

# Looking for experts in **Shore Power Supply?**

## Electrification through Power Conversion

By connecting to shore power whilst berthed, vessels can shut down their auxiliary generators completely. It also supports vessel charging, to recharge batteries onboard hybrid or electric-powered ships. With electric shore supply, the air in port is free of emissions from diesel generators, helping to meet International Maritime Organisation emission control area emission targets. Shore power supply ensures not only clean air to breathe but also a noise-free environment. When using drive technology in a shore-supply solution, ships can source clean energy such as solar or wind power from local grids.

A shore supply installation involves services and components from many vendors.

At Danfoss we supply the AC drives, that are at the heart of the power conversion. We hold extensive experience in shore power supplies and welcome any inquiry you might have concerning your future shore power supply.

**100+**

shore power supply  
installations across  
the globe

**#DanfossMarinePro**

**VLT® | VACON®**

# Overview of key stakeholders in a **shore power** supply project



Supply/ Substation	Port Planning	Grid Converter	Quay
<ul style="list-style-type: none"> <li>■ <b>Stakeholder:</b> <ul style="list-style-type: none"> <li>• Utility</li> <li>• Port Authority</li> <li>• System Integrator</li> </ul> </li> <li>■ <b>Scope:</b> <ul style="list-style-type: none"> <li>• Civil work</li> <li>• Load (active and reactive power)</li> <li>• Harmonic</li> <li>• Automation</li> <li>• Protection</li> <li>• Interface</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Stakeholder:</b> <ul style="list-style-type: none"> <li>• Port Authority</li> <li>• System Integrator</li> </ul> </li> <li>■ <b>Where:</b> <ul style="list-style-type: none"> <li>• Which vessel types use which quays</li> </ul> </li> <li>■ <b>Scope:</b> <ul style="list-style-type: none"> <li>• Civil work</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Stakeholder:</b> <ul style="list-style-type: none"> <li>• Port Authority</li> <li>• System Integrator</li> <li>• Drive supplier</li> </ul> </li> <li>■ <b>Where:</b> <ul style="list-style-type: none"> <li>• Container</li> <li>• Separate building</li> </ul> </li> <li>■ <b>Scope:</b> <ul style="list-style-type: none"> <li>• Civil work</li> <li>• Cabling</li> <li>• Cooling</li> <li>• Interface</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>■ <b>Stakeholder:</b> <ul style="list-style-type: none"> <li>• Vessel owner</li> <li>• Port Authority</li> <li>• System Integrator</li> </ul> </li> <li>■ <b>Scope:</b> <ul style="list-style-type: none"> <li>• Portal with log-in for vessel, and more</li> <li>• Load increase / decrease management</li> <li>• Cable management</li> <li>• Energy market</li> </ul> </li> </ul>

A shore supply installation involves services and components from many vendors.

These include port authorities, local government and vessels owners amongst others. A successful project is in addition recognized by positive

publicity in media, positive political awareness, happy utilities, port authorities, vessel owners and crew.

It is important to recognize all stakeholder at an early stage and understand their needs.

## Please read more:

(For printed: scan QR-code. For iPaper: click on QR-code or title)



**Paper on Shore Power Supply**



**Webpage for shore power supply**



**Why hybridization?**

## Contact:

[www.danfoss.com/en/contact-us/](http://www.danfoss.com/en/contact-us/)

## Incentives

- California Air Resources Board (selected ports in California)
- European Parliament Directive (selected ports in Europe)
- IMO Emissions Control Areas (banning high-sulphur content fuel)
- Tax incentives in Sweden, Denmark, Germany
- European Investment Bank (EIB) - finance available – Paris Agreement

At Danfoss we can help you find the best partners for your project.

**VLT® | VAGON®**

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