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16 October 2018

Gasunie, TenneT and Thyssengas reveal detailed, green 'sector coupling' plans using power-to-gas technology

- ✓ *The electricity and gas grid operators are planning to build a 100-MW power-to-gas plant in Lower Saxony*
- ✓ *These new facilities are intended to couple the energy, transport and industrial sectors*
- ✓ *Power-to-gas can help stabilise the electricity grid, limit the curtailment of wind energy and reduce the future need for grid expansion*

The grid operators TenneT, Gasunie Deutschland and Thyssengas are getting down to business. They have put forward detailed plans for coupling the electricity and gas grids and advancing the energy transition. The three grid operators are planning to build a power-to-gas pilot plant in Lower Saxony; at an output of 100 megawatts, it will be the largest of its kind in Germany. Potential sites are located in the vicinity of the TenneT substations in Diele and Conneforde, which primarily collect and distribute offshore wind energy from the North Sea. The "ELEMENT ONE" pilot project will give the companies first experiences with power-to-gas facilities on an industrial scale. Starting in 2022, the pilot plant will be connected to the grid gradually. By converting green energy into gas, it will develop new storage capacities for renewable energies. The partners ultimately hope to achieve a comprehensive coupling of the energy, transport and industrial sectors. Gas that has been produced from green energy will be transported from the North Sea to the Ruhr region through existing pipelines, but that is not all. It could also be made available to the mobility sector through hydrogen filling stations and to industrial consumers through storage caverns.

Olaf Lies, the Minister of Environmental Affairs and Energy for Lower Saxony, commented on the project: "It is an extremely important signal for Lower Saxony as an energy state. The expansion of offshore and onshore wind energy is advancing. But we cannot think of the energy transition in terms of electricity only. Sector coupling is a crucial aspect of it. I am delighted that important players of the energy transition are taking steps in that direction now. That is the right signal. Some industrial companies are already working on power-to-gas technologies. We need to implement industrial policies that specify standards for the relevant facilities. That is happening in this case. There is great potential for development, especially when it comes to coupling the electricity and gas grids. The use of green hydrogen for transport, heating and industrial purposes also offers enormous opportunities. We must not be led to focus on electricity only. A wider perspective will enable us to implement a variety of new technologies and have a diverse range of companies working in the field."

The partnering organisations have already presented the "ELEMENT ONE" project to Thomas Bareiß (MP), the Parliamentary State Secretary at the Federal Ministry of Economic Affairs and Energy. He expressed great interest in the proposal: "I am convinced that the use of renewable energy in the form of hydrogen will constitute an important solution to major questions of the energy transition," Bareiß commented. He is an outspoken supporter of the initiative proposed by the three companies.

TenneT believes that there is great potential in power-to-gas technologies, as they can introduce a urgently needed level of flexibility into the power grid. "We need powerful storage technologies if we want to achieve our ambitious expansion target for renewable



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energy by 2030. The ability to store large volumes of renewable electricity will reduce the load on the power grid. That, in turn, helps us limit the expensive curtailment of wind turbines and make the power supply more reliable,” Lex Hartman, Managing Director of TenneT, commented. He added: “Storing more green energy also entails a reduced need for further grid expansion after 2030.” The innovative project is part of an extensive innovation programme by the transmission system operator. Its objective is to find ways of making the grid operations more flexible while maintaining reliability.

“Power-to-gas technologies are crucial if we want to achieve our climate targets for 2030 and 2050,” Jens Schumann, Managing Director of Gasunie Deutschland, emphasised. “Especially the concept of sector coupling – the intelligent, economical integration of gas, electricity, heat and transport infrastructures – offers immense potential that is yet to be unlocked. Power-to-gas technologies are extremely relevant in this respect, as they constitute a practical solution for connecting previously separate infrastructures.”

“This planned construction of a major power-to-gas plant also makes it clear that the energy transition must have an engineering dimension to succeed. The transition relies on technical innovation and a multisectoral search for viable engineering solutions. If we dare to join our technical expertise in a purposeful and focused way, we will succeed. We now need the right framework to apply our technical skills profitably,” Dr Thomas Gößmann, Chairman of the Management Board of Thyssengas GmbH, explained.

TenneT

<http://www.tennet.eu>

16 October 2018

Portland General Electric to develop 'smart grids' in 3 Oregon towns

Portland General Electric (PGE) unveiled on Thursday plans to build "smart grids" serving 20,000 people in three towns, scaling up clean energy technology more commonly seen in a microgrid in order to boost grid decarbonization efforts.

The Oregon towns of Hillsboro, Portland and Milwaukie will make up PGE's Smart Grid Test Bed, where the utility will leverage advanced communications capabilities and distribution system upgrades to deliver demand response signals to customers using a range of smart-home technologies. Almost all of the utility's customers have been using smart meters since 2010.

Construction of the test bed will require PGE to upgrade existing feeders and substations with advanced automation distribution technologies that include sensors, processors and communication devices that the utility says can improve reliability and service quality.

Utility Dive

<http://www.utilitydive.com>

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NYISO Proposes Border Pricing Plan for Carbon

NYISO on Monday floated a carbon pricing proposal that would leave importers and exporters to manage the risk of predicting carbon charges for real-time imports into New York, rather than saddling consumers with that uncertainty.



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NYISO staffer Nathaniel Gilbraith recommended to New York's Integrating Public Policy Task Force (IPPTF) applying carbon charges to external transactions such that they compete with internal resources and each other as if the ISO were not applying a carbon charge to internal suppliers.

Gilbraith cautioned adopting a carbon charge without considering the pricing effects at New York's borders would likely cause large shifts in import and export dynamics because in-state suppliers would carry an additional cost burden not shared by external suppliers.

"Total carbon emissions as a result of not addressing this seams issue are up in the air and would depend on whether or not external marginal generation is more or less efficient than internal New York Control Area marginal generation," Gilbraith said. "However, one thing is certain, there would be large financial implications."

Under the plan, NYISO would base the carbon impact on LBMP (LBMPc) on the real-time system dispatch to determine carbon charges and credits, as opposed to forecasting the impact. The change would be consistent with the LBMPc used to allocate residuals to loads, and the ISO would also create a new billing code for carbon charge settlements.

By basing the LBMPc on real-time system dispatch, the ISO would not be required to produce a binding forecast of the carbon impact, and energy traders would bear the risk of carbon impact uncertainty.

Several stakeholders took exception to the "big change" in the way the ISO does business, but IPPTF Chair Nicole Bouchez, the ISO's principal economist, said energy traders would be privy to the same information as the grid operator and have the ability to manage that risk.

"Where we landed is that it really wasn't the best place for consumers to bear that risk because they don't have the hedges available to [traders] and because the marketers have both the ability to manage the risk and also in many ways the direct incentive to manage that risk," Bouchez said.

With the new separate line item for a carbon charge on bills and invoices, an import will see both a payment equal to the LBMP and a charge equal to the LBMPc, Gilbraith said.

"Carbon charges and credits will only occur if the transaction flows in real-time," Gilbraith said. "For example, if an importer receives a day-ahead schedule at a certain \$50/MWh, and they buy out of that schedule prior to flowing in real-time, they will not be responsible for any real-time dispatch carbon charge because the transaction did not flow."

NYISO is targeting the Oct. 22 or 29 task force meeting to discuss LBMPc calculation and transparency of data with stakeholders.

RTO Insider
<http://www.rtoinsider.com>

17 October 2018

Swiss government proposes broad electricity market deregulation

The Swiss government proposed on Wednesday complete liberalisation of the electricity market as it moves to decentralise production and promote renewable energy. Opening a period of public comment that runs through January, the cabinet said that while



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five-sixths of power purchases took place on open markets, more than 99 percent of retail and business consumers remain bound to regulated suppliers.

These consumers should in future be allowed to choose where to buy their electricity, the government said in a statement.

Doris Leuthard, the Swiss energy minister, said at a press conference in Bern announcing the plan that she did not expect to see a rush of consumers jettisoning their existing providers for a rival, once the market was opened.

Still, Leuthard said she was convinced it would spur innovations and focus producers on boosting the value of their offering.

Retail consumers should also be able to draw power exclusively from Swiss producers, of they so choose, of which part would have to be from renewable sources.

Other features of the proposal include capping state subsidies for power investment and creating power reserves to be tapped during emergencies.

Switzerland has 20 gigawatts of installed power capacity, which ensures demand is covered even after nuclear power plants go offline, reducing capacity to 16.5 gigawatts, it said.

Reuters

<http://www.reuters.com>

18 October 2018

Greenlink gets the green light from Irish regulator: Ireland's next interconnector clears crucial hurdle

- ✓ *Cost Benefit Analysis shows Greenlink passes public interest test to be part of the Irish transmission system*
- ✓ *CRU to consult on 'Cap and Floor' regulatory regime in first half of 2019*
- ✓ *CRU and Ofgem to collaborate to bring project to fruition against positive policy backdrop in Ireland and UK*

Greenlink Interconnector Limited has today welcomed the announcement by Ireland's electricity regulator, the Commission for the Regulation of Utilities (CRU) [1], that the Greenlink interconnector between Ireland and the UK ('Greenlink') is in the public interest and should be supported with a new regulatory regime. The CRU's determination paves the way for private capital financing of Irish interconnectors to meet new national policy objectives on interconnection.

The decision follows a public consultation by the CRU over the summer on the 'significant' positive impacts that will be realised for Irish electricity consumers and the increased security of supply that Greenlink will bring to the island of Ireland. The CRU examined the project's Cost Benefit Analysis to assess if it would be in the public interest for it to be considered as part of the Irish transmission system. The CRU also conducted its own CBA of Greenlink with support from independent advisors and, like Ofgem in the UK, concluded that the public interest test was met.

Greenlink is a 205km 500MW interconnector project linking the electricity grids of Ireland and Great Britain. It is a €400million privately-financed Project of Common Interest ('PCI') [3], making it one of Europe's most important infrastructure projects, and is due to commence construction in 2020.



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In today's announcement, the CRU confirmed that in the first half of 2019 it will go on to consult on the proposed 'Cap and Floor' regulatory regime to support Greenlink [4]. Cap and Floor limits market exposure for consumers by setting a ceiling on the revenues that Greenlink can receive, whilst reducing the cost of the project by facilitating low cost equity and debt capital. A 'Cap and Floor' regime in Ireland would create a symmetrical regulatory regime in both Ireland and GB, further reducing the cost of financing.

Simon Ludlam, Project Director for Greenlink, said: "This decision sets Greenlink on the home straight to become Ireland's next interconnector. The Irish Government has already published positive national policy on interconnection, recognising that projects like Greenlink will improve energy security, support decarbonisation and put downward pressure on consumer prices. We therefore welcome the CRU's decision that Greenlink passes the public interest test and I am delighted that the regulators on both sides of the Irish Sea will now collaborate to help bring the project to fruition in 2023."

Mike O'Neill, Chairman of Greenlink, added: "This welcome announcement by the CRU follows a rigorous and independent analysis of Greenlink. It is a clear vindication of our decision to develop the project and our shareholders' ongoing support, which is rooted in fundamentals of the significant benefits that Greenlink brings as we move to a decarbonised world. This has enabled us to bring the project to an advanced stage of maturity, including the commencement of marine surveys and tendering for construction, which will create inward investment and jobs. Private capital has an important role to play in undertaking critical energy infrastructure investment such as Greenlink, and this regulatory framework facilitates this whilst protecting the consumer."

In today's announcement, the CRU states that new interconnectors should be built only to the extent that they benefit the public at large. The CRU notes in the Public Impact Statement (pages 4-5) that "new electricity interconnectors can offer multiple potential benefits" – lower prices, renewable energy integration and security of supply.

In July 2018 the Irish Government published its National Policy Statement on Electricity Interconnection, noting benefits to Ireland, and the CRU states it has been mindful of this policy in making today's decision.

Greenlink Interconnector
<http://www.greenlinkinterconnector.eu>

18 October 2018

FERC Acts on Cyber Security Risks with New Supply Chain-Related Reliability Standards

The Federal Energy Regulatory Commission (FERC) today approved new mandatory Reliability Standards to bolster supply chain risk management protections for the nation's bulk electric system.

The new standards will augment current Critical Infrastructure Protection standards to mitigate cyber security risks associated with the supply chain for grid-related cyber systems.

Today's final rule closely follows what FERC outlined in the Notice of Proposed Rulemaking issued in January 2018.

The North American Electric Reliability Corporation (NERC) proposed the standards in response to FERC Order No. 829, which directed it to develop standards to address



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supply chain risk management for industrial control system hardware, software, and computing and networking services. The Commission notes that while the global supply chain provides opportunity for significant benefits to customers, it also presents opportunities to affect management or operations of generation or transmission companies that may result in risks to end-users.

In today's final rule, FERC said NERC's supply chain risk management Reliability Standards are forward-looking and objective-based, requiring each affected entity to develop and implement a plan that includes security controls for supply chain management for industrial control system hardware, software and services associated with bulk electric system operations.

The Commission also approved NERC's request for an 18-month implementation period, saying it was justified because longer time-horizon capital budgets and planning cycles may be necessary for the technical upgrades to meet the Reliability Standards' security objectives.

The Commission noted, however, that a significant cyber security risk remains because the standards exclude Electronic Access Control and Monitoring Systems (EACMS). EACMS include firewalls, authentication servers, security event monitoring systems, intrusion detection systems and alerting systems. They control electronic access into Electronic Security Perimeters and help protect high and medium impact bulk electric system (BES) cyber systems. Once an EACMS is compromised, an attacker could more easily control the BES cyber system or protected cyber asset.

To address that gap, FERC gave NERC 24 months to develop modifications that will include EACMS associated with medium and high impact BES Cyber Systems within the scope of the supply chain risk management Reliability Standards.

Today's final rule takes effect 60 days after publication in the Federal Register.

FERC
<http://www.ferc.gov>

21 October 2018

Siemens and GE sign agreements for power projects in Iraq

Both companies are competing for contracts in the country

Siemens and General Electric signed preliminary agreements to add 11 and 14 Gigawatts respectively to Iraq's power infrastructure amid competition for multibillion dollar contracts.

GE said on Sunday its 14GW power capacity plan for Iraq could result in 65,000 direct and indirect jobs, leading to annual savings and recoverable losses of up to \$3 billion (Dh11.02bn). The company said it would secure financing for the projects through its relationships with international credit agencies and financial institutions.

Meanwhile Siemens, which had presented a plan for reconstruction of Iraq's power sector last September, said its 11GW agreement will examine "a series of short-, medium- and long-term plans to meet the reconstruction goals of Iraq and support the country's economic development".

The announcements come amid intense speculation that American GE had beaten the German company to secure Iraqi power contracts under pressure from the Trump administration. Both companies are chasing what could be billions of dollars worth of



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contracts as they begin work to revamp power plants and reduce gas flared from Iraq's southern oilfields.

A World Bank assessment has pegged the cost of rebuilding Iraq at around \$150bn, with the utilities sector ranking high on the government's priority. The dilapidated power network was the main factor that fuelled protests across Iraqi provinces during the summer months, when temperatures can easily reach up to 50° C, occasionally requiring government mandated holidays to cope with the extreme weather.

Both companies were approached by the Iraqi government to help reduce gas flaring, which the oil ministry hopes to tap by 2021. The World Bank estimates around 16 billion cubic metres of gas from the country's fields was flared in 2015, costing the economy billions in lost revenue.

The National

<http://www.thenational.ae>

22 October 2018

Swansea Bay tidal lagoon financial debate details published

The economic benefits of Tidal Lagoon Power's (TLP) programme would not have outweighed the most optimistic estimates of the additional costs for electricity customers if it had been built, according to government correspondence published on Friday (19 October).

The government has lifted non-disclosure agreements on several documents relating to its decision in June not to support TLP's proposals to build a pilot tidal lagoon power project in Swansea Bay.

The £1.3 billion Swansea Bay project, which TLP said would generate 572GW of electricity per annum, was intended as the first of a series that would harness tidal power around the Welsh coast.

In a letter to the House of Commons' Business, Energy and Industrial Strategy (BEIS) and Welsh Affairs select committee from Claire Perry, the energy and clean growth minister writes that government estimates of the programme's economic benefits worked out at between £0.4 billion and £1.2 billion.

"Even at the higher end of this range, the estimated wider benefits were less than the most optimistic impact of TLP's lagoon programme on the costs of the electricity system – a cost of £2 billion to 2050." Perry adds that the cost of electricity generated by the lagoon would be "more expensive" than alternative low carbon sources.

The letter also outlines the key points of TLP's request for financial support from the Welsh government. The company requested £200 million loan funding from Welsh government at a two per cent interest rate and up to £261.1 million in annual equity down payments over 35 years. In return, TLP offered the Welsh government 90 per cent ownership of the lagoon at the end of the 35-year project's proposed contract for difference when it would still owe up to £822.3 million worth of outstanding debt. The Welsh government would have also taken on the costs of maintenance and turbine replacement after about 50 years of operation as well as any decommissioning liabilities.

Responding to the publication of the documents, BEIS committee Rachel Reeves chair, said: "The decision-making process around the Swansea Bay tidal lagoon project has been glacial and lacking in transparency.



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“The saga of the decision around the project offers little encouragement that the government is equipped to take timely, clear action on future schemes. Investors and the public deserve clearer decision-making and better communication about government intentions on projects such as the Swansea Bay tidal lagoon.”

Utility Week

<http://www.utilityweek.co.uk>

24 October 2018

RWE will reactivate its 1.3 GW Claus C CCGT plant in the Netherlands

German power company RWE has decided to reactivate the mothballed Claus C CCGT power plant, located in Maasbracht (Netherlands), due to the new option to connect the power plant to the Belgian grid and to the positive evolution of wholesale prices.

RWE will thus make the CCGT plant available for the Belgian market. Belgium has decided to abandon nuclear energy in 2025 and must therefore find alternative sources of energy. To facilitate this transition, the Belgian government is introducing a capacity-charging mechanism to help generate the necessary investments for additional power supply performance, thus paving the way for the coming back online of Claus C.

With an efficiency of 58%, the Claus C plant is one of the most modern plants of its kind in the Netherlands. Commissioned in 2012, it has a capacity of over 1,304 MW. It was mothballed in February 2014 due to the extremely low wholesale price which have made the operation of the plant unprofitable. It will take two years of preparations before the plant becomes commercially available again, starting from the end of 2020.

Enerdata

<http://www.enerdata.net>

25 October 2018

Eskom's transmission plan for 2019-2028

During the ongoing stakeholders public forum in Johannesburg, South Africa, state-owned Eskom shared its Transmission Development Plan for 2019 to 2028.

Attended by industry partners, the forum is part of a process which plans for the long-term development of the transmission systems are discussed.

Attending the event on Thursday, Eskom spokesperson, Khulu Phasiwe tweeted: “delegates from the electricity industry gather(ing) ... to learn and/or share ideas about the next phase of transmission development plans for the next 10 years.”

During his presentation, Acting Group Executive for Transmission, Willy Majola said the state-owned power utility plans to increase its transmission infrastructure, with approximately 717km of lines and 2,500MVA of transformation capacity already having been commissioned earlier this year.

“The plan has a few adjustments that include the rephrasing of capital investment in transmission projects to align with the project execution timelines associated with servitude acquisitions and current available funding, he said.

He added that Eskom plans to increase its transmission infrastructure by approximately 6,500km of high voltage lines and 46,000MVA of transformation capacity in



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the next 10 years, explaining that this forms part of its commitment to capital investment in infrastructure.

Africa Oil & Power

<http://www.africaoilandpower.com>

29 October 2018

South Africa postpones carbon tax by 6 months to 1 June 2019

The Ministry of Finance of South Africa has decided to postpone the implementation of a carbon tax by six months, from 1 January 2019 to 1 June 2019, due to the concerns of business and labour during the parliamentary hearings. The Ministry plans to align the budgeting system and the carbon tax, by imposing a higher tax rate as a penalty for CO₂ emissions above the carbon budget.

The carbon tax level would be set at ZAR 120/tCO₂eq (US\$10/tCO₂eq). The project was first proposed in 2010, has been postponed at least three times but came back on the agenda as part of broader tax changes aimed at improving state revenues. A second draft carbon tax bill was released in December 2017. The new carbon tax would impact 1,000 to 1,500 companies and cover 75% of domestic CO₂ emissions. Companies could benefit from tax breaks and progressive increases in the early years, paying ZAR 6 to ZAR 48 per tonne (US\$0.5-4.1/tCO₂eq) in the first phase. In addition, total tax-free allowances could be as high as 95% in the first phase until 2022.

The introduction of a carbon tax is expected to help South Africa meet its Paris Agreement pledge to halve CO₂ emissions by 2030, when they should peak between 398 and 614 MtCO₂eq. Under its nationally-determined contribution (NDC), South Africa committed to limit greenhouse gas (GHG) emissions, which should peak in 2020-2025, plateau until 2035 and decline as of 2036. Large emitters, such as state-owned power utility Eskom, mining companies and steel groups, are fiercely opposed to this tax, which would erode their profits and increase electricity prices.

Enerdata

<http://www.enerdata.net>

29 October 2018

Fessenheim closure decree annulled

France's Council of State has invalidated the government's April 2017 decree to repeal EDF's licence to operate the Fessenheim nuclear power plant. The council ruled the decree had not been issued at EDF's request, as required by law.

The 2012 election pledge by former French president Francois Hollande aimed to limit nuclear's share of French generation to 50% by 2025, and to close Fessenheim - the country's oldest plant - by the end of his five-year term, which ended in May 2017. In June 2014, following a national energy debate, his government announced the country's nuclear generating capacity would be capped at the current level of 63.2 GWe. It will also be limited to 50% of France's total output by 2025. The French Energy Transition for Green Growth Law was adopted in August 2015. Nuclear currently accounts for almost 75% of the country's electricity production, making closures of power reactors appear inevitable.

While not calling for the shutdown of any currently operating power reactors, the new policy means that EDF would have to close older reactors in order to bring new ones



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online. The utility is constructing a 1650 MWe EPR unit at Flamanville which is expected to start up in late 2019 or early 2020. EDF would therefore be forced to shut the equivalent capacity - most likely the two reactors at Fessenheim - by that time in order to begin operating the Flamanville unit.

In accordance with French law, a decree is required to revoke the Fessenheim plant's operating licence. This decree is to be issued at EDF's request and will take effect at the same time as the commissioning of the Flamanville 3 EPR.

At a meeting on 6 April 2017, the board of directors of EDF instructed chairman and CEO Jean-Bernard Lévy to issue a request for this decree within six months prior to the commissioning of the Flamanville 3 EPR.

However, three days later the government published a decree in the Official Journal setting out the conditions for closing Fessenheim. It states that EDF's authorisation to operate the plant's two 880 MWe pressurised water reactors would be withdrawn from the day that the Flamanville 3 EPR "enters into service".

By issuing the decree then, the government aimed to ensure that Fessenheim will be shut within the next few years, thereby achieving Hollande's pledge even though he would no longer be in power. In a statement, the then energy minister, Ségolène Royal, welcomed the decree's publication, declaring: "It is said, it is done."

A complaint about the premature publication of the decree was filed by local authorities, including the municipality of Fessenheim, as well as by trade unions.

The Council of State - the highest administrative jurisdiction in France - declared on 25 October that the government had not waited for the formal request by EDF to publish the decree. It has therefore annulled it.

The annulment of the decree is unlikely to influence EDF's decision to retire the Fessenheim units, which have been in operation since 1977 and 1978, respectively. The company has previously said it intends to comply with the requirement to close the reactors when the Flamanville EPR begins operating. However, a new decree - issued at the utility's request - will need to be published closer to their shutdown.

In an information note published on its website on 22 October, the Nuclear Safety Authority said "EDF no longer envisages the operation of the plant's reactors beyond their fourth periodic reviews scheduled for September 2020 for reactor 1 and August 2022 for reactor 2."

World Nuclear News
<http://www.world-nuclear-news.org>

29 October 2018

Iberdrola inaugurates Wikingen offshore wind farm, consolidating Germany as its strategic market

- ✓ With a capacity of 350 megawatts, it has required investment of 1.4 billion euros and has generated more than 2,000 manufacturing and construction jobs in Europe
- ✓ The future Baltic Eagle and Wikingen Süd wind farms will join Wikingen to form the largest offshore wind complex in the Baltic Sea, with an installed capacity of 836 megawatts and total investment of €2.5 billion



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- ✓ The Chairman of Iberdrola, Ignacio Galán, expressed his pride at the commissioning of this facility, a benchmark for the company: “We will continue to champion offshore wind technology since it enables us to drive the energy transition to a sustainable, low carbon economy.”

Today, Iberdrola has officially cut the ribbon on Wikinger offshore wind farm, one of the company's most iconic power plants in the world, having invested over €1.4 billion. At the helm of the event were also the company 50 Hertz and authorities from the state of Mecklenburg-Vorpommern.

Wikinger is fully operational and its 350-Mw are connected to the German grid, supplying efficient renewable energy to 350,000 homes (representing some 20% of the energy demand of the state of Mecklenburg-Vorpommern). This flow of clean energy will have a positive environmental impact since it displaces the emission of nearly 600,000 tons of CO₂ per year.

The Chairman of Iberdrola, Ignacio Galán, celebrated the commissioning of this iconic facility for the company: “Wikinger represents a new step in our commitment to supplying clean, efficient and reliable electricity. We will continue to champion offshore wind technology since it enables us to drive the energy transition to a sustainable, low carbon economy.”

Galán added that “this wind farm is a clear example of cutting-edge technology and it showcases the enormous potential of Europe's energy industry to lead the Continent's reindustrialization through innovation.”

The Wikinger project marks Iberdrola's entry into the German electricity market, where it has just been awarded the construction of two other offshore wind farms: Baltic Eagle (476 MW) and Wikinger Süd (10 MW). Together with Wikinger, these three wind farms, located off the island of Rügen, will give rise to the largest offshore wind complex in the Baltic Sea, with a total installed capacity of 836 MW and a combined investment of €2.5 billion. Thus, Germany becomes a key area for Iberdrola group over the coming years, alongside its core markets: United States, United Kingdom, Mexico, Brazil and Spain.

Wikinger is the first offshore wind farm to be designed and operated one hundred per cent by a Spanish company. It has consolidated Iberdrola as Europe's leading company in renewable energy, capable of developing projects in markets as competitive as Germany and meeting the demanding planning conditions set by German authorities. In addition, it has served to boost the entire supply chain, benefiting companies across Europe, including Navantia and Windar.

This project has come to fruition thanks to the multidisciplinary and multinational composition of the team set up by Iberdrola and its network of first-rate international suppliers and contractors. Over 2,000 employees from 20 different countries participated in this milestone project. Iberdrola has had to overcome the technological challenges inherent to this type of work and the difficulties arising from the extreme weather conditions in the Baltic Sea.

The event, which took place at the port of Sassnitz-Mukran, was attended by Iberdrola's Business CEO, Francisco Martínez Córcoles, the Minister of Energy, Infrastructure and Digitisation of the state of Mecklenburg-Vorpommern, Christian Pegel, and the CEO of 50 Hertz, Boris Schucht.