



6th Gasfuelled ships 2015 CONFERENCE

10-12 November 2015

Grand Elysee Hotel, Hamburg, Germany



CONFERENCE PROGRAMME

Gas as a maritime fuel for ECA compliance in 2015 and beyond

The 6th Gas Fuelled Ships Conference will address the use of LNG as a maritime fuel and introduce comparisons with other up and coming gas fuel options including Ethanol and Methanol. Presentations on fuel availability, cost, design implications, supply infrastructure, technology and operator feedback plus roundtable discussions will form part of the two day programme ensuring that information and knowledge sharing is at a maximum. The operator panel on ECA implementation and compliance will give attendees a valuable insight into how major operators such as Hapag Lloyd, Maersk Maritime Technology, Stena and Nordic Hamburg Shipmanagement are addressing the next deadline in 2020. Day three includes technical visits to the Methanol fuelled Stena Germanica ferry and the Becker Marine/AIDA Cruises' LNG hybrid barge.

Members of BIMCO, VDR and ship operators qualify for special rates, contact the organisers for details

SPONSORED BY:



www.motorship.com/gfconference



Who should attend:

The Motorship Gas Fuelled Ships Conference is aimed at industry professionals who are looking to gain valuable information on using LNG as a maritime fuel, including ship owners and operators, policy makers, engine manufacturers, LNG carriers, LNG suppliers, ship builders, classification societies, ship designers, ship yards and port & terminal operators.

Venue

An award-winning, five star hotel, the Grand Elysee, is conveniently located in the centre of Hamburg, with easy public transport links and walking distance from NeuStadt and Jungfernstieg. It boasts three restaurants and bars, in addition to the Elyseum Wellness and Spa. Offering sweeping views of Moorweidepark, the upper-floor rooms provide guests with a wonderful space to unwind after a day of business.

DAY ONE – TUESDAY, 10 NOVEMBER 2015

08.00 COFFEE & REGISTRATION

08.45 Introduction by the day one Chairman

Martin L Shaw, Managing Director, MOAMS Ltd

09.00 OPENING SESSION

Welcome address: *Georg Ehrmann, Managing Director, German Maritime LNG Plattform*

Keynote addresses:

Speaker tbc, DG Environment or DG Move, European Commission

Jason Smith, PMP, Commander, U.S. Coast Guard, Detachment Chief, USCG Liquefied Gas Carrier National Center of Expertise

Development of the IGF Code, *Dr Gerd Wursig, Business Director LNG Fuelled Ships, DNV GL*

09.45 LNG as a marine fuel – how does it fit with the regulatory requirements and aims to reduce the climate impact of shipping? A holistic view on LNG fuel's footprint on health, safety and environment, locally and globally

Lars Robert Pedersen, Deputy Secretary General, BIMCO

LNG is a lower carbon fuel which burns cleaner than most other marine fuels. At the same time, the fuel itself is a gas with a high Global Warming Potential. It is also a fuel that is more demanding, making storage and handling challenging onboard and during bunkering. Safety of ships is a paramount issue, and how does LNG fit? Join a comprehensive walk through the, at times, conflicting aspects of using LNG to fuel ships.

Session 1 – How does LNG currently compare to other ECA compliant fuels?

10.00 Fuels for compliance – the current availability and usage of maritime fuels in ECAs

Rob Drysdale, Global Field Engineering & Logistics Manager, Aviation & Marine Global Business Unit (GBU), ExxonMobil

A guide to the range of fuels currently available for ECA compliance together with, most importantly, an overview of what ship owners/operators are using.

10.15 The economists view: the current and predicted pricing structure of marine fuels

Ed Glossop, VP LNG Markets EMEA and Asia, World Fuel Services Europe

The recent drop in the price of oil has closed the gap between LNG and other fuels used by ship owners/managers/operators for ECA compliance. This paper will give a cost comparison between the fuels currently available and will also give comparative predictions should oil prices return to their previous levels.

10.30 QUESTIONS & ANSWERS

10.40 COFFEE & NETWORKING

Session 2 – LNG vessels - what vessels are now in operation, what are being built and what are on the drawing board

11.10 LNG vessels in service and on the drawing board - Europe

Martin Christian Wold, Senior Consultant, Environmental technology and compliance, DNV GL – Maritime Advisory

As the leading class society for LNG vessels across Europe, this paper will give an overview of the vessels currently in service and due for delivery in the near future. It will also cover the predicted take up for the European market for the different vessel types and usage.

11.25 LNG vessels in service and on the drawing board – USA

Sean Bond, Director of Global Gas Solutions, ABS

With the USA take up of LNG as a maritime fuel currently lagging behind but predicted to overtake Europe, an overview of the vessels currently in service, due for delivery and orders placed, together with the predicted take up for the US market including different vessel types/usage, will be given.

11.40 QUESTIONS & ANSWERS

Session 3 – Finance options

11.50 Smart financing of sustainable ship investments

Roman Poersch, Managing Director, Wilhelm Borchet

Transport service and infrastructure suppliers require sufficient financial strength to realise investments and developments needed. A sustainable financing mix of grants and loans as well as own cash is mandatory to stay viable and competitive over the long-run. Such an approach will be demonstrated using an engineered real-life example covering possible ways of optimizing the financing of new buildings and/ or retro-fittings of ships.

12.05 Innovative financial model to help ship owners comply with emissions regulations

Pace Ralli, Co-Founder, Clean Marine Energy

Emissions Compliance Service Agreement ("ECSA") is a proven model for energy efficiency financing in real estate, adapted to the shipping sector. The ECSA absorbs the upfront capital expenses needed for a vessel to be emissions compliant in exchange for a portion of the savings that result. Effectively, fuel payers pay for low-cost LNG or HFO (in the case of scrubbers) plus a premium for a fixed period of time until the investment is recovered. Providing Ship owners with capital allows investment in other more customary and accretive projects.

12.20 QUESTIONS & ANSWERS

12.30 LUNCH & NETWORKING

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Session 4 – Design & technology update: design implications, engine and propulsion systems, tank systems and placements

13.50 The cost and design implications of new builds and retrofits for LNG fuelled and LNG ready vessels

Helmut Radebold, Director Engineering, Naval Architect, Technolog Services

There are a number of design implications that need to be taken into consideration when building (or converting) a ship to run on LNG, this paper will give an overview of these and the cost implications compared to other options for ECA compliance.

14.05 Gas Turbines – a power dense, emissions compliant solution for LNG fuelled ships

Jeremy W. Barnes, Commercial Marketing Director, GE Marine

Gas turbine-based power and propulsion systems can bring additional revenue to merchant vessel owners and operators. Because of the significant weight and space savings, due to the systems power density, ships can carry more cargo and/or passengers than similar diesel-powered ships; especially important as operators look to LNG as a fuel, increasing the size of the fuel tank. The paper will show examples of LNG carriers, container ships and fast ferries to demonstrate how the power density of our system can improve a ship's economics.

14.20 First service experience of the Dual Fuel ME-GI engine

René Sejer Laursen, Mechanical Engineer, MAN Diesel & Turbo

More than 100 units of the ME-GI engines have now been ordered. The diesel combustion cycle offers a very robust combustion, with little methane slip and with little combustion pressure variations between the cylinders, meaning that the engine is able to handle fast load changes during operation in gas mode, and that the engine can stay in gas mode during heavy weather and ice conditions. The TOTE vessels, feedback on first usage and future improvements will also be covered.

14.35 LNG fuel storage tanks, safe location on board

Alex Vredevelde, Senior Scientist, Naval Architect, Structural Dynamics, TNO

Current LNG storage tanks on board are of the pressurised vacuum type and current regulations pose a severe restriction for the ship designer. Recent research has demonstrated favourable characteristics of pressurised cryogenic tanks with respect to mechanical impact, which may be exploited for relaxing the minimum required safe distance. The paper describes a first principles approach, towards this additional design freedom without compromising safety.

14.50 LNG fuel systems for ships - experiences, challenges and solutions

Ann Rigmor Nerheim, Dr.Eng., Senior Project Engineer - LNG Fuel Systems, Commercial Marine, Rolls-Royce Marine

Experiences with LNG storage in C-tanks and processing for safe and stable gas supply to the engine and will include tank design and process design will be shared in this paper. Various systems and process designs will be discussed, and alternative robust solutions will be presented.

15.05 QUESTIONS & ANSWERS

15.15 COFFEE & NETWORKING

15.40 Session 5 – Roundtable Discussions – LNG as a maritime fuel

Demand for LNG as a fuel for ships:

– **Economics of LNG versus alternative** – *Moderator: Dr Martin Kröger, Managing Director, VDR – German Shipowners' Association*

- Additional hardware cost of LNG fuelling
- Economic premium for using LNG
- Government subsidy

– **Non-economic drivers** – *Moderator: Malte Siegert, Head of Environmental Policy, Naturschutzbund Deutschland (NABU)*

- ECAs
- Greenhouse Gases

LNG Fuelled Ships (one group) – *Moderator: Gavin Lipsith, Editor, The Motorship*

– Onboard Technology

- Propulsion
- Onboard Storage
- Safety and regulation

– Bunkering

- Transfer system
- Safety and regulation



Conference Dinner

The conference dinner, sponsored by GE Marine, will be held in the Gröninger Restaurant on Tuesday 10 November. The Gröninger private brewery, once located at the Fleet, is one of the oldest breweries in Hamburg. The Gröninger has a very traditional style, providing a comfortable, relaxed atmosphere to network. All delegate places include an invitation to the dinner, so book your place today.

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Technical visits

Technical tours of the Stena Germanica methanol-fuelled ferry and the Becker Marine/AIDA Cruises' LNG hybrid barge are included in the delegate fee. Places on these visits are limited so book your delegate place now to guarantee your attendance on these tours.

Supply of LNG as a fuel for ships

– **Supply chain** – Moderator: Roman Poersch, Managing Director, Wilhelm Borchert

- Network of bunker hubs
- Funding of infrastructure
- Reliable source of LNG
- Regulation licensing and safety

– **Standardised Delivery Mode** – Moderator: Professor Orestis Schinas, Professor for Shipping and Ship Finance, Hamburg School of Business Administration

- Reliable truck, pipe, barge delivery
- Standardised interface
- Standardised Fuel Spec

17.00 Update from moderators of roundtable discussions

17.50 Question & answers to moderators of roundtable discussions

18.00 Concluding remarks from the day one Chairman and close of conference

19.30 Conference Dinner at the Gröninger Restaurant, Hamburg sponsored by  GE Marine

DAY TWO – WEDNESDAY, 11 NOVEMBER 2015

09.00 COFFEE & REGISTRATION

09.30 Summary of day one and opening remarks by the day two Chairman
Lars Robert Pedersen, Deputy Secretary General, BIMCO

Session 6 – Infrastructure and operational update in ECAs

09.45 LNG for Transport: Implementing an effective value chain

Alexander Marczewski, LNG Business Development Manager Europe, Downstream LNG, Shell

Collaboration across the value chain is critical for success and sustainability of LNG as a fuel option. This paper will give an update on the current status of availability of LNG across Europe and will illustrate some of the steps that have been taken to underpin this, such as the Gate terminal in Rotterdam and the construction of an innovative new bunker vessel that will operate in the ARA region.

10.05 Building the low-emission fuelling infrastructure in North America

Pace Ralli, Board of Directors, WesPac Midstream
An update on the progress of the LNG supply infrastructure in North America

10.25 Case study of the first LNG bunker vessel dual fuel build for operation in SECA

Martial Claudepierre, LNG Business Development Manager, Bureau Veritas and Laurent Rambaud, Vice President Business Development Retail LNG, ENGIE LNG

How a new design LNG bunker vessel operated by ENGIE and classed by BV for refuelling LNG fuelled ships, operating in SECA, will endeavour the adoption of LNG as a cost effective and cleaner fuel.

10.45 SIMOPS (Simultaneous cargo operation) during LNG bunkering of LNG fuelled vessels

Henning Pewe, PTP-Lead Gas Technology, Machinery Systems & Marine Products, DNV GL – Maritime

One of the greatest challenges to make LNG a viable bunker fuel on seagoing ships is the timeframe needed for bunkering of large amounts of LNG. This presentation will look at the regulations being developed for SIMOPS and will give an overview of the different developments in ISO, class requirements and research projects which have dealt with this challenge and provide some practical experience.

11.05 QUESTIONS & ANSWERS

11.15 COFFEE & NETWORKING

Session 7 – Alternative, future and multi fuel solutions

11.45 Feasibility of alternative fuels for marine use

Hendrik Brinks, Principal Researcher, DNV GL and Christian March, Development Engineer, MAN Diesel & Turbo

LPG, methanol and various types of biofuels are all being considered and tested as alternatives to LNG for ECA compliance. The adoption of any new fuel will be driven by fuel price developments, technology, regulation, availability and infrastructure development. A cost-benefit comparison between the above mentioned alternative fuels and conventional marine fuels will be presented using a product tanker as the test vessel on a route including operations in ECAs. Comparison of the equipment and installation cost for each fuel will be given together with a number of fuel price scenarios. Finally, a discussion on the environmental implications of using each one of the alternative fuels will be presented.

12.05 Stena Germanica – the world's first methanol fuelled ferry

Per Stefenson, Technical division, Stena Rederi and Toni Stojcevski, Project Manager, Methanol adaptation, Wärtsilä Sweden

The Stena Line ferry Stena Germanica re-entered service in March 2015 as the first commercial ship in the world to run on methanol as its main fuel. Operating between Kiel, Germany and Gothenburg, Sweden, this presentation will give feedback on the first months of operation.

12.25 Ethane as fuel – a new sustainable solution enabled by Wärtsilä Dual Fuel engines

Carlo Contessi, General Manager, Applications Developments, Ship Power Engines, Wärtsilä Italia and speaker tbc, Evergas.

The Wärtsilä 50DF marine engine was successfully tested and certified to run on Ethane (LEG), now installed on multi-gas carriers for Evergas, enabling the use of boil of LNG and LEG as fuel, compliant with IMO Tier 3, capable of changing seamlessly between: LNG, LEG, LFO or HFO.

12.45 QUESTIONS & ANSWERS

12.55 LUNCH & NETWORKING

Session 8 – Operator case studies and feedback on LNG fuelled vessels

14.15 Nordic Hamburg Container Vessel – LNG fuelled Container Ship

Rovil Ponta, Managing Partner, Nordic Hamburg Shipmanagement

The 1.400 TEU LNG / Dual Fuel Container Vessel will not only be the first LNG-powered container ships in the Emission Control Area, it will also be the first container newbuild vessel that fully complies with the established ECA regulations. This presentation will detail the economic benefits and technical innovations of the vessel, from being able to burn LNG to the highly flexible Container stowage concept and other outstanding technical features.

14.35 First season experience of operating the LNG-Hybrid Barge "Hummel" in Hamburg

Max Kommarowski, Director LNG Hybrid, Becker Marine Systems

Becker Marine Systems initiated the classified seagoing LNG Hybrid Barge as an innovative pioneering project to provide a quick and flexible power supply to cruise ships during their lay time in port - one which is more eco-friendly, more flexible and more economic than all other current options.

14.55 World's first LNG-powered cruise ships (paper title tbc)

Tom Strang, Senior Vice President, Marine Operations, Costa Crociere

The MS Ostfriesland passenger ferry was retrofitted to run on LNG by Brennung Verformtechnik Bremen (BVT), it will be the first LNG vessel under the German flag and will run a daily service between Emden and the North Sea island of Borkum. By using LNG the MS Ostfriesland will save more than one million litres of marine gas oil per year.

15.15 QUESTIONS & ANSWERS

15.25 COFFEE & NETWORKING

Session 9 – Operator panel discussion: ECA implementation, ECA compliance and looking ahead to 2020

15.55 Moderated by Lars Robert Pedersen, the discussion will commence with a short presentation:

ECA implementation, ECA compliance and looking ahead to 2020

Captain Wolfram Guntermann, Director Environmental Fleet Management, Ship Management, Hapag-Lloyd AG

Panelists: Paolo Taroni, Vice President, Head of Maersk Maritime Technology Rovil Ponta, Managing Partner, Nordic Hamburg Shipmanagement, Per Stefenson, Technical Division, Stena Rederi, Tom Strang, Senior Vice President, Marine Operations, Costa Crociere

17.00 Concluding remarks from the Day Two Chairman and close of conference

DAY THREE – THURSDAY, 12 NOVEMBER 2015

08.00 Meet in lobby for technical visits to Stena Germanica methanol-fuelled ferry (Kiel) and Becker Marine/AIDA Cruises' LNG Hybrid Barge (Hamburg)

*The conference programme is subject to final confirmation



