A2X BUILDS THE WORLD'S LARGEST eMETHANOL PLANT IN ESBJERG: MAKING SHIP TRAFFIC GREEN

The Danish energy company A2X is turbocharging the green transition. In 2025, A2X will be ready with the worlds largest PtX plant producing green methanol. The plant will be an important contribution to a CO2-neutral shipping industry and at the same time a facility that connects several sectors in the energy industry.

With this facility, A2X is setting the green course for the shipping traffic of the future.
This is clear after the company reveals its plans to build the world's largest eMethanol plant. The facility will be located in Esbjerg and will initially produce green methanol, also called eMethanol, to be used as fuel in the shipping industry.

The project has been made possible through a close cooperation with local authorities and companies and with international corporations. The project unites and displays Esbjerg's unique competences in the green transition and helps to manifest Esbjerg's central position within green energy. The project is a perfect example of sector coupling, in which not only sustainable energy is created, but also CO2-neutral fuel for maritime transport.

"Not only is this project a step in the right direction within the green conversion of maritime transport, but it also shows that we are able to produce green fuel on commercial terms," says Rune Værndal, partner in A2X.
The placement of the facility in Esbjerg is not random. Esbjerg offers several unique opportunities, both geographically and in terms of energy supply, which are not yet in place elsewhere in Denmark.
"The journey up until today has been intense, but we have been met with great support from local authorities and stakeholders, and the plant is a very good example of how we connect several sectors within the production of green methanol, to benefit everyone," says Rune Værndal firmly.

Power-to-X is necessary to achieve CO2-neutrality

The production of green methanol for maritime transport is a necessity if CO2-neutrality shall be obtained. A2X's upcoming plant in Esbjerg will show that it is possible.

One of the companies that are furthest ahead within the work and objective of CO2-neutral shipping, is DFDS. They have a stated objective of CO2 neutrality and have seen the A2X project as an obvious opportunity in the battle of reaching the objective. Jesper Aagesen, Director of Sustainable Fleet Projects states: "At DFDS, we are working to become CO2 neutral by 2050 with a partial goal of a 45% reduction as early as 2030. Methanol is the fuel that seems to be furthest on this green journey , when it comes to our ships, as it is based on known technology. A project like A2X's is therefore both exciting and necessary."

Underlining the position of Esbjerg

The upcoming facility shows that Esbjerg has a position of strength within Power-to-X, and the plant helps secure the necessary jobs in Esbjerg Municipality to further scale the PtX industry.

"It once again shows that there are some completely unique opportunities here in Esbjerg with regards to projects for the production of green fuels, where we are leading the way and showing how it is done. This also applies in relation to sector coupling, where many different actors can play together and have the necessary know-how to make it possible," says an enthusiastic Esbjerg mayor Jesper Frost Rasmussen.

The facility ties together several larger projects in Esbjerg. Thus, the hydrogen H2 Energy produces in Esbjerg is used, together with CO2 from the local waste incineration plant, Energnist, to produce eMethanol.

The Port of Esbjerg also plays a major role, as the port will facilitate the process for distribution of the eMethanol.

"With this type of green fuel, the transition of shipping is possible within a very short time. It offers some unique opportunities for Esbjerg Harbor with its location in the trans-European route network. This means that ships can bunker eMethanol in the Port of Esbjerg, and Danish companies can send their goods out into the world without a carbon footprint", says Dennis Juhl Pedersen, director of the Port of Esbjerg.

Lastly, the collaboration with H2 Energy is a central element in the process of setting up the facility. The eMethanol plant in Esbjerg fits well into H2 Energy's vision for the future of green energy.

“H2 Energy will enter a cooperation with A2X to supply hydrogen for the e-methanol production. Hydrogen is an indispensable component of future energy systems. This is the next step to show the importance of green hydrogen in a decarbonized energy eco-system. Both companies are deliberately located in Esbjerg, which provides the right conditions to become the green center in Europe.” Says Director in H2 Energy Clifford zur Nieden.

Facility in numbers

- The eMethanol plant will produce up to 200,000 tonnes of green methanol per year.
- The basis for the production is the capture of approx. 230,000 tonnes of CO2 produced by waste incineration. The reduction in CO2 corresponds to the plant removing emissions from approx. 14,000 cars annually.
- The facility will be located in Måde, Esbjerg.
- The facility will cover an area of up to 15,000 m2

About A2X
Behind A2X are SubC Partner, Juel+Krøyer and HYTOR Group, which makes up the foundation of A2X.
A2X develops, constructs, and operates Power-to-X plants. This is done with more than 300 engineers and technicians, as well as over 70 years of experience in working with process plants. Headquarter is in Esbjerg.

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