PROJECT FACTSHEET

TECOW

Transition to Emission-free Commuting on Waterways

OVERVIEW

Approximately 2.1 billion people globally use ferries every year, putting the industry on a par with commercial airlines in terms of annual users worldwide. To many cities and their citizens, travelling the waterways lies at the heart of everyday life. Yet these coastal and riverside towns are too often defined by the pollution of both the surrounding waterways, and the air inside their cities, tarnished by ferry traffic powered by highly polluting marine diesel. While some cities have mandated the switch to 'fossil-free' biodiesel, these vessels are still omitting harmful particles that cause numerous health issues to citizens. The billions who are using ferries each year deserve better.

Despite a widespread push to reduce emissions, ferries have long been neglected in the drive to create cleaner, greener public transport in cities. A common focus for many cities has been placed on transforming bus networks and enabling the introduction of electric cars have also become a symbol of the drive for more sustainable travel options.

Of course, these developments to more sustainable transport solutions are to be welcomed, but real action on climate change requires reform across all transport sectors for it to be truly effective.

Impact in focus

TECOW has the goal of

- introducing a green hydrogen fuel-cell driven, foil supported high-speed ferry: the Beluga24
- demonstrating that it is possible already today, from both a technical and economical perspective, to transform passenger ferry services to zero-emission.
- supporting us to develop business models for this new market and seize new opportunities.

BB YARDS
BELUGA24 - STOCKHOLM

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TECOW will demonstrate the Beluga24 vessel in traffic in the Stockholm region. Today, ferries carry just 5% of commuters in Stockholm yet represent 50% of the emissions. There is a similar story being told across the world but waterborne mobility has long been neglected in technological and policy developments to promote greener, more sustainable travel options.

TECOWs solution has a range of benefits:

- Each vessel that replaces a diesel-driven catamaran will annually save around 2 000 tons of CO2 (and 22 tons of NOx and 2,8 tons of PM).
- Beluga24 is based on proven air-foil technology. A midship placed foil lifts the ship halfway out of the water at high speed and thereby reducing the water resistance significantly. This means less energy consumption and less wake wash.
- Weight is a crucial factor for battery and fuel cell driven vessels. The Beluga24 is developing a carbon fibre hull that together with the hydrofoil system will alleviate the impact of the additional weight of the electrical propulsion system.
- The vessels will operate with an energy consumption that is 40 – 60 % less than a traditional diesel driven high-speed catamaran.
- The comfort of the up to 150 passengers is important for the commuter to an attractive alternative to taking the car. There is also room for 28 bicycles as these are often an integral part of the journey.
- TECOW will allow us to Seize new market and business opportunities in the EU and beyond.
- TECOW will enable us to create the new know-how to operate serial production of these ferries
- The development of the Beluga24 solution will create new opportunities for specialised shipyards across the EU.
- The new Beluga24 will continue to contribute to EUs global leadership in sustainable mobility solutions.

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Contributing to EU Policy

TECOW is fully in line with the "Fit for 55" package and contributes to the EU Green Deal, the EU Hydrogen Strategy, The EU Smart Mobility Strategy and the EU Baltic Sea Strategy. TECOW is aligned with Sustainability Goals:

TECOW and the Baltic Sea Bassin Strategy

By demonstrating our unique and complete transport solution with vessels, charging infrastructure and financing in Stockholm, we will deliver a standardized emission-free high-speed commuter ferry with positive impact on lowering greenhouse gas emissions, improved air quality and positive effects on marine life in line with the European Baltic Sea Basin Strategy. Our solution an easily be replicated throughout the Baltic Sea Area and beyond. Our solution is world leading and has the potential to reach and impact all European Sea basins and global markets.

KEY INFORMATION

Name of the project: TECOW - Transition to Emission-free Commuting on Waterways
Funding beneficiaries: Green City Ferries AB
Location: Stockholm, Sweden
Website: www.greencityferries.com, www.tecow.eu
LinkedIn: https://www.linkedin.com/company/green-city-ferries
Duration: 36 Months (October 2021-October 2024)
EU contribution: 2.500.000 Euro

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PROJECT SUMMARY

Green City Ferries will introduce the world's first emission-free hydrogen high-speed ferry by 2023 in Stockholm. We are driven by the socio-economic value of our proposition for zero-emission public transport on waterways, starting from Sweden to across Europe and the world; the technical proof of feasibility; the massive political commitment we have received directly; as well as our understanding of the public sentiment. We have, together with our partners, developed the prototype BB Green, the world fastest high-speed emission-free 20-metre ferry, which has been demonstrated in the Stockholm archipelago. TECOW will introduce a green hydrogen fuel-cell driven enhanced version: Beluga 24-FC. We will demonstrate its technical and financial viability through a real operational environment demonstrator true to our motto "seeing is believing". TECOW demonstrates that it is possible already today, from both a technical and economical perspective, to transform passenger ferry services to zero-emission. Funding from the Blue Economy Window will de-risk the private investment needed to bring our solution to market and be the first mover we want to be. TECOW will enable us to develop business models for this new market starting from Europe's waters. TECOW will be putting the first fuel-cell high-speed ferry in water; building the market and our prospects pipeline; along with securing investments for which discussions are already very mature. Throughout the next three years we want to (a) develop the production capability for a fuel-cell powered fast-ferry and build the first demonstrator vessel); (b) launch this demonstrator and test it 'in traffic' with the collaboration of the Public Transport Authority of the Stockholm Region; (c) extend this PTA to integrate the vessel into the public transport routes; (d) build our sales pipeline and private sector investments; and (e) launch our battery and fuel-cell emission-free ferries in the Nordic, European and global markets.

"With TECOW we are demonstrating a high-speed emission-free alternative to diesel ferries that also costs less to operate – the Beluga24. This solution is highly attractive to transport administrations, shipping companies and most importantly for people!", says Fredrik Thornell, CEO of Green City Ferries and Project Coordinator of TECOW.

Fredrik Thornell
CEO

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"the speed at which technology is advancing, anything is possible. It was not long ago when the idea of battery powered ferry was inconceivable – but now it is a reality. Our Beluga24 can be an inspiration for the wider shipping industry by showing what is possible already today in waterborne transportation" says Fredrik Thornell, CEO of Green City Ferries and Project Coordinator of TECOW.

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