

OUR VIEW

Danish Shipping maintains a technology-neutral approach to the green transition.

Battery-electric propulsion should be recognised as a key decarbonisation pathway across multiple shipping segments, where operational and technical conditions allow.

The main barrier to scaling electric shipping is not vessel technology or safety regulation, but the availability of electricity and grid capacity in ports.

Electric propulsion must be supported by regulatory frameworks that reflect its significantly higher energy efficiency compared to alternative fuel pathways.

Continued

Electric propulsion in shipping. One of several emerging solutions

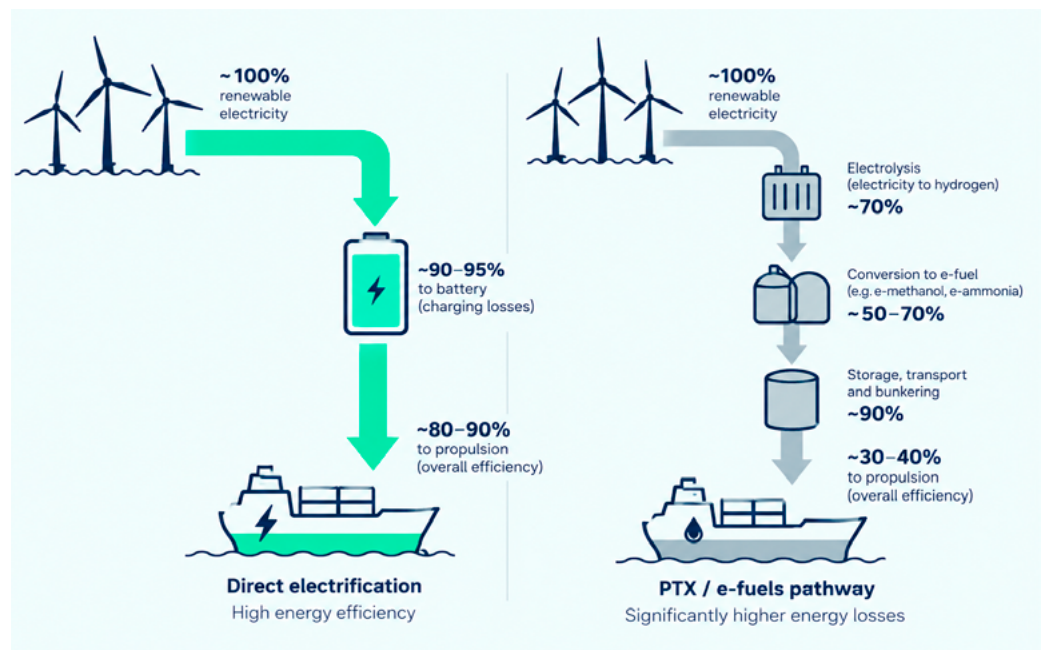
As the maritime industry works to cut greenhouse gas emissions, battery electric propulsion can support decarbonisation alongside alternative fuels. Electric propulsion uses stored electrical energy in batteries and can deliver zero emissions when powered by renewable electricity. It is not a one-size-fits-all solution and depends on vessel size, route, and operational profile. The potential to increase the electrification of short-sea shipping could also enable a more efficient allocation of energy resources by freeing up scarce alternative fuels for long-distance segments where electrification is not feasible.

Safety and regulatory framework

The regulatory framework for battery use in shipping is not a fundamental barrier, since battery installations are now approved based on risk assessments ensuring a high level of safety. IMO has initiated work to develop a dedicated framework, with Danish shipping companies actively participating.

However, while electricity is treated as zero emission under EU ETS, the system does not incentivise its use in full respect of its superior energy efficiency. For instance, applying fixed grid emission factors risks undervaluing the use of fully renewable electricity, thereby

Continued



Continued

While electricity is treated as zero emission under EU ETS, the system does not incentivise its superior energy efficiency and may risk penalising the use of fully renewable electricity.

Electric propulsion in short-sea shipping can help free up scarce alternative fuels where no other viable decarbonisation solutions currently exist.

undermining the business case for electric vessels. A shift is needed from fuel-focused regulation towards energy system thinking.

Infrastructure as the key enabler

The availability of electricity and grid capacity is the main stumbling block for scaling electric shipping and ports must evolve into energy hubs with high-capacity charging and grid connections.



Svitzer Ingrid

FACTS

- Direct electrification is significantly more energy efficient than fuel-based pathways, since it can require 3-4 times less energy than e-fuels for the same propulsion output.
- Over the past decade, battery energy density has improved up to twofold, allowing significantly more energy to be stored per unit of weight, and this development has made battery-electric solutions increasingly viable in shipping.