Without renewable fuels, it will hardly be possible to achieve the climate targets in the transport sector. We need innovative solutions for this, such as those being developed in the 'Pilot SBG' project in Leipzig. It is of great importance that projects such as this one at the DBFZ are implemented in order to create the conditions for climate-neutral mobility and logistics of the future.'

'Our pilot plant for renewable methane is an excellent basis for targeted technology development and scaling on the path to climate neutrality, especially in the transport sector. We would like to expressly thank the Federal Ministry for Digitalisation and Transport for its funding' adds Prof. Dr. Michael Nelles, Scientific Managing Director of the DBFZ.

The pilot plant, which covers a total area of around 800 square metres, serves, among other things, to gain knowledge about the interaction of components and equipment or the influence of process parameters on its stability and yield. Its capacity has been selected in such a way that it provides sufficient flexibility for research and development (R&D) and is cost-efficient. With the technical possibility of visualising the entire process chain in a single plant, the plant that has now been put into

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operation is unique in Germany on this scale. As part of an open tour, visitors were able to find out about the plant concept and have the central modules 'Anaerobic digestion', 'Hydrothermal processes', 'Methanisation' and 'Separation processes for digestate processing' presented to them by the DBFZ's scientific and technical experts.

By the end of the 'Pilot-SBG' project, the plant is currently scheduled to run four campaigns on the biogas process using straw and slurry (2025) and biowaste and green waste (2026) as feedstock. From 2027, the pilot plant is then expected to be used as a central component of a research and development technology platform for further projects with partners from industry and science.

The construction of the plant was already subsidised by the BMDV. Now the operating phase of Pilot-SBG is also being subsidised 100% with €8.76 million.

Workshop on the role of liquefied natural gas in transport

In the immediate run-up to the official commissioning of the new research facility, participants had the opportunity to discuss the challenges and potential of renewable LNG (liquefied natural gas) in the transport sector at a workshop on 18 March 2025. Among other things, practical experience and accompanying research and development activities relating to renewable methane were discussed as well as the long-term strategic contribution of LNG in transport. The presentations from the workshop will be made available after the event.

Comprehensive information on the 'Pilot-SBG' project:

www.dbfz.de/en/projects/pilot-sbg/start

www.dbfz.de/en/projects/pilot-sbg/pilot-plant



Official commissioning of the new research facility for renewable methane: Philipp Knötig, Karin Naumann (Project Management), Dr Sven Halldorn (BMDV), Prof. Dr. Michael Nelles (Scientific Managing Director DBFZ), from left to right.

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