

## ContainerPower Energy Solutions

# Can shore power systems be equipped with energy storage



## Overview

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Where the grid supply is weak or in remote or island communities, energy storage and microgrid capabilities can easily be included into the system, with mixed generation sources (solar, wind, wave/tidal, grid, diesel backup) to enable slow charging and energy storage when the vessel is at sea according to the power supply available, but higher power release when the vessel is in port. What is shore power?

Shore power refers to the possibility for a ship to plug in to an onshore electricity grid when in port. With shore power, the vessel does not have to use its auxiliary engines to generate power. This decreases emissions and noise. Shore power can also be used to charge the energy storage system on board the ship. shore power connection.

What is a shore power facility?

Shore power facilities will generally form part of a wider port energy network including electric power for port assets and back-up power generators. Ports that have a high-power grid connection (or could upgrade their connection at reasonable cost) do have the option of supplying shore power directly from the grid.

Is shore power a competitive disadvantage?

Finally, it is widely acknowledged that for vessel operators, grid electricity provided through shore power is currently uncompetitive with on-board generators running on low-carbon fuels such as biofuel. How can ports achieve an energy system which minimizes or reverses this competitive disadvantage?

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How does shore power work on a ship?

On the ship an incoming panel is placed in a confined room, where the operator connects the ship to shore power. The power is often via a transformer (if ship grid is low voltage) connected to the main switchboard.

The Wärtsilä shore power control system and built in safety features ensures safe and seamless operation.

How can shore power help save fuel and reduce emissions?

This saves fuel and cuts harmful emissions. Shore power solutions from Wärtsilä help vessels save fuel and decrease their emissions because they can plug in to the onshore electricity grid when in port. Without shore power, the vessels would have to use auxiliary engines to generate power.

Is shore power mandatory for containerships?

Shore power for containerships is mandatory from 2030 onwards as per FuelEU. The creation of shore power infrastructure remains difficult and takes a long time however. Mobile shore power solutions, with- or without a battery will ensure port authorities compliance to regulations.

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