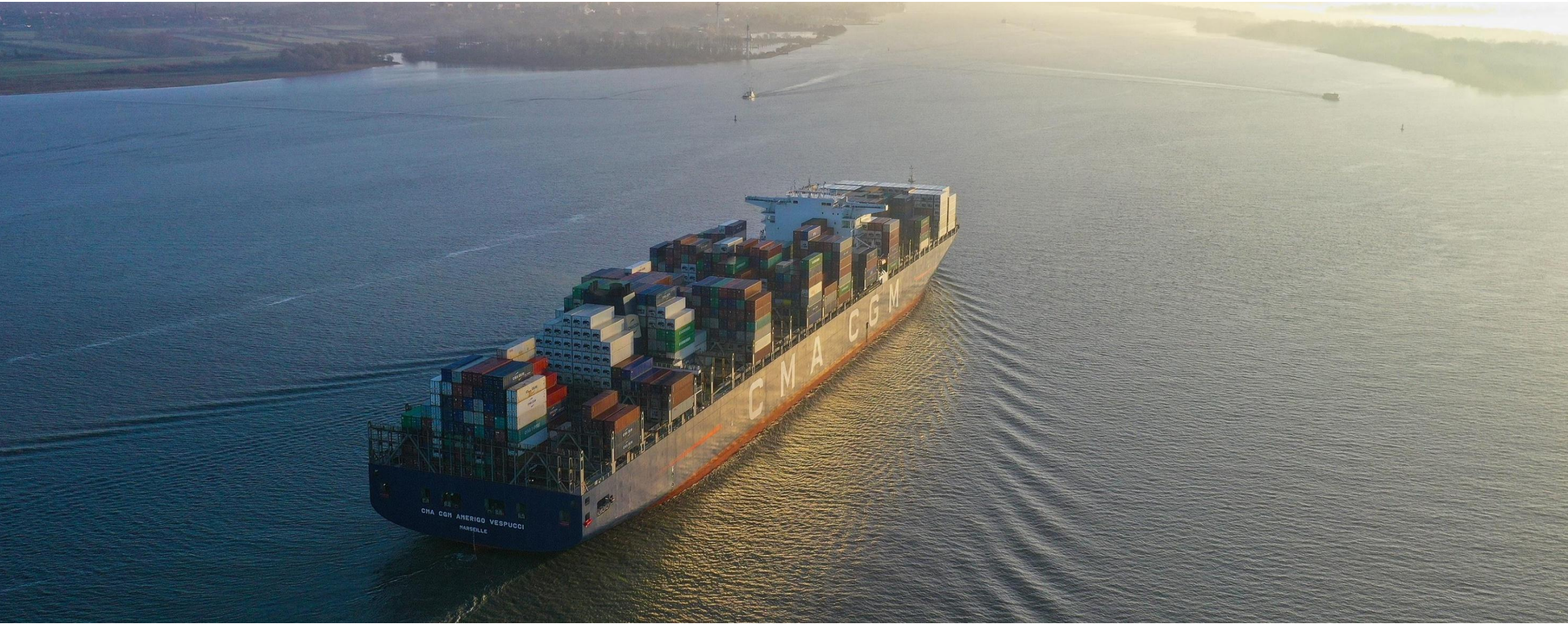
Blue Supply Chains – Supporting Port Authorities and Port Operators to Decarbonise Port Operations

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains



Stefan Breitenbach

Port of Hamburg Marketing | breitenbach@hafen-hamburg.de

#BlueSupplyChains

Port of Hamburg MARKETING

Blue Supply Chains aims at fostering Port Authorities‘ role…

Interreg Baltic Sea Region | Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

…to support **greening of port operation** activities

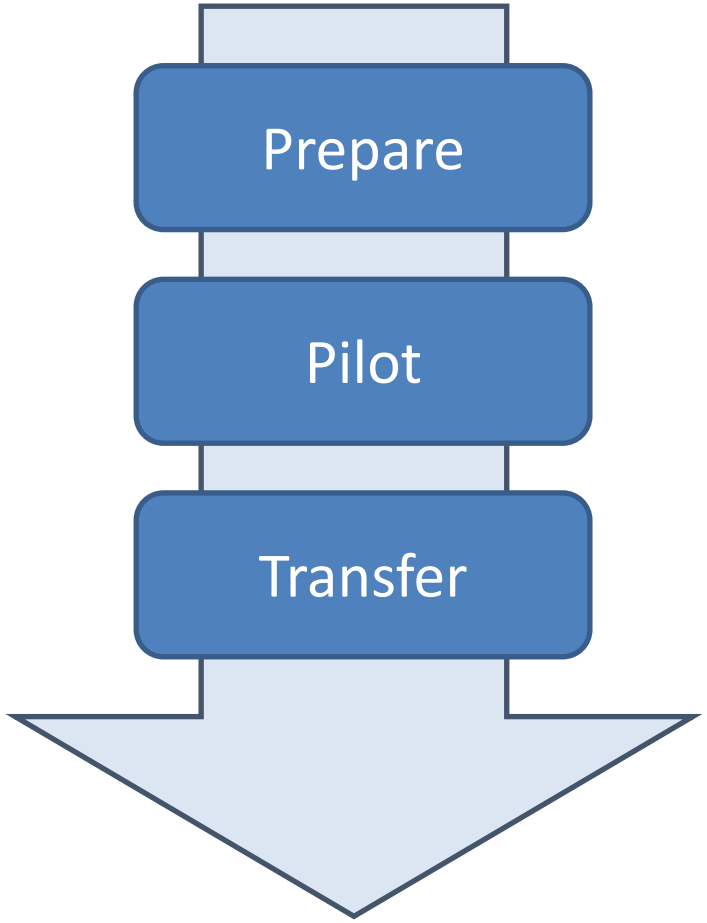
- Mobile on-shore power supply solution (DK)
- Retrofitting concept - diesel RTGs towards alternative fuel powered RTGs (PL)

…in **green energy supply** for transport chains

- Regional green energy supply concept for the port of Umeå (SE)
- Zero-emission inland waterway between Klaipeda and Kaunas (LT)

…in **the set-up of green transport chains** between BSR ports

- Proof-of-concept on cooperation pushing green combined transport solutions between Baltic ports leading to an improved rail ferry service and preparations for necessary adjustments in the ports of Rostock & Trelleborg (SE | DE)
- Start-up pitches to find new green transport solutions (LV)



Port of Hamburg MARKETING

Project Partners & Associated Organisations

Interreg Baltic Sea Region | Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

SWEDEN

CLOSER
ivl Swedish Environmental Research Institute
INAB
UMEÅ ENERGI
UMEÅ KOMMUN
Umeå Hamn
Trelleborgs Hamn AB -Port of Trelleborg-

DENMARK

PORT OF SKAGEN

LATVIA

VHTP VENTSPILS HIGH TECHNOLOGY PARK

NORWAY

Shipping Offshore NETWORK

POLAND

HUTCHISON PORTS GDYNIA
UNIVERSITY OF GDANSK
motus foundation

ESTONIA

BPO BALTIC PORTS ORGANIZATION

LITHUANIA

KLAIPĖDA SCIENCE AND TECHNOLOGY PARK
LITHUANIAN INLAND WATERWAYS AUTHORITY

GERMANY

INTERMODAL COMPETENCE SGKV
Stena Line
ROSTOCK PORT
Port of Hamburg

Associated Organization (selection)

Hamburg | Behörde für Wirtschaft und Innovation
GDYNIA moje miasto
TRAFIKVERKET SWEDISH TRANSPORT ADMINISTRATION
DH DANSKE HAVNE
Bundesministerium für Verkehr und digitale Infrastruktur
TRAFICOM Finnish Transport and Communications Agency
VASAB VISION & STRATEGIES AROUND THE BALTIC SEA
LAND BRANDENBURG | be Berlin Gemeinsame Landesplanungsabteilung
EUSBSR EU STRATEGY FOR THE BALTIC SEA REGION — POLICY AREA 'TRANSPORT'
EUSBSR EU STRATEGY FOR THE BALTIC SEA REGION — POLICY AREA 'SHIP'

Port of Hamburg MARKETING

Green Energy Supply for Transport Chains

Zero Emission Inland Waterway in Lithuania

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY

Blue Supply Chains

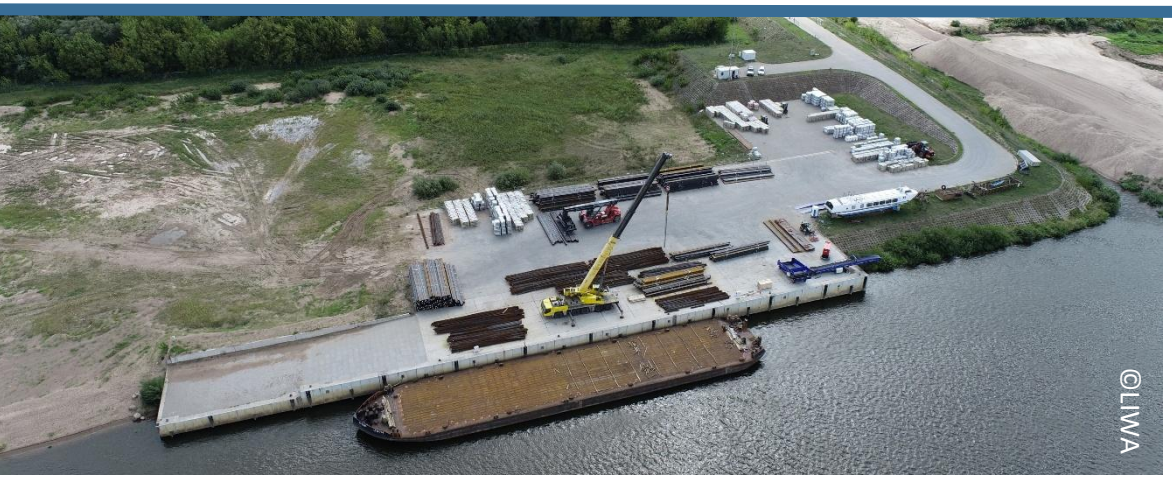
Electrification of inland waterways to greening transport. Goal was on replacing diesel-powered river transport with electric push boats, supported by extensive infrastructure modernization along the Nemunas River

LITHUANIAN INLAND WATERWAYS AUTHORITY

KLAIPĖDOS MOKSLO IR TECHNOLOGIJŲ PARKAS

Green Energy Supply for Transport Chains

Electrification Challenges



Charging infrastructure and energy supply being developed at three key locations

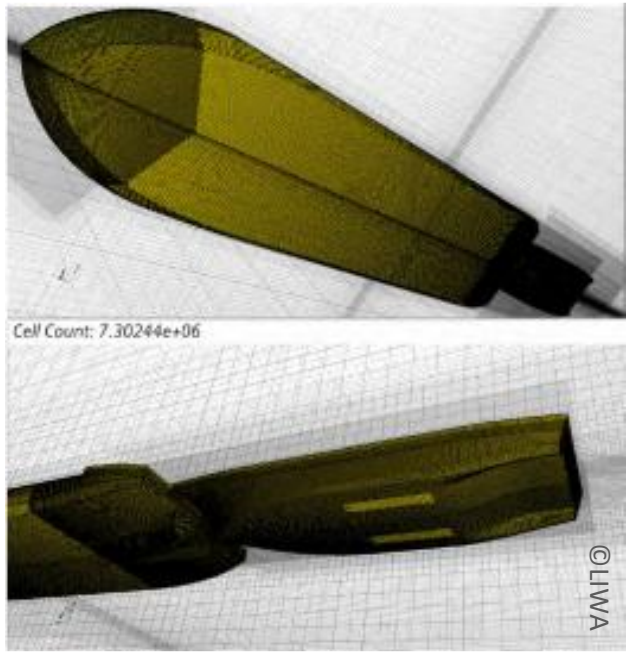
- Klaipeda Port
- Jurbarkas
- Kaunas Marvele Port

Electric push boat concept design

- Improved design for maximum energy efficiency
- Optimal sailing speed of 8 km/h
- Adapted to challenging river conditions

Greening Lithuania's Transport Chain

Solutions



Electric pushboat concept design

- **Navigability and Vessel Design:** Reliable river infrastructure and vessel adaptability to challenging river conditions
- **Market Viability:** Deploying 6 pushers, 12 barges, and 27 battery containers over six years
- **Operational and Economic Feasibility:** Government-supported service model with transparent bidding ensures operational efficiency
- **Environmental and Societal Impact:** Significantly reduces road freight emissions, replacing 48,830 truckloads annually, cutting 21 tons of CO2 per trip, and improving road safety and biodiversity

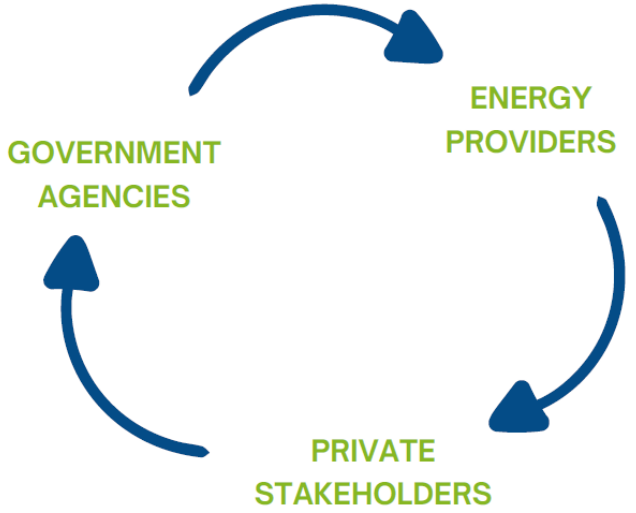
Greening Lithuania's Transport Chain

Solutions

- Available shore power infrastructure has maximum charging capacity of only 350 kW per connection
- Dual-connection systems with capacity of 750 kW per vessel are required
- Charging stations are being developed at three key locations of:

  - ✓ **Klaipėda Port:** a primary charging hub that will also support multi-modal logistics
  - ✓ **Jurbarkas:** a mid-route charging and battery exchange point to extend vessel range
  - ✓ **Kaunas Marvele Port:** function as a multi-purpose energy hub, supplying power not only to vessels but also to heavy-duty electric trucks and other transport systems

Charging infrastructure and energy supply



Greening Lithuania's Transport Chain

Methodology

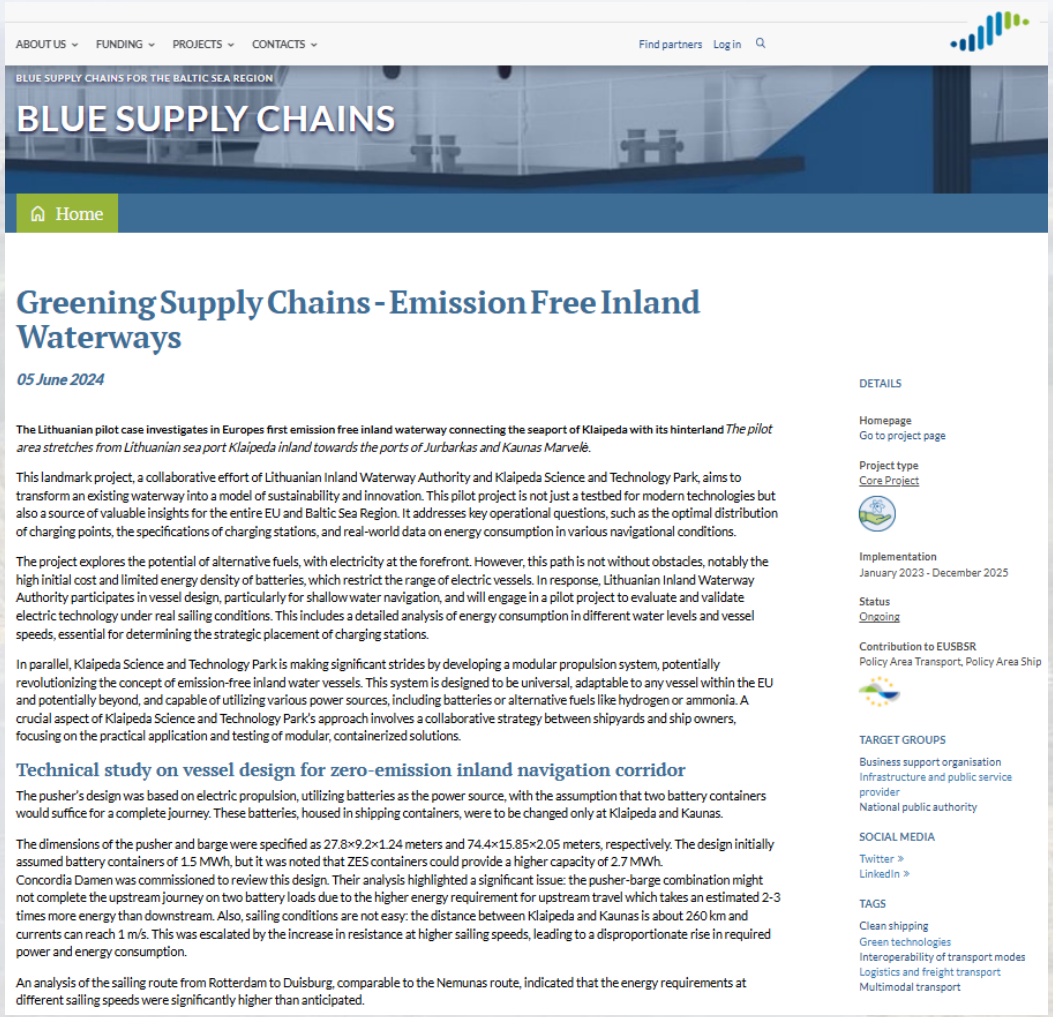
Greening Lithuania’s Transport Chain

Lessons Learnt

- Charging infrastructure is critical for seamless vessel operations
- Addressing grid capacity, charging standardization, and long-term energy pricing is essential for the success
- Regulatory challenges, such as zoning restrictions on renewable energy generation need better alignment with green goals
- Battery logistics and handling require specialized infrastructure
- Securing a stable electricity pricing and market readiness are key for stakeholder engagement

Greening Lithuania's Transport Chain

Outputs



- Overview
- Pictures
- Reports
- Manuals
- Slide decks

Curious where to find more information?

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY

Blue Supply Chains

Reports | Manuals | Slide Decks

Onshore Power Supply for Small & Medium Ports

Best Practice from Port of Skagen

Retrofitted Rubber Tyre Gantry Cranes

Best Practice from Gdynia Container Terminal

Greening Supply Chains – Emission Free Inland Waterways

Best Practice from Lithuania

Green Bunkering and Charging Strategy for Ports

Best Practice from Umeå Region

Stakeholder Engagement to set-up Green Transport Corridors

Experiences from the Rostock-Trelleborg Rail Ferry Link

Port of Hamburg MARKETING

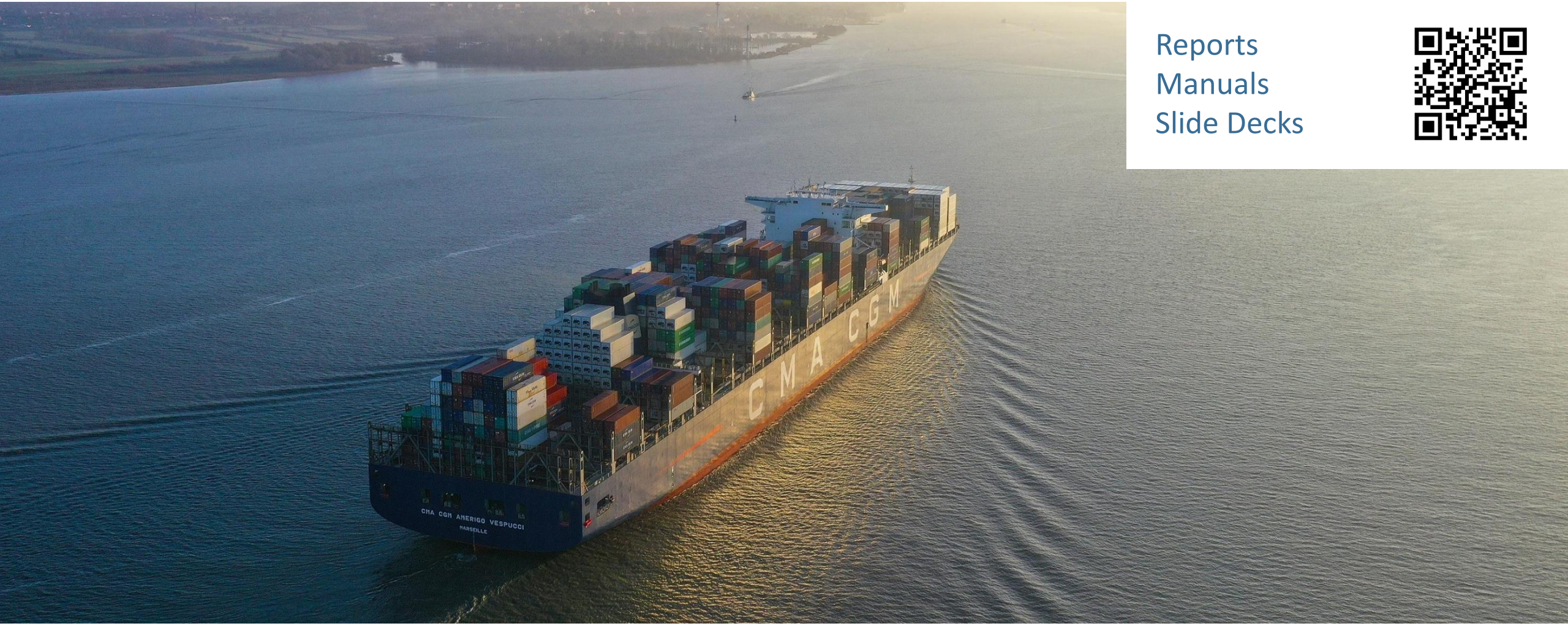
Blue Supply Chains – Supporting Port Authorities and Port Operators to Decarbonise Port Operations

Interreg Baltic Sea Region

Co-funded by the European Union

BLUE ECONOMY
Blue Supply Chains

Reports
Manuals
Slide Decks



Stefan Breitenbach

Port of Hamburg Marketing | breitenbach@hafen-hamburg.de

#BlueSupplyChains

Port of Hamburg MARKETING