

Northern Seas

An area rich in oil and gas

In practice, the Northern Sea Route constitutes the only possible transportation link for oil and gas and oil transport from the Arctic ports of northeast Russia, which now amount to nearly 10 million tonnes per year. The Northern Sea route carries the largest volume of traffic of any Arctic seaway but the shallowness of water between Novaya Zemlja to the Bering Strait means that vessels are relatively small at 20,000dwt. But the volume of these transports is expected to grow to 65-100 million tonnes over the coming decade, while, possibly due to the effects of global warming, the northwest passage could be opened up to shipping within the same time frame.

According to the Finnish ministry of trade and industry, gas reserves in the Arctic constitute a future energy source that can be economically and technically exploited thanks to the development of gas liquefying technologies.

Indeed, the shipment of LNG is expected to increase from the present 170 billion cubic metres to 550 billion cubic metres in 2020. It is estimated that in 2020, about 20 million tonnes of LNG will be transported from the Arctic gas fields of Russia to the US. But transportation of such a large volume of gas, for instance from the Yamal

Peninsula, requires about 20 new LNG tankers with icebreaking capacities.

The Finnish ministry considers co-ordination of the requirements the most important aspect of oil and gas transportation in Arctic regions, with ship speed and reliability being of particular importance. The speed of a vessel in a convoy led by an icebreaker is only five to eight knots, while the objective of LNGC operators is a speed of about 20



By 2020, about 20 million tonnes of LNG could be transported out of the Russian Arctic to US terminals.

knots. In addition to low speed, time is often being wasted on waiting for icebreaker assistance.

Yet the dynamics of ship operation in these most challenging of environments is changing - ice-going vessels are increasing in size and new players are entering a market hitherto the domain of specialist ship operators. There is also a dire shortage of competent crews trained in Arctic ship operation.

Presently, the number of ships built according to ice-class standards is 262 (4.2 million dwt) with the vast majority of which, nearly 80%, under 20,000dwt. Yet the fleet is set to double in both number and size over the next decade. ■