GeoPura®

PORT OF TILBURY LONDON

Sustainable Power Now

SECTORS: Vessel Charging, Off-Grid Power

Dockside Vessel Charging Powered by Hydrogen at the Port of Tilbury

Port of Tilbury, London



GeoPura partnered with Port of Tilbury to deliver the first deployment of a mobile, hydrogen-powered rapid EV charger providing shore-to-ship power on the Thames Estuary.

Using a GeoPura HPU2™ and rapid charging technology, the project charged a commercial vessel dockside using zero-emission electricity without relying on a fixed grid connection.

Location:	Port of Tilbury, London
Dates:	April 2026
Equipment Deployed:	HPU2™



APPLICATIONS

- Off-Grid Power
- Grid Augmentation
- Backup Power
- Vessel Charging

Challenges

- Ports face growing pressure to electrify operations and reduce emissions
- Limited grid capacity restricts deployment of shore-to-ship power
- Maritime and logistics operations require large amounts of reliable energy

Solutions

- Deployed a **mobile hydrogen-powered rapid EV charging solution**
- Used a GeoPura HPU2™ to **deliver clean, zero-emission electricity dockside**
- **Charged a commercial vessel** without a permanent grid connection

ZERO EMISSION FUEL

GREEN POWER GENERATION

About the project



Port of Tilbury worked with GeoPura to deploy a mobile rapid EV charging solution delivering clean shore-to-ship power without a fixed grid connection. A GeoPura HPU2™, mounted on a floating platform, supplied electricity to a rapid charger enabling a commercial vessel to charge dockside on the Thames Estuary.

Ports and maritime operators face increasing pressure to electrify operations, improve local air quality and reduce emissions from dockside activity. However, many ports continue to face major grid capacity constraints, with infrastructure upgrades often taking years to complete. Hydrogen fuel cell technology provides a flexible alternative by generating electricity on-site, enabling rapid deployment of clean power exactly where it is needed.

The deployment highlighted how hydrogen can support a wide range of port and maritime applications, including shore-to-ship power, rapid vessel charging, logistics operations, temporary power and high-capacity infrastructure support. The modular nature of the HPU2™ also enables the solution to scale from smaller charging applications through to multi-megawatt deployments capable of supporting passenger vessels, freight operations and cruise ship shore power.

What Our Partner Says

"The Port of Tilbury has a strong track record of bringing innovative infrastructure and energy solutions to our customers, and this project continues that approach.

"Delivering rapid vessel charging using a mobile hydrogen-powered solution shows how ports can accelerate electrification even where grid capacity is constrained. The ability to deploy clean, flexible shore-to-ship power where and when it is needed creates significant opportunities for ports, maritime operators and the wider supply chain.

"Working alongside GeoPura and our partners, we are helping explore practical low-carbon solutions that can improve air quality, strengthen operational resilience and support the future decarbonisation of port operations."

David Housden
Head of Engineering at the Port of Tilbury

Find out more

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