REFERENCE CASE STUDY

Shore-to-ship power cuts emissions for Ireland’s Atlantic fishing fleet

ABB’s future-proof power converters at Killybegs Harbour are saving 96,000 liters of diesel and 2,000 tonnes of CO2 per year.

Static Frequency Converter (SFC) shore-to-ship power units from ABB have been installed by Ireland’s Department of Agriculture, Food and the Marine to provide grid power for fishing boats at Killybegs Fishery Harbour Centre in Donegal, on the North West coast of Ireland. Ireland’s first converters have been installed to boost sustainability at 12 berths. The project is partly supported by the Irish government and the European Maritime & Fisheries Fund as part of the EMFF Operational Programme for 2014-2020.

Killybegs is one of around 100 ports in Northern Europe where pelagic fish such as herring and mackerel can be landed. The port has a local fleet of around 25 large trawlers. When in port, the trawlers rely on 70 kVA diesel deck generators to power loads such as lighting, heating and electronic navigation and control equipment in the wheelhouse, as well as pre-heaters for starting the main engines.

With the shore-to-ship power converters in place, the ships can power down the deck generators, saving 96,000 liters of diesel and reducing the harbor’s annual CO2 emissions by 2,000 tonnes per year, which is equivalent to removing nearly 500 cars from the road. The installation has also improved the harbor by cutting noise emissions and reducing fire risk and maintenance requirements for the trawlers. The converters will future-proof the harbor by complying with the tighter legislation being introduced by the International Maritime Organization as it works toward its target of reducing shipping emissions by at least 50 percent by 2050 compared with 2008.

Killybegs Fishery Harbour Centre is Ireland’s premier fishing port and one of the safest and most sheltered deep-water harbors on the Irish coast. Its fishing industry provides around 800 of the 1,200 jobs in the local economy. The harbor also attracts visiting trawlers from as far afield as Norway, Denmark, the Faroe Islands and Iceland, and visiting boats can request connection to the new power supplies. The converters draw power from the standard 400-Volt utility grid and are housed in a dedicated indoor plant room along with switchgear and safety systems. Trawlers connect via industrial sockets on the quayside, with access to power being controlled by the harbor master. Each converter provides remote monitoring for metering and can be isolated and switched individually between 50 and 60 Hz for flexibility.