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By Alice Hancock

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Shipowners Turn to Dirty Fossil Fuels and Nuclear Power as Green Hopes Sail Away

The shipping industry's backing for green power has sunk as the majority of vessel owners stick to traditional dirty marine fossil fuels or explore alternatives including nuclear energy.

Data from the International Chamber of Shipping's latest annual survey of shipping executives shows that confidence in ammonia or hydrogen



becoming viable fuel sources has plummeted this year as they prioritise cost and availability over tackling rising carbon emissions.

Conviction that ammonia will become a commercial reality in the next decade fell from 31 per cent of

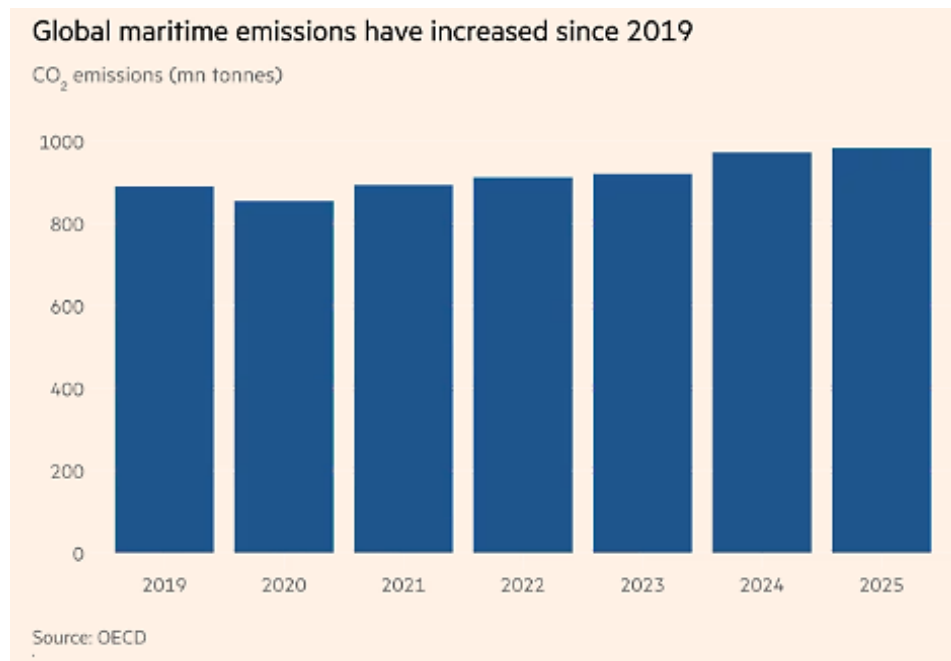
shipping executives last year to 12 per cent this year. Their confidence in hydrogen fell from 18 to 10 per cent.

By contrast, their confidence in traditional fuel oils as the most viable option rose from 41 per cent last year to 50 per cent — despite the global disruption to supply chains driven by the Iran war. The data reveals the fracturing of the industry into several camps backing different technologies and fuels amid a decline in the willingness of cargo owners to pay a “green premium” for cleaner shipping, according to a report by Boston Consulting Group. Shipping accounts for about 3 per cent of all emissions, and 11 per cent of those from transport. “Everybody wants to be green, nobody wants to pay for it,” said Alexander Saverys, chief executive of CMB Tech, one of the largest listed shipping companies.

Despite the 176 member countries of the International Maritime Organization previously agreeing to pursue a goal of cutting shipping emissions to “net zero” by 2050, this year the proposal all but fell apart.

The negotiations that would have cleared the way for the first global carbon pricing effort ran into aggressive blocking tactics led by the US. The IMO, a UN body which sets global shipping standards, is now considering four proposals, with the hope of getting agreement among its deeply divided membership. “We need to be aware that shipping

cannot decarbonise on its own. We need all the sectors to assist us, and that includes the energy sector,” Arsenio Dominguez, IMO secretary-general, told a recent FT conference. He added that future discussions might take place in a “better geopolitical situation”.



But shipping executives say that the net zero framework will only be viable if greener fuels become cheaper and more widespread. Semiramis Paliou, chief executive of dry bulk company Diana Shipping, said alternative fuels had “taken a back seat. But I think that’s only temporary”. Deciding which fuel to choose when buying a ship with a lifetime of 20-25 years is “a very difficult decision, and partly has to do with a bit of gambling as well. Some technologies make more sense for some ships and some make more sense for other ships,” she said.

That challenge, coupled with the low availability of ammonia, methanol and other greener fuels, has pushed shipowners to order an increasing number of so-called “dual-fuel” ships that run on both traditional and cleaner fuels. Others — notably Greek shipowners — have reverted to new builds powered by fossil fuels, arguing modern ships can be as much as 25 per cent more efficient. “Energy is going to be scarce no matter what we do so we need to look at ways that we reduce our footprint,” Ioanna Procopiou, chief executive of ship management company Prominence Maritime, told an industry conference in Greece.

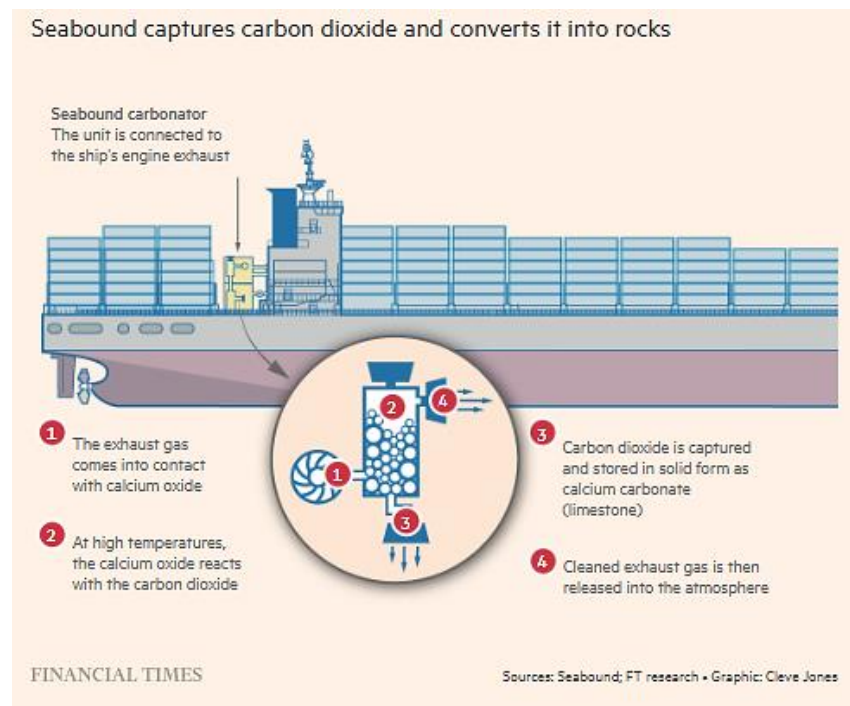
Greece, which controls around a fifth of the global merchant fleet by tonnage, was among the countries to fall into line with the US and Saudi Arabia in the rearguard action against the IMO's net zero plans.

Their shipowners argue that even if all the present supply of green hydrogen, ammonia and methanol went into shipping, it would still only cover a tiny fraction of the industry's needs. China, which rivals Greece as the biggest shipowner, has been more supportive at the IMO, as it would bolster the country's burgeoning green fuels industry. Denmark's Maersk, one of the world's largest container shipping lines, also put an early bet on methanol and operates the world's first methanol-powered vessel. In the past two years, however, it has diversified its order book to include vessels run on liquefied natural gas.

A few shipowners are looking at less conventional options to allow them to run on fossil fuels for longer. Container lines such as Hapag-Lloyd have explored technology from Seabound, a start-up that uses pebbles to absorb carbon dioxide emissions from ships and turn them into limestone.

Scientists have voiced scepticism that carbon capture will be either economic or feasible. But Alisha Fredriksson, Seabound's founder, who previously worked for an e-methanol company, argues that dual-fuel vessels may not be able to readily source greener options and may turn to carbon capture methods.

Other shipowners have turned to more time-tested methods: the global fleet of wind-powered cargo ships, for example, passed 100 this month. There has also been a notable increase in enthusiasm for nuclear propulsion — a technology long used in military submarines but little used in commercial shipping except for Russian icebreakers. The US is pushing the technology as a way to invigorate its shipbuilding industry

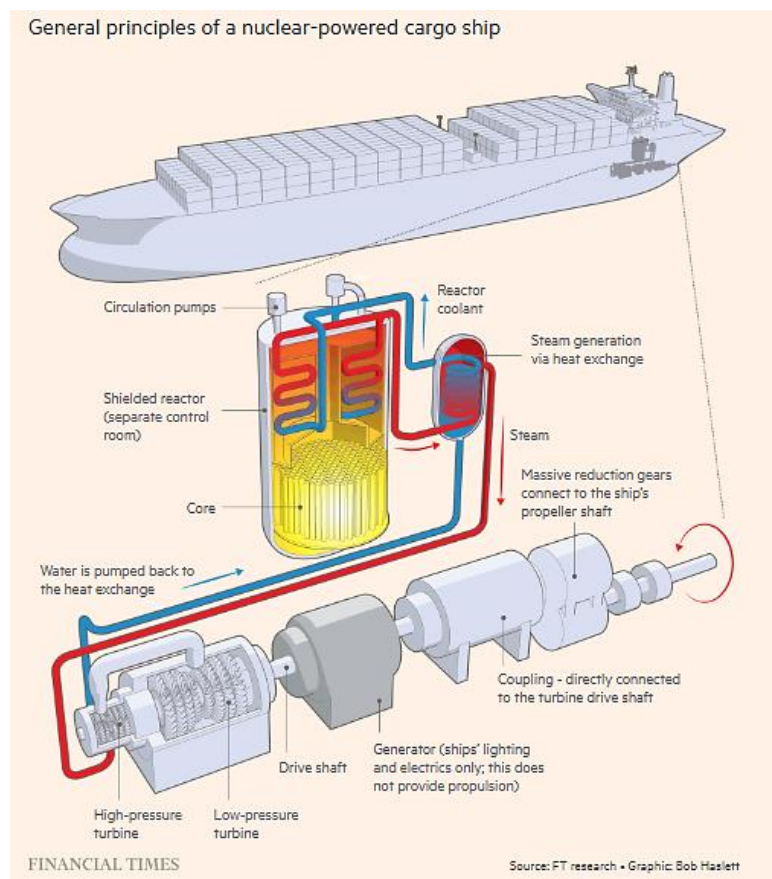


and redeploy its nuclear expertise. The American Bureau of Shipping in June approved the design of a nuclear-propelled vessel by the Maritime Consortium of US university MIT.

“China gets a more and more prominent role in shipbuilding . . . because they’re the ones that can make the cheapest ships [but] if we’re going to revitalise the maritime industries in Europe, in Britain, in the US, we need a technological catalyst,” said Mikal Bøe, chief executive of Core Power, which is developing a nuclear-propelled fleet.

One benefit of nuclear power was that ships could run without the need to refuel potentially for decades, Bøe said. Less concern over fuel consumption and pollution could also mean sailing at faster speeds. Themis Sapsis, professor of mechanical and ocean engineering at the MIT consortium, said one of the biggest issues was reactor safety. The MIT design does not use a highly pressurised system, reducing the chance of an explosion on board and allowing lower uranium enrichment levels.

Despite the advances, nuclear power still comes with some big hurdles, said Peter Jameson, managing director at BCG. “One is cost — nuclear is expensive, and despite reducing costs, it can only be considered for certain vessel types and activities,” he said. “The other is a challenging regulatory environment. Trying to get a local agreement to put a nuclear power reactor in a harbour next to 10mn people will be a challenge.”



At around \$500-\$600 a tonne, Bøe said nuclear could compete on price with traditional fuels. But nuclear-powered ships are not expected to hit the water until the 2030s at the earliest, executives say. Not all

shipowners have given up on cost-effective, cleaner shipping fuels. CMB Tech boss Saverys believes that ammonia still has the potential to be the cheapest of all alternatives. “Costs are going down very fast,” he said.

CMB Tech has invested in its own ammonia fuel terminal in Namibia and has 12 ammonia-powered ships being built. The first will be launched later this year. “In shipping, pioneers have traditionally carried the greatest risks — sinking ships, diseases, cannibals — while the early followers got the riches and the paradise,” Saverys said. “That is why our industry has not always embraced being first. We are taking a pragmatic approach to show that pioneering can create a real head start, especially in a world that is moving much faster than it did 600 years ago.”