

State of play: March 2025

## INNOVATION FUND projects in Denmark

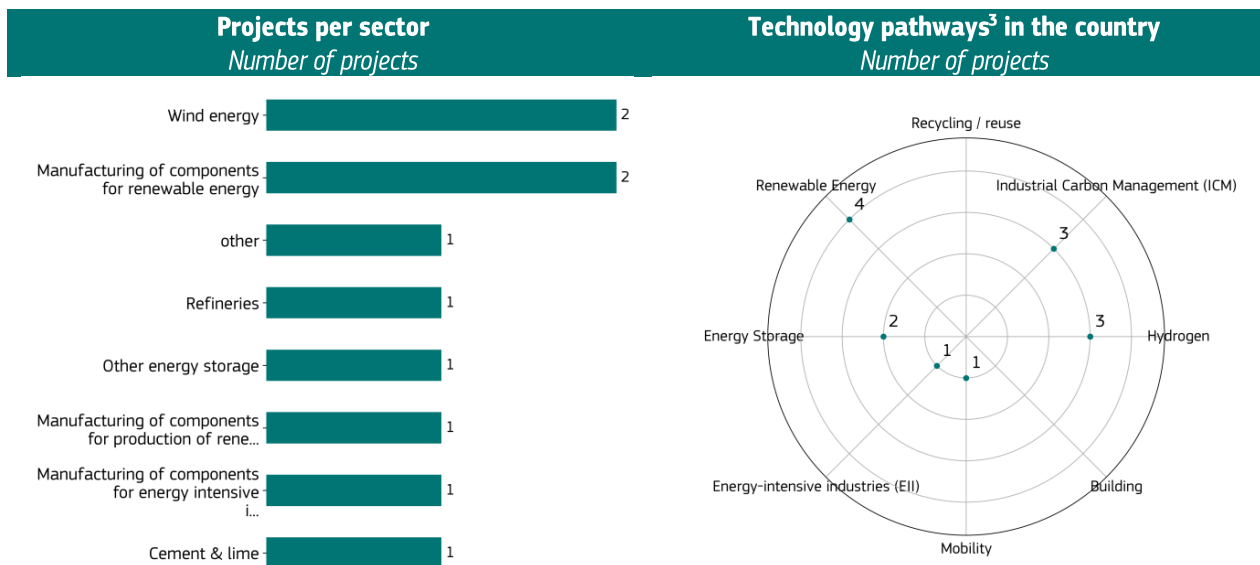


Funded by revenues from the EU [Emissions Trading System \(EU ETS\)](#), the Innovation Fund aims to encourage companies and public authorities to invest in cutting-edge low-carbon technologies with significant potential for reducing greenhouse gas (GHG) emissions in the European Economic Area (EEA). The Fund awards projects through calls for proposals and auctions<sup>1</sup>.

### Innovation Fund Calls

Currently, the Innovation Fund supports 10 project(s) (partially or fully)<sup>2</sup> implemented in Denmark with a total grant amount of EUR 592.4 million. Their cumulative capital expenditure (CAPEX) is approximately EUR 1.7 billion.

These projects contribute to decarbonising European industries. Over their first ten years of operation, they are expected to reduce GHG emissions by 41,219,182 t CO<sub>2</sub> equivalent.



<sup>1</sup> The figures presented are only for ongoing funded projects. Information on closed or terminated projects is only included under the funded projects table (when applicable). For definitions of ongoing, closed, and terminated projects, check the glossary on the last page of this document.

<sup>2</sup> "Partially" refers to projects located in multiple locations. For projects in multiple locations, the budget and GHG abatement have been attributed to the main country of implementation chosen by the project. See table below "List of awarded Innovation Fund projects" for detailed information.

<sup>3</sup> A project can choose multiple climate mitigation pathways and, therefore, have multiple technology pathways.



## **Innovation Fund Auctions**

Currently, the Innovation Fund doesn't support project(s) in Denmark yet.



## Awarded Innovation Fund projects in Denmark

### Net-zero technology projects

Acronym	Title	Topic	Sector	Starting date	Participants	Expected GHG emission avoidance (t CO <sub>2</sub> e)	Innovation Fund grant (EUR million)
TopSOEC	Topsoe SOEC Stack Module Factory	InnovFund-2022-LSC-03-MANUFACTURING	Manufacturing of components for production of renewable energy or energy storage	01/03/2023	TOPSOE AS	7,580,000	94.0
HIPPOW	Highly Innovative Prototype of the most Powerful Offshore Wind turbine generator	InnovFund-2022-LSC-04-PILOTS	Wind energy	01/04/2023	SGRE-DK	55,424	30.0
RockStore	RockStore: accessible and cost-effective thermal energy storage	InnovFund-2022-SSC	Other energy storage	01/01/2024	HELIAC   ARTHA Energi   FD	37,073	4.3
CASTRO	The project will design, build, and validate a wind turbine with a new rotor design. The rotor design will enable commercially feasible wind turbines with an unprecedented high capacity factor.	INNOVFUND-2023-NZT-PILOTS	Wind energy	01/04/2025	VESTAS	16,125	20.0
Greensand Future	Greensand Future: contributing to EU's CO <sub>2</sub> emissions reduction target by establishing critical EU storage capacity	INNOVFUND-2023-NZT-GENERAL-MSP	other	01/05/2024	Nordsøfonden   INEOS   Wintershall Dea	2,251,599	41.0
ACCSION	ACCSION - Aalborg Portland Carbon Capture and Storage using Infrastructure Onshore in North Jutland	INNOVFUND-2023-NZT-GENERAL-LSP	Cement lime	01/05/2024	AL E FRANCE   AL E GERMANY   ALI BV   AL E POLAND   AP   AL Denmark   ALIB	15,077,949	220.1
PIVOT	Piloting and Validating the manufacturing and assembly of the most powerful Offshore wind Turbine generator	INNOVFUND-2023-NZT-PILOTS	Manufacturing of components for renewable energy	01/05/2024	SE   SGRE-DK   SGRE-DE	140,385	40.0
NEMO	Next-Generation European Union Manufacturing for Offshore wind	INNOVFUND-2023-NZT-MANUFACTURING	Manufacturing of components for renewable energy	01/05/2024	SE   SGRE DK   SGRE DE   SGRE FR	11,886,440	70.7
H2-GIGA	Large scale production of high performing electrodes	INNOVFUND-2023-NZT-MANUFACTURING	Manufacturing of components for energy intensive industries	01/07/2024	HydrogenPro	2,680,676	16.5
GreenWave	Replicative Approach to e-Methanol Production Scaling	INNOVFUND-2023-NZT-GENERAL-LSP	Refineries	01/04/2025	European Energy   Ammongas A/S   Nakskov	1,493,510	55.8



Acronym	Title	Topic	Sector	Starting date	Participants	Expected GHG emission avoidance (t CO <sub>2</sub> e)	Innovation Fund grant (EUR million)
					PtX   Soft Teknik		

### Participants from Denmark in projects implemented in other country/countries

Acronym	Title	Topic	Country(ies) of implementation	Participants	Sector	Expected GHG emission avoidance (t CO <sub>2</sub> e)	Innovation Fund grant (EUR million)
ZESTA	Zero Emission Steelmaking at ArcelorMittal	INNOVFUND-2023-NZT-GENERAL-LSP	BE	VESTAS   Storm Windpower   AMB	Iron steel	32,128,575	262.1
Coda Terminal	Coda by Carbfix - a highly scalable, cost effective CO2 mineral storage hub	InnovFund-LSC-2021	IS	HH   OR   CF   CT   RT   SP   CFo   CF2   DU	CO2 Transport and Storage	24,862,763	115.0
SEAWORTHY	Sustainable dispatchable Energy enabled by wAve-Wind OffshoRe platForms with onboard Hydrogen	InnovFund-2022-LSC-04-PILOTS	ES	FPP   FPP C	Hydro/Ocean energy	25,557	26.0
EVVE	First European Large-Scale Vehicle-To-Grid Demonstrator for an efficient decarbonisation of the energy sector	InnovFund-SSC-2020-single-stage	FR	ALTRA   ENEDIS   IZIVIA   BPLS   NUVVE   STELLANTIS   DREEV   VGF   EDF	Intra-day electricity storage	25,457	3.8

### Project overview

Acronym	Title	Abstract
TopSOEC	Topsoe SOEC Stack Module Factory	<p>The project aims to construct a 500 megawatt (MW) Solid Oxide Electrolysis Cell (SOEC) stack module manufacturing facility in Herning, Denmark. This initiative will enable Topsoe to deliver the highly efficient SOEC electrolyser technology. This technology is essential for producing the renewable fuels and chemicals that are needed in hard-to-abate sectors, where direct electrification is not currently feasible. With a 100% relative greenhouse gas emission avoidance compared to the reference scenario, the project will support the swift decarbonisation of carbon-heavy industries and, by extension, contribute to the European Union's efforts to reach its climate neutrality target by 2050. Production will begin in 2024 with an initial annual electrolyser stack module manufacturing capacity of 500MW, and by 2031 the facility's production is projected to grow to 1.4 gigawatt (GW) annually. There is further potential to expand this capacity to 5GW annually. The defining innovative feature of the technology is its efficiency, leading to estimated electricity savings of 20-30% compared to current production methods. These electricity savings are therefore driving down the levelized cost of hydrogen production (LCoH), making green hydrogen and its derivatives competitive alternatives to fossil fuels. Overall, the project plans to reduce greenhouse gas emissions by approximately 7.6 million tonnes of CO2 equivalent over the first ten years of operation.</p> <p>The project is particularly beneficial for hard-to-abate sectors, such as steel manufacturing and fertilizer production, which have prevalent high operational temperatures and technologies which produce waste heat. This is because the waste heat from these processes can be channelled back into the electrolysis, enhancing energy efficiency, minimising costs, and ultimately producing more green hydrogen per total power input. Furthermore, the environmental footprint of the technology is notably smaller than alternative electrolysis technologies as it avoids</p>



Acronym	Title	Abstract
		<p>the need for noble metals, providing a further competitive advantage. The manufacturing facility will also create 200 direct job opportunities. Additionally, the facility will indirectly create numerous additional job opportunities spanning from supply chain operations, building and maintenance, infrastructure, logistics, and more. This manufacturing facility will also further add to Heming's growing reputation as a centre for climate-focused businesses and contribute to the growing local economy.</p>
HIPPOW	Highly Innovative Prototype of the most Powerful Offshore Wind turbine generator	<p>The HIPPOW project will deliver the installation, operation, and testing of the world's most powerful offshore wind turbine prototype. The project will validate several new technological developments and obtain the necessary certifications, before starting full-scale production of Siemens Gamesa's next offshore wind turbine model. The prototype will be installed at the Wind Turbine Test Field of Østerild, Denmark, and will produce clean electricity with a 99.93% relative greenhouse gas (GHG) emission avoidance compared to the reference scenario.</p> <p>The innovative technologies are related to the nominal power, bearings, electrical system, installation of blades and tower, cooling system, and maintenance strategy, among others. The prototype will be the first of a kind due to its size and power rating, as well as the disruptive innovations implemented both in the product and in the installation process. These innovations go beyond the current state of the art by offering more efficient, reliable, and cost-effective solutions. The innovations will mainly contribute to the reduction of GHG emissions by producing renewable energy and circularity. The prototype will supply enough green energy to power around 7 000 average Danish households every year, reducing greenhouse gas emissions by 55 424 tonnes of CO2 equivalent (tCO2e) during the whole project duration.</p> <p>The HIPPOW project will contribute to the European Green Deal for a cleaner and more competitive Europe and the Circular Economy Action Plan in Europe. The future product will have a high impact on the decarbonisation of Europe and will reduce its dependency on fossil fuels, in line with REPowerEU Plan and the European ambitious targets of renewable energy capacity installation for the coming years.</p> <p>The project's ability to expand and adapt to different regions and markets is a strong indicator of its potential for scalability. Furthermore, the project's focus on sustainability and environmental impact is crucial in today's society, where businesses and industries must take responsibility for their impact on the planet. Full scale production of Siemens Gamesa's next generation offshore wind turbine, with manufacturing plants located in different countries of the EU, will allow the creation of new jobs, contributing to the economic growth of Europe and ultimately benefiting the wider economy.</p>
RockStore	RockStore: accessible and cost-effective thermal energy storage	<p>Rockstore: Accessible and cost-effective thermal energy storage</p> <p>This project demonstrates the commercialisation of 'Rockstore', a granite-based thermal energy storage solution with the ability to store thermal energy at around 300°C. This demonstration will show that bridging the supply and demand gaps in renewable energy production and consumption provides a substantial emission avoidance. It will also demonstrate a 100% relative Greenhouse Gas (GHG) avoidance compared to the reference scenario. The key innovation of Rockstore is the provision of heat storage in the ideal range between: Cold storage solutions (100°C) which are too cold for combined heat and power production, and superhot air storage solutions (&gt;500°C), which are too hot for conventional Combined Heat and Power (CHP) equipment. This sweet spot between the two will make it commercially available to district heating plants connected to an electricity grid with a high intermittent renewable energy mix, which is applicable to many Danish and European cities.</p> <p>Rockstore possesses the capability to deliver electricity rapidly and can offer power backup for several hours by using granite rocks in large steel tanks to store heat up to 330°C. Rockstore tanks are charged and discharged by using an eco-friendly oil that interfaces with the user's heat systems through a standard heat exchanger. The system allows for an increase in capacity, displaying the ability to store and release thermal and electrical energy at a lower cost compared to existing technologies, thus facilitating greater integration of renewable energy sources.</p> <p>Rockstore's ability to charge with excess electricity and deliver heat and stored power independently from wind and solar production, particularly during periods of high energy demand, will aid European Union member states in meeting their 2050 and 2030 targets outlined in the European Climate Law. Additionally, this technology contributes to the objectives of the European Green Deal by helping ensure affordable and consistent energy prices. By enabling a higher energy security in an electricity grid with a high mixture of renewables, the EU will be less reliant on imports of natural gas, which is a target stated in the REPowerEU initiative.</p> <p>RockStore will produce heat to an existing 3rd party district heating grid, proving that renewable electrified heat production can be obtained at a low, stable price. The project also aims to displace total energy production of the system to 15.5 GWh thermal and storing heat exceeding 100°C, without putting stress on the electrical grid during peak periods in the demand</p>



Acronym	Title	Abstract
CASTRO	The project will design, build, and validate a wind turbine with a new rotor design. The rotor design will enable commercially feasible wind turbines with an unprecedented high capacity factor.	<p>curve, and paving the way for future projects.</p> <p>The project will develop and validate a wind turbine with a novel rotor concept. This larger rotor will enable the construction of commercially viable onshore wind turbines with higher capacity factors, i.e., generating more electricity, which matters especially in areas with low and medium wind speeds. The higher production output is obtained by using a cable-stayed rotor design that distributes and reduces gravity loads to enable higher electricity generation. Compared to the reference scenario, the relative greenhouse gas (GHG) emissions would be avoided entirely.</p> <p>CASTRO overcomes barriers that are currently limiting the size of rotors for onshore wind turbines. This breakthrough innovation can have a ripple effect, benefiting new supply chains and transportation means. It also offers a high potential for scalability. Overall, the rotor concept developed and validated by the project has the potential to significantly enhance the total renewable energy share in the electricity supply, thereby supporting the 2030 emissions reduction targets. The absolute GHG reduction over the first four years of operation of the single prototype wind turbine will be 16.125 tCO<sub>2</sub>e, and it will annually generate electricity corresponding to the average electricity consumption of almost 6 000 Danish households.</p> <p>The revised Renewable Energy Directive raised Europe's renewable energy target to at least 42.5% by 2030, aiming for 45%. It means almost doubling the existing share of renewable energy in Europe. CASTRO aligns with this goal, offering excellent prospects for replicability and increased adoption of renewable wind energy and bringing numerous benefits, including job creation, economic growth, and territorial development. The project's sizeable onshore wind turbine rotors will help mitigate the intermittency challenge of wind power by generating energy even at low wind speeds, enhancing the overall reliability of wind as an electricity supply source.</p> <p>CASTRO is well positioned to significantly impact the competitiveness of the European wind turbine manufacturing industry. The project could help maintain and create jobs and avoid dependency on third-country manufacturers. Ultimately, the widespread deployment of CASTRO-based wind turbines over the next decade could accelerate the energy transition and contribute to a more sustainable and affordable energy future with lower electricity prices.</p>
Greensand Future	Greensand Future: contributing to EU's CO <sub>2</sub> emissions reduction target by establishing critical EU storage capacity	<p>The project aims to permanently store 2.4 million tonnes of captured CO<sub>2</sub> by injecting 0.3 million tonnes per annum (mtpa) for eight years into a depleted oilfield in the Danish North Sea (Nini West). Biogenic CO<sub>2</sub> will be sourced from Danish and other European biogas producers and transported by truck to the port of Esbjerg for temporary storage, then by a dedicated CO<sub>2</sub>-carrier vessel to Nini West for permanent storage. The project builds on its experience from the successful 2023 Greensand pilot, which demonstrated for the first time that CO<sub>2</sub> could be transported across borders to be injected safely in a depleted oil field. The project's ambition is to start Greensand Future's operations in early 2026 as one of the first carbon capture and storage (CCS) projects in the European Union to store CO<sub>2</sub> at an industrial scale. If further scaled up, Greensand has the potential to store up to 8 mtpa from 2030, which equals the yearly emissions of approximately 1.1 million Danish citizens and thus plays an important role in the ambitions to reduce Denmark's CO<sub>2</sub> emissions by 70% by 2030 compared to 1990 levels. The project contributes to a relative greenhouse gas (GHG) emission avoidance of 94% compared to the reference scenario where CO<sub>2</sub> is vented into the atmosphere. Given the absence of readily available storage capacity, Greensand Future will offer a very short time to market compared to other concepts and projects. It can act as an enabler for European CCS projects. The project aims to commercialise the "Port to Platform Injection" concept and enable the development of a CO<sub>2</sub> carrier based on a multipurpose vessel that can be applied to newly built and refurbished vessels. The project will also introduce innovative ways to reuse existing oil and gas infrastructure and systems for CO<sub>2</sub> storage. The project will contribute to an absolute net GHG emission avoidance of 2 251 599 tonnes of CO<sub>2</sub> equivalent or the yearly emissions from approximately 330 000 Danish citizens.</p> <p>Greensand Future focuses on demonstrating safe and efficient CO<sub>2</sub> storage, building on the experience gained from its pilot, which is critical to building political and public support for CCS projects. By establishing a full CCS value chain and one of the first offshore CO<sub>2</sub> storage facilities in Europe, the project will contribute to public acceptance of CCS and lead the way for other offshore and onshore projects and the development of a CCS market. Establishing one of the earliest operational storage capacities directly supports the Net-Zero Industry Act's target of 50 million tonnes of annual CO<sub>2</sub> injection capacity by 2030.</p> <p>The project's innovative approach combines efficient, sustainable, and effective repurposing of existing oil and gas infrastructure with maximising the reuse of end-of-life assets that would otherwise go to waste. Greensand Future's implementation will also support transferring related knowledge and skills to the CCS sector and retaining offshore jobs.</p>
ACCSION	ACCSION - Aalborg Portland Carbon Capture and Storage using Infrastructure Onshore in North Jutland	<p>The project aims to establish one of Europe's first full onshore carbon capture, transport, and storage value chain using innovative, reliable, and efficient technologies. This project seeks to eliminate 15 million tonnes of greenhouse gas (GHG) emissions by capturing 1.4 million tons of CO<sub>2</sub> annually from the Aalborg Portland cement plant and supplying recovered heat from the capture process. Aalborg Portland is Denmark's sole cement producer and largest industrial CO<sub>2</sub> emitter, contributing to over 4% of national emissions. Planned to be operational by the end of 2029, ACCSION aims to fulfil a cumulative 113% emissions avoidance over its first ten years of operations compared to the reference scenario, playing a critical role in Denmark's GHG emissions reduction goals. By 2030, Aalborg Portland aims to become Europe's first net-zero cement plant producing grey and white cement, leveraging on capturing and storing the biogenic CO<sub>2</sub> fraction, which offsets any remaining fossil emissions.</p> <p>To achieve these targets, ACCSION will deploy several innovations. First, the project will leverage Air Liquide's proprietary Cryocap™ technology, to capture CO<sub>2</sub> from two distinct processing units in a single train, paving the way for a "cluster capture" approach that achieves economies of scale. Second, biogas will be used in Aalborg Portland's kilns to maximise carbon removal and enable net-zero cement production. Finally, 100% of the capture plant's power consumption will be met through renewable electricity.</p>



Acronym	Title	Abstract
		<p>The project is positioned ideally for efficient access to potential onshore storage sites within Denmark. ACCSION's successful implementation will demonstrate the technical feasibility of onshore CO2 storage, a critical advancement for European Carbon Capture and Storage (CCS) development. Its success could pave the way for a more accessible and economically viable onshore storage network, setting new standards for scalability and affordability in CCS technology and infrastructure and contributing to the Net-Zero Industrial Act target of 50 million tonnes of annual CO2 injection capacity by 2030. Moreover, the project captures CO2 from a hard-to-abate sector, supporting Europe's target of reducing net GHG emissions by at least 55% by 2030 and achieving climate neutrality by 2050.</p> <p>Smart heat integration will allow the recovery of 80 MW of excess heat from the capture process to supply local district heating, providing sustainable heating for approximately 19 100 standard households annually. As such, ACCSION advances industrial decarbonisation while supporting local energy systems with cleaner and more efficient heat.</p>
PIVOT	Piloting and Validating the manufacturing and assembly of the most powerful Offshore wind Turbine generator	<p>The project aims to contribute to the large-scale deployment of offshore wind energy in Europe by optimising an offshore wind turbine's manufacturing and assembly processes. PIVOT's innovation involves advanced design elements, introducing new materials, and developing methods for manufacturing key components (blades, nacelles, and towers). The project builds on HIPPOW, a project previously awarded by the Innovation Fund, and aims to address technical challenges associated with scaling up, making this technology more efficient. By deploying offshore energy, the project supports sustainable production practices and significantly reduce greenhouse gas (GHG) emissions compared to conventional energy sources. The project's potential relative GHG emission avoidance during its first ten years of operation is calculated to be 99.94% compared to the reference scenario.</p> <p>PIVOT will deploy innovative manufacturing processes that will result in a more efficient and scalable solution without compromising performance or reliability. The offshore wind industry faces significant challenges as it shifts towards larger turbines, including the need for cost-efficient manufacturing and assembly methods. The project addresses these challenges by validating and optimizing the manufacturing and assembly processes of the advanced wind turbine, introducing new techniques that reduce production risks and lower the costs of deploying larger turbines. The equipment produced by the project will lead to sizeable renewable electricity production over its first ten years of operation, supplying enough green electricity to power over 8 500 average Danish households annually, avoiding approximately 140 385 tonnes of CO2 equivalent emissions during this period.</p> <p>Europe's reliance on fossil fuels presents significant challenges, including dependency on imports from third countries. PIVOT helps mitigate this dependency by securing access to net-zero technologies. By strengthening Europe's technological leadership in offshore wind energy, the project aligns with policy priorities such as the European Green Deal, reaching climate neutrality by 2050 and meeting renewable energy targets. Additionally, the project will directly contribute to the Net-Zero Industry Act benchmark of establishing at least 40% of domestic capacity in equipment manufacturing for wind power deployment by 2030.</p> <p>The project reinforces the wind industry's value chain. PIVOT will help the offshore wind industry meet the growing electricity demand by testing and refining its processes. It will also create direct and indirect quality jobs and boost employment in related sectors such as manufacturing, logistics, and operational services for offshore wind farms.</p>
NEMO	Next-Generation European Union Manufacturing for Offshore wind	<p>The project will achieve the efficient large-scale manufacturing of SG14 turbines, a new generation of offshore wind turbines made in Europe. Thanks to its 115-metre-long rotor blades, the SG14 has 14 megawatts (MW) nominal power and maximised energy harvesting capabilities. The SG14 introduces unprecedented components to the market, including a 15 MW power boost functionality, enabling clean electricity production with a 99.99% relative greenhouse gas emission avoidance compared to the reference scenario.</p> <p>NEMO represents a substantial technological leap compared to current offshore wind turbines, bringing significant innovations to the market in its components and manufacturing processes. The project will implement an advanced and integrated manufacturing process in Siemens Gamesa facilities in three European countries. Each of these manufacturing sites will be focused on specific components: nacelles will be produced in Cuxhaven (Germany), and blades will be manufactured in Aalborg (Denmark) and Le Havre (France). Within its first ten years of operation, NEMO's wind turbines will generate enough renewable electricity to power approximately 1.2 million average Danish households, avoiding 11 886 440 tonnes of CO2 equivalent.</p> <p>The project will contribute to the development of the next generation of offshore wind farms. It represents an important step towards a more environmentally friendly future, fully in line with the objectives of the European Green Deal, the United Nations Sustainable Development Goals, and the REPowerEU Plan. In addition, NEMO will contribute to the competitiveness and autonomy of the European offshore wind power industry.</p> <p>The project will create direct and indirect jobs. It will also contribute to further developing Siemens Gamesa's industrial footprint, as it offers a high level of scalability considering the expected exponential growth of the offshore wind market in Europe.</p>
H2-GIGA	Large scale production of high performing electrodes	<p>H2-GIGA is an innovative project focused on producing high-efficiency electrodes for high-pressure alkaline electrolysis-based hydrogen production at a large scale, while insourcing the production of the nickel-foam, the material used for the manufacturing of electrodes. It will implement a production technology that is scalable and efficient, allowing for the production of</p>



Acronym	Title	Abstract
		<p>high-quality electrodes at a lower cost and with better performance. The project will thus support the competitiveness of the EU industry via the production of high value components for more efficient alkaline electrolysers.</p> <p>H2-GIGA introduces proprietary electroplating innovations, that not only advance electrode technology but also integrate scalable, sustainable production methods. The nickel foam production insourcing and high-performing electrode production in Europe will contribute to the reduction of the dependency on imports. The facility will produce electrodes for a minimum of 0.5-gigawatt (GW) electrolyser capacity, with a future expansion to one GW planned.</p> <p>Aligned with the EU's climate and industrial policies, H2-GIGA supports the European Green Deal by supporting high-volume production of green hydrogen via the establishment of high-efficiency electrodes production in Europe, particularly critical for heavy industries aiming to decarbonize. By fostering European-based supply chains for green hydrogen technology, H2-GIGA contributes to the goals set in the Net-Zero Industry Act (NZIA), to EU's goal to achieve net-zero emissions by 2050 and to the REPowerEU Plan to phase out Europe's dependency on Russian fossil fuels. The project is scalable and aims to expand to U.S. and Asian markets, further amplifying its impact.</p> <p>Located in Randers, Denmark, the H2-GIGA facility will create approximately 70 high-quality jobs in the production plant when operating at full capacity, plus indirectly to another 75 jobs in the hydrogen supply chain. The project will stimulate regional development in the area, contributing to the growth of the local economy and improving the quality of life for residents.</p>
GreenWave	Replicative Approach to e-Methanol Production Scaling	<p>GreenWave aims to build a green methanol production plant to provide a clean alternative fuel for the shipping sector. With a 100 000-tonnes/year production capacity, the project is expected to avoid almost 150 000 tonnes of greenhouse gas (GHG) emissions annually. The e-methanol will be produced entirely from green hydrogen and biogenic CO<sub>2</sub>. Therefore, the project would lead to a 96% relative GHG emission avoidance compared to marine diesel.</p> <p>The project's innovation lies in combining 150 MW Alkaline electrolyser technology, e-methanol conversion processing, balance of plant equipment, and upscaling of the integrated solution, resulting in the largest e-methanol plant in Europe. GreenWave's plant can also support local grid balance and enable additional renewable energy deployment. It will promote a circular economy by providing district heat and sourcing water for the electrolyser from the local wastewater facility.</p> <p>GreenWave will strengthen the entire e-fuels production value chain by contributing to maturing Europe's manufacturing capabilities, from electrolysers to other technologies and components needed to synthesise e-fuels. Therefore, the project will contribute to the stability of critical supply chains for the green transition, in line with the Green Deal Industrial Plan and the Net-Zero Industry Act.</p> <p>The project's impact is expected to grow, with two more sites identified in Denmark and a pipeline of 23 international projects under development. The project will substantially strengthen the European e-fuel production chain by developing the industry's manufacturing capabilities. Additionally, GreenWave is expected to create 30-40 jobs and promote green electricity development, contributing to regional economic growth.</p>





## **GLOSSARY**

**Ongoing project:** a project with a signed Grant Agreement currently under implementation.

**Closed project:** a project with a signed Grant Agreement that is formally completed.

**Terminated project:** a project with a signed Grant Agreement that was terminated during implementation.