Interreg Baltic Sea Region

Co-funded by the European Union

ENERGY TRANSITION
GreenIndustrialAreas

Project Newsletter #7

The project GreenIndustrialAreas empowers public authorities to increase the share of smart and climate-neutral industrial areas and co-develop a transnational certification standard. The project is funded by the Interreg Baltic Sea Region programme of the European Union.

Händelö Eco-Industrial Park – A symbiosis between industry and city in Sweden

At Händelö Eco-Industrial Park (HEIP) in Norrköping in Sweden, a powerful industrial urban symbiosis has developed during 20 years. It is based on the

idea of utilizing synergies between energy companies and process industry, to use each other's by-products and residual products as raw materials.

Wooden chip and waste from households and businesses in the municipality of Norrköping are used in **E.ON**'s combined heat and power plant, which supply the city of Norrköping with electricity and district heating. Residual steam from the cogeneration plant is sent to **Lantmännen Agroetanol**, the largest biorefinery in the Nordic countries, where three main products are produced: fuel ethanol, animal feed and carbonic dioxide. The raw materials primarily consist of grain but also of expired bread and dough residues from the food industry. The carbon dioxide formed during production is sent to **Norlic** (a facility jointly owned by Linde and Lantmännen Agroetanol) and converted into carbonic acid which is used in the food industry. Residual products from the production of ethanol are turned into protein-rich fodder which is returned to farmers who provide feedstock for the biorefinery.

Other actors involved in HEIP are the **port of Norrköping**, which receives goods for the various actors and ships goods to other cities, **the municipality** with whom HEIP jointly has developed a process aimed to attract companies within bioeconomy, **Nodra**, which is responsible for the purification of household water in Norrköping and the sewage in the area and the **Division of Environmental Technology at Linköping University.** What makes the industrial park an interesting area of study is the collaborative power as a result of the close collaboration between industry, municipality and academia.

When asked to describe the business advantages of Händelö Eco-Industrial Park the company Lantmännen Agroetanol, mentions among others: i) high resource efficiency in the cluster, ii) direct financial gains, iii) environmental benefits, iv) high climate values, and v) increased ability to attract competent staff.

Even though the existing park has come a long way, the development possibilities are still great and there is a wish to attract more environment friendly companies to Händelö, as well as show the way for what is possible to achieve within the growing bioeconomy. In order to strengthen the work within HEIP certain activities are run in project form. These activities are financed by

the main actors as well as the European Regional Development Fund. The goal is to create conditions for integrating more companies and businesses into the industrial park that can lead to new products with an emphasis on a biobased and circular economy. Examples of activities included in the project are: i) use the results of the project work to better utilize the resource and energy flows at Händelö; ii) identify and attract companies with knowledge of refining the industrial park's resource streams into finished products to move to Norrköping, and iii) Investigate possibilities for locating test bed operations at Händelö Eco-Industrial Park.

For more detailed information about Händelö Eco-Industrial Park please see https://heip.se/en/.

Neustrelitz – a role model for renewable energy concepts

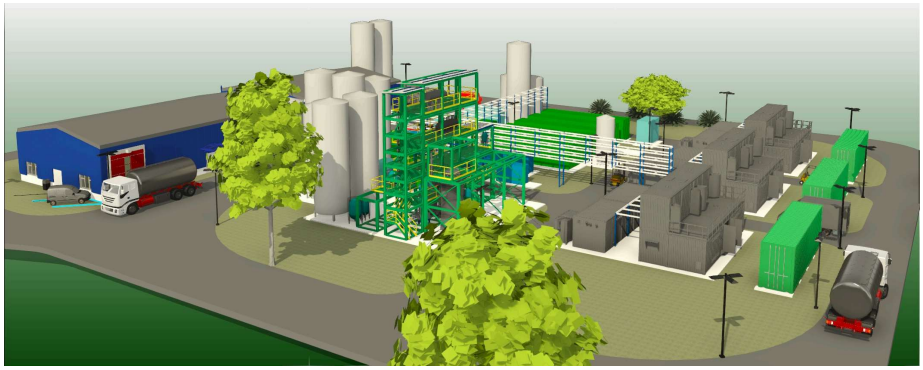
Only 100 kilometers north of Berlin and in the middle of the Mecklenburg Lake District lies the residential town of Neustrelitz. The town is not only a state-approved resort, it is also a good place to live and invest in the future. Neustrelitz can be proud of its infrastructure with a wide range of education, care, leisure facilities and clubs that stand for good cooperation. Neustrelitz is a modern medium-sized town, home to an active SME sector, modern aerospace technologies and innovations to promote renewable energies.

The site at the biomass cogeneration plant and the State Center for Renewable Energies (Leea) on the eastern edge of the town directly on the B 96 was selected for the "Neustrelitz Green Industrial Area" development - one of the sites selected for the GreenIndustrialAreas project's pilot phase. In Neustrelitz, the aim is to combine the existing renewable energy plants, which produce electricity from biomass and solar energy, with new renewable energy plants. Additional photovoltaic systems and two wind turbines are to be built as part of the project. An electricity storage system is also an important component of the project.

The residential town of Neustrelitz already plays a pioneering role in the field of renewable energies in Mecklenburg-Vorpommern. Around 70 percent of the town's electricity and heating requirements are currently covered by renewable energies. With additional photovoltaic systems (primarily roof systems on the commercial facilities) and wind power plants, the entire spectrum of renewable energies from biomass to photovoltaics and wind can be covered and represented in the project area. Neustrelitz is striving to achieve the goal of 100 percent regional supply from renewable energies. The town of Neustrelitz is constantly expanding its sustainable technologies and is currently planning another e-charging station with a snack bar and rooftop photovoltaics. For around three years, there has been a desire to develop into a green industrial area in Mecklenburg western Pomerania.

Picture above: Team of project representatives during a peer review visit to Neutrelitz in October 2024

Lübesse - A pioneer in Sustainable Industrial zones



The Lübesse Industrial and Business Park, located in northeastern Mecklenburg-Vorpommern (Germany), stands as an ideal site for the development of a green industrial area. This region is already powered by a robust renewable energy infrastructure, including several community-owned photovoltaic installations and a nearby wind farm. Together, these provide a

substantial portion of the area's energy needs and are the reason for the selection of Lübesse as another pilot site for the GreenIndustrialAreas project.

At the heart of this initiative is the planned Power-to-X (PtX) facility by Lübesse Energie GmbH. This cutting-edge technology will harness locally generated wind and solar power to produce hydrogen, which is then converted into synthetic LNG. Local logistics companies can leverage this clean fuel to reduce CO_2 emissions across their vehicle fleets. Additionally, the PtX plant generates residual heat that will serve the area's heating requirements, further enhancing the region's sustainable energy solutions.

The business park will be thoughtfully expanded with a planned tiny-house community and a model corporate building, both designed as showcases for efficient, eco-friendly construction. The tiny houses, as well as the corporate building, are envisioned to meet rigorous energy efficiency standards, promoting low impact living. Plans for the business park also include charging stations for electric vehicles and a car-sharing system to support alternative mobility options.

Through the PtX facility, tiny-house community, and sustainable mobility initiatives, the Lübesse Industrial and Business Park is well on its way to becoming a beacon of eco-conscious enterprise in the Baltic region, setting new standards for the sustainability of industrial zones.

Meet the Regional Council of Central Finland

"Renewable industry is one of the focus areas in the strategy of Central Finland. It is essential that these new and rebuilt industrial areas are planned, built and maintained sustainably - taking into account renewable energy, industrial symbiosis, energy efficiency and smart energy management, saving resources and nature, carbon efficient transport and logistics and water management. The GreenIndustrialAreas project helps us to get closer to this goal by creating a framework for planning and developing a greener industry in the heart of Finland." (Tero Rautiainen, Regional Council of Central Finland)

The Region of Central Finland is located at the heart of the country, in the so called lake Finland area. With 272 000 inhabitants and area of about 20 000 km2 it is the fifth biggest region in Finland. Region's 19 municipalities vary from the urban Jyväskylä area with one third of its inhabitants being students, to more sparsely populated countryside villages. The region has an ambitious carbon neutrality plan by 2030, also fuelling the participation in the GreenIndustrialAreas project. Several actions are on the way in the region to decrease carbon emissions and drive the green transition. Recently, a new regional land use plan was approved, mapping 19 new significant wind power areas in the region at the same time when power and heat production is decarbonizing fast. Despite the macro-scale investments in green energy, tackling green transition in areal planning, building, and rebuilding industrial areas will also play an important part on the way to carbon neutrality.

One last thing

Partners of the projects recently participated in two important events of the Baltic Sea Region - the Annual Forum of the EU Strategy for the Baltic Sea Region (in Visby, Sweden) and the Baltic Sea States Subregional Co-operation Annual Conference (in Kiel, Germany). Check out our website for details on these events and see some nice photos of our delegates' participation.

https://interreg-baltic.eu/project/greenindustrialareas/