

GASEOUS FUELS FOR ROAD VEHICLES

Institution of
**MECHANICAL
ENGINEERS**

Combustion Engines & Fuels Group
Seminar

11 September 2014
1 Birdcage Walk, Westminster, London.
www.imeche.org/events/S1807



INTRODUCTION

In recent years the automobile and fuel industries have become increasingly interested in replacing traditional petroleum with new, alternative fuels. One option is to use natural gas as a fuel, which many heavy and light duty vehicle companies across Europe are considering.

This seminar will examine the application and use of gaseous fuels in vehicles. Delegates will be able to explore the different types of gases that can be used as fuels, and gain an insight into the benefits gaseous fuels have over traditional liquid fuels. What difference can they make to CO₂ emissions and fuel consumption? How can they be applied to passenger and commercial vehicles?

Hear speakers from a variety of European organisations; including OEMs, petroleum and gas companies, discuss how they are planning to, or are already using, gaseous fuels as an alternative to traditional liquid petroleum.

BENEFITS OF ATTENDANCE:

Learn about the application of a variety of gases, including:

- Natural gas
- Compressed natural gas
- Liquefied natural gas
- Bio-methane
- Liquefied petroleum gas
- Dimethyl-ether
- Hydrogen
- Shale gas/ methane

WHEN	11 September 2014
WHERE	1 Birdcage Walk, Westminster, London.
BOOK ONLINE	www.imeche.org/events/S1807

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SPEAKERS AND CONTRIBUTORS

ROB WOOD

CHIEF EXECUTIVE, GASREC

Rob Wood joined Gasrec in 2013 as Chief Executive. He has worked in the energy industry for 27 years, 24 within BP, where he began his career in BP's downstream business selling oil products to a variety of commercial and industrial customers.

LENNART PILSKOG

SECRETARY GENERAL, NGVA EUROPE

Lennart Pilskog's work with Volvo engaged him in all Volvo products: cars, trucks, buses, industry engines, constructions machinery and aircraft engines in most parts of the world. In January 2014 he was appointed as Secretary General of NGVA Europe, the Natural and bio Gas Vehicles Association of Europe and in May 2014 he became the Vice-President of NGV Global.

PAUL OCHOLLA

COMMERCIAL DEVELOPMENT, GRAIN LNG

Paul Ocholla joined the National Grid Asset department developing key strategies and policies in the maintenance and inspection regimes, successfully introducing and implementing Risk Based Inspection to Grain LNG. He has since moved on to commercial development where he has been working in the development of several new service opportunities for Grain LNG, of which the Road Tanker Loading Facility is one.

JOHN BICKERTON

CHIEF ENGINEER, READING BUSES

After experience with Cosworth and Lotus John Bickerton joined the country's largest bus operator, First, where he was responsible for managing the company's fuel saving strategy and eventually leading the company's technical standards nationally. John has recently moved to Reading Buses as Chief Engineer, where he is focused on building fleet reliability and controlling maintenance costs.

PROGRAMME

09:00

REGISTRATION

09:30

WELCOME AND INTRODUCTION

09:40

METHANE AS A VEHICLE FUEL IN EUROPE

Lennart Pilskog, Secretary General, NGVA Europe

- NGV Europe - a global outlook
- The scattered EU situation
- EU political agenda
- Blue corridor

10:05

ENABLING LNG - DRIVING FORWARD WITH "TOMORROW'S FUEL TODAY"

Stuart Macdonald, LNG New Markets - Technology, Shell

- Introducing LNG as a transport fuel and identifying some of the key focus areas to help enable and improve the value proposition of LNG in downstream applications
- Areas covered will include LNG fuel composition, WtW/ emissions, performance optimisation, HSSE and operating standards
- Behaviours with which we are developing technical solutions: external mindset, commercial mindset, accelerating delivery - with practical examples
- The focus will be made on key projects which are being developed/delivered and how they are and can further contribute to growth of LNG in transport

10:30

GASEOUS TRANSPORT FUELS - A SUSTAINABLE SOLUTION TO THE ROAD TRANSPORT SECTOR'S PROBLEMS?

Sujith Kollamthodi, Practice Director, Sustainable Transport, Ricardo - AEA

- There is a pressing need to decarbonise the transport sector – the EU has set a target to reduce transport CO2 emissions by 60% against 1990 levels by 2020 so a wide range of vehicles will be needed
- Air quality remains a pressing problem and technological solutions are required to address this issue
- Gaseous fuels offer opportunities in transport modes that are difficult to tackle with other alternative technologies
- Availability and sustainability including a discussion on conventional natural gas vs. "fracked" natural gas vs. Biomethane
- Examples from around the world of successful national and local initiatives in this area, including Italy and India
- Pros and cons of incentivising gaseous fuels in road transport

10:55

Q&A WITH PANEL SPEAKERS

11:15

REFRESHMENT BREAK

11:40

BIO-LNG FOR TRANSPORTATION

Rob Wood, Chief Executive, Gasrec

- Across Europe legislation is being put in place to improve air quality
- Bio-LNG reduces vehicle GHG emissions, improves air quality and is the only viable option to reduce HGV emissions
- Refuelling infrastructure is being put in place with EU support to create a pan-European network

12:05

LNG SUPPLY – GRAIN LNG

Paul Ocholla, Commercial Development, Grain LNG

- Introduction to Grain LNG
- The Road Tanker Loading Project
- Key challenges include:
 - LNG as a worldwide commodity and how this translates to the UK market
 - Engineering challenges
 - Key benefits of Grain LNG as a supplier

12:30

LUNCH BREAK

SPEAKERS AND CONTRIBUTORS

MARTIN FLACH

PRODUCT DIRECTOR, IVECO

Martin Flach's career began with Ford Motor Company (Truck Division). He joined Iveco Ford Truck in 1986 following the merger of Iveco and Ford (Truck Division) and remained with Iveco following the formation of Iveco Ltd in 2003. He is currently Product Director with responsibility for the Light, Medium and Heavy product ranges.

PETER STOKES

INNOVATION ENGINEER, DHL
SUPPLY CHAIN

Peter Stokes' team is responsible for developing and delivering the fleet innovation and efficiency strategy for its fleet of 7,500 vehicles and 10,000 trailers. Peter has 30+ years experience within this sector, working for both BRS, Exel and DHL Supply Chain.

STUART MACDONALD

LNG NEW MARKETS -
TECHNOLOGY, SHELL

Stuart Macdonald joined Shell in 2008 as Project Leader for Enhanced Experimentation, a role in which he was responsible for identifying, developing and delivering projects in high-throughput experimentation, computer modelling, fast analytical methods, robotics and automation across Shell's P&T business. In 2012 Stuart moved to the LNG New Markets team where his responsibilities include developing technical co-operations with key OEM partners in Europe and developing technical solutions for LNG in transport for effective deployment.

Organising committee:

- Roy Horrocks, Ford Motor Company
- Steve Whelan, Clean Air Power Ltd

PROGRAMME

13:30

DEDICATED NATURAL GAS VEHICLES A MANUFACTURER'S PERSPECTIVE

Martin Flach, Product Director, Iveco

- Compressed Natural Gas (CNG)/ Liquefied Natural Gas (LNG) range
- Challenges in meeting Euro VI
- Benefits of CNG/LNG over diesel

13:55

NATURAL GAS AND DUAL FUEL ENGINE TECHNOLOGIES FOR HEAVY DUTY VEHICLES - THE QUEST FOR HIGH EFFICIENCY AND LOW EMISSIONS

Dr. Andy Noble, Head of Heavy Duty Engines, Ricardo Consulting Engineers and Richard Cornwell, Technical Specialist, Performance and Calibration, Ricardo Consulting Engineers

- The advantages of natural gas engines - abundance of natural gas reserves, low operating cost, low carbon and quiet
- The challenges - storage, range, emissions; especially methane, catalysis of emissions, lower power density, fuel variability, knock, efficiency
- Technology options - spark ignition stoichiometric, SI lean burn, dual fuel diesel pilot, dual fuel high pressure direct injection and their pros and cons
- Opportunities for improving thermal efficiency and improving emissions, including waste heat harvesting and reduction in CH4 emissions by improved combustion and after-treatment

14:20

COOKING ON GAS - READING BUSES' EXPERIENCE WITH A FAST-FILL FLEET

John Bickerton, Chief Engineer, Reading Buses

- Fleet operation on CNG
- Gas compression and storage
- Real-life experience

14:45

Q&A WITH PANEL SPEAKERS

15:05

REFRESHMENT BREAK

15:30

HEAVY DUTY NGV OPERATIONAL EXPERIENCE

Gary King, Operation Support Manager, Sainsbury's

- Sainsbury's approach to sustainability in operations
- Outline of gas-fuelled vehicle operations and refuelling infrastructure
- In-service experience and the future

15:55

NGV OPERATOR EXPERIENCE

Peter Stokes, Innovation Engineer, DHL Supply Chain

- The reasons why we chose natural gas and in particular LNG
- The criteria of where we placed these vehicles
- Our learnings
- Progress to date and what the future might hold

16:25

Q&A WITH PANEL SPEAKERS

16:45

CLOSE OF SEMINAR

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- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

BOOKING FORM

SEMINAR CODE:
S1807AB

GASEOUS FUELS FOR ROAD VEHICLES

11 SEPTEMBER 2014
1 BIRDCAGE WALK, LONDON SW1H 9JJ

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Quote ID number 8488ME

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14-15 October 2014
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www.imeche.org/events/C1385

CAN GREEN BE FAST AND FUN? IMPLEMENTING LOW CARBON TECHNOLOGIES IN HIGH PERFORMANCE VEHICLES

6 November 2014
Coventry

Discover the latest technological advances that will help make high performance vehicles become efficient and sustainable.

www.imeche.org/events/S1814

FUEL SYSTEMS FOR IC ENGINES: INJECT YOUR IDEAS, FUEL YOUR TECHNOLOGY

10-11 March 2015
London

The next conference will focus on addressing all technological aspects of diesel and gasoline fuel injection systems.

www.imeche.org/events/C1409

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