

UK SHALE GAS THE ENGINEERS' SUMMIT 2015

Institution of
**MECHANICAL
ENGINEERS**

Process Division
Seminar

24 February 2015
etc venues, St Paul's, London
www.imeche.org/events/S1825

In partnership with:

 **UKOOG** United Kingdom
Onshore Oil and Gas



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**THE ONLY SHALE GAS EVENT THAT
EMPOWERS ENGINEERS TO UPDATE AND
EDUCATE THE UK COMMUNITY ON THE
REALITIES OF SHALE GAS PRODUCTION.**

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With the North Sea expected to support the UK's energy policy for a maximum of 20 years, the pressure to explore alternative energy sources is greater than ever. Shale gas, although not a new energy source, is a potentially successful and valuable resource for the UK.

This seminar will explore the methods and processes that are implemented to extract shale gas as well as the information that needs to be shared to change the UK's public perception of shale gas.

Discover how the Government is taking note from lessons learned in the USA and putting stricter measures in place to ensure that operational activity (drilling/hydraulic fracturing) is monitored efficiently.

PARTNERING ORGANISATION:



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NEW FOR 2015:

- **HSE** and **Environment Agency** discuss shale gas regulations
- **UKOOG** explain how they will support the development of the UK supply chain
- **National Grid** discuss their expected role in future supply chain scenarios
- **Cuadrilla Resources, Centrica** and **IGas Energy** present practical operational case-studies

WHAT 2014 ATTENDEES HAD TO SAY:

"An excellent insight into the status of shale gas development in the UK"

"Great learning experience... with real industry experts delivering in-depth presentations"

"Good value for such an effective networking event"

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PROGRAMME

TUESDAY 24 FEBRUARY 2015

08:30 REGISTRATION AND REFRESHMENTS

09:00 CHAIR'S OPENING REMARKS
Tim Fox, Head of Energy and Environment, Institution of Mechanical Engineers

MAPPING THE UK SHALE GAS INDUSTRY: WHO DOES WHAT?

09:10 KEYNOTE: THE ROLE OF UKOOG IN THE UK SHALE GAS MARKET
Ken Cronin, Chief Executive Officer, UKOOG

- Representing the UK oil and gas onshore industry and supporting the exploration and production of shale gas and developing the UK supply chain
- Working with the industry to ensure guidelines are established and implemented effectively
- UKOOG's main areas of priorities to boost shale gas development between 2015 and 2020

09:40 HEALTH AND SAFETY REGULATIONS FOR ONSHORE OIL AND GAS PRODUCTION
Tony Almond, Offshore and Pipelines Policy Team, HSE

- Providing a safe operating environment throughout the lifecycle of shale gas wells
- Ensuring well operators are maintaining the highest level of safety particularly in well integrity
- Working with the Environment Agency to minimise the risk of leaks and water contamination

10:10 ENVIRONMENTAL RISKS AND REGULATION IN ENGLAND
Tony Grayling, Director Sustainable Business and Development, Environment Agency

- The role and approach of the Environment Agency in regulating onshore oil and gas
- Working with HSE to ensure that environmental standards are met
- Engaging with local communities on environmental permitting decisions

10:40 NETWORKING REFRESHMENT BREAK

11:10 HOW UKAS CAN ASSURE CONFIDENCE FOR SHALE GAS
Sam Giles, Accreditation Manager, & Andrew Ross, Accreditation Manager, UKAS

- Why do we need Accreditation?
- How UKAS Accreditation delivers confidence for the shale gas industry
- How UKAS Accreditation delivers confidence for the public

UK SHALE GAS SUPPLY CHAIN

11:40 SHALE GAS SUPPLY SCENARIOS
Simon Durk, Gas Supply Manager, Energy Strategy and Policy, National Grid

- Projecting shale scenarios from no progression to successful development
- Accumulating sufficient production data
- Working with industry to support a future supply chain

SUSTAINING A HIGH LEVEL OF WELL INTEGRITY

12:10 EFFECTIVE MONITORING OF OPERATIONAL DRILLING AND ACTIVE WELLS
Andrew Quarles, Technical Director, Cuadrilla Resources

- Preparation prior to drilling; identifying the location and setting up the drilling rig
- Materials used to support the drilling process
- Highlighting the potential engineering challenges associated with drilling shale gas wells in the UK

12:40 LOCATION, PLANNING AND PREPARATION: A CASE STUDY
John Blaymires, Chief Operating Officer, IGas Energy

- The engineering challenges associated with unconventional gas
- Technology and equipment to enhance the success of drilling
- A step-by-step insight into the production cycle of shale gas

13:10 NETWORKING LUNCH

INTEGRATED WATER MANAGEMENT: THE WHOLE LIFECYCLE

- 14:10 FROM START TO FINISH: USING AND DISPOSING OF WATER IN THE HYDRAULIC FRACTURING PROCESS**
Steve Thompsett, Executive Director, UKOOG
- An insight into the whole lifecycle process of integrated water management from baseline monitoring to shale gas extraction
 - Safely storing water and understanding the potential risks of underground storage
 - Raising awareness and safety standards when operating in a densely populated area

- 14:40 ADHERING TO STANDARDS TO MINIMISE CONTAMINATION**
Ian Davey, Senior Advisor, Environment Agency
- Upholding the Environment Agency's high standards of ensuring a minimum impact operating environment for shale gas operators
 - Measures to reduce water contamination, including the monitoring of storage reservoirs
 - Ways to minimise the risks associated with hazardous water storage

- 15:10 NETWORKING REFRESHMENT BREAK**

COMMUNICATING WITH THE PUBLIC: AN ENGINEER'S PERSPECTIVE

- 15:30 PUBLIC PERCEPTIONS OF SHALE GAS DEVELOPMENT IN THE UK**
Mathew Humphrey and Sarah O'Hara, School of Politics and International Relations, University of Nottingham
- A summary of the work carried out in the University of Nottingham UK shale gas survey
 - Headline figures and tracking of the changing trends in public opinion
 - Emerging trends in terms of the politicisation of shale gas in the UK in the wake of the protests at Balcombe

- 16:00 THE TECHNICAL REALITIES OF SHALE GAS EXTRACTION AND PRODUCTION**
Tiffany Parsons, Senior Geologist, Centrica Upstream
- Understanding an engineer's role in shale gas development
 - The practicalities of engineering shale gas production
 - Trying to educate and reassure the public through facts as opposed to myths – how should engineers communicate on shale gas?

- 16:30 PANEL SESSION: HOW WILL THE UK RETAIN AND SUPPORT THE TRANSFERENCE OF ENGINEERING SKILL SETS REQUIRED TO SUPPORT SHALE GAS DEVELOPMENT?**
Tim Fox, Head of Energy and Environment, Institution of Mechanical Engineers
Tony Moloney, Head of Education and Skills, National Grid
John McDonald, UK Managing Director, OPITO
Ken Cronin, Chief Executive Officer, UKOOG
- Can current training and education for engineers be applied to the shale gas industry?
 - How do industry and operators plan to attract young engineers?
 - Will the role of engineers increase should momentum build in 2015?

- 16:50 CHAIR'S CLOSING REMARKS**

- 17:00 CLOSE OF SEMINAR**

Find out more about our speakers at www.imeche.org/events/S1825

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

Organising committee:

Process Division

SPEAKERS AND CONTRIBUTORS



**AN EXCELLENT
EVENT WHICH BRINGS
TOGETHER EXPERTS
FROM ACROSS THE
INDUSTRY TO SHARE
THEIR EXPERIENCE.**

- University of Southampton

KEN CRONIN KEYNOTE SPEAKER CHIEF EXECUTIVE OFFICER, UKOOG

Ken Cronin is the Chief Executive of the newly re-launched trade body UKOOG (UK Onshore Oil and Gas). UKOOG is the representative body for the UK onshore oil and gas industry including exploration, production and storage across both conventional and unconventional sources. Ken has more than 20 years' global experience in media, investor and government relations and has worked in and with many companies across the nuclear, renewables, oil and gas and power sectors. Prior to his role at UKOOG, Ken spent 10 years at worldwide communication agency Kream Gavin Anderson as Head of Global Energy.

TIM FOX CHAIR HEAD OF ENERGY AND ENVIRONMENT, INSTITUTION OF MECHANICAL ENGINEERS

Tim Fox has worked in commercial enterprises, government agencies and educational institutions in the UK, Australia, Canada and The Netherlands. Tim is currently Head of Energy and Environment at the Institution of Mechanical Engineers.

TONY ALMOND OFFSHORE AND PIPELINES POLICY TEAM, HSE

Tony Almond joined HSE in April 2005 working as Communications Manager on the Work at Height Regulations. Tony also led on the UK response to a European Commission proposal to reduce ergonomic risk factors and musculoskeletal disorders. He then worked as part of a team leading on workplace safety policy, including work at height, slips and trips, confined spaces and other cross-cutting workplace hazards. Tony later moved to his current role on shale gas and oil policy in 2013. Before HSE he worked for Department of Work and Pensions (DWP) for 18 years where he held a number of health and safety related posts.

TONY GRAYLING DIRECTOR SUSTAINABLE BUSINESS AND DEVELOPMENT, ENVIRONMENT AGENCY

Tony Grayling has worked with the Environment Agency since 2008 where he joined as Head Environmental Policy. Since then Tony has progressed and is now responsible for the agency's work on technical and cross-cutting issues. Tony has a wealth of experience having held positions within the Labour Party, Institute of Public Policy Research and Department of the Environment, Transport and the Regions. Tony studied at the University of Cambridge between 1982 and 1990, where he received a BA in Natural Sciences and a PhD in Plant Sciences.

SIMON DURK GAS SUPPLY MANAGER, ENERGY STRATEGY AND POLICY, NATIONAL GRID

Simon Durk joined National Grid in 2001 as an operational research specialist. In 2013 Simon was appointed to Gas Supply Manager within National Grid's Energy Strategy and Policy department. Prior to joining National Grid Simon worked for Cap Gemini as an operational research analyst for eight years and holds a BSc in Chemistry from UCL and a MSc in Operational Research from LSE.

STEVE THOMPSETT EXECUTIVE DIRECTOR, UKOOG

Steve Thompsett is Executive Director at UK Onshore Oil and Gas (UKOOG). He has an extensive background in environmental risk management, developed in both the public and private sector over the last 20 years. For DECC he co-ordinated much of the early policy work on shale gas, including the establishment of the Office of Unconventional Gas and Oil. He has previously worked for the Environment Agency and Defra, having led policy work on flood and coastal risk management and marine issues. As a consultant he was Head of Climate Resilience and Adaptation at Jacobs and more recently Director of Water and Energy Environment at CAPITA. Steve drives UKOOG's work on regulation, European interests and disclosure amongst other issues.

SPEAKERS AND CONTRIBUTORS



**VERY GOOD
INSIGHT INTO
THE DEVELOPING
INDUSTRY OF SHALE
GAS RECOVERY.**

- Centrica

IAN DAVEY

GROUNDWATER TEAM, ENVIRONMENT AGENCY

Ian Davey began his career in oil exploration, working in Europe and the Middle East, before turning to the water industry. He has more than 30 years' experience in managing water resources and quality, much of this in dealing with land and groundwater contamination. He has provided support to prospective EU member states in implementing water directives and spent a number of years working with government departments in Poland and Bulgaria. In the last few years Ian has worked mostly on integrated river basin management in the UK and other parts of Europe. More recently he has taken a leading role for the Environment Agency on unconventional gas exploration and groundwater protection. Ian is currently Chair of JAGDAG (Joint Agencies Groundwater Directive Advisory Group), which considers whether substances are hazardous under the Groundwater Daughter Directive. He represents the UK on the EU's Water Framework Directive working group on groundwater.

MATHEW HUMPHREY

HEAD OF SCHOOL OF POLITICS & INTERNATIONAL RELATIONS, UNIVERSITY OF NOTTINGHAM

Mathew Humphrey is a Reader in Political Philosophy and Director of External Mathew Humphrey is Professor of Political Theory in the School of Politics and International Relations, University of Nottingham. Mathew has taught and written on environmental politics for a number of years, including two books: Preservation versus the People: Nature, Humanity, and Political Philosophy and Ecological Politics and Democratic Theory. He is also part of the team of researchers at the University of Nottingham who have been examining public perceptions of shale gas for the past three years.

SARAH O'HARA

FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF NOTTINGHAM

Sarah O'Hara is currently Pro-Vice-Chancellor of Academic Planning within the Faculty of Social Sciences at the University of Nottingham. Sarah's main areas of research include: water management strategies in the former Soviet Republics of Central Asia, dust and health in the Aral Sea Basin, Late Holocene Environmental Change in Southern Alberta, the Ancient Raqqa (Syria) Industrial project as well as recent and long-term environmental change in Mexico. More recently Sarah has been engaging in an ongoing study, Public Perceptions of Shale Gas in the UK, with Professor Mathew Humphrey.

JOHN BLAYMIRE

CHIEF OPERATING OFFICER, IGAS ENERGY

John Blaymires has 29 years of international experience in the oil and gas industry gained at Hess Corporation and Shell International. Before joining IGas, he was Director of Technology Development for Hess based in Houston.

ANDREW QUARLES

TECHNICAL DIRECTOR, CUADRILLA RESOURCES

Andrew Quarles joined Cuadrilla Resources as Exploration Director in May 2013. He has over 15 years' experience in exploration and development of oil and gas in a variety of technical and management roles. Prior to joining Cuadrilla, he was the GM of Europe Unconventional at Nexen Inc. in London where he was responsible both for the Polish shale gas portfolio as well as developing New Ventures in onshore Europe. From 2002-2011 he worked at Pioneer Natural Resources in Corporate Planning and as Canada Exploration Manager. From 2007-2011 he was Geoscience Manager- Permian (Texas) where he was responsible for drilling over 800 wells in the Wolfberry tight-oil play. Prior to Pioneer, he worked at ARCO International as an exploration geologist. Born in Paris, France, and raised in the Netherlands and the United Kingdom, he has a Ph.D. in Geology from the University of Texas at Austin and a MBA from the Kellogg School of Management at Northwestern University.

BOOKING FORM

EVENT CODE: S1825AB

**UK SHALE GAS
THE ENGINEERS' SUMMIT 2015**
24 February 2015
etc venues, St Paul's, London
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How did you hear about this event? Direct mail Website Colleague Other

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- Events and training opportunities
 News and updates from the Institution
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FEES AND CHARGES Please complete the appropriate box.

Registration fees include entry to the sessions, refreshments, lunch and a copy of the event proceedings.

	STANDARD RATE	VAT	TOTAL
Member, Institution of Mechanical Engineers	£310.00	£62.00	£
Member, supporting organisation	£310.00	£62.00	£
Non-member	£420.00	£84.00	£
Student/retired	£85.00	£17.00	£

PAYMENT DETAILS

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

PLEASE INDICATE METHOD OF PAYMENT:

- Cheque** Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.
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Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

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Please inform us of any special requirements, ie. dietary or access, on the relevant section of this form.

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3 December 2014
London

AGEING PLANT: MINIMISING HAZARDS THROUGH BETTER DETECTION TECHNIQUES

To get the best out of structures that are highly susceptible to deterioration, a greater emphasis must be placed on detection. This event will provide case studies showcasing the various different types of detection techniques that ultimately are able to reduce operating costs, reduce hazards and ensure compliance with latest guidance.

www.imeche.org/events/S1826



9 December 2014
Aberdeen

PIPING AND PIPELINE RISK-BASED INSPECTION

The UK oil and gas industry is facing its greatest challenge yet as the demand for energy across the UK continues to grow. A consequence of this is the pressing need for operators to ensure greater asset integrity both on and offshore.

www.imeche.org/events/C1420



15-17 April 2015
Coventry

ESSENTIAL MANAGEMENT SKILLS FOR ENGINEERS 2015

This event promotes the development and improvement of the next generation of engineers. Recent economic problems mean that this conference is more important than ever. Companies need to invest in their most vital assets, their employees, to ensure that their business can succeed.

www.imeche.org/events/C1421

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