



GASVESSEL Project

PIERLUIGI BUSETTO
Lead Naval Architect
NAVALPROGETTI S.r.l
Trieste - Italy

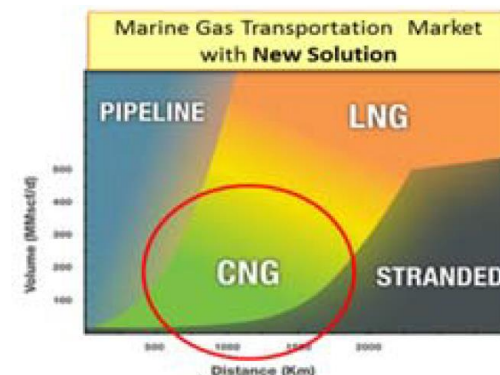
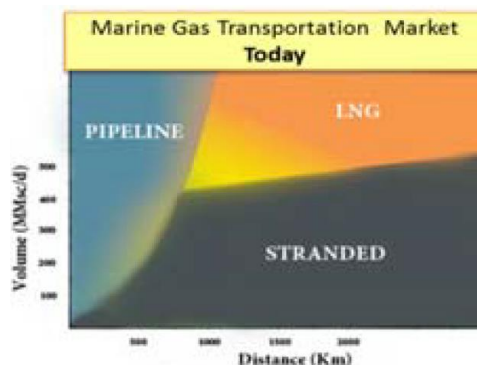
GASVESSEL



Preamble

- EU dependency on imported Gas in 2014 was 70% (40% by one single supplier)
- Removing barriers to cost-effective transport will reduce the dependency from external sources
- EU consumption of Natural gas is increasing

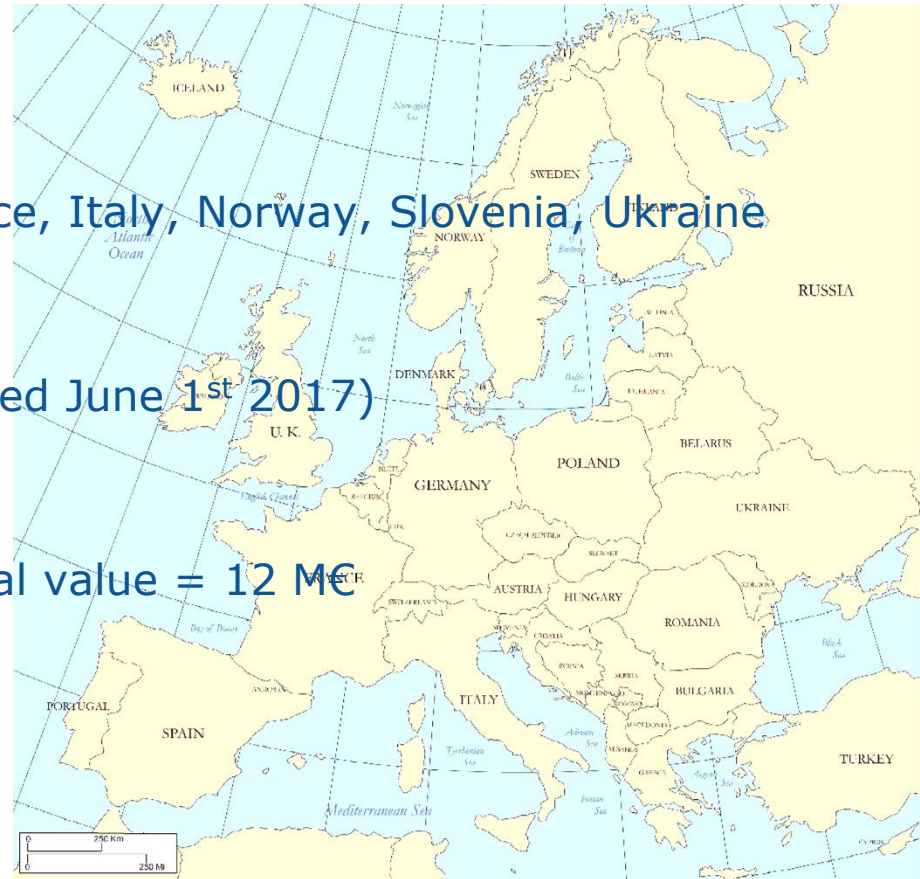
- There are huge amounts of stranded gas and associated gas which is not used or wasted (flared)



- GASVESSEL Project concerns the development of a novel method for waterborne/land transportation and distribution of natural gas
Patented concept of CNG (Compressed Natural Gas) Pressure Vessel – 300 bar
New conceptual ship design

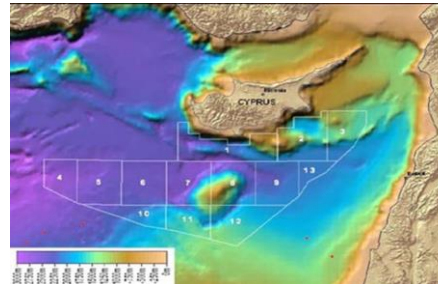
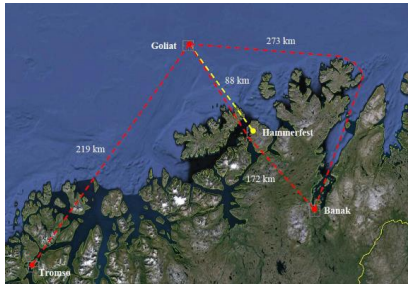
General Info

- CONSORTIUM formed by 13 Partner Companies
- 8 Countries represented:
Belgium, Cyprus , Germany, Greece, Italy, Norway, Slovenia, Ukraine
- Project duration: 48 months (started June 1st 2017)
- EU contribution = Project's financial value = 12 M€

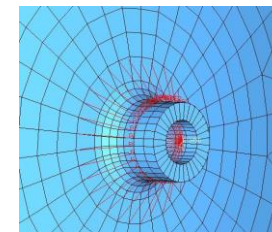
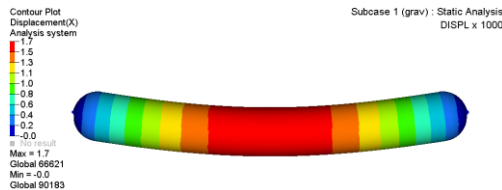


Project development 1/3

- Analysis of 3 real-life geo-economical gas exploitation scenarios (East Mediterranean, Goliat Barents Sea, Black Sea)



- Design of Pressure Vessels (PATENTED+ABS AIP ultra-thin stainless steel+carbon/glass fibers Cylinder 300 bar (70% lighter than any other previous technology) + optimization process



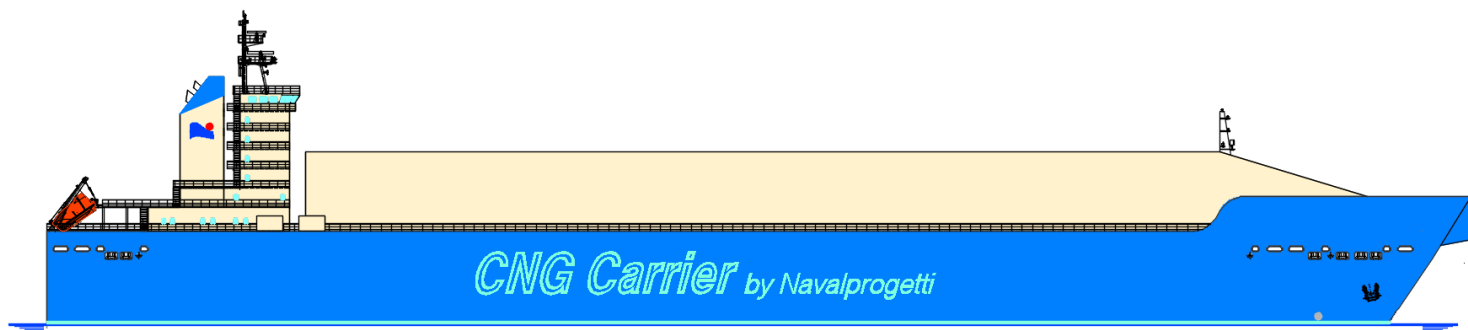
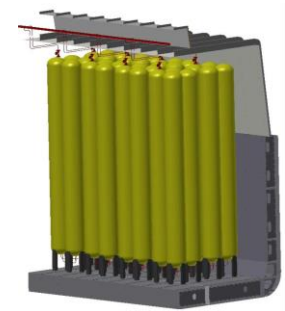
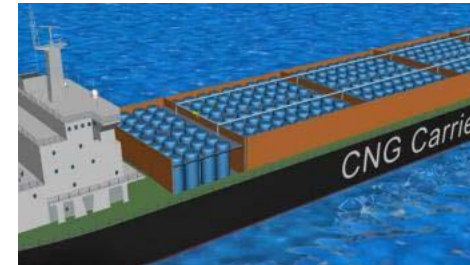
- Pre-industrial Prototyping Pressure Vessels (custom built/self designed facilities in Italy, L= 11.5m, diameter 2.5 m)





Project development 2/3

- CNG Ship Design + Optimization process



Project development 3/3

- Environmental assessment and safety assessment)

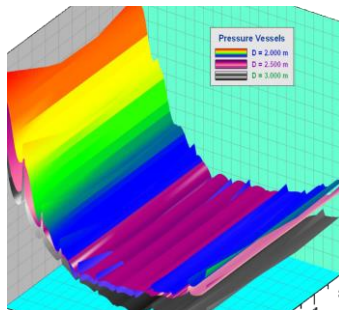
Assessment of Life-cycle inventory (economic and environmental flows) will be performed

Reductions of emissions vs new emissions vs non-exploitation of the identified stranded and associated gas

MARINTEK

- Costs - Benefits Analysis

Target is to define optimal composition of a fleet in terms of number of ships, their size and optimal service speed in order to minimize the transportation tariff.

 Hanseatic Lloyd

- Class design review - Safety Assessments

Support on the development of a safe and efficient design

Surveyors will attend the construction and the testing of the cylinders for certification.





Achievements

- Introduction of CNG transport at lower competitive costs
- The GASVESSEL solution in fact can be perceived as a 'gas ferry' concept where ships will sail back and forth between the offshore supply site and the harbour site making the concept a stable gas supply solution.
- Secure and affordable energy supply for Central and South East Europe (Southern Gas Corridor)
- Europe will be less dependent on gas import
- Project will make it possible to supply natural gas to places where natural gas is not yet a part of the energy supply e.g. where large investment in regassifiers are not feasible or done (yet) such as the Mediterranean Islands



...after the project

- GASVESSEL concept is expected to open-up important business opportunities for European industry from shipbuilding, shipping, pressure vessels manufacturers, epoxy resin and carbon fiber manufacturers as well as oil and gas and energy production companies
- Perspective of initially 1 – 2 fully operational CNG ships by 2025
- GASVESSEL project will make the actual flaring of associated gas economically unattractive by delivering a commercially sustainable alternative to transport and utilize this gas
- Continued substitution of coal by natural gas would help to further reduce air pollution, providing immediate public health and environmental benefits
- Extensive dissemination and exploitation plan



Thanks for Your Attention

*Pierluigi Busetto, pierluigi.busetto@navalprogetti.net
Trieste – Italy / Phone +39 040 21 29 18
www.navalprogetti.net*

For info:

*gasvessel@navalprogetti.net
www.gasvessel.eu – under development*

*[#EUTransportResearch](#) , [#InvestEU](#) ,
[#H2020Transport](#), [#GASVESSEL](#)*

