

ARTICLE

# ABB to enable shore-to-ship power at Swedish port of Gothenburg



ABB plays a vital role in creating solutions that reduce greenhouse gas emissions to the world's ports, and supporting the sustainable care of the environment. Our products can be found worldwide, providing the solution to port environmental protection challenges. We supply docked ships with electricity from the shore so they can turn off diesel engines that provide electricity for onboard systems such as heating,

On-shore substation to supply power to docked ships and reduce local emissions. ABB's Power Electronics team, based in Napier, New Zealand are supplying static frequency conversion technology as part of a large substation order to supply shore-to-ship power at the Swedish port of Gothenburg.

As part of the project, ABB will collaborate with Processkontroll Elektriska to provide the necessary infrastructure to supply electrical power to a large number of Stena Line vessels using the port.

ABB will be responsible for the design, engineering, supply, and commissioning of the shore-side substation, which will supply vessels with 3 MVA, 11 kV power.

It will be the biggest installation of its kind, capable of providing power at both 50 Hz and 60 Hz. Equipment to be supplied includes power medium voltage switchgear and monitoring safety equipment.

ABB New Zealand's manufacturing and technology facility in Napier is supplying two PCS100 1250 kVA static frequency converters (SFC) to convert the 50 Hz shore power to 60 Hz as required by the vessels.

The ability of multiple PCS100 SFC's to operate in parallel, with automatic load sharing, is used to full effect in this project.



Other features such as power module redundancy typical to all PCS100 SFC systems, make for an extremely reliable 60 Hz vessel power supply. During a 10-hour stay in port, the diesel generators of a single cruise ship can burn 20 metric tons of fuel and produce 60 tons of carbon dioxide. This is equivalent to the total annual emissions of 25 average-sized European cars. These emissions can be mitigated by supplying the ship's infrastructure with onshore power. Port authorities and ship owners, spurred by emerging legislation in many parts of the world are seeking ways to reduce emissions as part of the global effort to mitigate climate impact.

To find out more about ABB's power protection solutions:

<https://new.abb.com/power-converters-inverters/grid-interconnections/industrial/pcs100-sfc>

Web: [www.abb.com/ups](http://www.abb.com/ups)

Email: [powerconditioning@abb.com](mailto:powerconditioning@abb.com)

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