



# **New opportunities for gas through Small Scale LNG**

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# Who we are

- GLE is one of the three columns of GIE (Gas Infrastructure Europe), the European association of the Transmission, Storage and LNG Terminal Operators



## GLE membership:

- 14 member companies
- 9 countries
- 1 observer



## 1. Breaking Bulk

- Distribution from EU main import terminals to smaller regional and local regassification terminals
- Smaller vessels or trucks can supply gas to small markets not connected to gas networks



## 2. LNG as a fuel for heavy transport

- Trucking, rail, shipping, buses
- Key driver: stringent regulations e.g. SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub>



- Excellent safety record, experience of more than 40 years in LNG operations
- Small Scale LNG technology is proven
  - Ferries in the Baltic Sea
  - Small cities supplied by LNG trucks in Spain
  - LNG heavy-duty trucks in Europe, US and China
  - LNG locomotives in US and Japan

- Regulations regarding NOx, SOx and particle matter get more stringent. After 2015 ferries in the North and Baltic Sea will not be able to run on heavy fuel oil.
- Environmental performance of LNG is superior compared to other bunker fuels.
- Although technology is available, most LNG terminals are not yet equipped to facilitate bunker fuel retail.

GLE underlines the use of Small Scale LNG as a key solution to a cleaner transport sector



# Getting on the agenda

- Small Scale LNG rapidly rising on the agenda of policy makers and businesses
- Many tangible examples around

## Some examples of proven LNG applications



LNG powered offshore supply vessel, Norway



LNG powered vessel design (source: DNV)



Locomotive converted to LNG, US



LNG trailer 50 m<sup>3</sup>, China



LNG bus, Poland



LNG truck, Netherlands

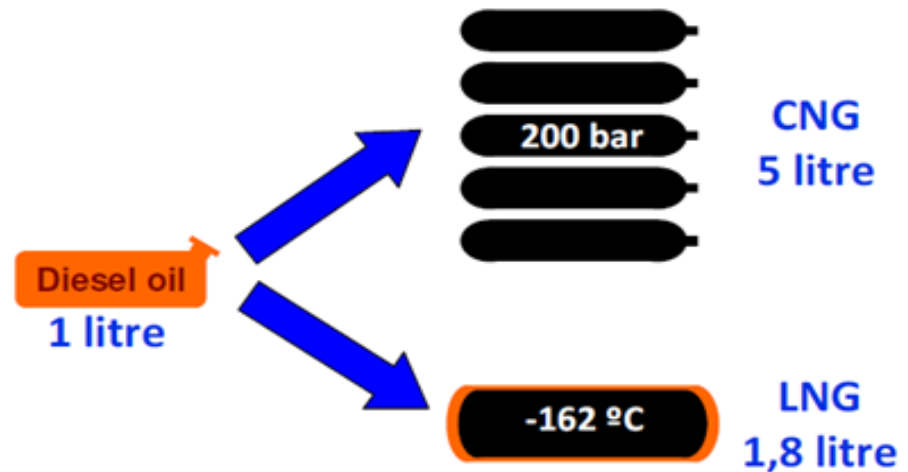


NG and LNG station, US

Source: IGI/NGVA Europe/DNV

- Higher energy density of LNG compared to CNG
- LNG prices becoming more competitive compared to conventional bunker fuels
- Potential demand as a bunker fuel is substantial

## Energy equivalence: Diesel / CNG / LNG



Source: NGVA Europe



# Environmental benefits

- Superior environmental performance of LNG as a shipping fuel compared to other bunker fuels: less SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub> and particle emissions
- Stringent emissions regulations in the North Sea and Baltic Sea. Designation of additional Sulphur Emission Controlled Areas (SECAs) under consideration by the European Commission



Present and under study ECA zones

Source: IMO/DNV

- Existing legislative framework does not take into account the benefits of Small Scale LNG
- Current fiscal treatment of LNG does not take account of the superior environmental benefits of LNG
- Need for safety regulation for the development of Small Scale LNG

# What is needed?

- The Commission strongly supports “green shipping” and development of adequate green infrastructure
- In the ‘2011 Roadmap to a Single European Transport Area’, the Commission considers to adopt medium to long term measures to foster sustainable shipping
- The Commission analyses potential specific EU actions to promote the use of alternative fuels

An adequate regulatory framework is needed

1. Use of LNG as a fuel offers an excellent opportunity for improving the environmental footprint. It will be key in meeting strict environmental requirements for the transport sector.
2. An adequate Small Scale LNG infrastructure will improve security of supply and market functioning of the EU
3. Securing these opportunities will require a regulatory framework that recognizes these benefits
4. GLE is excited about the opportunities of Small Scale LNG and will play its part in promoting its further development



**Thank you for your attention**