RWE

Press release

Hydrogen-fuelled power generation: RWE and Kawasaki commence trial operations with 34-MW gas turbine in Lingen

- **Europe's largest fully hydrogen-compatible gas turbine commissioned**
- **Trial operations using up to 100 per cent hydrogen to provide valuable operational experience for flexible power stations of the future**
- **Hydrogen used in trial comes from electrolysers at GET H2 Nukleus**

Lingen, 6 November 2026

Today, RWE and Kawasaki Heavy Industries (KHI) held a ceremony to mark the commissioning of a hydrogen-compatible gas turbine with a capacity of 34 megawatts at the Emsland gas-fired power station in Lingen. The turbine is the largest of its kind in Europe and will generate electricity from hydrogen for the first time on an industrial scale. RWE and KHI are thus testing a technology that could play a significant role in securing a future electricity supply that is increasingly based on renewable energy. As the share of wind and solar power in electricity generation grows, it is becoming increasingly important to secure reliable, flexible capacity that can ensure consistent electricity supply when renewable energy sources cannot generate sufficient volumes. Flexible, hydrogen-compatible gas-fired power stations are therefore being designed to provide backup when wind and solar plants do not generate enough electricity over a prolonged period. RWE recently won a Federal Network Agency tender for flexible power stations.

The event was attended by Olaf Lies, the Minister President of Lower Saxony, Mitsuko Shino, the Japanese Ambassador to Germany, as well as representatives from Kawasaki Heavy Industries, the Japanese funding organisation NEDO, and RWE. Around 130 guests from politics, business, and the media were present.

The gas turbine can be operated using natural gas, hydrogen, or any mix of the two. Over the coming months, RWE and Kawasaki will use it to test electricity generation based on up to 100 per cent hydrogen on an industrial scale. In the process, the partners will test various operating modes and load conditions that may be relevant for flexible power stations in an electricity system powered by wind and solar energy.

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Nikolaus Valerius, CEO of RWE Generation: "What we have achieved in Lingen in partnership with Kawasaki is unique in Europe. The new turbine will generate up to ten times as much power as previous hydrogen turbines. The operational experience gained will be key for the deployment of even larger turbines. This is an important milestone on the way towards ensuring that this technology can reliably supply hundreds of thousands of households with electricity in the future."

Motohiko Nishimura, President, Energy Solution & Marine Engineering Company, Kawasaki Heavy Industries, Ltd.: "Today's ceremony marks far more than the beginning of a single project. It represents an important step toward the realization of a hydrogen-based society. In cooperation with RWE and NOW, and thanks to the support of NEDO, the necessary technologies and frameworks, and partnerships have come together, enabling us to take this important step forward here at the Emsland Power Plant. The gas turbine installed for this project can run on any blend of hydrogen and natural gas, from 0 to 100 percent hydrogen. This flexible approach enables the hydrogen-natural gas co-firing ratio to be adjusted according to hydrogen availability and cost, making it possible to balance economic efficiency with environmental performance."

Olaf Lies, Minister-President of Lower Saxony: "Anyone who wants to reconcile climate neutrality with security of supply needs the courage to implement new technologies. That is exactly what is happening here in Lingen. Commissioning Europe's largest gas turbine, which is fully hydrogen-compatible, demonstrates how innovation is being turned into concrete solutions for tomorrow's energy supply. At the same time, this project is a strong symbol of the successful cooperation between Lower Saxony and Japan. It is creating new technologies, regional value creation, and prospects for a climate-neutral industry with good job prospects. Lingen is proving once again that when it comes to rolling out hydrogen, Lower Saxony is not just talking about the future; it is actively shaping it."

Electrolysis and reconversion to electricity at a single site

The hydrogen required for trial operations is produced in the GET H2 Nukleus electrolysers, which are located directly next to the plant. The electrolysers split water into hydrogen and oxygen using electricity from renewable energy sources. For the duration of the test operations, the hydrogen produced is fed into the gas turbine as fuel to generate electricity.

In Lingen, Kawasaki is testing state-of-the-art gas turbine technology using hydrogen on an industrial scale. The combustion systems employed are designed to enable safe and stable operation with varying percentages of natural gas and hydrogen, up to and including pure hydrogen. This technology has already been tested in smaller plants and is now being scaled up to the 34-megawatt output class in Lingen for the first time. The field trial is scheduled to run for several months. During this time, RWE and Kawasaki will put the plant through intensive testing and gain valuable experience that will support the further refinement of hydrogen-compatible power station technology.

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Photos of the commissioning are available in the media library (image credits: RWE).

RWE

RWE is shaping the energy world of tomorrow. To this end, the company is investing billions of euros in offshore and onshore wind, solar energy, battery storage, flexible generation assets and, through its shareholding in Amprion, in the expansion of Germany's transmission grid. The portfolio is complemented by its global energy trading business. RWE is already one of the leading companies in the field of renewable energy. Around 20,000 employees work for the company worldwide. With its integrated portfolio and broad project pipeline, RWE is ideally positioned to meet the growing global demand for electricity driven by electrification and artificial intelligence. At the same time, the company is making an important contribution to ensuring a secure, affordable and climate-friendly energy supply. RWE is decarbonising its business in line with the 1.5-degree reduction pathway, will phase out coal by 2030 and aims to achieve net zero by 2040 – fully in line with the company's purpose: Our energy for a sustainable life.

Forward-looking statements

This press release contains forward-looking statements. These statements reflect the current views, expectations, and assumptions of management, and are based on information currently available to management. Forward-looking statements do not guarantee the occurrence of future results and developments and are subject to known and unknown risks and uncertainties. Actual future results and developments may deviate materially from the expectations and assumptions expressed in this document due to various factors. These factors primarily include changes in the general economic and competitive environment. Furthermore, developments on financial markets and changes in currency exchange rates as well as changes in national and international laws, in particular in respect of fiscal regulation, and other factors influence the company's future results and developments. Neither the company nor any of its affiliates undertakes to update the statements contained in this press release.

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