

## **Written evidence submitted by Hitachi Energy (MAR0007)**

### **Introducing Hitachi Energy**

Hitachi Energy is an exciting global business founded on two iconic companies – Hitachi and ABB Power Grids – with a ground-breaking heritage of innovation in pioneering technologies. As a global technology leader, we serve the energy, industrial, mobility, IT and smart cities sectors. We are a major investor in the UK, with a turnover of £500 million.

We are advancing the world's energy system to be more sustainable, flexible and secure. As the pioneering technology leader, we collaborate with customers and partners to enable a sustainable energy future – for today's generations and those to come. In the UK, we are already helping to bring clean energy to 4.5 million homes by connecting the world's largest offshore windfarm at Dogger Bank to the grid.

We strongly believe that the UK can lead the world in creating a secure, Net Zero-ready energy system through investing in technologies to make the energy system more sustainable, flexible, and secure.

### **Our response**

Hitachi Energy's expertise in the UK maritime sector is related primarily to shore-to-ship power solutions.

Increasingly, port authorities and ship owners are required to reduce air and noise pollutions from ships in ports – a requirement that is best fulfilled by using shore-side power instead of onboard generation while berthed. Shore-to-ship power solutions create a better environment for passengers, crew, dockworkers and local residents by reducing greenhouse gas and noise emissions, as well as vibrations.

As a full-scope supplier, Hitachi Energy provides fully engineered and integrated systems and a broad range of services. Onshore, the solution comprises the entire chain from the main incoming substation receiving power from the local grid, via systems matching voltage and frequency to the levels required by the vessels, to the power outlet at the berth. Onboard, the shore-to-ship power equipment is fully integrated with the ship's electrical and automation system, enabling seamless power transfer from onboard

generation to shore power. As part of our offer, we assess the impact of shore-to-ship power systems and recommend optimised solutions to upgrade and strengthen local grid and port networks. We also deliver enhanced grid stability and reduced energy cost through low-maintenance frequency converters, which offer reactive power compensation and voltage control.

The Maritime 2050 strategy references shore-to-ship power in the context of Government's role in co-ordinating and driving collaboration within the UK maritime supply chain. It identifies challenges that UK ports have faced in justifying investment in shore-to-ship power supply owing to ship compatibility and power supply issues.

We support Government's plans to regulate to incentivise shore-to-ship power solutions, which we believe are crucial to the maritime sector achieving its net zero objectives.

We believe that shore-to-ship power offers significant reductions in greenhouse gas emissions for vessels at berth in UK ports, as well as reductions in particulate emissions, noise and vibration, but that this is only deliverable with a medium to high rate of acceptance and usage across the marine sector. Shore-to-ship power costs can be significant and there is currently no regulatory or financial mechanism to incentivise its use.

Without both financial and regulatory incentives for shipping companies to convert ships to use of electricity, there is a risk of this technology not being used to its full potential. We urge the Transport Select Committee to consider how Government should use its legislative and regulatory powers to incentivise a transition to shore-to-ship power.

Specific incentives could include:

- clean air zones at ports
- funding for port electrification upgrades
- changes to planning regulations to include and incentivise renewable generation at or near ports.

We recognise that there will be short-term cost increases in shipping to support the transition from burning fuel to shore-to-ship power. However, this should be looked at in conjunction with the long-term economic and environmental benefits of a cleaner, greener maritime sector.

March 2022