



## Hafnia and Arq form a technical partnership to adopt a novel waste-derived marine fuel

**Arq Fuel™ will support Hafnia in meeting IMO 2020 targets, improving their environmental footprint and reducing fuel costs**

**London, October 2020** – Arq, the UK based energy technology company, and Oslo listed Hafnia, one of the world's leading product tanker owners and operators, have agreed to work together to accredit and introduce Arq Fuel™ as a key blend component for marine fuels, as part of their shared and ongoing commitment to decarbonisation.

Arq has developed a novel and patented technology that transforms environmentally damaging coal waste into a micro-fine hydrocarbon powder (Arq Fuel), which has many valuable industrial uses, including blending into oil products to create stable dispersions. Particularly notable for the shipping industry, Arq Fuel offers material benefits as a low-sulphur blending component for IMO 2020 compliant marine fuels.

Under the partnership agreement, Hafnia will conduct trials using Arq Fuel on some of its vessels. After securing the required accreditations, trials scheduled for mid-2021 aim to confirm Arq Fuel's compatibility for the approximately 450 vessels for which Hafnia procures fuels. Commercial quantities of Arq Fuel will be made available in the US during the second half of 2021, through Arq's exclusive marketing partner and investor, Vitol, via their tankage in St Rose, New Orleans. Arq is already advancing plans to establish further processing plants and blending facilities at key hubs in the US, Europe and Asia.

This agreement follows a series of successful tests which have demonstrated Arq Fuel's performance as a marine fuel component that can be used without any changes to the existing supply chain and ship engines. Hafnia and Arq will now work together to optimise blends which meet environmental standards and maximise cost efficiencies.

Third-party Life Cycle Analysis research confirms that Arq Fuel has strong environmental credentials. Without compromising on combustion performance, Arq Fuel produces a lower level of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>), than Residual Fuel Oil (RFO) alone. Furthermore, on a barrel for barrel basis, Arq's largely mechanical production of novel low carbon fuel has been calculated to be over 40% more environmentally beneficial than producing the equivalent RFO. By cleaning up coal waste, Arq is able to remove legacy environmental liabilities and remediate land for more productive purposes.

### **Julian McIntyre, Arq CEO**

"Arq is delighted to be partnering with a world class shipping company such as Hafnia. Our collaboration is built around a shared vision for improved environmental standards without compromising on performance or costs. I envisage that this pathway to first commercial sales will enable both companies to thrive and deliver outstanding customer value."

### **Ralph Juhl, Hafnia Executive Vice President, Technical**

"Arq's ambitions are well aligned with Hafnia's environmental profile. We are optimistic that Arq Fuel will prove effective in helping Hafnia, and the shipping industry at-large, meet its GHG reduction targets."

### **Mike Muller, Head of Vitol Asia**

"We are delighted at the prospect of Hafnia becoming one of the first adopters of Arq Fuel as a marine fuel blending component."

*[Vitol, the world's largest independent energy trading firm, is an investor in Arq and Mike Muller has been a non-executive director of Arq since 2018]*

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## About Arq

Arq is an energy technology company that recycles and transforms coal waste into an entirely new source of hydrocarbon. Through a combination of advanced chemistry and a tried-and-tested mechanical process, Arq separates pure hydrocarbon from mineral matter to create a microfine powder, Arq Fuel™. It has unique properties that make it valuable as an advanced carbon product in non-combustible markets and can also be blended with oil products where it behaves in a similar way to oil, but without the associated costs typical of the oil industry.

Arq believes that its technology can change the way the world recovers natural resources by making more efficient use of waste materials and support the global energy transition towards a cleaner future.

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## About Hafnia

Hafnia is one of the world's leading oil product tanker owners and operators. The Company provides transportation of oil and oil products to leading national and international oil companies, major chemical companies, as well as trading and utility companies.

Hafnia operates a fleet of 178 vessels in pools including newbuilds, of which 103 are owned or chartered-in, including six owned LR2s, 35 owned and chartered-in LR1s, 48 owned and chartered-in MRs and 14 owned Handy vessels. The Company has a net asset value in excess of USD 1bn and is fully financed with a strong balance sheet providing financial flexibility.

Hafnia has a solid history in chartering, operations and technical management and strives to always offer customers the best solution for their transportation needs. This solution-focused approach has resulted in a strong reputation and the Company remain firmly committed to being a responsible member of the industry and operating according to the highest ethical standards.

Hafnia is a global company with offices in Singapore, Copenhagen and Houston and presence in Mumbai. The Company is part of BW Group, an international shipping group that has worked in oil and gas transportation, floating gas infrastructure, environmental technologies and deep-water production for over 80 years.

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