

**Green Portable
Energy:
Port
Authorities**

**Cold Ironing & The
Global IMO updated
regulations drives port
authorities into a new
era of Quay side
Electrification**

Net Zero Ambitions with Port Authorities

Worldwide there is significant drive from the population to reduce carbon footprint with targets being set by many governments to achieve a Net Zero Position.

Many large UK ports are polluting the environment most directly relevant to local populations. Approximately 230 million people are directly exposed to the emissions in the top 100 world ports in terms of shipping emissions. Most shipping emissions in ports (CH₄, CO, CO₂ and NO_x) are estimated to grow fourfold up to 2050. This would bring CO₂-emissions from ships in ports to approximately 70 million tonnes in 2050 and NO_x-emissions up to 1.3 million tonnes. Most of the marine transport continue to run their own diesel generators while quay side, where very few ports have no facilities to offer up electric power. Ships emit diesel fumes 24-7 when docked because they must keep engines running to keep the lights on. Increasingly ports are turning to a technology called shore power that allows the giant ships to plug into the grid and idle their engines. It essentially turns cruise & cargo ships into supersize plug-in electric cars running on grid power, the switch also helps reduce global greenhouse gas emissions.

Shore power isn't always Plug & Play, some cities don't have the available power that would be required & some ports don't have the capital to put the infrastructure in.

With the possibility of a new carbon tax on all shipping, which could be up to £80 per tonne in CO₂ emissions, this will have significant cost to the ship owners. **CNEs** offering mitigates this taxation while in port.

The Opportunity

CNE has developed a range of **Energy Storage Systems (ESS)** with large capacity battery storage using the latest technology with a safe & robust design allowing for a minimum 10-year life cycle. The range of power capacity is from 500kw to 5MW in the form of a mobile unit with a suite of smaller static modules that can either be connected to the grid & then distributed around the various quays or laid down on the back decks. Alternatively green renewable power can be delivered using our **eGen** mobile range to top up the static units. This gives a very flexible & commercially attractive option for port authorities, reducing the upfront capex for electrifying quays. This adds significant flexibility to the surrounding port.

CNE's unique offering to align with port authorities to help drive their environmental strategies, to vastly reduce the carbon footprint by providing solutions for ship owners to turn off their diesel generators whilst in port. This can be used to offset the expense & pollution of diesel generators. Over time this will aid the reduction in ports carbon footprints & possibly offer up a commercial opportunity to ports on power sales.

