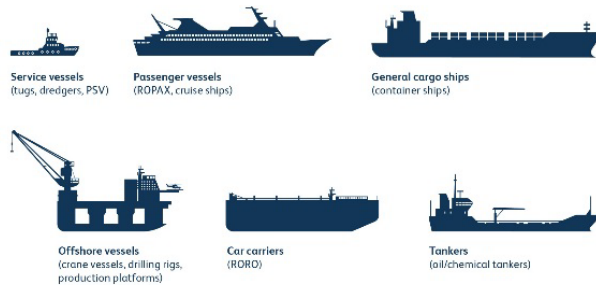

ADVANCING LNG FOR CLEANER MARINE

METI LNG Producer-Consumer Conference
Denis Bonhomme, ENGIE Global LNG
18 October 2017

Powered by:   

GAS4SEA
ADVANCING LNG FOR CLEANER MARINE

Where we are today with LNG as a marine fuel

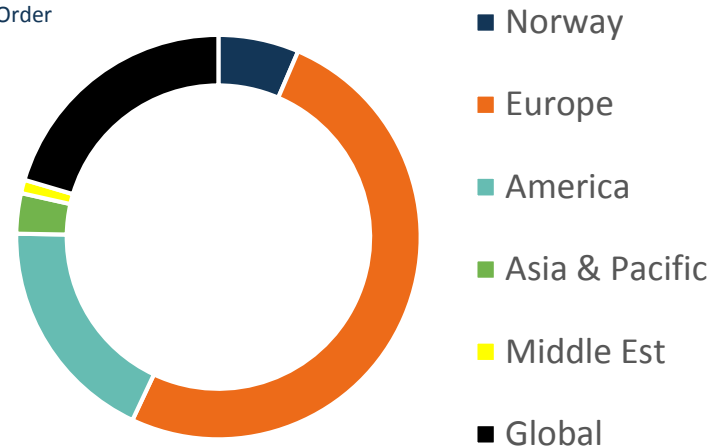


- 99 LNG-fuelled vessels in operation and 96 on order⁽¹⁾
- Various kinds of ships are being ordered
- 5 bunkering vessels under construction for Northern Europe
- Dedicated small scale jetties for loading bunkering vessels are being considered at LNG terminals

LNG fuelled vessels in operation



Confirmed Order



(1) Source : DNV-GL January 2017, excl. LNG carriers and inland waterway vessels

Currently, most of LNG fuelled ships are located in Norway, the tendency being a strong rebalance towards the rest of Europe and North America

A global LNG activity associated with a shipping expertise



- Global energy player
- 16.4 mtpa LNG portfolio, sourced from 6 countries
- 1st European LNG importer



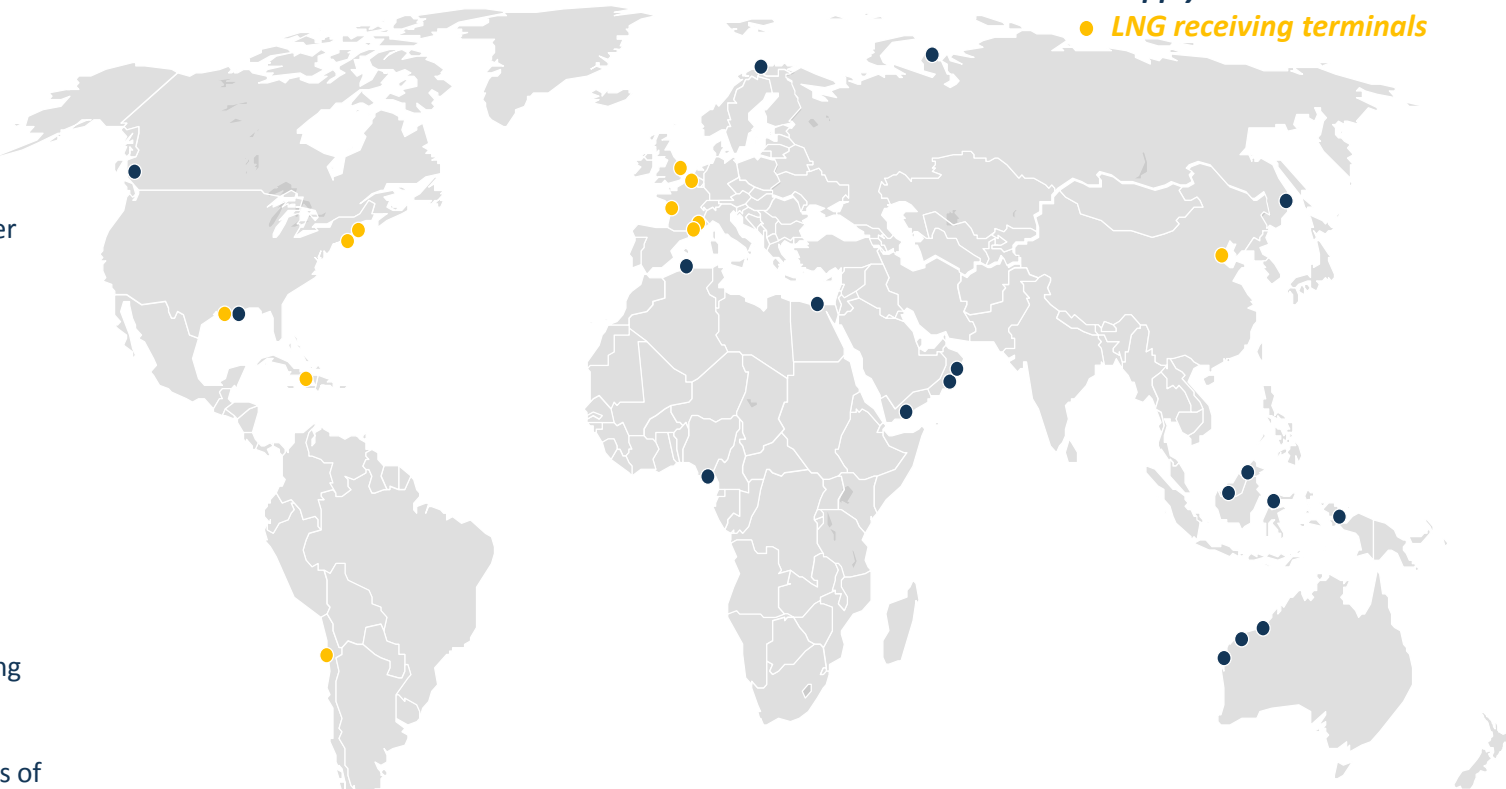
- Global integrated business enterprise
- 7.4 mtpa LNG portfolio, sourced from 6 countries
- 1st LNG importer in Japan



- Global logistic and shipping company
- Fleet of around 900 ships
- One of the biggest owners of LNG fleet with 69 LNG tankers (including joint owning)

ENGIE + Mitsubishi Corporation portfolios :

- *Supply sources*
- *LNG receiving terminals*



A partnership for the development of LNG as a marine fuel



May 2017: Petronas, MISC, & GAS4SEA Partners to promote LNG as the preferred marine fuel

From February 2017: delivery of the LBV and start of ship to ship operations in the port of Zeebrugge (Belgium)

September 2016: launching of Gas4Sea global brand



LBV under construction in HHIC (Korea)

June 2014: Order of the first purpose built LNG Bunkering Vessel (LBV) of 5,000cm capacity with Hanjin Heavy Industries & Construction Co. Ltd. (Korea)

October 2015: Fluxys acquires 25% in our first LNG Bunkering Vessel

2014: Signature of a “Framework Agreement” between ENGIE, Mitsubishi Corporation and NYK Line for LNG Bunker Supply Business Development

Oct 2017: GAS4SEA selected by Statoil for LNG Bunkering in Rotterdam



ENGIE ZEEBRUGGE

Delivered in February 2017

Yard : **Hanjin Heavy Industries & Construction Co.**

Port of Registry: Zeebrugge

Flag : Belgium

Classification society: **Bureau Veritas**



- 2 IMO type C LNG tanks for a total capacity of 5,100 m³
- Max bunkering rate is 600 m³/h
- 2 sets of manifolds (mid and fore parts)

... with UECC as a launching customer



A global market with different drivers

