

# WILL COVID CRIMP LNG AS BUNKER FUEL?

**Joanna Martin Ziegenfuss and Shiyana Gunasekara, BRG Energy & Climate Practice, USA**, analyse the LNG bunkering market, addressing changes in growth and demand as a result of the global pandemic.

**T**he market consequences of the COVID-19 pandemic have stymied global bunkering demand, knocking down the ambitious ten-fold growth of LNG bunkering in the next five years. However, it will rise again, driven by an increasing global focus on green policies driving the energy transition – it will just take longer than five years.

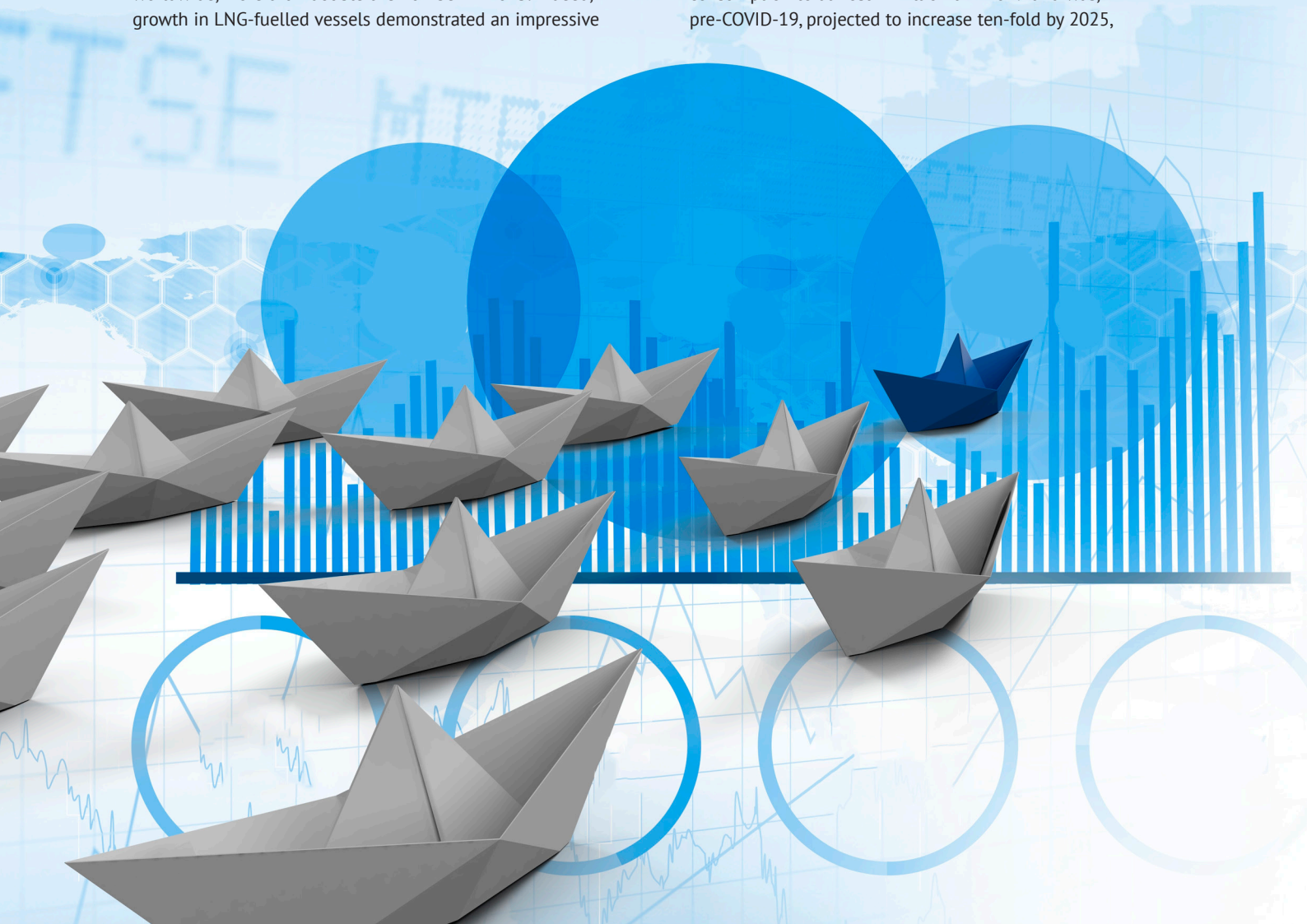
## **LNG bunkering's anticipated growth**

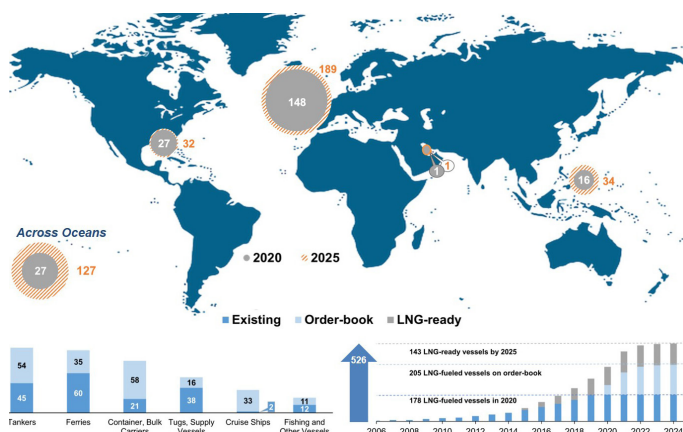
By the end of the 1Q20, 178 LNG-fuelled ships were registered worldwide, more than double the number in 2015. Indeed, growth in LNG-fuelled vessels demonstrated an impressive

CAGR of approximately 26% from 2012 to 2020. Based on ships in the order books, the fleet is anticipated to more than double, reaching 383 ships by 2025 (including LNG-ready ships, the figure is as high as 526), according to DNV GL.

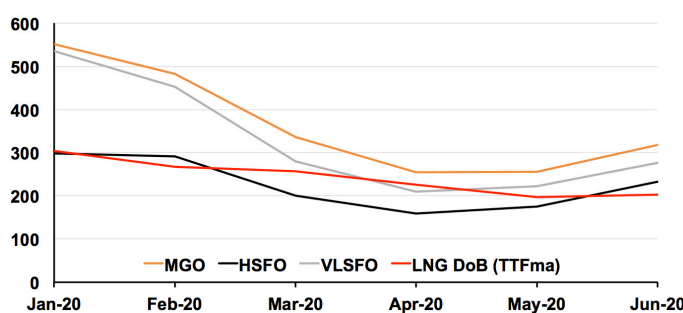
This growth is driven mostly by cargo/container ships, tankers, cruise ships and ferries, with the majority underway in European waters, and a growing number of them sailing in Asia and across oceans.

The growth in LNG-fuelled ships drove LNG bunkering consumption to almost 1 million t in 2019 and was, pre-COVID-19, projected to increase ten-fold by 2025,





**Figure 1. Number of LNG-fuelled vessels by primary trading region in 2020 and 2025.** Source: DNV GL data May 2020, BRG analysis.



**Figure 2. Rotterdam bunker fuel prices (US\$/million t), January 2020 - June 2020.** Source: BRG analysis.

according to Total. This anticipated growth is driven mainly by compliance to the current IMO 2020 specification which prohibits ships from using a fuel with a sulfur content higher than 0.5%; and favourable price spreads between LNG bunkering and oil-derived bunkering fuels. LNG bunker fuel adoption is also facilitated by technology improvements in ship engines and fuel storage, as well as rapid global development of LNG bunkering infrastructure rendering the LNG adoption 'chicken-and-egg' dilemma an issue of the past.

Today, LNG bunkering is available in 93 ports globally, in contrast to 15 ports four years ago, and an additional 54 ports are in the process of developing LNG bunkering facilities. This represents a significant growth which, had it not been for COVID-19, may well have led to 10 million t of LNG bunkering consumption by 2025. However, considering the impact of the pandemic and subsequent global market conditions, a ten-fold increase in LNG bunker demand in the next five years now seems like a unicorn.

## COVID-19 upends the bunker fuel market

At the onset of the IMO 2020's 0.5% sulfur limit, the bunkering market anticipated a shift away from high sulfur fuel oil (HSFO) towards marine gasoil (MGO). MGO, which is readily available, generally meets the IMO 2020 specification. In contrast, very low sulfur fuel oil (VLSFO), which is solely produced for the bunkering market as a response to IMO 2020, stands in relatively limited supply.

However, as COVID-19 spread globally and crude oil prices collapsed, VLSFO emerged as a dark horse.

The deceleration of economic growth drove a dramatic decline in crude consumption. This put further pressure on crude and petroleum product prices that were already hurting from existing crude surpluses. MGO prices did not contract as much as VLSFO; MGO has a more diverse use than VLSFO. Supply of VLSFO turned out to be more readily available than anticipated, and as its price became significantly more attractive than MGO, its consumption increased. The spread between MGO and VLSFO in June widened to US\$40/t from US\$15/t in January.

In an unexpected twist, the pandemic eased the task of achieving IMO compliance by way of significantly lower costs for low-sulfur marine fuels.

Concurrent to the crash in crude prices, LNG prices across the world collapsed. This originated with the gradual market oversupply from the 2019 wave of new LNG supply to the market and subsequent economic softening in Asia – LNG's biggest demand market. LNG oversupply woes were compounded by significant reductions in power and industrial gas demand subsequent to COVID-19 and, in turn, significantly depressed LNG prices. The spread between MGO and LNG bunker delivered onboard (DoB) significantly contracted in April to US\$36/t, vs US\$215/t at the beginning of the year.

While the pre-COVID spread might have elicited greater interest in LNG, continued weak oil prices will maintain the competitive advantage for VLSFO and MGO. VLSFO consumption in the short-term will remain high until crude prices firm at a level that sustains the economics of installing a scrubber and switching back to HSFO or considering LNG as a fuel.

## LNG bunkering demand deceleration

### LNG-fuelled ships in operation

Low LNG prices will reduce operating costs, and now may be a favourable time to lock-in LNG bunkering contracts as the global LNG market is projected to tighten, sooner than anticipated pre-COVID-19.

This is driven by the current ultra-low LNG prices, which, alongside the end of COVID-19 related lockdowns, are gradually driving up demand for LNG for power generation. While concurrently, the delay of several anticipated 2020-FIDs from LNG liquefaction projects worldwide (equivalent to 53% of total existing global liquefaction capacity) combined with ongoing project construction delays, are causing a deceleration in the new supply that is otherwise expected to come to market over the coming years. As such, as LNG demand bounces back in the next couple of years, supply will be lagging, which will drive up prices.

The steep downturn in shipping trade will reduce shipping companies' revenue in the short to medium term. The recovery is expected to be slow with minimal growth, resulting in the destruction of freight demand. LNG uptake from existing ships will depend on the speed of recovery of the specific sector they service. At the end of 1Q20, 9.4% of AP Moller-Maersk's total fleet capacity was idle; the firm's highest level of idled fleet capacity in more than 10 years. AP Moller-Maersk anticipates the same level of utilisation in 2Q20, and global bunker demand is anticipated to fall by 8% y/y in the 2Q20.

## LNG-fuelled ships in construction

Construction in shipyards has been delayed as the labour force and equipment supply chain have been disrupted. Some delays are more serious than others, depending on the shipyard's relative location to a COVID-19 hotspot. As a consequence, China's shipbuilding y/y output fell by 27.3% in 1Q20. As lockdowns end, shipyards will resume activity and, barring a second wave of the COVID-19 pandemic, the delays may not necessarily significantly affect the anticipated launch date of ships. In the worst-case scenario, some owners may seek to cancel orders.

## LNG-fuelled ships in the pre-financial investment decision phase

Economic recovery and higher fleet utilisation will be necessary to justify the cost of switching to LNG technology and gain investment interest. FIDs for LNG-fuelled ships are likely to be delayed until the fog clears on the post-COVID-19 economic recovery. Instead, thinly capitalised shippers will focus on cost-cutting for survival and less on long-term investment and environmental considerations. This means, in the short to medium term, fleet replacement with LNG-fuelled ships will likely be delayed or cancelled, or ship owners may shift their procurement to HFO-fuelled ships and scrubbers.

## The decarbonisation imperative

The transition to cleaner marine fuels may have lost wind in its sails due to the pandemic, but the drivers have not waned and will gather strength as the economy recovers. The IMO has a mandate to push the decarbonisation of the

shipping industry. It has already established emission control areas (ECA) with a stricter limit of 0.1% sulfur in the Baltic Sea, the North Sea, the North American coast, and the US Caribbean Sea area, and is planning to establish an ECA in the Mediterranean by 2024. By 2050, it is targeting reductions in the shipping sector's overall CO<sub>2</sub> output by 50%.

A growing number of banks are signing up to the Poseidon Principles, which provide a framework for integrating climate considerations into lending decisions to promote international shipping's decarbonisation. Concurrently, governments and corporations around the world, in an effort to meet the Paris Agreement and stimulate job growth, are setting carbon reduction policies and net zero carbon targets in their operations and supply chains.

With a strong global transition impetus to cleaner fuels, LNG-fuelled ships, which currently represent less than 1% of the global fleet, will bounce back but will also face growing competition from clean alternatives such as fuel cell technology, lithium-ion battery, methanol, ammonia, and hydrogen, all of which are developing with continuously declining levelised costs of energy.

As such, LNG bunkering volumes will increase in the long run, but a ten-fold increase from 2019 volumes will take longer than five years. [LNG](#)

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