

# Electricity at sea

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Enova SF



## -Enova

- Manager of the Norwegian Climate and Energy Fund

## Mission

- Reduce greenhouse gas emissions
- Develop energy and climate technology
- Strengthening security of supply

Through sustainable market change

## Budget

- \$300 million/year
- 80 employees

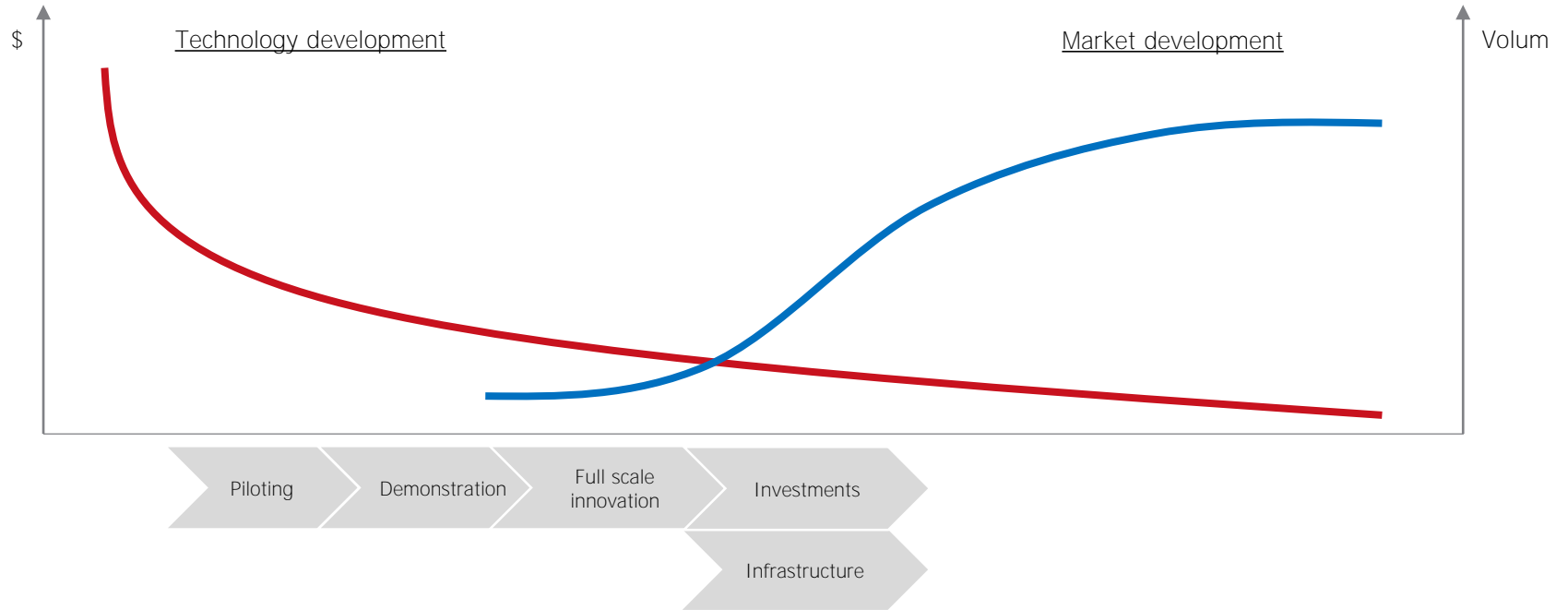
**ENOVA**



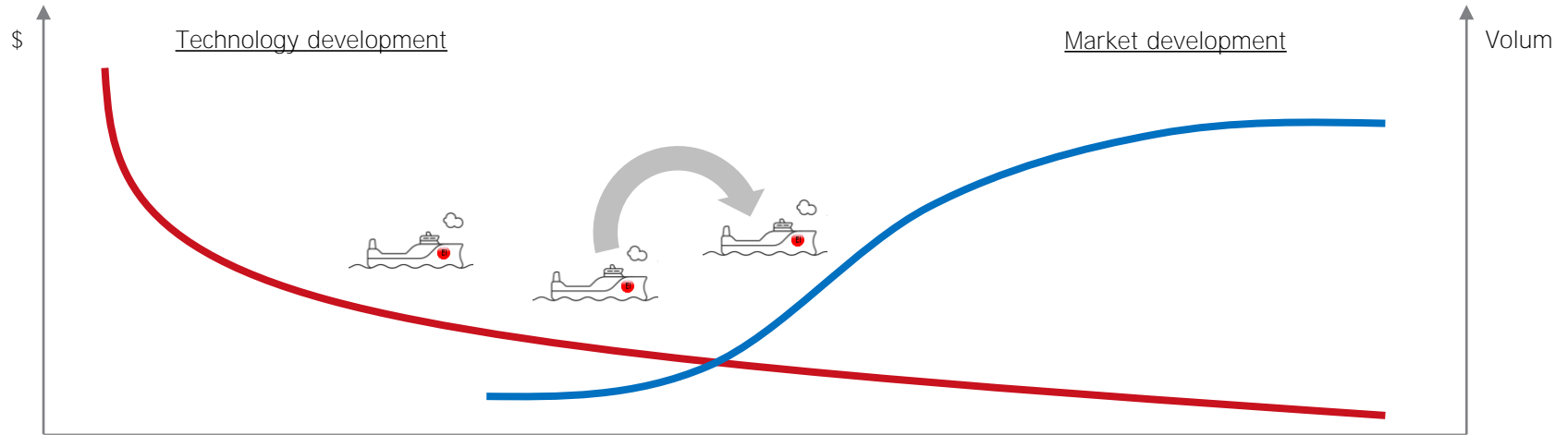
## Financial support – Enova's main measure

- Incentives for increased investments
  - Lowering risk
  - Compensating additional investment costs
  - Attention maker
  - Giving reward

## 2 main strategies and 5 basic financial support measures for late phase technology development and yearly phase market development



When are we ready to make the jump from technology development and demonstration to market development and growth?

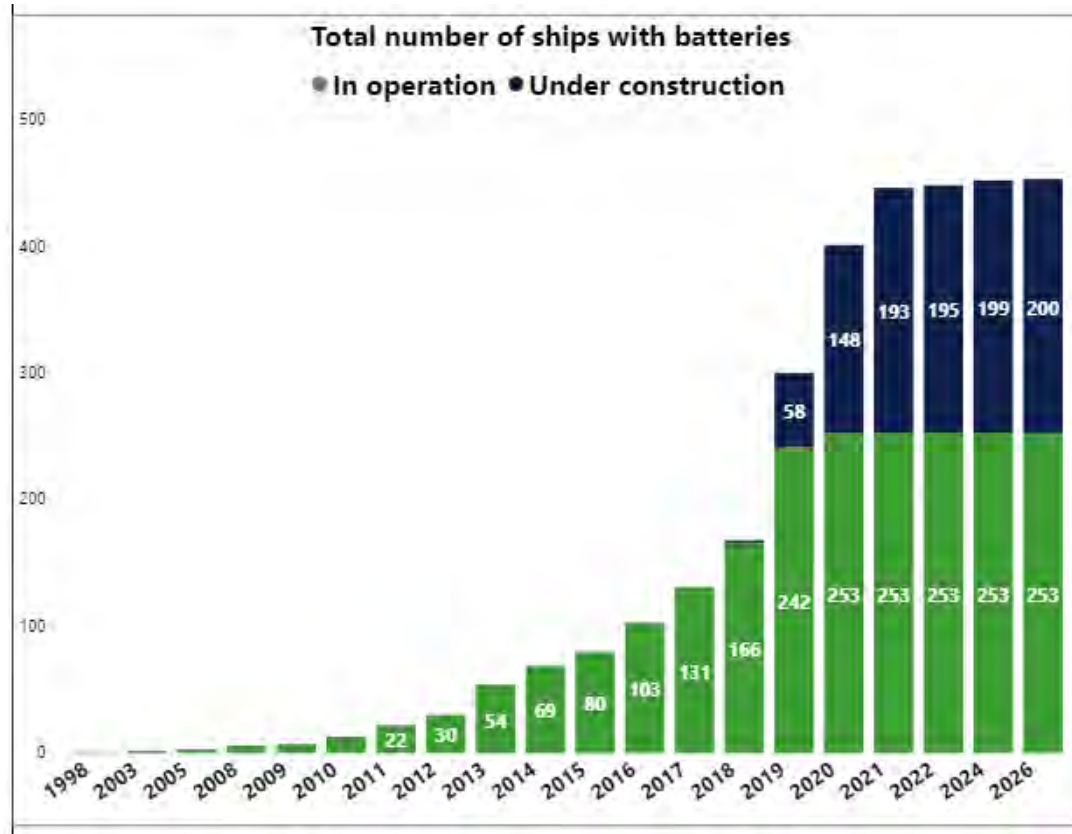


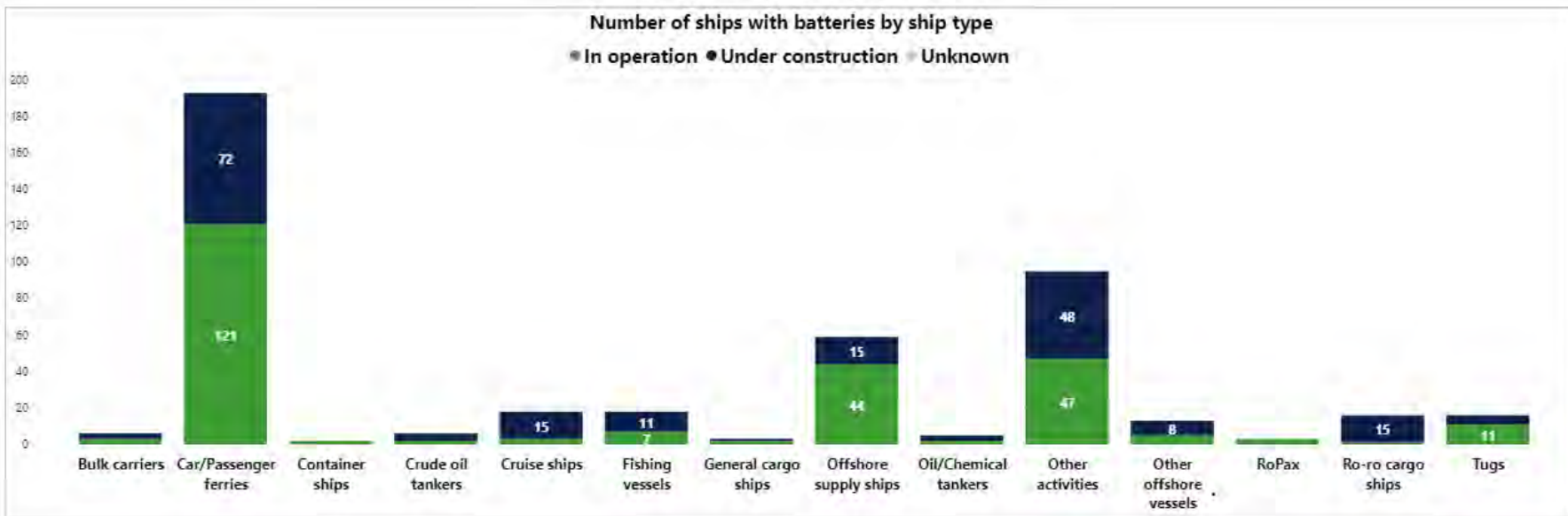
Ships with batteries in operation:

253

Ships with batteries on order:

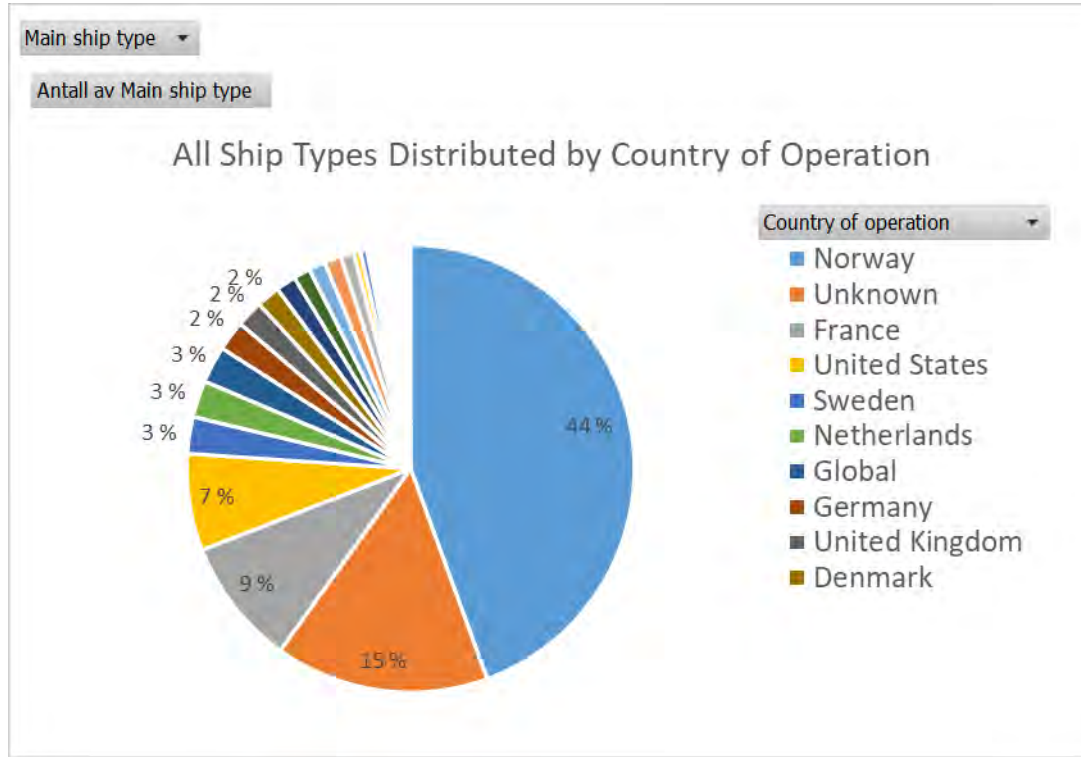
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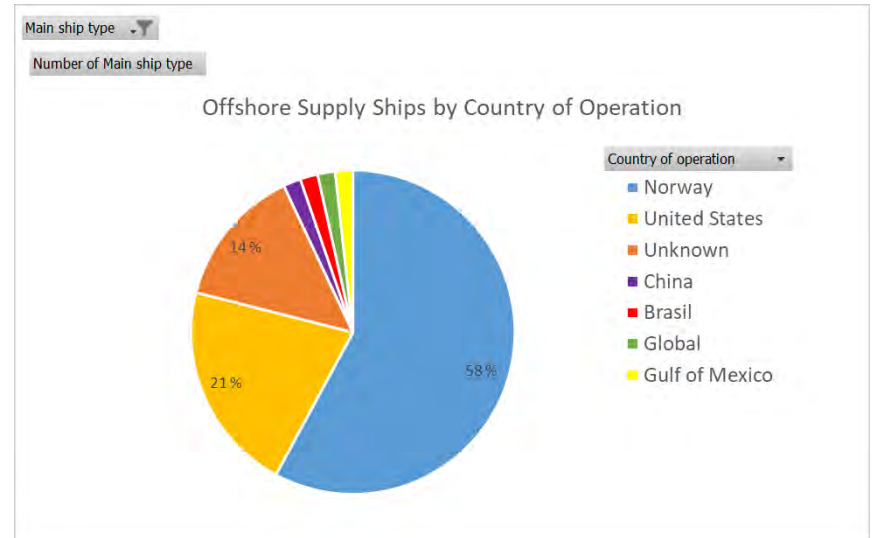
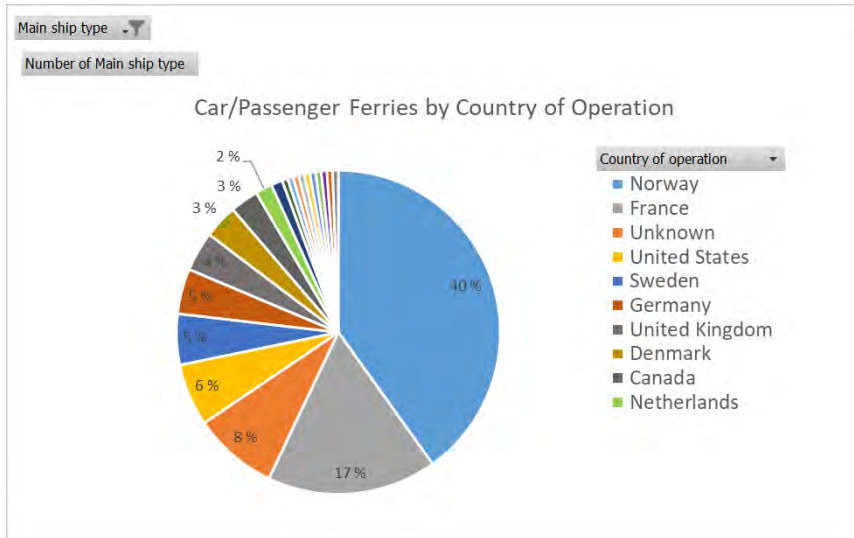
DNV GLs Alternative Fuels Insight per 30.11.20

# Number of battery ships with operation in Norwegian territory



DNV GLs Alternative Fuels Insight per 30.11.20





DNV GLs Alternative Fuels Insight per 30.11.20



Asko – fully electric sea drone



Rødne – fully electric sightseeing boat



Sea Cargo – hybrid and rotor sail



Arriva – hybrid bulk vessel



Ro Vision – hybrid fish handling vessel



Bjørøyvær – hybrid fish farming service vessel

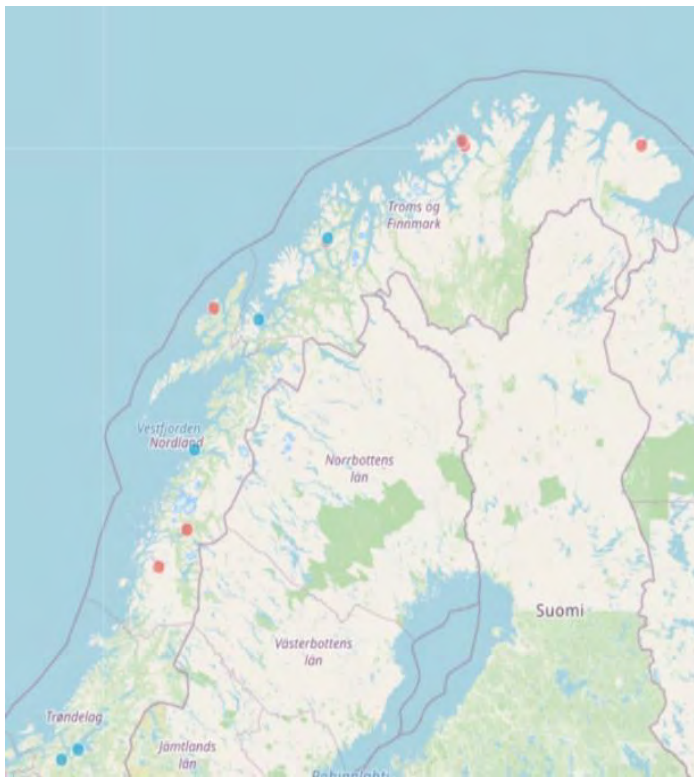


Sea Works – hybrid and electric handling systems



Hurtigruten - large hybrid vessels

## Norwegian ports with onshore power supply (OPS)





## Further challenges

- Lower battery costs, costs in general
- New energy efficient designs, also for operations and equipment
- Alternative fuels for deep sea and challenging types of vessels
- Reliable and affordable power supply

Thank you for your attention!

*[www.enova.no](http://www.enova.no)*

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