

Press release

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Bad Lauchstädt Energy Park now in implementation phase

- Consortium partners make the final investment decision on innovative hydrogen project
- Ceremonial ground breaking marks the start of construction work
- TotalEnergies Refinery Central Germany to be 1st anchor customer

With the final investment decision, the consortium partners of Bad Lauchstädt Energy Park have given the final go-ahead for realisation of this innovative hydrogen project. With this step, the Bad Lauchstädt Energy Park is going beyond the theoretical planning phase and moving on to physical implementation. Construction work that is due to continue for several years was officially commenced at today's ceremonial ground breaking attended by Dr Reiner Haseloff (state premier of Saxony-Anhalt) and Michael Kretschmer (state premier of Saxony) as well as board members and managing directors of the consortium companies. The project will bring production and storage as well as the transport and use of green hydrogen in Central Germany to within tangible reach. The consortium partners are together making a decisive contribution to driving forward the energy transition and structural change in the Central Germany region.

“It was not a matter of course that we took this step,” explains project lead Cornelia Müller-Pagel. “It took a lot of hard work, together with funding of EUR 34 million, to get the project off the ground in September 2021, and then we encountered one or two expected and unexpected challenges. So I'm particularly proud that we are now the first and only regulatory sandbox for hydrogen to go into the implementation phase, especially against the backdrop of still considerable regulatory and framework-condition uncertainties in the project environment,” she added.

The Bad Lauchstädt Energy Park project has not escaped the general price increases of the past few months. At the start of the project, an investment volume of approx. EUR 140 million was estimated across all stages of the value chain, but now it is EUR 210 million. “These significant price increases have been a major challenge for the project. The willingness of the partners to nevertheless bear these increased costs in order to implement the Bad Lauchstädt Energy Park shows the great commitment of the consortium partners – starting with Terrawatt and through to Uniper, VNG Gasspeicher, ONTRAS, DBI and VNG – to the energy transition and their conviction that green hydrogen will play a major role in this,” said Cornelia Müller-Pagel with conviction.

With the passing of this milestone, two other players will also join the project: Firstly, the construction and operation of the electrolyser will from now on be shared between Uniper and VNG Handel & Vertrieb, and secondly,

the consortium partners were able to attract TotalEnergies Refinery Central Germany as the first anchor customer for green hydrogen. "Industry, with its very high energy requirements, faces particularly great challenges when it comes to decarbonisation. We are therefore delighted that in the future we will be able to supply the TotalEnergies refinery in Leuna with green hydrogen from the Bad Lauchstädt Energy Park and thus support decarbonisation of the refinery process. This is another important milestone not just in the context of the project partnerships, but also for us as a society and for our customers," said Cornelia Müller-Pagel.

In addition, work on the 30-MW-electrolyser built by Sunfire, which will take about two years, and on the gas transport pipeline that is to be converted, including the construction of a new airlock for introducing pigs to the network, will start shortly. In 2024, the TotalEnergies refinery in Leuna will then be hooked up by means of construction of the first network connection to the future ONTRAS hydrogen network. Trial operation will start in early 2025, and from the third quarter of 2025 the pipeline is scheduled to transport green hydrogen from the Bad Lauchstädt Energy Park for use in the TotalEnergies Refinery Central Germany.

Thomas Behrends, General Manager, TotalEnergies Raffinerie Mitteldeutschland: "The refinery in Leuna is intensively working on various projects to reduce its carbon footprint significantly by 2030. This project is a first step that will enable us to purchase green hydrogen in large quantities in the future and to produce low carbon footprint products such as renewable fuels of non-biological origin, or e-fuels. It is fully in line with TotalEnergies' ambition to decarbonize all hydrogen used in its European refineries by 2030. Our ambition is to replace the gray hydrogen with low carbon hydrogen, representing a reduction of 3 million tons of CO₂ per year by 2030."

Voices from the consortium partners:

Terrawatt Planungsgesellschaft mbH Managing Director Falk Zeuner emphasizes: "The great efforts have paid off in several ways. On the one hand, we can now prove that renewable energies are capable of assuming system responsibility, i.e. supporting or relieving the grid, in our case through the large-scale technical coupling of wind and electrolysis. Thank you for the diverse support from politics and authorities."

Uniper - CEO Uniper Hydrogen Dr Axel Wietfeld: "Today is an important milestone for the Bad Lauchstädt Energy Park. Uniper is proud to be actively shaping the energy transition in partnership with VNG AG, VNG Handel & Vertrieb, VNG Gasspeicher GmbH, ONTRAS, Terrawatt Planungsgesellschaft and with the scientific support of the DBI Group. The Bad Lauchstädt Energy Park is a flagship project: Green hydrogen is a future technology on our path towards decarbonisation of industry. In the Bad Lauchstädt Energy Park, the successful combination of generation, transport, storage, marketing and use of green hydrogen is being researched as central components for a safe, sustainable and cost-effective energy supply of the future – as we move towards a decarbonised hydrogen economy. With the final investment in the 30 MW project with Sunfire as a partner, Uniper is driving the local energy transition forward."

VNG Handel & Vertrieb GmbH (VNG H&V) - Managing Director Stephan Haupt: "We are delighted to now be joining the project consortium for the joint venture and to be driving the project forward with our expertise and full commitment. Together with our joint venture partner Uniper, we are striving to further boost the roll-out of a decarbonised hydrogen economy with intelligent production and marketing of green hydrogen in the Bad

Lauchstädt Energy Park and to provide our customers with green hydrogen of the highest quality and a reliable source of supply in the future.”

VNG Gasspeicher GmbH - Managing Director Bernd Protze: “One prerequisite for the success of the energy transition is the ability to store energy in large quantities. At the moment, storing green hydrogen is the only way to store renewable energy on an appropriate scale. We are proud to be taking the first step towards the large-scale storage of hydrogen together with our project partners. We see great potential for expanding storage capacities at the Bad Lauchstädt site in order to be able to offer needs-based storage products for the market roll-out of green hydrogen in the future.”

ONTRAS Gastransport GmbH - Managing Director Ralph Bahke emphasised: “Converting a natural gas pipeline is the cheapest and quickest way to transport hydrogen. Here in Bad Lauchstädt we are demonstrating for the first time that it works in practice. At the same time, we are creating a blueprint for all related processes for the upcoming conversion projects. The good cooperation with the responsible authorities in Saxony-Anhalt played a decisive role in this.”

DBI – Gastechnologisches Institut gGmbH Freiberg - Managing Director of the DBI Group Dr Jörg Nitzsche: “The intensive and target-oriented research work of recent years is now paying off. The results will now flow into the construction of the Bad Lauchstädt energy park for generation, storage, transport and use and will provide crucial momentum for realising the hydrogen economy. The intensive cooperation between industry, research and authorities is essential for the success of this project.”

VNG AG - Hans-Joachim Polk, Member of the Executive Board of VNG, stated: "With the investment decision, we have reached a decisive milestone for this groundbreaking project. For me, this is a great team success for the entire consortium. My thanks go to all the partner companies for this. For this project to be a sustainable success, we need the right framework conditions that increase investment security for further green hydrogen projects.

About the project:

The Bad Lauchstädt Energy Park is a production-scale regulatory sandbox or real-life laboratory for the intelligent production of green hydrogen and its storage, transport, marketing and use. As a regulatory sandbox for the energy transition, the entire value chain of green hydrogen is being tested on an industrial scale for the first time. A 30 MW electrolysis plant from Sunfire uses renewable electricity from the nearby wind farm to produce green hydrogen. Temporarily stored in a salt cavern specially created for this purpose, the green hydrogen can be fed into the hydrogen network of the chemical industry in Central Germany via a converted gas pipeline and used in the future for urban mobility solutions. The sandbox thus contributes to researching these future technologies relating to green hydrogen and bringing them to market maturity – for a technologically strong and future-oriented hydrogen-using region in Central Germany and successful intersectoral integration throughout the Federal Republic.

About the Bad Lauchstädt Energy Park project partners:

Terrawatt Planungsgesellschaft mbH has been developing and implementing turnkey projects in wind power and photovoltaics for over 25 years. With many years’ experience as a planner, investor, operator and manager, the company is in a position to comprehensively manage all aspects of project implementation from the search for a suitable location through to the turnkey handover of the systems and the design the individual project phases by its own skilled specialists. In addition, the company is nationally and internationally active as a service

provider and technical consultant, and can draw on a wealth of experience from over 300 projects with more than 1,500 wind turbines.

Uniper is an international energy company based in Düsseldorf and active in more than 40 countries. With around 7,000 employees, the company makes an important contribution to security of supply in Europe. Uniper's core activities include power generation in Europe, global energy trading and a broad gas portfolio. Uniper procures gas – also in the form of liquefied natural gas (LNG) – and other energy sources on the world markets. The company owns and operates gas storage facilities with a capacity of more than 7 billion cubic metres. Uniper plans to operate its approximately 22.5 GW installed power generation capacity in Europe in a carbon-neutral manner by 2035. The company is already one of the largest operators of hydroelectric power plants in Europe and plans to further expand solar and wind energy as the key to a more sustainable and independent future.

Uniper is a reliable partner for municipalities, public utilities and industrial companies when planning and implementing innovative, CO₂-reducing solutions as they move towards decarbonisation of their activities. As a hydrogen pioneer, Uniper is active worldwide along the entire value chain and implements projects to make hydrogen usable as a mainstay of the energy supply.

VNG Handel & Vertrieb GmbH (VNG H&V), based in Leipzig, supplies natural gas reliably and flexibly to trading companies, redistributors, municipal utilities, power station operators and industrial customers in Germany and abroad. Innovative products, diverse services and individual concepts for an environmentally friendly energy supply offer comprehensive support in the implementation of the energy transition. With sales offices across Germany and in neighbouring countries, investments and business contacts across much of Europe, and as part of the VNG AG group of companies, VNG Handel & Vertrieb GmbH is close to the customer and well positioned internationally.

VNG Gasspeicher GmbH (VGS) is currently the third largest gas storage operator in Germany with around 2.2 billion cubic metres of active storage capacity. As a wholly owned subsidiary of VNG AG based in Leipzig, VGS has almost 50 years of experience in the construction and operation of underground gas storage facilities and the related technological processes. The core business of VGS is the operation of storage facilities and the marketing of storage capacity. In addition, VGS acts as the technical operator for third-party storage facilities and provides engineering services for its customers in the areas of plant construction and measurement technology.

ONTRAS Gastransport GmbH operates the 7,700-kilometre gas pipeline network in Eastern Germany and is responsible for the reliable and efficient transport of energy in gas form – today and in the future. We actively shape the energy market of the future, bring in ideas and develop sustainable solutions for our infrastructure. We rely on trusted technology, many years of experience and our most important asset: a committed team! Our gas infrastructure is compatible with renewable gases and thus also supports a large number of applications for hydrogen such as material applications, mobility and heat. In order to make our infrastructure fit for a renewable gas supply, we plan and implement numerous projects together with partner companies.

DBI – Gastechnologisches Institut gGmbH Freiberg is an independent research institute of the DVGW e.V. (German Association of Gas and Water Industries). It researches the entire supply chain of gaseous energy sources in numerous projects. It has been working on numerous projects for the integration of green hydrogen since 2005. Its experience ranges from technological aspects of underground gas storage, transport and gas quality assurance through to hydrogen utilisation technologies in industry and households and their effects on the German and wider European energy supply system.

VNG is a group of over 20 companies active in the European energy industry, employing more than 1,500 people. As the third largest gas importer and gas storage operator in Germany and operating, through subsidiary ONTRAS Gastransport GmbH, a pipeline network covering 7,700 km, the group, which is headquartered in Leipzig, is central to the secure supply of gas in Germany. VNG supplies gas to around 400 municipal utilities and industrial customers, meeting around 20 per cent of Germany's demand for gas. In addition, with the 'VNG 2030+' strategy, VNG is pursuing an ambitious path for its commitment in the field of renewable and decarbonised gases. VNG is already one of the leading producers of biogas in Germany and is actively involved in many projects to establish a CO₂-free hydrogen economy. Building on its core expertise in gas and critical infrastructure, VNG is working along the entire gas value chain to ensure a sustainable, climate-neutral and secure energy supply for the future.