

# ENERGY ON VACATION

My Energy Change Paper

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Harbor energy consumption is critical. The ships docked there are one of the main sources for this usage. However, as the cost of generating energy from renewable sources falls, local, mostly photovoltaic RES plants can be designed and integrated into harbors, allowing for the gradual electrification of some of the port's primary consumptions. **COLD-IRONING** is a technology that facilitates this transition.

Ships now employ their auxiliary engines to support their basic functions while berthed. This causes a slew of problems, including SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and particulate emissions, as well as noise and vibration. At the same time, engines on all types of ships suffer severe damage because they are designed for moving into the sea rather than staying steady in a harbor. Cold-ironing appears to be a viable solution to these problems. By its use, air pollution produced from diesel generators is reduced through the use of shore electric power as an alternative.

The shore electric power needed by the ships is generated by renewable energy installations near the harbor. A Transformer Converter is used to convert the clean energy produced into power for a ship. This technology has numerous environmental advantages. It has been easier to use in marinas where yachts are berthed because their needs are not as demanding as those of large ships. As a result, a "greener" profile for yacht owners is formed during their vacation, while better onboard comfort and lower fuel consumption and maintenance costs are offered.

