

Demonstration of ship-based carbon capture on LNG fuelled ships

Publieke samenvatting / Public summary

Aanleiding

The maritime sector aims to reduce CO₂ emissions from international shipping by at least 50 % by 2050. Ship-Based Carbon Capture (SBCC) is proposed as a low-cost alternative to decarbonize the maritime sector, as compared to zero-emission fuels (ammonia, hydrogen).

Doelstelling

The objective of the EverLoNG project is to accelerate the implementation of the SBCC technology by: (i) demonstrating SBCC on-board of LNG-fuelled ships; (ii) optimising SBCC integration to the existing ship infrastructure; (iii) facilitating the development of SBCC-based full CCUS chains; (iv) facilitating the regulatory framework for the technology.

Korte omschrijving

- Develop strategies for reducing CO₂ emissions of ships by at least 70%, taking the same ship running on LNG but not equipped with SBCC as the reference case; and demonstrate the emission reduction potential of SBCC according to the EEDI and EEXI guidelines;
- Develop solutions to improve the cost effectiveness of SBCC, achieving CO₂ capture and on-board storage costs below 100 €/ton (1st of a kind, to be achieved by 2025) and 50 €/ton (nth of a kind); as well as evaluate the costs of off-loading, transport and storage (or utilization) of CO₂ in several CCUS chains;
- Evaluate the impact of SBCC on the ships' infrastructure, stability and safety, to guarantee the technical feasibility of the

Projectinformatie / Project information

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ACT320005

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Algemene informatie / General information

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proposed technology; identify the major safety hazards associated with SBCC technology and determine safeguards to mitigate those risks, thus providing the basis for (near) future class approval of the SBCC technology; • Develop off-loading strategies that clarify the post-treatment required on-board, as well as the infrastructure necessary on the port side; establish a CO2 Shipping Interoperability Industry Group (CSIIIG) and propose a Roadmap towards a European off-loading network.

Resultaat

EverLoNG will validate and demonstrate the SBCC technology on-board of two LNG-fuelled ships, owned and operated by project partners Total and Heerema. The demonstration will bring SBCC from TRL4 to TRL7. To accelerate the SBCC technology implementation, EverLoNG will close knowledge gaps and address challenges in both technical and commercial levels.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.

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