Introduction to NAV Engineering & Technology Ltd. London









navarchng.com

NAV Engineering

Engineering solutions and vessel designs

Offshore renewables Ship design Offshore Operations

Technologies and Engineering Low emission retrofits Consulting and Engineering

Offshore Renewables - NAV

Offshore renewables

Vessel design, construction and operations undersupplied Backbone (CTV) logistics undervalued High growth, required globally Early technology adopters

Ship design

Two in-house CTV designs

Offshore Operations

Partnership project





International CTV O&M demand



Source: Clarksons Renewables July 2023

Offshore Renewables – Inhouse vessel designs 🖡

Global information

24 PAX HYBRID powered 26 and 34m Performance tracking Crew comfort maximization

Client options

Inhouse building capacity Design services Operations and investment services

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Technologies and Engineering

Extending vessel life and reducing carbon footprint: retrofitting

New vessels designs Container widening solutions LNG retrofit solutions Containerized LNG retrofit solutions Methanol retrofit solutions

Technologies and Engineering Naval architecture consulting services Engineering and dockings





LET'S BE IN TOUCH, THERE IS MORE TO COME!





NEW NAVARCH GENERATION SHIPPING BUILDING COMPANIES

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Backup: CTV terminologyTechnologies and Engineering



CTV vs. SOV vs. helicopter / offshore transfer methods

Both variants are used to transfer client personnel and cargo between shore and offshore asset(s). This proposal is based around CTVs

- Crew Transfer Vessel CTV: 12-24 Client-passengers and cargo. Normally returns to port daily. Fast sailing. 25-30m length. Relative cheap (3-5kEur/day)
- Service Operations Vessel SOV: 20-60 Client-passenger, incl full accommodation. Returns to port two-weekly and also houses a warehouse. Typically transfers via a gangway. Slow sailing. 60-90m length. High workling limits (2.7m Hs). Very expensive (27-60 kEur/day)
- Helicopter: 4-19 passengers; typically, 4-6 passengers. Very limited cargo capacity (20kg/pers). Very expensive (~7000Eur/flight)
- The CTVs will always be the backbone of the offshore logistics infrastructure and we see CTVs in operations in all windfarms including the newest additions in Taiwan, France, Japan, China and coming to the US

CTV Transfer process

The vessel approaches the offshore structure or vessel and pushes against a boatlanding (ladder) that allows step-over and climbing up in waves up to 2.0m waves

Service, data and traditional shipping

Although offshore transfer companies are legally shipowners, the sold service is a safe and complete transfer of passengers and cargo in a time and weather sensitive window in a highly sensitive planning. Traditional ship owning companies are less sensitive to the weather for timely completion of the service. In addition, the strict safety and efficiency requirements for this operation also favours companies with a high frequency interaction with the client.

The Client(s)

Potential clients for both long term and sport charters of the CTVs are all parties, contractors and windfarm owners that have a need for cargo and people transfers. This is also not limited to applications in offshore wind. NAV will predominantly focus on spot-market charters (1-8 months) in the first years to establish a wide reputation. The extensive use of brokers in this initial phase is planned to de-scope the management team at NAV in the early phase.

Disclaimer



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