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Major European Project Investigates Methane Emissions

As part of a new major European project that researches methane emissions began in January. The University of Bremen's Institute of Environmental Physics is a participating partner. The European joint project IM4CA (Investigating Methane for Climate Action) is funded by the EU Horizon program and aims to develop more accurate measurement methods.

Methane is an important anthropogenic greenhouse gas. The increase in its atmospheric concentration is the second largest contributor after CO₂ to the radiative forcing affecting climate change. There is an urgent need to reduce global methane emissions in order to achieve the goals of the Paris Climate Agreement and limit global warming to a maximum of two degrees Celsius.

Methane Concentration Too High, Inaccurate Measurement Methods

Instead, the observed methane concentration in the Earth's atmosphere has reached record highs in recent years. In order to reach the climate targets, drastic emission reductions are therefore necessary. Both the European Methane Strategy (EMS) and the Global Methane Pledge signed by 155 countries support reducing anthropogenic methane emissions. Most methane emissions come from microbial sources or leaks during the extraction and use of fossil fuels, which are difficult to determine. These uncertainties make it harder to reliably assess the effectiveness of measures that reduce emissions, which in turn hinders the development of precise climate scenarios.

European Joint Project IM4CA Develops Improved Methods

The European joint project IM4CA (Investigating Methane for Climate Action) began in January, and will receive 15 million euros in funding from the EU Horizon program. The project aims to reduce uncertainties in the determination of methane emissions by combining the latest developments in measurement methods on site and in space with sophisticated models. The Institute of Environmental Physics (IUP) at the University of Bremen received a budget of one million euros for their participation in the project. Researchers at the institute are involved in setting up a unique measurement network to determine methane emissions from the Congo Basin, the world's largest tropical wetland. "We know that the wetlands in tropical Africa play a decisive role in the global methane cycle," says Professor Hartmut Bösch from the University of Bremen, "but so far there have been few studies about them. The new measurements that we want to carry out in the Congo Basin are therefore of great importance, and I hope that this will lead to important new findings." The MAMAP2D aircraft instrument developed at the IUP will also be used to determine small-scale methane emissions, for example in Romania.

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