

Introduction

After a long time of discussing the development of the LNG bunkering infrastructure, we are now seeing the pieces of that jigsaw puzzle start to fit together. We've had three LNGBVs join the global fleet so far this year. Expansion of the fleet will quickly see it double in size in the next few years. The general growth in the LNG fuelled vessel sector is set to significantly increase across all ship types from tankers to container vessels to cruise ships.

The current fleet of LNGBVs currently stands at 13 operating vessels (of which two are barges). As outlined in the map below, Northern and Southern Europe have the majority of the current LNGBV fleet. However, the fleet will expand particularly in Asia, where a number of vessels will be delivered in the near-future.

LNGBV Market Developments

The LNGBV fleet dates back to the *Seagas* (167cbm), which was a specially converted ferry designed to bunker Viking Lines new cruise ferry *Viking Grace* when it was delivered in 2012. The cruise ferry operates between Stockholm (Sweden) and Turku (Finland) and operates on LNG.

Location of Current Operating LNGBVs



The next pair of vessels were multi-fuel bunker vessels. The first was the *Oizmendi* (600cbm). It had LNG storage tanks installed on the deck. The vessel was re-delivered in early-2018 and undertook its first ship-to-ship bunkering operation on the cement carrier *Ireland*. A total of 90 cbm of LNG was transferred. This bunkering took place in Bilbao. The *Oizmendi* is currently based at Huelva.

The next vessels was the *Bunker Breeze* (4,000cbm), which was delivered towards the end of 2018. This vessel is based in the Algeciras/Bay of Gibraltar area. The vessel bunkers the growing LNG fuelled ferry fleet of Balearia.

Titan LNG received its first LNG bunkering barge in mid-2019, the *FlexFueller001* (1,500 cbm). The barge operates in the waterways around Rotterdam. The barge is able to bunker whilst vessels are undertaking cargo operations.

The *Clean Jacksonville* bunker barge, is a push barge of 2,200 cbm and the first LNGBV in North America when it was delivered in 2018. It serves the TOTE Marlin Class container vessels and other LNG powered vessels in the Port of Jacksonville, FL.

LNBVs in 2020

The world largest LNGBV, *Gas Agility* (18,600 cbm) was delivered in September to the Marseille-Fos. The vessel was constructed by Hudong Zhonghua Shipbuilding in China. Its main bunkering activity will be for the CMA CGM ultra-large LNG-powered containerships that are currently under construction in China. It will also bunker other vessels in the wider Mediterranean region as this sector develops.

In Mid-October, Avenir LNG took delivery of the *Avenir Advantage* (7,350 cbm) from the Nantong Shipyard in China. The vessel will be chartered on a three-year contract to Petronas in Malaysia, becoming the first dedicated LNGBV in South East Asia. She will supply LNG to ships operating in the region and deliver LNG to Petronas small-scale customers. Avenir is currently building a fleet of six LNGBV of between 7,500 – 20,000 cbm.

The latest LNGBV is Japan's first LNGBV, the *Kaguya* (3,500 cbm). On 20th October it undertook its first bunkering operation of fuelling the newbuild *Sukura Leader*, a PCTC, which is scheduled to be delivered in late-October. The *Kaguya* is operated by Central LNG Marine Fuel Japan Corporation, which is a JV between NYK, KKK, JERA and Toyota. The vessel will be based at the Kawagoe Thermal Power Station.

Future LNGBV Fleet

Increased interest in LNG as a fuel for the shipping sector has led to a subsequent rise in demand for LNGBVs. This has resulted in around 30 vessels that are either under order, planned or under consideration. In addition, there are 14 vessels that have confirmed IMO numbers, meaning that these vessels are either in the process of, or will soon commence construction.

The size range of vessels within the orderbook spans from 850 cbm – 20,000 cbm and with scheduled delivery dates through to 2023. Avenir LNG and Titan LNG each have several vessels on order, with Q-LNG, DEPA, and CNOOC also having pairs of vessels on order.

The LNGBV fleet is a growing sector which will enable LNG to play an increasingly larger part in the future fuel of the shipping market.

Gibson provides a wide range of consulting and research services in the LNG and LNGBV sector. For more information please contact: research@eagibson.co.uk

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