

Harbour boat Emden

Innovative electric propulsion and
flexible air draft system

Alternative fuels V, 08.07.2021

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Harbour boat Emden

- Traditionally port traffic boats transported seamen and workers in the port area
- Today the harbour boat is used for touristic tours and only one stop at the seafarer's mission is left
- Harbour boat is operated by AG Ems
- Approx. 50.000 PAX per year
- Round trip takes 60 minutes and shows
 - Different ship yards
 - Volkswagen car shipment
 - Wind energy turbine shipment
 - ...



MS Ratsdelft

Source: AG Ems

New harbour boat

■ Requirements:

- Efficient propulsion system
- CO₂-neutral fuel
- Low draught
- Low air draft to pass bridge with clearance height of approx. 1.5m
- Enough headroom inside the boat to stand upright

■ Solutions:

- Batteries with fuel cell range extender
- Bio-methanol
- Innovative combination of flexible air draft and ballast water system

ENTWICKLUNG EINES ELEKTRISCHEN HAFENBOOTS

GreenShipping Niedersachsen

PASSAGIERWECHSEL

BATTERIEN WERDEN DURCH
BRENNSTOFFZELLE NACHGELADEN



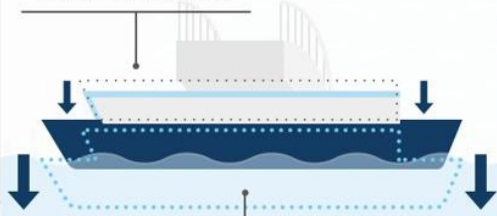
ENERGIEKONZEPT



E-MOTOR BATTERIE BRENNSTOFF
ZELLE

PASSIEREN FLACHER BRÜCKEN

DACH EINFAHREN



TIEFGANG DURCH
BALLASTWASSER
ERHÖHEN

HAFENRUNDFAHRT

Geringer Tiefgang,
optimale Effizienz

NACHTLIEGEPLATZ

BATTERIEN WERDEN AUFGELODEN
METHANOL WIRD GEBUNKERT



MARIKO

Project structure



- Building recharging and bunker infrastructure
- Operating the boat



- Design and construction
- Building the boat



- Project management
- CO₂-footprint

Funding:



EUROPÄISCHE UNION
Europäischer Fonds für
regionale Entwicklung



Thank you!