

PRESS RELEASE #1

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A Bold Vision for Clean Energy Transition

The POTENT-X project has officially launched, aiming to revolutionize European maritime ports by leveraging them as dynamic energy hubs. As a key initiative in the EU's clean energy transition, POTENT-X addresses urgent environmental challenges and energy security concerns while fostering innovation and sustainability in the maritime sector.

Maritime ports are among the most challenging sectors to decarbonize, yet their potential as catalysts for clean energy is immense. Ports like Rotterdam, Antwerp, and Barcelona collectively emit tens of millions of tons of CO₂ annually, underscoring the need for transformative action. POTENT-X seeks to leverage ports as strategic sites for renewable energy generation, storage, and distribution, playing a pivotal role in Europe's Green Deal and energy independence goals.

POTENT-X will establish two Living Lab Networks (LLNs) across the North Sea and Baltic regions. These networks will serve as collaborative platforms for real-world testing, knowledge sharing, and co-creation of innovative solutions. The project's multidisciplinary approach combines expertise in renewable energy, digitalization, governance, and socio-economic analysis to develop scalable, sustainable systems for port operations.

“Maritime ports are critical assets that can drive regional development and social cohesion while advancing Europe's clean energy goals,” says Sonia Yeh, the Consortium lead and Professor in Transport and Energy Systems at the Department of Space, Earth, and Environment, Chalmers University of Technology, Sweden. “POTENT-X aims to position ports as frontrunners in the energy transition, integrating renewable energy technologies and fostering collaboration across sectors.”

Key Objectives

1. **Technological Advancement and Integration:** Optimize renewable energy systems (wind, solar, alternative fuels) and enhance digital infrastructure through smart ports and digital twins, aiming for Technology Readiness Level 7.
2. **Stakeholder Engagement and Societal Alignment:** Foster collaboration among stakeholders to ensure societal acceptance, aligning the energy transition with societal needs and achieving Societal Readiness Level 6.

A Collaborative Effort

The POTENT-X consortium includes seven funded partners spanning academia and industry. The partners include Chalmers University of Technology, Copenhagen Business School, Technical University of Denmark, World Maritime University, University of Seville, Port of Trelleborg, and Port of Aalborg. Together, they will ensure a multidisciplinary, integrated approach to advancing clean energy technologies and governance.

POTENT-X's activities will focus on two leading ports:

- **Port of Trelleborg:** Aiming for net-zero emissions by 2040, the port will explore green fuel options and establish “Green Corridors” with partner ports.
- **Port of Aalborg:** Leveraging wind energy and Power-to-X (PtX) technologies, the port will develop decision-making tools for integrated energy systems.

Next Steps Towards Sustainable Maritime Operations

The next step of POTENT-X is to search for a partner organization that will host a third Living Lab. The partner will work on stakeholder collaborations and real-life testing of clean energy innovations, such as digital twins, smart ports, and other POTENT-X-aligned themes.

For more information, please contact:

Sonia Yeh

Professor & Project lead

sonia.yeh@chalmers.se

+46 (0)31 772 67 16

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