



Poland as a Technology Partner in Offshore Wind Supply Chain

Potential for the Polish Norwegian Cooperation

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Poland as a technology partner in the offshore wind energy supply chain

Foreword PAIH

Recent years have shown an incredible shift towards renewable energy projects with international and regional focus supported by government strategies, institutional initiatives and business cooperation. Offshore wind power is becoming the most important green energy source that may help us reach the ambitious goals of Paris Agreement. However, this is also the birth of a new industry on a global scale which requires fast technology developments, building the entire value chain and collaborating internationally to get projects delivered.

Poland and Norway already have a proven track record of cooperation in the maritime and technology sectors – a vast know-how which can be transferred to successful offshore wind projects. In terms of the Baltic Sea developments, Poland is the leading location for both investment projects and a high-end supply chain expertise – from engineering design to manufacturing. Poland has a strong ecosystem of experienced production companies, shipyards and R&D centers that can be utilized for domestic and international projects. Norway has vast experience from various offshore projects and can transfer years of oil&gas knowledge into successful execution of bottom fixed and floating wind farms building, maintenance and operation. Leveraging each other's strengths is key to achieve mutual goals.

We have a pleasure to present this publication that aims to map the stakeholders in both countries and highlight the key areas for Polish-Norwegian cooperation in the offshore value chain. This is done from the perspective of local municipalities, regional institutions, industry clusters and businesses. We hope to bring Poland and Norway even closer as partners and to inspire further partnerships.

We would like to extend our sincere thanks to all the companies and institutions that have contributed to this document.

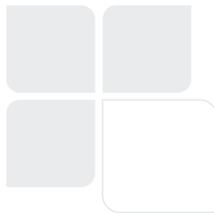
Martalena Eriksen
Head of the Trade Office in Oslo
Polish Investment and Trade Agency

Foreword PTMEW

Considering the long-term and good tradition of cooperation between Polish and Norwegian suppliers for the oil&gas, shipbuilding and steel constructions markets, we can be sure that this cooperation will be continued. Nevertheless, taking into account the new technology developments, such as floating solutions for foundations in the offshore wind sector, together with the rapid market development across the Northern Europe, including Norway and Poland, we can expect that the above mentioned common experiences and efficient cooperation will lead the industries of both our countries towards a new area of floating wind.

Polish offshore supply chain represents a spectrum of capabilities and skills in steelwork and shipbuilding production crucial in providing the market with the high quality end products. Our association also expects a boom in the market for O&M. fleet dedicated to offshore wind, where Polish and Norwegian suppliers can easily

Jakub Budzyński
Vice-President
Polish Offshore Wind Energy Society



About PAIH

The Polish Investment and Trade Agency (PITA) is a leader in export and investment consultancy by providing tailor-made solutions for domestic and foreign entrepreneurs. Being state-owned, the Agency delivers free of charge quality services to help Polish businesses navigate on global markets. It supports both the foreign expansion of Polish business and the inflow of FDI into Poland. It also works towards increased foreign trade joint R&D activities between Poland and overseas markets.

The Agency's Trade Office in Oslo specifically encourages and fosters Polish-Norwegian business and institutional collaboration. It aims to help companies find reliable partners and suppliers in Poland and in Norway, organise matchmaking events and B2B meetings, prepare market information upon request, facilitate trade missions and study tours.

Our team in Norway:



Martalena Eriksen
Head of Trade Office in Oslo
Martalena.eriksen@paih.gov.pl
<https://www.linkedin.com/in/martalena-eriksen-mba-a9a09933/>



Joanna Irzabek
Business Development Manager
Joanna.irzabek@paih.gov.pl
<https://www.linkedin.com/in/joanna-irzabek/>

About the contributors

We would like to thank the following partners for their contributions:

Main partner:

Polish Offshore Wind Energy Society (PTMEW)

Contributors:

Agencja Rozwoju Metropolii Szczecińskiej

Energy Transition Norway

Equinor

Gospodarka Morska

Incubator STARTER

Invest in Pomerania

Janicki S.K.A.

Mainstream Renewable Power, an AKER HORIZONS company

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Norwegian Offshore Wind

PGE Baltica

Polenergia

Polish Maritime Technology Forum (PFTM)

Polish Offshore Wind Energy Society (PTMEW)

Rud Pedersen Public Affairs

Self-Government of the Pomorskie Voivodeship

TELE-FONIKA Kable

The Pomeranian Platform for the Development of Offshore Wind Energy
in the Baltic Sea

West Pomerania Center for Economic Initiatives

Westpomeranian Maritime Cluster

ZachOff27 Zachodniopomorskie Offshore

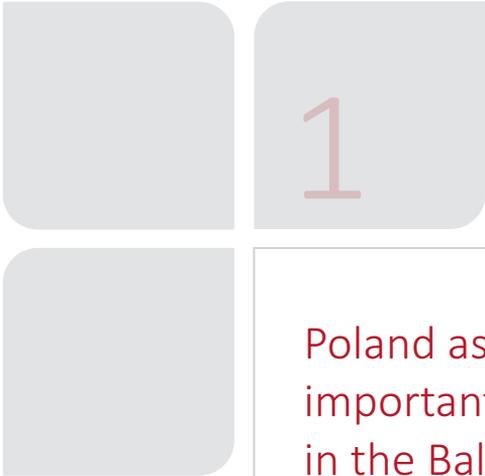
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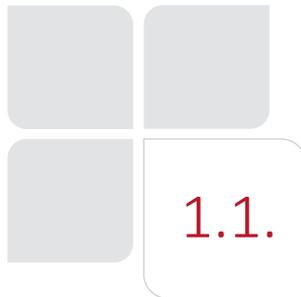
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Poland as an
important player
in the Baltic Sea
offshore wind
energy sector



Poland – the leading
location for OWE projects
in the Baltic Sea



Polish Investment & Trade Agency

PFR Group

Polish energy strategy and goals

The Polish strategy for development of the Baltic Sea offshore wind energy sector is subject to the Ministry of Climate and Environment. It is regulated by the legal act of 17th December 2020 on promotion of generation of electricity from Offshore Wind Farms (Dz. U. 2001, position 234 with further changes).

On 2nd February 2021 the Council of Ministers have adopted the Energy policy of Poland until 2040 (EPP2040). The document presents an ambitious, consistent and responsible way of carrying out the energy transformation of Poland in accordance with the EU's long-term vision for climate neutrality by 2050.

This document sets the framework for the energy transition in Poland. It contains strategic decision regarding the selection of technologies used to establish a low-emission energy system. PEP2040 specific objectives cover the entire energy supply chain – from the acquisition of raw materials, through energy generation and supply (transmission and distribution), to the way it is used and sold.

According to the “Energy Policy of Poland until 2040”, one of the strategic and priority directions is the investment program for the construction of offshore wind farms in Poland, worth approx. PLN 130 billion. Thanks to it, up to 11 GW of installed capacity from offshore wind farms will reach approx. 5.9 GW in 2030 and 11 GW in 2040 in the Polish exclusive economic zone of the Baltic Sea.

Further estimates set the potential power capacity of the offshore wind energy production on the Baltic Sea at 83 GW, whereas on the Polish part of the Baltic Sea up to 28 GW (34%).

Developers of offshore windfarms may only apply for public aid operated by the President of Energy Regulatory Authority (in Polish: [“Prezes Urzędu Regulacji Energetyki”](#)). Regulatory framework for the offshore wind sector is governed by the [Ministry of Climate and Environment](#).

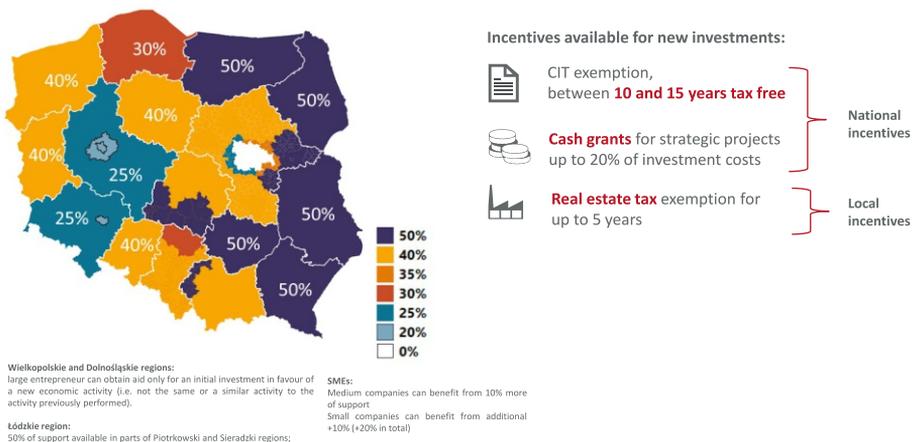
Investment incentives

The Polish Investment and Trade Agency (PAIH) supports the inflow of foreign direct investments to Poland by supporting prospective investors. Poland offers investors a range of various investment incentives and PAIH plays an important role in informing investors about different forms of public funding, including public funding for the production of offshore wind farm components.

” Investment projects aiming at production of offshore windfarm components are of a major market value. Their producers will contribute to the creation of many thousands of jobs in the northern part of Poland. There are several categories of investment incentives that PAIH is facilitating. PAIH may assist producers of components for the offshore wind energy sector” – says Marcin Fabianowicz – Director of PAIH Investment Department.

Regional public aid package to support new investments.

Maximum levels of support for 2022-2027 in different regions in Poland (large companies).



Investment incentives available in Poland consists of various tools.

- [Polish Investment Zone](#) (PIZ, Polska Strefa Inwestycji): instrument of income tax exemption (CIT or PIT) available in the whole territory of Poland for a period from 10 to even 15 years. This incentive is offered by 14 different Special Economic Zones (SEZ) that are covering the whole territory of Poland. PAIH is cooperating closely with SEZ when helping investors in choosing their final location.
- Real Estate Tax exemption (RET)
One of the investment incentives available in Poland is [Real Estate Tax exemption](#) (RET exemption). It depends on the local law set by a relevant commune and regulated by a resolution of the commune’s council. RET exemption may be a helpful investment incentive for investment project that involve buying land or building.

1.1. Poland – the leading location for OWE projects in the Baltic Sea

- [Governmental Grants](#)

Support is provided in the form of a grant based on an agreement concluded between the Minister responsible for the economy and the investor. The agreement lays down conditions for the payment of the cash grant, which is paid proportionately to the degree the investor's commitments are fulfilled. Governmental grants are provided based on the Programme for supporting investments of major importance to the Polish economy for the years 2011-2030 (further as the Programme), adopted by the Council of Ministers on July 5, 2011 (amended on October 1, 2019).

Type of cash grants

Under the Programme, the support will be granted based on eligible costs for creating new jobs or eligible costs of the investments. The amount of the grants may be increased, if training programs are offered to employees.

Operator of the Programme

The operator of the Programme and the authority granting state aid is the Minister responsible for the economy (Minister for Development and Technology). The Polish Investment and Trade Agency (PAIH), is responsible for preparing and providing the Interministerial Committee for Investments of Major Importance to the Polish Economy with the dossier of investment projects and for preparing all documents required to carry out the entire procedure of providing financial support. Each project is subject to an individual assessment by the Committee based on detailed criteria laid down in the Programme.

NOTE: Start of works on the investment is only possible after submitting a letter/application for state aid with attachments to the Ministry responsible for the economy (an incentive effect analysis is required only for projects implemented by large entrepreneurs).

Detailed information can be found here:

[Application form for a government grant for services projects – to be submitted to PAIH](#)

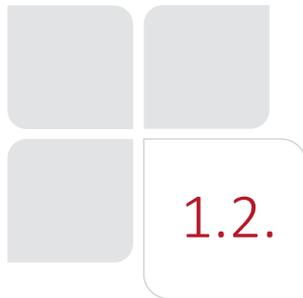
[Application form for a government grant for manufacturing sectors – to be submitted to PAIH](#)

[Draft letter/application for state aid – to be submitted to the Ministry responsible for the economy](#)

See how PAIH can help you in following investment stages:

- [Location consulting](#)
- We have a dedicated [data base of plots of lands](#)
- We can help you in [identification of relevant business partners](#)
- Assist you in organization of [B2B meetings](#)
- Cooperation of [R&D Projects](#)
- Support in [contacts with government agencies](#)

Contact us at: invest@paih.gov.pl



Supporting OWE
development in Poland
– strong ecosystem



**SELF-GOVERNMENT
OF THE POMORSKIE VOIVODESHIP**



**The Pomeranian Platform
for the Development of Offshore Wind
Energy in the Baltic Sea**

Public authorities should inspire and support the development of new technologies, services and products. It will contribute an improvement of the economic situation, and an increase in the standard of living of the society. We take this challenge, using the partnership approach of the Voivodeship Self-Government to build cooperation. We are sure that the integration of offshore renewable energy entities will contribute to the creation of many innovative projects. We are sure that the projects and products will be able to contribute to the development not only of our region, but also of Poland and Europe.

In 2020, the Voivodeship Self-Government initiated the Pomeranian Platform for the Development of Offshore Wind Energy in the Baltic Sea (contact person Karolina Lipińska e mail: K.lipinska@pomorskie.eu). Its purpose is to undertake various activities for the creation of offshore wind farms, including securing a place for Pomeranian enterprises, ports and scientific units in the investment process related to their creation.

” The development of Offshore Wind Farms in the Baltic Sea gives a new impulse for small ports located on the coastline of the Pomeranian Voivodeship, i.e. Ustka, Łeba and Władysławowo, which conclude contracts with developers. This is an opportunity for the development of service centers.

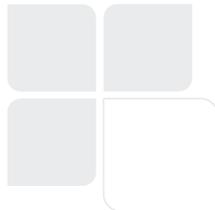
The key aspect for the development of the new industry is to provide competent staff. It was a result of the cooperation of working groups of the Pomeranian Offshore Platform that the idea of organizing the EduOffshoreWind2023 Educational Career Fair in Gdańsk was born. The construction of offshore wind farms in the Baltic Sea is a series of huge and long-term investments, and the resulting benefits are a development opportunity for local governments as well as for the entire country. However, the achievement of these benefits and their scale is conditioned by many aspects, the most important of which is certainly access to educated and qualified staff.

We can see that Polish-Norwegian cooperation in the field of offshore renewable energy is developing very well. Currently, Polish companies cooperate fruitfully with their Norwegian partners. They are subcontractors or suppliers of finished products – specialised vessels, sections for Norwegian partners. Norwegian developers are active on the Polish market.



Pomeranian Voivodeship as the coordinator of the Pomeranian Offshore Platform, together with the Norwegian cluster GCE NODE, successfully implements the Elbe EuroCluster for Blue Energy project.

This cooperation should result in joint projects implemented on a partnership basis, aimed at creating green energy hubs for the southern Baltic based on Windport and Tri-City ports. The current experience has built a solid foundation on which all projects related to offshore renewable energy can be developed. Today it is wind, and in the near future it will be hydrogen and maybe space projects.





Invest in Pomerania is a regional initiative, coordinated by the Pomerania Development Agency, created by experts motivated to develop the business side of the Pomorskie Voivodeship. It navigates investments in Northern Poland and during last 12 years of operating, it has completed almost 180 projects. Thanks to the cooperation with companies, during this period, has been created over 23 000 new workplaces in the region. Invest in Pomerania cares about long-term relationships with investors and supports them in their ongoing business as well.

Global and local offshore wind market overview

The global offshore wind market is growing stronger and stronger. Already, 54.9 GW of power has been installed worldwide as part of offshore wind energy. Europe and China remain the most important markets, but America is emerging on the horizon. In Poland, development of up to 5.9 GW is planned by the end of 2030.

Despite small share in production itself, companies from Pomerania are an extremely important part of the supply chain. They provide all kind of products and services, including cable-laying vessels, heavy lift jack-ups (for instance “Thor”, “Innovation” and “Vidar” units), OSVs, CTVs, transformer stations, turbine towers, and more. All of the mentioned heavy lift jack-ups were built at the CRIST S.A. shipyard and designed with the participation of the StoGda design office. Another interesting initiative is the crew transfer vessel (CTV) project created by the NAVA Ship Design & Engineering office in Gdańsk called "Nava WFSV 22". The unit is intended for use in servicing and maintaining Polish wind farms.

” The World Bank has highlighted the importance of the offshore wind sector as the key element in the development of the region in the report “The FDI strategy for Invest in Pomerania (2021-2027)” .

Offshore wind has been classified there as an "aspiring sector", which means that it is potentially attractive for foreign direct investment (FDI). This sector is particularly promising in terms of expanding the value chain in FDI projects focusing on primary resources or markets. The attractiveness of the Pomerania region is mainly demonstrated in four categories: human resources, cost competitiveness, rich history of shipbuilding and offshore technology as well as growth potential, especially determined by the increasing demand for renewable energy, driven by legislative changes, such as Fit For 55.

1.2. Supporting OWE development in Poland – strong ecosystem

To achieve the set goals, more and more investments are needed. In recent years, many leading companies have been attracted to Northern Poland, often with the support of Invest in Pomerania. In 2021, Semco ETP Renewables launched a design centre at the Baltic Port of New Technologies in Gdynia. In 2022, Siemens Gamesa announced the opening of a competency centre in Gdańsk. At the beginning of 2023, the Industrial Development Agency, Baltic Towers, and the Spanish company GRI Renewable Industries, S.L. signed an agreement to establish a wind turbine tower factory for offshore wind in Gdańsk. The facility will produce towers for turbines with a capacity above 14 MW.

Invest in Pomerania Academy

Considering offshore wind growth in Pomerania region, investment in talent pool is essential. The potential of the region is about 20 000 students from higher education institutions annually, including those focused directly on the maritime sector, such as the Gdynia Maritime University or the Polish Naval Academy. In order to further invigorate the local talent pool, Invest in Pomerania has launched Invest in Pomerania Academy, which funds trainings related to sectors with the biggest potential of economic growth.

One of its projects, which is conducted with the Center of New Competences, is dedicated to offshore and logistics industries positions, such as tower crane operator, RTG crane operator, terminal tractor operator, reach stacker operator or forklift operator. *“The Center of New Competences deals with training. The training is dedicated to people who want to start working in the broadly understood logistics and port reloading. As the only company in Poland and few in the world, we deal with this using simulators. These simulators stand as a safe, economical, ecological and cheaper way to prepare future operators of heavy equipment that is present in ports, but not only. Here we train such operators as operators of overhead cranes, cranes, reach stackers, wharf cranes, which are a frequent element of the port landscape. (...) They are huge, difficult to access, very expensive, so any wrong maneuver can cause incalculable costs, so everything is in the simulator.”* – commented Tomasz Lisiecki, president of the board of the Center for New Competences, in the report “Focus on: Maritime Sector in Pomerania 2023”.

The role of institutions in the support of offshore wind sector

The World Bank report indicates that institutional support for the FDI sector should primarily involve fostering connections between existing investors and domestic firms, creating networks and promoting the market to new operators. Having in mind these needs, Invest in Pomerania offers a range of services that support businesses throughout the entire investment lifecycle. In addition to attracting, locating and implementing investments, Invest in Pomerania also provides post-investment support, which includes helping to expand operations and create networks that bring mutual benefits.

Invest in Pomerania is not the only project aimed at supporting the development of the offshore wind sector. A key role is also played by the Pomeranian Platform for the Development of Offshore Wind Energy, an initiative of the Pomorskie Voivodeship that already brings together 118 entities, including developers and suppliers of components and services for offshore wind farms. Its goal is to coordinate activities around projects that will result in the creation of a strong hub for the offshore wind energy industry in Northern Poland.

1.2. Supporting OWE development in Poland – strong ecosystem

Polish-Norwegian cooperation

Among FDIs stationed in Pomerania, there are already Norwegian companies. One of them is Equinor - an international energy supplier and one of the main offshore wind developers in Poland.

” From investors’ point of view, the development of offshore wind projects on the Polish coast of the Baltic Sea depends on the predictability and stability of the regulatory environment. At the same time, the efficient implementation of these projects will increase the chances of including domestic companies in the global supply chain.

– Therefore, it is necessary to ensure investment continuity, which means that the second stage of the projects’ development in the Baltic Sea shall start as soon as the first wind farms are commissioned. This will require, among others, greater openness to private investors, further development of the grid, simplification of procedures, and acceleration of the process of obtaining administrative decisions, e.g. environmental decisions or building permits. It is also crucial to set ambitious and long-term goals for the development of the offshore wind energy sector in Poland so that suppliers and sub-suppliers have a basis for investing in production capacity in our country.” – commented Michał Kołodziejczyk, CEO of Equinor Polska, in the report "Focus on: Maritime Sector in Pomerania 2023".

DNV - a leading global certification body, which employs over 200 engineers in its office in Gdynia (and another 600 in the Global Business Services centre) should also be highlighted. Apart from certification, it also provides training services and oversees new constructions. Other companies, such as VARD Engineering, Ulstein Poland, HAV Design Poland or Kongsberg Maritime are great representation of ship design and offshore construction sector.

” Norway is soon launching offshore wind programme, which combined with the great potential of Northern Poland, creates enormous possibilities in terms of developing a full supply chain for the sector.

– Norwegian owners have been sourcing services from our shipyards for years, hence we are sure we will continue this collaboration in the context of offshore wind – comments Mikołaj Trunin, Deputy Director at Invest in Pomerania.



Incubator STARTER, managed by the Gdansk Entrepreneurship Foundation, is an exceptional place on the map of Pomeranian non-governmental organizations. Our mission statement ('meet business and education to create leaders of tomorrow') shows two fundamental goals: we want to support entrepreneurial education and, at the same time, help in creating and developing innovative startups as well as micro, small and medium-sized enterprises in the Pomeranian region, especially in Gdańsk.

Incubator STARTER provides support programs that kickstart projects with a high potential for growth, especially in blue economy. In the offshore wind business ecosystem, the role of Incubator STARTER is not changing. As a business support institution, we help entrepreneurs with bringing innovation to offshore wind, internationalisation of regional SME's, establishing potential business partnerships, cooperation with R&D institutions and academic institutions, talent acquisition through student education and providing mentoring for entrepreneurs, who start their businesses in the maritime industry.

For several years, Incubator STARTER has implemented programs that support innovation enhancements and modern solutions designed for the offshore wind sector. What is more, Incubator STARTER is also a place, where business meetings for local and regional supply chain are held. This helped to create a community of experts and enthusiasts of the maritime and offshore wind industry- Blue Baltic Community. The aim of this community is to build stronger business connections and making blue economy more attractive for local and regional entities. On the other hand, Incubator STARTER leads creative workshops, including entrepreneurial elements, for kids and youth. Our goal is to boost the potential and business competencies among representatives of young generations (Z and Alpha). Educational activities are also focused on developing awareness of blue economy in Pomorskie region.

One of our projects is an initiative devoted to the marine industry, focusing on the offshore wind sector and students' needs (e.g., advanced programs).

” The initiative originated in November 2022, in collaboration with members of the Pomeranian Offshore Wind Energy Development Platform and the Office of the Marshal of the Pomorskie Voivodeship as a part of the 1st Education Career Fair Edu Offshore Wind, organized on March 2023 in Gdańsk. Incubator STARTER was partner of this Career Fair.

1.2. Supporting OWE development in Poland – strong ecosystem

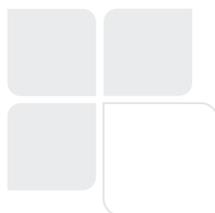
On this basis, Incubator STARTER has been providing thematical workshops for students of high schools and technical schools. These workshops included activities connected with issues for the maritime industry: blue and green economy or 17 sustainable development goals (from UN Agenda 2030). During workshops, we discuss a spectrum of professional life in the maritime industry, reading current job offers, creating questions and finding answers, and working with scientific and specialist articles. We also tried to build models of offshore wind turbines, using creative materials, and connect our hobbies (or 'not-hobby' like cleaning) with life on the sea.

To boost careers growth potential of the local content, collaboration with business partners is necessary, either on regional or international level. As a cluster and innovation hub for maritime business Incubator STARTER aims at supporting regional offshore wind supply chain, sharing knowhow and experiences between partners.

” Incubator STARTER cooperates with Polish and, Norwegian companies such as Equinor, Det Norske Veritas or FIRST Scandinavia, creators of the Newton® concept dedicated to STEM education as such.

Activities undertaken by Incubator STARTER are similar to those undertaken by the Norwegian clusters. Therefore, the cooperation between Incubator STARTER and the Norwegian clusters is an added value for micro, small, and medium-sized enterprises in Poland (especially in the Pomeranian region) and Norway. Due to the fact that Norwegian clusters concentrate on the same goals as Incubator STARTER does, merging potential of Incubator STARTER and Norwegian offshore wind clusters will result in strengthening local supply chains, as well as enhancing abilities of local and regional authorities to support development of offshore wind sector in Poland and Norway.

By Joanna Łaszcz, Incubator STARTER



1.2. Supporting OWE development in Poland – strong ecosystem



Centre for
Economic
Initiatives



Agencja Rozwoju
Metropolii
Szczecińskiej Sp. z o.o.



West Pomeranian Region – the leader in the RES energy sector, and the best partner in OWE
West Pomerania is the leader in Poland in the installed capacity from renewable energy sources. The capacity of sources exceeding 50 kW originally amounted to 2046 MW, i.e. 18.2% of the installed power in Poland, and this value increased to 2252 MW when RES micro-plants were taken into account. As a result, the share of RES in electricity generation in the region reaches 80% of the region's own consumption.

Westpomeranian Offshore Environmental_2027 (WOE_27)

We have created a specific environment (WOE_27) for the OWE sector, combining experience in onshore renewable energy with the experience of the maritime economy sector, which has been one of the flagships of our region for years.



Ports, shipyards, repairs and service of vessels, onshore and offshore construction industry, design offices and hydrotechnical construction - all these create the region's economic strength in the maritime economy, including in the offshore sector.

Westpomeranian non-profit organizations, including local governments, clusters, and economic associations, provide non-business support to regional enterprises and investors interested in operating in West Pomerania.

As part of WOE_27, we implement two important programs aimed at developing the OWE sector in the Zachodniopomorskie Voivodeship. Both programs were inspired in 2021 by the [West Pomeranian Maritime Cluster](#) and its President Andrzej Montwiłł.

Szczecin_Offshore 2025 (SzcOff_25) is aimed at developing the potential of OWE in the area of the Szczecin metropolis. Program Coordinator – [Agencja Rozwoju Metropolii Szczecińskiej](#).

Zachodniopomorskie_Offshore 2027 (ZachOff_27) is aimed at developing the potential of OWE in the West Pomeranian Voivodeship, including the Szczecin metropolis. Program Coordinator – [Centre for Economics Initiatives West Pomeranian Voivodeship](#).

[The Potential of the West Pomerania Region for the Development of the European and Polish Offshore Wind Energy Sector.](#)

1.2. Supporting OWE development in Poland – strong ecosystem

The report confirms that the West Pomeranian Region has a very large potential for the development of the OWE sector, where the strengths include:

- Large investment areas with access to sea and inland waters, including seaports, which can function as installation and production ports (Neptun Orlen investments in the OWE installation terminal in Świnoujście and Vestas in the turbine nacelle factory in Szczecin have already been confirmed) as well as OWE service ports (Świnoujście, Kołobrzeg, Darłowo, Mrzeżyno).
- Industrial and technological parks in Szczecin, Goleniów, Stargard, Nowogard, as well as available investment areas in the area of Koszalin, Szczecinek, Wałcz, Świnoujście,
- Strong shipbuilding industry in the field of construction, repairs, and servicing of vessels, including offshore vessels,
- Well-developed steel construction industry, including offshore constructions, represented by both domestic companies and international capital groups,
- A strong sector of transport, forwarding, and logistics with a very high growth rate of warehouse and production space, benefiting from the location of the West Pomeranian Region and its very good land and sea connections with Europe,
- The R&D sector, primarily at Szczecin and Koszalin universities, provides, in addition to
- research, also the education of engineering and managerial staff in professions necessary for OWE,
- The non-profit sector (local governments, clusters, associations, chambers of commerce) cooperates with regional businesses and investors, having high competence in supporting enterprises of the OWE sector, which is being developed in Poland.

”

I believe that the West Pomeranian Voivodeship is a Scandinavian window to Central Europe and the best place for Polish-Scandinavian cooperation in the development of offshore, especially offshore wind energy in the Baltic and North Seas- says Dr inż. Andrzej Montwiłł, Plenipotentiary of the Marshal for renewable energy sources and development of hydrogen technologies.

– We have strong advantages to become a production and service base of the European OWE sector. Therefore, we also count on cooperation with experienced Norwegian partners in this field, inviting them to cooperate at every stage of the OWE supply chains. Such cooperation between Polish and Scandinavian companies investing in OWE is a fact. The West Pomeranian Voivodeship is a great place to develop this cooperation with the participation of Norwegian companies – he adds.

Westpomeranian Offshore Environmental_2027 has the pleasure to invite you for collaboration with the West Pomeranian Region.

Contact: Andrzej Montwiłł, President of the Board of the Westpomeranian Maritime Cluster (biuro@klastermorski.org), Plenipotentiary of the Marshal of the West Pomeranian Voivodeship for Renewable Energy Sources and Development of Hydrogen Technologies.



**Agencja Rozwoju
Metropolii
Szczecińskiej** sp. z o.o.

Szczecin. Direction: Offshore

Szczecin is made to be a leader in the offshore wind industry. Its waterfront location with sea access, its rich history, its vast areas of former shipyards, and its skilled workforce are a guarantee of success in wind power. Szczecin is currently seizing this historic opportunity. It's time for you to anchor your business in our city.

Szczecin is a modern, creative, environmentally-friendly city that's open for business. It is located in the north-west of Poland, and the capital of West Pomerania. An important international north-south transport route runs through Szczecin: from southern Scandinavia, along the Oder river, through Czechia and Austria, to the Mediterranean. The city lies on the line connecting Russia and Finland with Western Europe via the Baltic Sea. Connected to the Baltic Sea with a waterway, it is the economic hub of the region. Szczecin has a seaport, and together with Świnoujście it forms one of the largest all-purpose port complexes in the Baltic Sea region.

– Szczecin is a unique place with wonderful people. It is a green port located at the crossroads of transportation routes. It is a hub for exchange of goods and services, as well as creative ideas. Its cross-border, waterfront location, entrepreneurial residents and university potential attract both large multinational corporations and smaller companies, including those in the offshore wind industry – says Piotr Krzystek, the Mayor of Szczecin.

”

I believe that our location, people, favourable business climate, but also the acceleration of energy transition across Europe, mean that Szczecin has a great potential to become an offshore wind hub for this part of the Baltic Sea.

Good transport is an important asset of the city. In addition to waterways and land transport routes, the city is located close to airports. Szczecin-Goleniów Airport (SZZ) is only a 35-minute drive from Szczecin, and offers regular international flights to Norway, Ireland and England. Its 2,500 m long runway can handle any type of aircraft. You can reach Willy Brandt Berlin Brandenburg International Airport (BER), serving destinations around the world, in about 1.5 hours by car.

Scandinavia is in Szczecin.



About 160 companies with Scandinavian capital successfully operate in Szczecin, including: Vestas, KK Wind Solutions, Garo, Tieto, Coloplast, LM Wind Power, FairWind and Global Wind Service.

In total, Scandinavian companies employ around 15,000 people in the region, with a reputation of good and stable employers. Because of this, Szczecin has for years had a number of initiatives showing that the city and its residents are open to Scandinavia. Every year the city hosts the Polish-Scandinavian Days; the city is affiliated with the Polish-Scandinavian Chamber of Commerce, cooperating on a number of different business events, and many Scandinavian students study at Szczecin's universities. Szczecin is also home to Multinational Corps North-East. The formation is now made up of servicemen from 25 countries, including Norway, Denmark, Sweden, USA, Canada and Spain.

Szczecin is a great place to live. It has low population density, abundance of greenery, monuments and modern architecture. It is a perfect place for recreation and leisure, offering residents and investors high quality of life. Our part of Europe is characterised by open spaces, focus on work-life balance, lots of greenery and water.

Szczecin is open to and gets involved in many initiatives related to renewables, especially wind power. The city has commissioned relevant reports and projects to determine the City's offshore wind potential. The Szczecin_offshore 2025 project is an integral part of a larger entity – the local government's Zachodniopomorskie_Offshore 2027 programme, with the aim of West Pomerania's largest possible involvement in the development of Polish offshore wind farms. The programme is intended to strengthen regional companies operating in the offshore wind sector and to promote them in new markets. It also responds to the challenges of EU's climate policy.



The development plan for the offshore wind sector in the West Pomeranian Voivodeship covers several segments: offshore structures, vessels, transport and logistics, maintenance and repair, offshore energy, materials, education, R&D&I.

The aim is to create a broad offshore wind community interested in activities in this sector. We did not have to wait long for the first results of these measures.

Vestas invests in our city. The company intends to build a factory where wind turbine nacelles and hubs will be assembled. The plant is expected to come into operation in the coming years. The investment will create several hundred new jobs. In addition, this spring Vestas bought the land and infrastructure from the bankrupt ST3 Offshore factory, which until a few years ago fabricated foundations for offshore wind turbines.

1.2. Supporting OWE development in Poland – strong ecosystem

The new Vestas factory is set to be the largest manufacturing facility in Poland directly related to the offshore wind sector.



Components produced by the Szczecin plant will be exported worldwide. The plant is an important investment alongside the installation terminal project in Świnoujście. Offshore wind farm components will be delivered to that terminal.

This is also where preassembly of towers, more than 100 metres tall, will take place. The terminal will be able to accommodate the largest jack-up vessels, used to build offshore wind farms.

The Szczecin Metropolitan Development Agency (ARMS) provides services to investors on behalf of the city. Do not hesitate to contact us:

phone: +48 91 333 97 70

mobile: +48 696 547 127

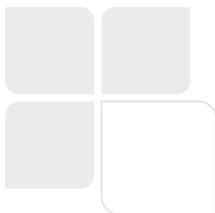
r.polikowska@arms-szczecin.eu

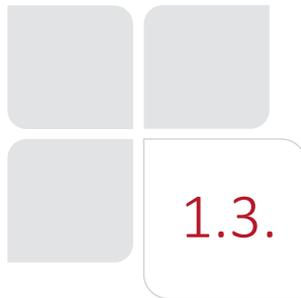
a.zielinska@arms-szczecin.eu

<https://arms-szczecin.eu/>

<https://invest.szczecin.eu/>

<https://www.szczecin.eu/pl>





Who is who – key industry
players in Poland



Baltica sp. z o.o.

The Baltic Sea potential up for grabs – PGE is open for cooperation on its future offshore wind projects.

Offshore wind is one of the pillars of PGE Group's strategy. By 2040 PGE intends to develop at least 6.5 GW of offshore wind generated power. The goal is determined not only by the ongoing energy transition in Poland, but also the need to strengthen the country's energy security. Especially given the fact that the potential of the offshore wind along the Polish shore of the Baltic Sea remained unused. Until now.

” The PGE offshore wind program is conducted by the Group's subsidiary – PGE Baltica. At this moment the company is developing offshore wind projects with a total capacity of 3.4 GW.

This makes PGE the largest offshore wind investor in Poland. Approximately 2.5 GW in total will be provided by Baltica 2 and Baltica 3- two stages of the Baltica Offshore Wind Farm, which is to be completed by the end of the decade. This project PGE is developing together with Ørsted. Another 0.9 GW will be provided by PGE Baltica in early 2030's by Baltica 1 project, which is currently in predevelopment phase undergoing environmental surveys and will be located further north from the Polish seashore.

At the same time PGE is taking part in the bidding proceedings that should grant new seabed areas for further projects. Four of such proceedings already resulted in favour of the PGE Group. Although there are still pending appeals from other bidders, PGE has already certain plans regarding the new areas.

” According to estimates of PGE Baltica the four new areas could be developed with up to about 3.7 GW of generation capacity.

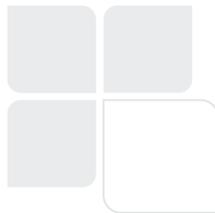
Should PGE Group eventually obtain the permits, its portfolio would contain projects of a total capacity of about 7.1 GW. This would exceed the strategic goals, nevertheless PGE is still competing for next offshore wind areas.

Capacity potential of new areas: approx. 3.7 GW



Newly granted permits will mean dynamic increase of PGE Group’s needs in terms of preparation, construction and servicing of its offshore wind farms. This opens vast opportunities for contractors, subcontractors and suppliers in years to come. The potential partners could get involved in the cooperation along the entire supply chain. There are transparent and competitive procurement proceedings announced on all stages of project development. PGE Baltica invites companies interested in getting involved in development of its future offshore wind projects to take part in events dedicated to suppliers as well as to monitor tender announcements.

PGE Baltica





Polenergia is the first Polish energy industry player representing the New Energy Sector. We have built our own unique business model encompassing all links of the energy value chain, and at the same time we have not imitated other sector players. We have chosen our own direction of development focused around a system of innovative solutions and products based entirely on clean, green renewable energy.

Our mission is to actively support the transformation of the Polish energy market by developing a low-carbon economy, clean and renewable energy sources, and striving to achieve climate neutrality in the European Union by 2050. To achieve this goal, we use modern and effective technologies as well as the knowledge and experience of an exceptional team.

Thanks to our forward-looking approach, Polenergia's offer already meets the requirements of the European Green Deal, which will apply to all companies in the sector in over a quarter of a century. Looking at our Group, in many ways, you can get an idea of how the energy sector will look after 2050.

Building a zero-carbon economy through efforts in all links of our business model – development and construction of generation assets, power generation from renewable and low-carbon gas sources, distribution, trading, sale of electricity, and trading in certificates of origin and CO₂ emission allowances, as well as new business areas. Our goal is to increase the base of environmentally conscious corporate and retail customers using Energy 2051 compliant products. With advanced source integration and balancing solutions, we are providing market access to a growing number of cooperating generators. We are also developing competences in the area of services aimed at prosumers and a wide group of people and entities interested in the development of electromobility. Our ambition is to maintain the position of an expert in the wholesale market in Poland and abroad.

Development of offshore wind energy is one of the strategic goals. When Polenergia launched the development of projects in the exclusive Polish economic zone of the Baltic Sea, it saw enormous potential in them for Poland as early as in 2010. In 2018 it established cooperation with Norwegian Equinor for the joint execution of the MFW Bałtyk II and MFW Bałtyk III projects. In December 2019, it signed a cooperation agreement for the execution of the MFW Bałtyk I project.

” Combining the strengths and experience of Equinor and Polenergia guarantees the construction of projects that will open a new chapter in the history of Polish renewable energy and provide new generation capacity, which is so necessary in the Polish power system in the coming years.

The total capacity of the developed projects is as much as 3,000 MW. We are the leader in the development of Polish wind farms in the Baltic Sea. Their launch will cause a sharp increase in the green capacities available to our Group and will significantly change the landscape of the Polish energy sector. In 2021, the President of the ERO granted the right to cover the negative balance of the so-called differential contract for our two MFW Bałtyk II and MFW Bałtyk III projects with a total capacity of 1,440 MW. Thus, these projects were included in the first phase of offshore wind energy development in Poland.

In December 2019, the European Union announced its Green Deal Strategy, which, if implemented, should make us fully emission-neutral by 2050. Green Hydrogen should play a very important role in this strategy. In July 2020, the European Commission adopted a hydrogen strategy for a climate-neutral Europe. It will help increase production of clean hydrogen in this part of the world. Hydrogen may be used as an energy carrier, raw material for industry or fuel – it has many practical applications, which will help reduce greenhouse gas emissions in the industry, transport, energy and construction sectors.

For us, hydrogen is the technology of tomorrow and an opportunity to accelerate Poland’s green transition. We see the potential of hydrogen as the fuel of the future, a key raw material for many industries, as well as an accumulator for energy generated by our green assets.



1.3. Who is who – key industry players in Poland

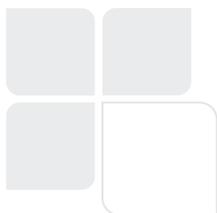
Through participation in key Polish and European initiatives, we are building our competence and secure access to cutting-edge technologies. We are developing a 100 MW large-scale project to produce green hydrogen at an electrolyzer plant powered with green energy, and are taking a number of steps to make our gas-fired cogeneration plant in Nowa Sarzyna to operate on hydrogen.

The green energy produced by us reaches end customers in the form of products and services, the vast majority of which we develop in accordance with the Energia 2051 standard. Our goal is to maintain our position as a valued expert on the wholesale market, in Poland as well as abroad. We are strengthening the business line that provides generators with access to the market by integrating their green energy sources with business customers. We are developing distribution services combining them with innovative products (e.g. pertaining to electromobility) and we are investing in digital channels of contact with customers.

[Polenergia Corporate Website](#)

[ESG Service 2021 \(polenergia.pl\)](#)

[Materiały do pobrania- Energia z przyszłości- Polenergia](#)





TFK Group and its ambitions in offshore wind

TELE-FONIKA Kable SA (TFKable) is in the world's list of top European producers of cables and wires with 100% Polish capital, with a significant development potential. The products produced in our plants are recognised by customers in more than 80 countries. Our range of products includes approx. over 25 thousand types of cables and wires. The company combines good traditions of the cable industry in Poland and innovative technical solutions. TFKable Group currently consists of several trading companies, with a significant number of production plants around Europe and a Cable Waste Recycling Department in Poland. With a consistent growth strategy based on client portfolio diversification, TFKable Group has cemented its position as a world leader in the cable business, with significant further development potential.

The development of the energy system aimed at reducing emissions through renewable energy sources (RES) is a priority for TFKable. The 100% Polish capital of the company obliges it to be one of the pillars of the Polish energy transition. For this reason, in 2017 the TFKable Group increased its activity on the RES market by joining JDR Cable Systems Limited, a company from the UK specialising in the supply of submarine power cables and umbilical cables and having an experience by participating in 50 offshore wind farm projects over last 15 years. JDR is a leader in developing next-generation subsea MV/HV power cables (static/dynamic) for offshore renewable energy projects.

” The solutions offered by the company ensure high performance in the most demanding conditions and comprehensive solutions are used in the largest offshore wind energy projects, from Taiwan to the US.

JDR products perform well at, among others, London Array, East Anglia One and Hornsea 1 offshore wind farms. Our export cables and subsea equipment are also used at WaveHub, the largest and most technologically advanced facility for testing and developing marine renewable energy technology. TFKable Group team has a thorough knowledge of inter-array cable design and accessories, including pulling grips, hang-offs, connectors, and fibre optic splice boxes.

Cooperation with Norway and TFK Group flagship projects

The idea of being at the forefront of the energy transition in Poland has prompted TFKable to look to the renewable energy leaders in Europe. One such leader is Norway, which generates more than 50% of its energy needs from renewable sources.

1.3. Who is who – key industry players in Poland



As a group, TFKable, together with JDR, developed the Hywind Tampen project, the first international project to power oil and gas platforms with floating offshore wind farms.

JDR was selected to manufacture and supply the 66kV dynamic inter-array cables connecting the 11 turbines in a loop. In addition, two static export cables from the dynamic end (12.9 and 16 km) connect the loop to the Snorre A and Gullfaks A platforms. All cable accessories have been specially designed to withstand the higher water pressure caused by the greater installation depth (300m). The wind power generated by the farm will offset the emission of 200,000 tonnes of carbon dioxide per year.

Opportunities for future technological cooperation with Norway

TFKable Group has developed supply chain in Poland supporting the construction and operation of the Polish offshore wind farms by providing local content opportunities for the below scopes:

- Design and manufacturing of HV land cables
- Design and manufacturing of single power cores for the array cable scope
- Jointing and termination work
- Testing
- Storage
- Land cables installation
- Project management

TFKable's current base case is manufacture of HV land cables and single power cores for inter array cables through our Bydgoszcz facility in Poland and power cable lay-up in Hartlepool, UK. This option will bring local economic benefit in terms of investment and local job creation in line with the Polish Offshore Wind Sector Deal.

Furthermore, a groundbreaking event was held in 2022 where TFKable, together with JDR, launched the construction of a new factory in Combois, Blyth. This factory is intended to become a resilient platform which JDR and TFKable will take advantage of to connect and develop products and services. This way both companies will become manufacturers specialising in low-emission solutions open up new opportunities to offer products for use in offshore wind farms.

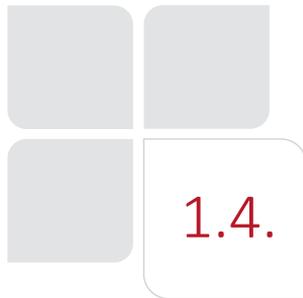
Increased capacity and current project programme allows TFKable Group to offer multiple manufacturing options. It could be manufactured through our existing structure or through our new structure. Each option comes with its own advantages, providing TFKable with huge potential in supply chain for offshore wind farms.

Websites:

https://www.tfkable.com/en_pl/

<https://www.jdr cables.com/>

<https://offshore.jdr cables.com/>



Infrastructure vital for
OWE



gospodarkamorska.pl

As GospodarkaMorska.pl, Poland's largest information portal dealing with the blue economy and all related maritime topics, we have been observing how the matter of offshore winds has gained importance in the country over the years. For many people in the industry, as well as for outside observers, we have become the primary source of information on this new sector of the economy. When the first Polish wind farms projects, that will change the country's energy mix, accelerated significantly three years ago, we became a hub that connects all interested parties- administration, Polish and foreign developers, and a number of larger and smaller enterprises in the Polish maritime industry that can, and sometimes must, be involved in these projects. Our editorial office receives telephone calls from companies interested in cooperation for the creation of wind farms, seeking information. We can confidently say that our portal- previously the main source of information on the maritime economy in Poland- has also become a platform for the exchange of knowledge and opinions, as well as business contacts in the emerging sector, which will play an important role in the national economy.

Offshore Wind Farms in Poland. Infrastructure under construction

Poland has several hundred kilometers of the Baltic Sea coast, which offers favorable conditions for the development of offshore wind energy. Missing this opportunity would be unwise. Although Polish wind farms are still in the planning stage, the developers have managed to achieve several milestones during the recent months.

” The offshore wind sector in Poland is slowly starting to move out of the planning phase and taking a physical shape. The windmills themselves are not at sea yet, but we are slowly beginning to see the harbingers of what will be needed in the future, primarily on land.

The burden of organizing the infrastructure has been largely carried by developers. They have announced a whole range of investments in the recent months, which will enable the construction of wind farms in the Polish Baltic Sea, primarily the installation terminal in Świnoujście and service bases in smaller ports. Offshore operations can also be carried out by other universal terminals, such as BCT, Baltic Hub or Port Gdański Eksploatacja that also have appropriate capabilities. It seems that the most important and largest infrastructural projects for the offshore wind farms are already underway.

– However, that doesn't mean there's nothing left to be done. On the contrary, there is still a whole lot of smaller but important investments to be implemented – notes Mateusz Kowalewski, editor-in-chief and publisher of the GospodarkaMorska.pl portal.

” One of the most frequently discussed issues have been installation ports, i.e. ports with infrastructure for storage, initial assembly and loading of wind farm elements on ships, which would then sail to the installation sites.

Initially, the Polish government designated the Port of Gdynia to play such a role. Later on, the Port of Gdańsk was selected at the request of several involved companies. Ultimately, it was the economic calculation and available infrastructure that decided where the installation ships would depart from. One of the developers, the largest Polish company Orlen, has decided to build their own installation terminal in the port of Świnoujście. The construction will start this year and, when ready, it will service the Orlen wind farms: Baltic Power and possible future ones.

The developer states that it will also be able to serve other companies on a commercial basis. As a result, the first fully-fledged offshore wind installation terminal will be built in Świnoujście, but both the ports of Gdańsk and Gdynia have not officially withdrawn from their projects and are reserving areas for transshipments for offshore needs, although in both cases the process is in the planning and tender stages. Developers have also shown efficiency in terms of establishing bases and service ports. Locations for such bases have already been confirmed. Equinor will create its own in the vicinity of the port in Łeba, Baltic Power is carrying out a similar investment in the same city, PGE will build its own base in Ustka, and Ocean Winds in Władysławowo.

The shipbuilding industry is also preparing its infrastructure for offshore winds. The Crist Shipyard from Gdynia is one of the few shipyards in Europe with extensive experience in building offshore ships, including jack-ups. The plant has already built three installation vessels operating in foreign waters. The Safe shipyard, which built tugboats adapted to auxiliary work at wind farms, has also completed interesting projects.

Polish companies are also looking for opportunities elsewhere. Energomontaż Północ-Gdynia has already built a transformer station that will operate in the southern part of the Baltic Sea. Other companies, such as Mostostal Pomorze, receive orders for steel structures for the needs of offshore installations. The Szczecin Shipyard "Wulkan" is rebuilding one of the slipways into a special assembly site with access to a wharf with large steel structures for offshore wind.

” Poland is also home to factories that will produce components for wind farms, not only in the Baltic Sea.

Vestas, a Danish giant in the field of wind turbines, has won the tender to purchase ST3 Offshore in Szczecin, which produced trusses and monopiles, as well as transition elements for wind turbines. There is a good chance that the Vestas plant in Szczecin will become one of the most important links in the supply chains for projects implemented throughout Europe. In turn, in Gdańsk, GRI Renewable Industries will launch a factory for offshore wind energy towers.

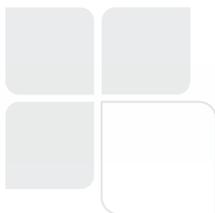
” An important element of the infrastructure for the future offshore wind farms are transmission networks.

By 2028, in the Pomeranian Voivodeship alone, new 400kV lines with a total length of over 250 km and two power stations will be built, the construction of which is the responsibility of Polskie Sieci Elektroenergetyczne (PSE). According to the published plans of the involved companies and institutions, the first offshore wind farms are to be connected to the national energy system at the end of 2025. The energy is to flow in 2026 and the following years will bring a significant increase in the capacity.

The long term plans and the pragmatic approach of the Polish offshore sector players make the door for cooperation with foreign entities wide open. The Norwegian Equinor, Danish Ørsted, Canadian Northland Power, German RWE and Spanish-French Ocean Winds (a joint venture of EDP Renewables and Engie) – are among the developers of the first Polish wind farms.

– Potential partners from the Baltic countries will have a chance to shine in the service segment for the offshore sector, which includes ships and maritime operations – says Jakub Milszewski, Editorial Manager at GospodarkaMorska.pl. – The experience and fleets that companies from Norway, Sweden, Denmark or Germany can contribute with will be welcomed.

However, Poland also has much to offer. *– The international players chose to locate their offshore centers and factories on the Polish coast for logistic reasons. Polish manufacturers and shipyards have a great reputation for production of steel structures and specialized vessels, and they are strengthening their position in the supply chains participating in projects in the European waters. Polish ports can also be useful in the offshore logistics, due to the excellent fairways and transshipment infrastructure - summarizes Jakub Milszewski.*





Supply chain – unique strengths of the Polish local content



Polish Offshore Wind Energy Society is the oldest Polish organisation dedicated to wind energy, established in 1997. Since 2008, the Society has been engaged exclusively in promoting and supporting the offshore wind sector development. The main goal of the organization is to support the offshore wind energy sector in Poland and promote the economic development that is directly connected with the offshore wind energy, based on innovative technology and respecting the rules of the environmental protection.

The statute goals of PTMEW are being realized by:

- Active participation in the legislative processes that leads to creation of a friendly legal framework that enables an effective realization of the investments in offshore wind farms in Poland
- Supporting companies that are active in the offshore wind energy sector that leads to the preparation of the production and service offer for the offshore wind energy sector in order to increase the competitiveness of the Polish companies on the European market
- Information and promotion activities through organizing conferences, seminars and professional training addressed to the entities from the public and private sector, as well as a publishing activity
- Cooperation with the organizations from the line of business, companies and public administration entities that are responsible for the development of the offshore wind energy within the scope of the international initiatives financed by the European Union, whose goal is to transfer the practical experiences and innovative technical solutions that increase the competitiveness of the Polish offshore industry.

The Polish suppliers for the offshore wind sector represented by PTMEW have a significant track record and contribution in the sector. Members of the Society deliver state of the art solutions, services and components for the offshore wind farm projects across the European markets.

” Polish offshore supply chain companies, including ports and terminals, represent a wide range of competences and capabilities that put them in a position for a leadership role in turnkey supplies for the emerging floating offshore wind markets.

1.5. Supply chain – unique strengths of the Polish local content

Polish suppliers that are reliable and recognized partners in the following areas include:

- Inner array cabling systems (e.g. Tele-Fonika Kable/JDR)
- Large, partially equipped steel structures manufacturers (e.g. Energomontaż-Pótnoc, Mostostal Pomorze, CRIST Offshore, Stalcon, JW Steel Construction)
- Secondary steel production (e.g. GOTECH, Eiffage/Spomasz, Mostostal Chonice, Teleyard, LIGUM Offshore, Dynpap)
- Cranes (e.g. PROTEA)
- LV, MV and HV Electrical equipment onshore/offshore (e.g. KK Wind Solutions, PRAĐ S.A., Eltel Networks, Elbud, SPIE, Dynpap)
- Anti-corrosion systems (e.g.: MAKROMOR)
- Environmental Impact Assessment and related offshore works (e.g. MEWO S.A., Ambiens, Baltic Diving Solutions (BDS), LOTOS Petrobaltic, GeoFusion, Geo Ingenieurservice Polska, Subnea, MAG Offshore)
- Offshore geotechnical campaigns (e.g. LOTOS Petrobaltic)
- Laboratory analysis
- Elements of technical design (wind farm and grid connection offshore/onshore)
- Certification (e.g. Polish Register of Shipping (PRS))

Moreover, the Polish ship design and shipbuilding industry offers proven potential of:

- Design and production of specialized installation fleet (e.g. StoGda Ship Design and Engineering, CRIST Shipyard S.A.)
- O&M. fleet production and design, particularly dedicated to the Baltic Sea conditions (e.g. REMONTOWA Shipbuilding, Seatech, NAVA Engineering, Seatech Engineering, ALUSHIP, Safe Shipyard)

” The coming years will bring significant extension of the Polish offshore wind industrial offer. From 2025 on, Poland will start the production and delivery of most critical elements for the offshore wind value chain.

This will include:

- Offshore wind towers
JV agreement for construction of offshore wind towers based in Gdańsk has been signed between Agencja Rozwoju Przemysłu S.A. (Industrial Development Agency J.Sc.) and GRI Renewable Industries in January 2023. The factory is to be fully operational in 2025.
- Offshore wind substations
Polish suppliers are internationally recognized for their partially equipped topsides production for offshore substations installed across the European seas and soon also in U.S. Next level is to be achieved soon by offering to the market fully equipped OSS units in EPC contracting formula. Details soon to be revealed.

1.5. Supply chain – unique strengths of the Polish local content

- Offshore wind turbines
In 2022 Vestas announced establishment of the company's flagship model V236-15.0 MW factory in Szczecin. The factory will produce hubs and nacelles for the units. It will be operational in second half of 2024. In March 2023 Vestas won a public tender for acquisition of the land plot and infrastructure of the ex-jacket and TP factory in Szczecin owned by ST3 Offshore.
- Operation & Maintenance
Polish suppliers are preparing themselves very intensively to provide offshore wind market with full scope O&M. service available for the market around 2025. The investments in the fleet and experienced technical crews are ongoing. In the upcoming years, Polish suppliers like LOTOS Petrobaltic, BOTA Green Offshore, BOTA Wind Energy, Baltic Diving Solutions (BDS), MAG Offshore and Polish-German FRS Polska will present their detailed offer.
- Export cabling systems
Expected export cabling manufacturing and installation service. More information to be revealed soon.

For detailed information, please contact:

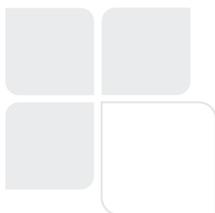
Polish Offshore Wind Energy Society

ul. Tadeusza Wendy 15

81-341 Gdynia / Poland

Tel: +48 58 500 84 06

E-mail: ptmew@ptmew.pl





Polish Maritime Technology Forum (PFTM), Polskie Forum Technologii Morskich is an industry independent and self-governing association gathering entrepreneurs and stakeholder active in the field of maritime economy, in particular maritime technology. The association is a close-knit successful network of shipyards, design offices, marine system and service providers, as well as supporting members that include a class society, special economic zone, legal consultants and academia. The main objective of PFTM is to promote the potential and capabilities of the Polish companies and support them with all available information and actions which can boost their operations.

From the perspective of production and design capabilities in the European Union, we dare to say that Poland & Offshore Wind shall be seen as a Success Story. Actually Poland is the No. 1 in Europe as a jackup manufacturer, and moreover, it has a very strong design capabilities and potential. It is said that the design segment alone employs over 1 500 engineers, some say even up to 2 000 working in design offices. Most of the offices had been set up by the Polish stakeholders, but there is also a significant number of subsidiaries of well-known international names. Therefore one can say that.

” Poland is a “design valley” for the maritime sector, in analogy to what the Silicon Valley is for the IT segment.

– *The strength of Polish designers, especially in comparison to those in Europe, is their roots and close links to the production units of active shipyards – says Jerzy Czuczman, CEO at PFTM.*
– *Therefor Class Documentation, Detailed Design and As Built Documentation are very much valued both by manufacturers and customers. Polish engineers can prepare design for all types of ships and floating objects, not only for Polish yards, but mostly for the European ones, as well as for those from outside of Europe.*

To be more specific, we can list some examples such as Offshore Structures – a full range of building, supporting and maintaining vessels, such as Jack-ups, SOVs, CTVs, Cable Laying Vessels etc. We should also add to the list Inland Navigation Units, Seismic Vessels, Scientific Ships, Ferries, Fishing Vessels, Navy & Patrol Boats, Zero Emission Vessels and others. Trade Winds named one of our design offices a “game changer”, as their first 3D ship design model made it to a class approval. Although 3D models are often generated during the early stages of a ship design process, they later on have to be translated back to 2D versions for the approval.

1.5. Supply chain – unique strengths of the Polish local content

In the field of renewable and zero emissions, it is worth to say that the passenger ferry ELEKTRA was the first fully electrical ferry produced in the European Union, able to operate in standard conditions. The ferry has been designed by a Polish design office and built by a Polish yard for a Finnish owner. So zero emission vessels are part of the Polish yards' portfolio.

Concerning an overview of the Polish production facilities, it should be said that in addition to two bigger players, there is a number of newbuilding yards, mostly medium size.

” An unquestionable advantage of the Polish facilities is their ability and courage to manufacture unique specialized ships and floating object, mostly as a unit production and in a very close co-operation with an end customer.

Concerning ship repair, it needs to be said that Poland is a significant player in the ship repair market in Europe, capable not only for carrying out variety of repairs but also performing very sophisticated conversions and modernizations of different ships and floating objects.

One of an important advantages of the Polish yards and manufacturers is their capability to produce Complex Steel Structures engaging Specialized Welding, not only for carbon steel but also stainless and special alloys. Moreover, in orders being placed to the Polish yards and suppliers, Deck Machinery, Lifting Solutions and Automation Engineering can be included. Furthermore, different systems, such as Automation Systems and Hydraulic Power Systems, are well familiar to the Polish staff. This is possible due to availability of high-skilled personnel authorized by the international companies for installations, start-ups, testing and maintaining of products. Additionally, a variety of testing inspection services can be carried out by the local Polish personnel, for example Coating Inspections, Environmental, Geophysical, and Geotechnical Surveys, as well as Non-destructive Testing and other services.

A very important task for associations as PFTM is influencing the legal environment by lobbying for level playing regulations, which in general are well observed by the EU entities. PFTM is lobbying for a fair play ground by establishing so called “comparable price”, defined as a price after adding all cost not included due to compromises on environmental and social standards, as well as by receiving unjustified public financial support. This simple formula of a “comparable price” would level the playing field for all entities operating on the Common European Market.

” Norwegian customers can consider Poland as a reliable partner in all areas of maritime technologies. Poland can provide goods and services at a required quality, in agreed delivery times and at very competitive price.

1.5. Supply chain – unique strengths of the Polish local content



ZRB Janicki is a family company established 1978. Initially company's scope focused on indoor installations. As the company developed the head of family was joined by sons who drive the company towards trenchless technologies since 2009. Due to cooperation with research institutes and foreign partners the quality of services provided is at highest level which is confirmed by numerous references and certificates acquired:

- ISO 9001:2015 – quality management
- ISO 14001:2015 – management of environment
- ISO 45001:2018 – health and safety management

As part of our comprehensive services in period 2019 – 2023 we accomplished 6 over 1 km long installations of steel pipelines of diameter of 40 inches (1016 mm), the longest of which was over 1300 metres.

ZRB Janicki representatives started and actively developed Polish technical standard regarding trenchless technologies. Cooperation with universities enables to improve quality of education of future engineers through apprenticeships held on drilling construction sites managed by our company.

” In order to familiarise students with trenchless technologies, we share our knowledge through lectures conducted as part of academic classes.

Due to our high economic awareness, openness for innovations and cooperation with equipment providers we are one of first companies in the world to operate electric driven horizontal drilling rig. Currently we own electric rigs of pulling force of 1250 and 3000 kN along with necessary mud preparation and recycling system and auxiliary equipment which allow to drill boreholes of diameter over 1 meter and lengths exceeding 2000 metres. Available equipment and employment of over 70 people allows to conduct two drilling projects in parallel continuously 24/7.



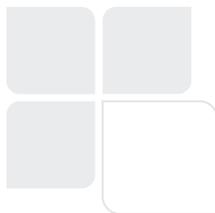
Experience on the local market resulted in the cooperation with EQUINOR as the technical guidance for Battyk 2 and Battyk 3 projects in the scope of export cable shoreline crossings with horizontal directional drilling.

ZRB Janicki thanks to high technical and manpower potential is a viable partner for implementation of shoreline trenchless crossings – so called landfall drilling as well as onshore crossings for water lines, gas pipelines (CCS, H2, natural gas), power lines and tunnels for water to be used by hydroelectric plants.

Educated and experienced crew with appropriate licenses guarantees accomplishment of even most challenging and innovative projects with respect for the environment. Our design team is experienced with whole scope from concept to execution phase with various geological conditions from loose soils (sands) through active clays to solid rock. Due to cooperation with local market we are able to conduct projects for industrial installations, construction of water, gas and high voltage lines as part of consortium or independently.

Our strength as local content:

- Willingness to cooperate from concept to handing over
- Educated staff
- Experience
- High quality of service
- Mobility
- In-house equipment
- Comprehensive implementation of works
- Cooperation





2

Norway as the
world-leading
offshore wind
player



Offshore wind as Norway's
next export venture
– export markets



Energy Transition Norway is a leading business cluster in Norway dedicated to accelerating the innovation pace in the energy transition. As an organization with 130+ members that brings together major offshore operators, high-tech suppliers, innovative entrepreneurs, research and development institutions and relevant investors, we are in a unique position to deliver on this mandate.

” The development of offshore wind technology is one of our focus areas, and we believe Poland and Norway share a strong potential for cooperation within the international supply chain for offshore wind energy, as we share the need to transition from dependence on fossil fuels.

Despite being comparatively “late on stage” compared to other European countries when it comes to developing offshore wind energy, Norway possesses relevant technology and expertise that can contribute to the development of the Polish OWE. Energy Transition Norway’s members have unparalleled experience and knowledge from the oil and gas industry, gained from working in harsh offshore environments, designing and building complex offshore structures, and managing large-scale projects.

These skills and expertise are highly transferrable to the offshore wind industry. It also involves working in harsh offshore environments and thus requires the design, construction, and maintenance of complex offshore structures such as wind turbines, foundations, and subsea cables. Additionally, project management skills developed in the oil and gas industry can also be applied to offshore wind projects, where efficient and effective project management is crucial for successful and cost-effective delivery.

Energy Transition Norway's Technical Committee selects the projects that will become innovative industrial cluster projects. The committee, comprised of all major energy companies operating on the Norwegian Continental Shelf (NCS), meets quarterly to evaluate new technologies presented to them by cluster members. When interested, the relevant committee members will commit to supporting early-stage development.

2.1. Offshore wind as Norway's next export venture – export markets

This provides technology developers with direct access to end customers who become engaged in the project from the beginning of the development journey ensuring that the technology that develops meets end users' needs and requirements. Companies in Poland can establish closer relationship with the Norwegian offshore wind industry when connecting with Energy Transition Norway and relevant members of the cluster.

” With our strong network of stakeholders in the offshore energy sector, Energy Transition Norway sees significant potential for collaboration between Norwegian and Polish companies.

We believe that cooperation in areas such as technology transfer, supply chain management, project development and financing can help to accelerate the growth of the offshore wind industry in both countries. Moreover, the Norwegian and Polish offshore wind industries can collaborate on research and development, sharing knowledge and expertise to drive innovation and reduce costs.

Energy Transition Norway is committed to facilitating such collaborations and partnerships and to work towards a sustainable and low-carbon future for the energy industry. Our cluster currently has three industrial projects relevant to Polish offshore wind development initiatives: Amon, Flex2power, and WindSpider:

Flex2power is a unique floating steel foundation for energy production from three renewable sources of energy: wind, waves, and solar, occupying only 1/6th of the area compared to other floating wind farm projects and producing electricity via hydraulic systems and generators. This project recently submitted a proposal park-scale development through Horizon Europe, and is especially interesting considering that Poland's largest offshore wind project, the Baltica 3 project, is being developed as a floating offshore wind farm.

Amon aims to establish a cost-effective foundation and installation factory for bottom-fixed and floating offshore wind turbines. Amon's unique foundation and installation solutions can reduce work offshore by conducting all assembly and testing onshore, resulting in a 30% cost reduction and a reduction in installation time offshore up to 300 days. Amon's technology is of relevance for the majority of Poland's offshore wind projects, including the Baltic Power and Baltyk II projects.

The WindSpider crane concept is a solution for offshore wind turbine installation and maintenance, using the tower of the wind turbine as the basis for the crane, reducing downtime and CO2 emissions during lifting operations.

In conclusion, Energy Transition Norway is well-positioned to support collaboration between the Norwegian and Polish offshore wind industries. With our extensive network and expertise, we see significant opportunities for cooperation in technology transfer, supply chain management, project financing, and research and development.



It's just the beginning
- domestic market

Norwegian offshore wind strategy

[The government](#) of Norway promotes offshore wind power as one of the key industries for the Norwegian economy. The overall goal is to double the energy production Norway has today to secure electricity for both individual consumers and for business operations. In addition, Norway aims to become a leader in floating offshore wind technologies and to utilize those competencies globally.

To achieve this, Norway has implemented an export strategy, which aims to secure its position as a global market player for offshore wind. The underlying reason is the willingness to diversify Norwegian exports by 50%, especially when it comes to oil&gas, and to limit the greenhouse emissions by over 55%. The ambitious goal is to take 10% of the global wind market by 2030.

In order to succeed, the cooperation between business and institutions needs to be established with mutual goal of building competences within offshore wind. All Norwegian companies that are looking at becoming a part of the offshore wind supply chain have free access to the [Entry Programme Offshore Wind](#) launched by Innovation Norway.

Current Norwegian offshore wind projects

So far there have been announced openings of two areas for offshore wind farms: Utsira North and Southern North Sea II. The aim is to generate offshore wind power of 30 000 MW by 2040, which approx. means 1500 operative wind turbines. What is more, the wind energy will also be used for electrification of the Norwegian continental shelf operations. [Hywind Tampen](#) is Equinor's floating wind farm project that will provide electricity for two oil and gas fields (5 platforms) – Snorre and Gullfaks. This is the world's first floating wind farm for oil&gas industry. It will consist of 11 turbines with a system capacity of 88 MW.

Norway has also a long experience in offshore wind R&D. Here, the MET Centre is the prime example as the world leading North Sea deep waters test center where floating wind, wave energy and solar solutions have been researched. The world's first ever floating turbine was installed there by Equinor in 2009.

Beyond the domestic market, Norwegian companies have already played a role in an array of international projects in f.eg. in the USA, Poland, Scotland.



Heavyweights in the industry
- at home and abroad



Strategic Polish-Norwegian partnership for energy security and green transformation

The broad energy offering of zero- and low-emission solutions, gradually developed by Equinor, is an example of long-term support for Polish strategic goals.

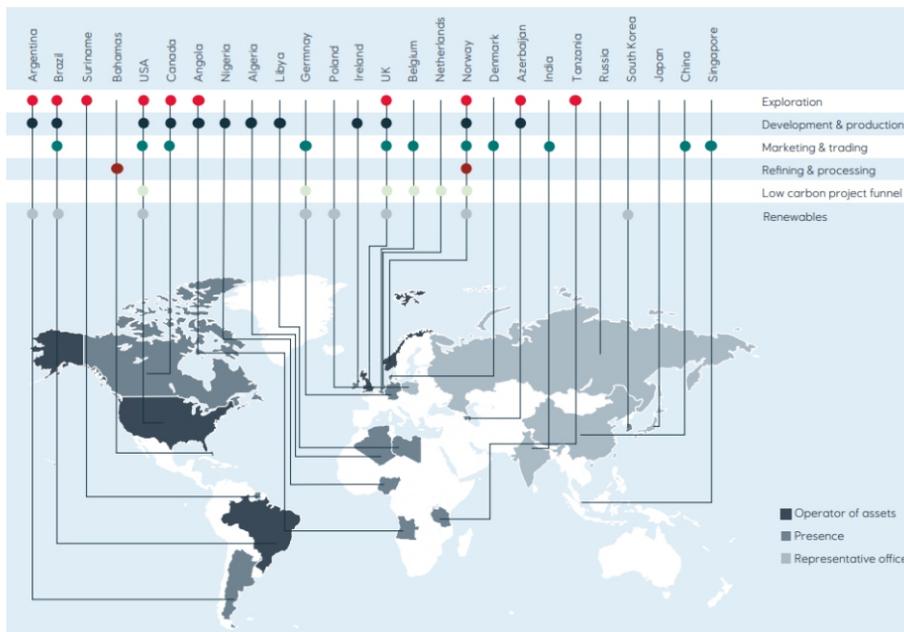
Headquartered in Norway, Equinor is an international energy company with 50 years of experience. It operates in over 30 countries, supplying energy from various sources and focusing on environmentally friendly solutions. Equinor's ambition is to become climate neutral by 2050 and the development of offshore wind supports this process. One of the strategic goals of the company is to reinforce its position as a frontrunner of the global offshore wind market, in which it has been operating for over 10 years, as well as at the position of leader in floating offshore wind farms.

” Equinor sets the standards for the industry by implementing innovative and pioneering projects such as the world's largest offshore wind farms, such as Dogger Bank and Hywind Scotland.

Dogger Bank, with a total capacity of 3.6 GW, and floating offshore wind farms. Hywind Scotland, which has been commissioned in 2017, is the world's first floating offshore wind farm, which powers approx. 20,000 households in the UK. Meanwhile, the world's largest floating farm, Hywind Tampen, provides energy for oil and gas fields in the Norwegian part of the North Sea to minimize the environmental footprint of Equinor's operations.

Equinor is also developing other technologies such as carbon capture and storage (CCS) to reduce the environmental impact of the industry. This is a future-proof solution for those sectors of the economy where energy production and technological processes are responsible for CO2 emissions. These include heavy industry, metallurgy, or conventional sources of energy that are facing the need to reduce emissions.

2.3. Heavyweights in the industry – at home and abroad



Strategic cooperation in the Baltic Sea

Poland, where Equinor has been operating for over 30 years, is one of strategic markets for the company. Equinor was a pioneer among international companies to recognize the energy potential of the Polish part of the Baltic Sea. As the result- before the regulatory framework for supporting offshore wind investments have been established – Equinor invested in three projects (2018-2019) with a total capacity of 3GW.

Today, offshore wind energy is a key pillar of the Poland’s energy transformation, and the Bałtyk I, Bałtyk II, and Bałtyk III projects, developed by the Polish-Norwegian team of Equinor together with Polenergia, will contribute significantly to achieving country’s strategic goal of building 11 GW in the Polish part of the Baltic Sea by 2040. The Bałtyk II and Bałtyk III farms, with a total capacity of 1,440 MW, will be commissioned in 2027, and the Bałtyk I farm, with a capacity of 1,560 MW, is expected to start energy production two years later. As a result, sustainable, reliable, and affordable energy will supply more than 4 million households annually.

A broad energy offering for Poland

Although offshore wind energy remains the core business of Equinor in Poland, the company is committed to energy transformation, also by investing in onshore renewable sources.

” These investments contribute to Polish energy transition targets, working towards a diversified energy mix with an increased share of renewable energy sources. This allows to increase energy security, reduce power prices to the society and reduces the climate impact.

Equinor develops large-scale solar farm projects through its subsidiaries Wento and BeGreen, with 1.6 GW and 6 GW pipeline of solar projects respectively, that will be successively implemented. In October 2022, the construction of the first photovoltaic farm in Stępień was completed, and soon further projects of onshore renewables will be finalized. Through Wento, Equinor is also looking at the perspectives and future possibilities in the field of green hydrogen and energy storage. These solutions could help to integrate renewable sources into the system, make the use of green energy independent from the weather, and eventually meet the needs of the industry looking for complex solutions based on affordable, sustainable, and reliable energy.

Danske Commodities, which operates in Poland and is fully owned by Equinor, can respond to these needs, as it specializes in short-term gas and energy trading, as well as offers balancing and optimization services for energy producers and suppliers.

Direct connection via the Baltic Pipe

The geopolitical crisis caused by the war in Ukraine has shown the importance of strategic alliances between partners that share same values. Polish-Norwegian cooperation in energy sector shares the strong fundamentals and is responding to the challenges of the times.

Equinor, which actively supports the ongoing energy transformation in Poland, is also the country's strategic partner in enhancing energy security through diversifying natural gas supplies. Since the beginning of 2023, based on a 10-year contract with PGNiG (Orlen Group), Equinor has been selling 2.4 billion cubic meters of natural gas per year. This is one of the largest bilateral contracts of the Norwegian company with a significant importance for Poland.

” The gas from the Norwegian Continental Shelf fills the Baltic Pipe in a quarter of its capacity and covers 12-14 percent of Poland's annual demand for this fuel.

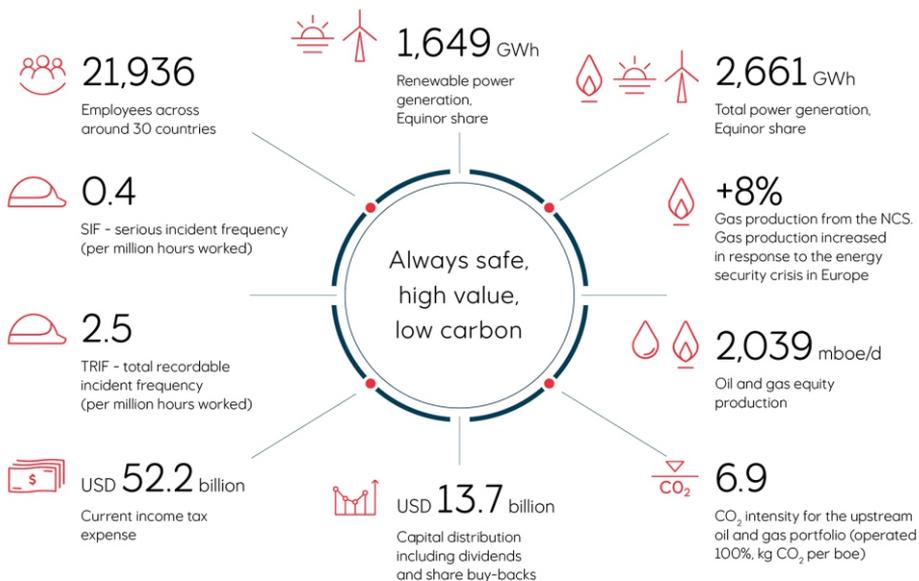
Long-term support for local development

Investments that support the country's strategic goals are accompanied by initiatives that aim to reinforce the socio-economic capital of the regions. One of them is the construction of an operational and maintenance base in Łeba, developed by Equinor. The new O&M. base in Łeba will give employment to approx. 100 people and will be a logistics center for the 30 years of operations of Bałtyk II and Bałtyk III offshore wind farms. This is just one example of Equinor's mission of turning natural resources into energy for people and progress for society.

” The 3 GW projects developed by Equinor and Polenergia are part of the energy, economic, and civilization program.

According to the estimates, the construction and operation of the three Bałtyk projects will generate approx. 10,000 direct and indirect jobs, changing the perspective of the local business. Therefore, Equinor strives to increase the share of Polish companies in the global supply chain for the offshore wind energy sector at an early stage of purchasing processes. The company, together with Polenergia, educates domestic entrepreneurs and informs them about requirements they need to meet to be included in the supply chain and to boost their competitiveness on the global market. Equinor also shares their global experience and transfers international standards in the field of safety, quality and environmental protection in the offshore wind industry.

Close cooperation with Polish partners at every level to ensure investment liquidity in the offshore wind energy sector in Poland is key factor for the development of the local supply chain. Implementation of future offshore wind projects like Bałtyk I, soon after the current offshore wind projects built out e.g., Bałtyk II and Bałtyk III, will contribute to building a sustainable supply chain for the industry, thus maintaining the pace of energy transformation in Poland.





Mainstream Renewable Power (“Mainstream”), with a global project portfolio of more than 27 GW, is a leading pure-play renewable energy company with a presence across Europe, the Americas, Africa, and Asia-Pacific. Employing over 700 people across five continents, Mainstream has raised more than EUR 3.0 billion in project finance to date. Main shareholders are Norway-based Aker Horizons with 58.4% since May 2021 and Japan-based Mitsui & Co., Ltd. with 27.5% as long-term strategic investors. In addition to bringing forward industrial-scale onshore wind and solar projects around the world, Mainstream is advancing gigawatt-scale offshore wind projects in Vietnam, South Korea, Japan, Norway, Ireland, the UK, Sweden, and other regions in Europe and beyond.

The company’s growth trajectory and offshore wind ambition accelerated in 2022 with the integration of Aker Offshore Wind, combining world-class development and industrialization capabilities through Aker group companies with Mainstream’s strong development and execution track record. Further to our ambition in the floating wind market, the company holds preferential rights to bankable floating foundation technology through ownership in Principle Power.

” – I think Poland has an absolutely strong position when it comes to the quality of its shipyards. Polish operators are among the best in Europe when it comes to steel processing, welding, quality and accuracy of documentation – says Malte Paul, Senior Project Manager at Mainstream Renewable Power, an Aker Horizons company.

Moreover, Pomerania in particular is ideally placed logistically when it comes to activities related to, for example, the development of offshore energy facilities in the Baltic Sea.

Mainstream is currently developing a net capacity of 1.3 GW of floating offshore wind in Scotland and South Korea and 1.23 GW of fixed bottom offshore wind in Vietnam. Our teams in offices in Hamburg and Edinburgh are dedicated to developing additional offshore wind projects across Europe and to explore global new markets.

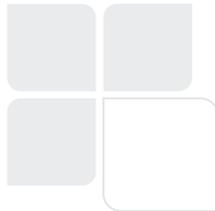
2.3. Heavyweights in the industry – at home and abroad

When it comes to collaboration with Poland, a promising area is the combination of offshore energy production and hydrogen storage.

”

– Currently, there is a lot of interest in Europe in the concept of combining renewable energy technologies and hydrogen. In the long run, this may be a kind of facilitation and support in the matter of overloads for power grid operators, such as Polish transmission system operator PSE SA.

Much of offshore wind energy can be converted into hydrogen, and hydrogen production in Poland alone could create a whole new sector in the industry.





Building on the oil and
gas - local supply chain



Norwegian Energy Partners (NORWEP) is an independent non-profit foundation established to strengthen value creation in the Norwegian energy industry through expanding the industry's international business activities. NORWEP is acting as a catalyst for processes between Norwegian industry and international businesses and governments. NORWEP has more than 330 independent companies as partners. They work as a network organization bringing decisions makers, business developers, customers and suppliers together.

According to the NORWEP's estimates, the Baltic Sea is set to take up a major role in Europe's energy transition, second only to the North Sea in potential, with WindEurope forecasting the region to host as much as 93 GW by 2050- up from around 2,5 GW today.

With offshore wind flagship projects at home, such as Hywind Tampen (currently the world's largest operating floating offshore wind park with 95 MW capacity) and Hywind demo (the world first floating operating wind turbine installed in 2009 by Equinor), Norway has a promising domestic market to pay close attention to.

To facilitate these projects, Norway is making sure that the local suppliers live up to the required standards and participate in the offshore wind domestic development. The local content was approximately 30% on Hywind Scotland, and 50% on Hywind Tampen.

There is also a system of incentives in place to support building of the local competencies. The auction for Sørilige Nordsjøen 2 is based on the British auction model CfD with open bidding. For Sørilige Nordsjøen 2, the awarded developers will get governmental funding (up to max NOK 15 billions), while Utsira Nord developers may seek governmental funding, but only 2 out of the 3 will get subsidies. Having said that, we should not forget that Norwegian suppliers are also building on the extensive oil and gas know-how.

” – The Norwegian oil adventure started in the late 60s. Norway has currently around 85 platforms in the North Sea and over 50 years track-record of operating these assets – says Jørgen Brandt Theodorsen, Director Wind for Poland, Baltics, North & South America at NORWEP.

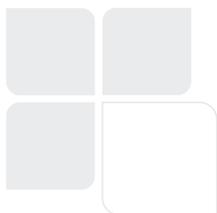
There are many Norwegian ship owners supporting the energy industry – Like, Subsea 7, DOF, Møgster, Integrated wind solutions and DeepOcean, to name a few.

2.4. Building on the oil and gas- local supply chain

Norway has a world leading competence within building of substations through Aibel, while NGI (Norwegian Geotechnical Institute) has been involved in over 50% of all offshore wind projects globally. UP time supplies unique gang way system for a safe work environment onboard the offshore wind turbines and their technology is part of the over 50 years of work legacy in harsh environment in the North Sea.

” Can Polish and Norwegian competencies complement each other in the offshore wind projects in the Baltic Sea and elsewhere? Where lies the greatest potential for cooperation with Poland within the supply chain for offshore wind?

The answer to these questions come from the many years of cooperation within the maritime sector. Norwegian shipowners have built vessels in Poland though partnership with yards such as Remontowa (Siem offshore). Kongsberg Maritime, DNV, Glamox and ABB each have over 600 employes already in Poland. Equinor is working on their Polish projects – Baltic 2 and 3. They were the first out of 5 developers awarded sites in the first Polish auction for offshore wind and have already invested in a supply base in Łeba, with further investments coming online within shortly.





The vision of Norwegian Offshore Wind (NOW) is to develop world leading supply chains in floating wind. The organization brings together international companies, researchers, and other stakeholders to share knowledge, develop new technologies, and promote the sector. NOW plays a significant role in supporting the development of the offshore wind sector and provides a platform for the members to collaborate on research and development, access funding opportunities, and build partnerships with other organizations. In addition, NOW helps its members to succeed by providing various services such as market intelligence, business development support, and networking opportunities. The organization also advocates for the sector at a national and international level, working to promote policies and regulations that support the growth of offshore wind in Norway.

The members of the NOW cluster are engaged in different offshore wind projects internationally in various ways, including as technology and equipment suppliers, project developers and operators, research and development partners, and financiers. By participating in offshore wind projects around the world, NOW members are helping to drive innovation and growth in the offshore wind industry while contributing to the global transition to a low-carbon economy. This includes:

Technology and equipment suppliers: Norwegian companies such as Aker Solutions, Kongsberg, and DNV GL are involved in offshore wind projects internationally as technology and equipment suppliers. These companies provide solutions and components for offshore wind turbines, foundations, subsea cables, and other infrastructure.

Project developers and operators: Norwegian energy companies such as Equinor, Statkraft, and Fred Olsen Renewables are involved in offshore wind projects internationally as project developers and operators. These companies are involved in the planning, development, and operation of offshore wind farms in various parts of the world, including the UK, Germany, and the US.

Research and development: Norwegian research institutions such as SINTEF Energy Research and the Norwegian University of Science and Technology (NTNU) are involved in offshore wind projects internationally as research and development partners. These institutions provide expertise in areas such as resource assessment, environmental impact assessments, and technology development.

2.4. Building on the oil and gas- local supply chain

Financing: Norwegian financial institutions such as DNB Bank, SEB Bank and Sparebanken Vest are involved in offshore wind projects internationally as financiers. These institutions provide financing and investment opportunities for offshore wind projects, which helps to accelerate the development of the industry.

” – Norway and Poland have great potential for cooperation within offshore wind in the Baltic Sea region and elsewhere. Both countries are committed to the development of renewable energy, and offshore wind presents a promising avenue for achieving these goals – says Arvid Nesse, Cluster Manager at NOW.

Overall, the greatest potential for cooperation between Norway and Poland in offshore wind lies in the development of technology and infrastructure, as well as the construction and assembly of offshore wind farms in the Baltic Sea area and elsewhere. There are several areas where Norway and Poland can cooperate in the development of the offshore wind industry, both in the bottom-fixed and floating wind segments. Some of the potential synergies between the two countries include:

Expertise in offshore technology: Norway has extensive experience and expertise in the offshore industry, particularly in oil and gas exploration and production. This knowledge can be applied to the development of offshore wind farms, both bottom-fixed and floating. Poland, on the other hand, has a strong manufacturing industry and skilled workforce, which could contribute to the production of components for offshore wind turbines and infrastructure.

Baltic Sea potential: Both Norway and Poland have access to the Baltic Sea, which has great potential for offshore wind development. The two countries could collaborate on the development of offshore wind farms in this region and share knowledge and expertise in areas such as resource assessment, permitting, and environmental impact assessments.

Research and development: Norway has a thriving research and development sector focused on offshore technology, which could be leveraged to develop new solutions for offshore wind energy. Poland also has a strong research and development sector and could contribute to the development of new materials and technologies for offshore wind turbines and infrastructure.

” Overall, there are several areas where Norway and Poland can collaborate in the offshore wind industry, including expertise in offshore technology, potential in the Baltic Sea, research and development, and financing.

By working together, Norway and Poland can accelerate the growth of the offshore wind industry and contribute to the transition to a low-carbon economy.



Legal framework for cooperation



Rud Pedersen Public Affairs is part of Rud Pedersen Group, one of the fastest growing public affairs and communications companies in Europe with 14 offices in 13 countries including Norway, Sweden, Denmark, Finland, Estonia, Latvia, Lithuania, Poland, Germany, France, UK, Brussels and Bulgaria. The Norwegian office counts around 30 consultants with a background from key positions in politics, civil service, private sector and organizations. We advise our clients on government affairs, businessmatchmaking, corporate strategy, reputation management, PR & communications and public tenders.

Opportunities for Polish companies in the Norwegian offshore wind value chain

The official launch of the competition for the offshore wind tenders on Utsira Nord and Sørliche Nordsjø II by the Government on 29th of March marks the start of what many have labelled a new era for industrial development in Norway. The government has ambitions to allocate areas for up to 30 000 MW for offshore wind by 2040, and an independent analysis by 4C Offshore has already positioned Norway as the second most attractive market for offshore wind after the UK and in front of South Korea, the US, Japan, France, Italy, Spain and Portugal.

Norwegian Minister of Petroleum and Energy, Terje Aasland (Labour Party) has underlined that collaboration will be the key to success in the offshore wind value chain.

” Just like Norway, Poland has substantial experience from shipbuilding and other maritime industries as well as turbine development, welding and port management that will be key in developing the offshore wind value chain.

Answering the question of how Polish companies and the local supply chain can position themselves in order to take part in this industrial adventure for the next decades in Norway, it's important to take a few factors into account.

The openness of the Norwegian market to Polish supply chain

First of all, stable, predictable and transparent framework conditions is what matters for the PolishNorwegian business collaboration in the offshore wind. While recent proposals on ground rent tax for onshore wind and fish farming has triggered discussions in many multinational companies whether they really want to Invest in Norway (a part of Innovation Norway aimed at attracting FDI to the country), Norway still ranks high on the annual Doing Business Report.

2.5. Legal framework for cooperation

As a Polish company, you need to take into account that Norway currently has a minority coalition government so that there is always a risk of government proposals not gaining a majority, or even being turned upside down in Parliament. A high tax burden might be disliked by foreign investors, however, even worse would be unpredictable regulatory conditions that could change overnight.

” Key for the Polish suppliers would be to familiarize yourself with the local Norwegian conditions, labour laws, Environmental, Social and Governance (ESG) and other requirements. Mutual recognition of training and competence certificates will also be vital.

Here, we see for instance that Offshore Norway decision not to recognize OPITO-certified offshore workers from Poland to work on platforms on the Norwegian Continental Shelf (NCS) could have negative implications, if also applied to the offshore wind sector.

Foreign competence – local footprint

From the very onset, the Norwegian petroleum era relied on foreign competence, know-how and experience which played a key role in the development of the industry. Just as Iraqi geologist Farouk AlKasim was essential in building up the regulatory regime for the sector in Norway in the 1970s, so has dozens of foreign petroleum companies developed finds on the NCS throughout the years. There are no reasons why foreign supply chains, be it Polish or other, cannot play the same role in developing the offshore wind industry in the next decades.

– Some years back I chaired a process in the OECD, developing a framework for local value creation in the extractive industries (oil, gas, mining) – says Pål Arne Davidsen, Partner Norway at Rud Pedersen Public Affairs.

” Dozens of host governments, industry players, NGOs and supply chain were able to agree on a common platform, finding a balance between attracting foreign direct investments on the one hand, and making sure that those investments create a positive, local impact for the population, on the other hand.

Hence, it will be important for Polish supply chain to show exactly how you create that positive impact. Expectations are that many of the first offshore wind concessions will be granted to Norwegian companies or Norwegian-led consortiums. In this sense, to build relations with these companies and consortiums could act as a door-opener to the market.

With regional and local elections in Norway looming on the horizon later this year, proving sound domestic and local value creation will be key for those that want to become part of the offshore wind supply chain in Norway.

2.5. Legal framework for cooperation

Do your homework on Environmental, Social and Governance (ESG)

– As former Deputy Foreign Minister, I've often heard the adage that «Norway punches above its weight internationally» – says Pål Arne Davidsen. – Irrespective of whether that is true or not, Norway is a very internationalized country. This means that whatever a company does wrong in another part of the world can easily play in its disfavor domestically. This was for sure felt by Spanish and French train manufacturers CAF and Alstom, who were both a hair's breadth from being excluded from Norske Tog's procurement of new long-distance trains due to their engagement in East Jerusalem.

The entry into force of the Norwegian Transparency Act last July makes it even more important for companies to do a due diligence of their supply chains and making sure that they pay respect to human rights, worker's conditions and transparency.

Team up with local players

Many foreign companies, both those already present in Norway and others wanting to enter the Norwegian market, approach us with the challenge on how to successfully team up with local partners. There is no magic bullet, but some key lessons-learnt can be drawn: do a proper mapping of the stakeholders, show presence and interest, indicate that you are in for the long run (not for quick gains), use your network and take part in public consultations and other opportunities in positioning yourself. You need to have a strong and unique value proposition to attract the attention of the big, key players in the industry. We hope to see you in Norway soon!

” The deadline for applying to take part in Sørilige Nordsjø II is on the 4th of August 2023, while similarly for Utsira Nord on the 1st of September 2023.

About Pål Arne Davidsen

Pål Arne is former Deputy Minister of Foreign Affairs in Norway. He has held several senior positions as policy adviser in the Norwegian Parliament. He comes to Rud Pedersen from the Norwegian Agency for Development Cooperation (Norad) where he was responsible for business development in emerging markets. In Norad, he also chaired a process in the OECD developing a framework for local value creation in the oil, gas and mining sectors. Pål Arne was previously visiting scholar at the Center for Security and International Studies (CSIS) and at the Elliot School of International Affairs at the George Washington University in Washington DC. He has also worked as a Fellow in United States Congress. Pål Arne has a proven track-record of advising transport and energy clients on government affairs, corporate strategy, and tender management.

The Polish Investment and Trade Agency

50 Krucza Street
00-025 Warsaw

+48 22 334 99 55
paih24@paih.gov.pl



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