

Backup Power from Ships

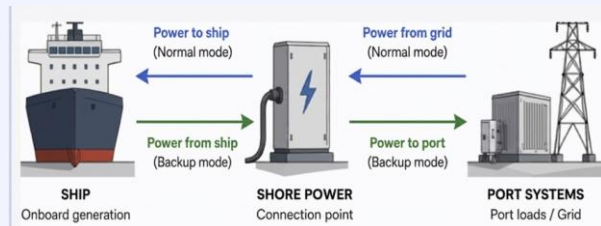
Securing port electricity supply by utilizing ships' power generation capacity

WHY THIS MATTERS

Ports cannot stop when the grid goes down.

Finland's ports handle **94% of exports** and **96% of imports**, making reliable electricity critical for national resilience.

As ports electrify equipment, heating, and shore power, outages become more costly. By **2030**, AFIR requires large ports to cover at least **90%** of docked ships' electricity demand with shore power, making ship-based backup power a valuable future capability.



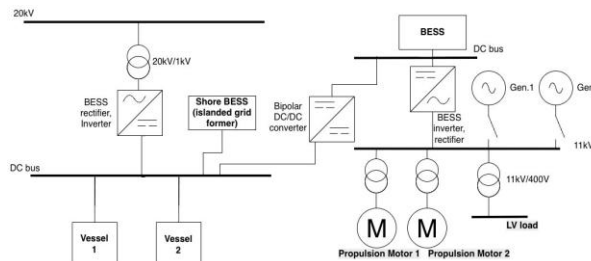
Shore power links could enable two-way energy exchange between ships and port systems.

HOW IT WORKS

Ships and vessels could support the port when grid power is disrupted.

The project studies whether ships could use their onboard electricity generation to support ports during power shortages.

Shore power already provides the physical connection, but current systems are mainly shore-to-ship, not ship-to-shore. The work evaluates technical feasibility, DSO roles, standards gaps, and stakeholder interest.



Preliminary concept diagram for Port Vessel Battery Energy Storage System (BESS) enabling two-way power exchange.

WHAT THIS PROJECT DELIVERS

From feasibility study to an external research project.

The project turns a strategic idea into something decision-makers can assess. It combines regulatory review, technical requirement mapping, stakeholder interviews mainly in Finland, and benchmarking of related pilots.

The result is a concise analytical report and practical guidance for a Business Finland follow-up proposal.

WHO IT IS FOR

For ports, shipowners, DSOs, and infrastructure partners.

The target group includes port operators, shipping companies, local DSOs, authorities responsible for infrastructure security, equipment suppliers, and export-industry stakeholders.

In practical terms, the value is stronger resilience planning, clearer technical and business conditions, and a more realistic path toward scalable port electrification.

PROJECT SNAPSHOT

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Timeline
March-Sep 2026

Partner
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Primary output
Analytical report and follow-up funding proposal.