

LNG IN TRANSPORTATION

(October 2014)



WHAT ARE THE PROSPECTS FOR LNG AS A FUEL?

Market Drivers / Perspectives / Existing and Planned Infrastructure

LNG as a potential transport fuel, especially in shipping and trucking, is attracting considerable interest. This is mainly a reflection of the price advantage of LNG over oil based fuels, especially in the US where the shale gas revolution has driven gas prices to record lows. In the marine sector, the reinforcement of emissions regulations will force ship-owners to move to less polluting fuels or technology and LNG has a number of advantages over other compliance solutions. However, the development of LNG as a transport fuel faces a number of challenges and will have to go hand in hand with the development of fuelling infrastructure.

MAIN FINDINGS

LNG as a fuel will capture a significant market share in the transport sector by 2035

The greatest potential is seen in road transport, where annual demand is projected to reach 96 million tons per year (mtpa) in 2035 in CEDIGAZ' base scenario while demand in the marine sector could grow to an estimated 77 mtpa. The rail sector could add another 6 mtpa to global demand.

Fuel cost differentials will drive the growth in trucking sector

Use of LNG in land transport will be largely limited to heavy duty vehicles (HDV) and will essentially be driven by the difference between the price of diesel and that of LNG. In contrast with the marine sector, environmental legislation is unlikely to play a major role. However, the cost advantage of LNG relative to diesel currently provides a strong economic incentive in the trucking industry. With the world's largest inland goods transport market and an already well developed LNG supply infrastructure, China has a huge potential and should represent almost half of the global market in 2035. LNG should also carve out a significant market share in the US, Europe and the rest of Asia.

Environmental legislation will be key in the marine sector

There is little doubt that the use of LNG as a fuel will grow in the marine sector, though the rate and pace of growth will be highly dependent on the timing and geographical scope of emissions restrictions set out in the MARPOL treaty. Compliance with the new emissions limits will require either: to switch to cleaner but more expensive oil-based fuels, to implement costly flue gas treatment technologies, or to switch to LNG. Economic analysis taking into account all relevant factors shows LNG to be a very attractive solution when compared to other compliance solutions,

LNG in rail could play a role in a small number of countries

Rail has a relatively low share of energy consumption in the transport sector. In addition, the potential for LNG in the rail sector is likely to be most evident in countries with high levels of long haul freight and low level of penetration of electric powered traction in the freight sector, conditions found in relatively few countries.

STRUCTURE OF THE REPORT

The report is divided into three parts. **Part One** provides a detailed overview of the technology for utilising LNG as a transport fuel in each sector, and considers the key economic and environmental drivers for the adoption of LNG as a transport fuel. **Part Two** builds on this foundation to analyse the potential growth of LNG in transportation over the period 2014 to 2035, and **Part Three** provides detailed data and analysis on key markets for LNG in transportation.



PRICE

Report price (PDF format):

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THE AUTHORS

Chris Le Fevre has worked in the energy sector for over 30 years including a variety of positions to executive director level in Transco and British Gas. Before that he worked for Shell International in the Netherlands and Malaysia. Since 2002 Chris has run a successful independent energy consulting business serving a range of clients throughout Europe covering a wide range of natural gas issues. He has served on the board of the Northern Ireland Utility Regulator and is a Senior Visiting Research Fellow at the Oxford Institute for Energy Studies. In this latter role he has published research papers on gas storage and the prospect for natural gas in transportation in Europe.

Mike Madden is the Managing Director of MJMEnergy, an international expert in gas, LNG infrastructure and energy markets. As a chartered engineer with over thirty-three years' operational and commercial experience, bringing a unique blend of technical and commercial experience to clients and this report in particular. He started his career at British Gas (BG) in gas transmission operations before moving to BG's Gas Transportation Services. Mike founded MJMEnergy in 1995, which has been involved in providing consultancy and training services to the world's energy markets in over 40 countries. In particular Mike has provided consultancy on gas market liberalization and restructuring, gas storage, transmission, network codes, LNG imports and TUAs.

Nick White is Principal Consultant at MJMEnergy. Key areas of expertise include energy market liberalisation, energy trading, LNG, gas storage, regulation, and third party access to infrastructure. Nick currently heads up MJMEnergy's training business, where he is Course Director on the LNG Economics and Markets course. Nick is the editor of MJMEnergy's LNG Today report, and is co-author of a number of other energy market reports, including Liberalising Gas Markets in Europe, Convergence in the Global Gas and Power Industry, and the Long-term Capacity Auctions.

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CONTACT US

Contact: info@cedigaz.org
+33 1 47 52 67 20
Website: www.cedigaz.org

CEDIGAZ

1 et 4 Avenue de Bois-Préau
92852 Rueil Malmaison - France

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