

News from Organisations Affiliated to IGU

Here we have reports from the Russian National Gas Vehicle Association (NGVRUS), European Gas Research Group (GERG) and Energy Delta Institute (EDI), while Pipeline Research Council International (PRCI) and Marcogaz have contributed to this issue's features section. See pages xxx-xxx for a presentation of work done by Marcogaz on life cycle assessment of the European gas chain and pages xxx-xxx for PRCI's article on research collaboration.

● The Second Blue Corridor NGV Caravan

By Eugene Pronin

In April 2009, during the Russian Orthodox Easter week, the second NGV Caravan crossed Russia from the national capital Moscow to the 2014 Winter Olympics capital Sochi.

The Caravan, composed mostly of OEM (original equipment manufacturer) natural gas vehicles, travelled 1700 kilometres via six major cities to the eastern shore of the Black Sea. In October 2008 the first NGV Caravan drove from St Petersburg to Moscow. The Baltic and Black Seas are thus now connected by a 2500 kilometre-long Blue Corridor – a route for on-road vehicles that run on natural gas instead of petrol or diesel.

The Blue Corridor concept was proposed in 1999 by a Russian environmental NGO, the Vernadsky Foundation. The idea was supported by Gazprom and the Russian National Gas Vehicle Association (NGVRUS). They worked together to introduce the concept to the UN Economic Commission for Europe (UNECE), which gave the green light to the "blue" fuel. The unique economic and environmental characteristics of compressed and liquefied natural gas make CNG/LNG a real choice for motorists all over the world.



Eugene Pronin: natural gas is a real choice for motorists all over the world.

The international study group, established under the umbrella of the European Natural Gas Vehicle Association (now superseded by NGVA Europe), recommended three routes for the early stage of the Blue Corridor project: Helsinki – St Petersburg – Moscow; Moscow – Minsk – Warsaw – Berlin; and Berlin – Rome. The recommendations of the study group were published in Geneva by UNECE in 2003. Shortly after that Gazprom and E.ON Ruhrgas agreed to investigate the development of a new Blue Corridor from Kaliningrad to Berlin. Preliminary studies proved the economic and ecological feasibility of the project.

To demonstrate the technology to local politicians, fleet managers, the media and the general public, Gazprom and NGVRUS came up with the idea of Blue Corridor NGV Caravans linking the north-west and south of Russia in two stages. As mentioned above, the first was organised in 2008 and the second earlier this year.

Between April 17-24, 16 OEM NGVs drove with the recent Caravan: NefAZ, LiAZ, GolAZ and

Iran Hodro buses; KamAZ and Iveco trucks; GAZ minivans; and Mercedes, Opel, Volkswagen and GAZ cars. The Blue Corridor NGV Caravan proved once again that CNG is the safest, cheapest and cleanest transportation fuel for today and for the next 25 years; not a little-used “alternative fuel” but a real fuel alternative to petrol and diesel.

Twenty-two journalists from a variety of media accompanied the NGV Caravan for the entire route from Moscow to Sochi; and NGV exhibitions and round tables were held in all six major cities along the way. Mission number one of this high profile promotional campaign was to draw the attention of regional and municipal leaders to a practical and readily available means of improving air quality and saving on their fuel budgets.

“Blue Fuel to the White Olympics” was the motto of this NGV Caravan. Everyone is familiar with the Olympic slogan “Faster, Higher, Stronger”; natural gas for transportation opens a window of opportunity to modify this maxim by adding the words “and Cleaner”.

The Blue Corridor is a concept, a philosophy, a dream. To make this dream come true members of the international NGV community should combine their resources and consider the establish-



The NGV Caravan included this KamAZ truck.

ment of an international consortium. In Europe we need to develop a pan-continental CNG/LNG fuelling and servicing network, with not dozens or hundreds of stations but thousands of them, and a company called EuroAutoMetan has been proposed. In Asia and the Americas similar instruments may be developed.

NGVRUS, together with other national and international partners, is ready to promote the NGV philosophy by all means, including Blue Corridor NGV Caravans. Why don't we organise one from Yekaterinburg to Madrid next time?

Eugene Pronin is the Head of Gazprom's NGV Division and the President of NGVRUS.



In addition to stops at permanent CNG filling stations some refuelling was done from a mobile CNG cascade carrier – in this case at Dzhubga on the Black Sea.





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● **Street Works and the Need for a Collaborative Approach to Innovation**

By Klaus Altfeld and Dave Pinchbeck

Cities continue to function because their inhabitants' economic and domestic activities are facilitated by utility services (gas, electricity, water, sewerage, highway drainage, district heating and telecommunications). These assets must be installed, maintained and renewed to enable the continuing delivery of these vital services; often this means disrupting traffic because most of these assets are buried beneath our streets, out of sight.

In Europe, the European Commission has estimated that the annual cost of utility street works will rise to more than €80 billion by 2010 (~ €10 million per hour) from indirect costs associated with waste materials, disruption, traffic delays and environmental pollution (extra greenhouse gas emissions, noise, etc.). It's worth noting that this excludes any assessment of the extra disruption caused by the increased amount of utility work required to replace ageing assets. Street works also contribute significantly to a reduced quality of life for citizens.

Eighty per cent of Europe's population live in urban areas. Rome, a city of 3 million inhabitants, has more than 65,000 kilometres of pipes and cables buried beneath its streets. In France, with 60 million inhabitants, there are more than 1.5 million kilometres of cables and pipes, plus cables and optical fibres for TV and telecommunications, which more than double this figure, making it equivalent to more than 150 metres of pipe or cable for each household.

It's clear that what is needed is a significant investment in innovative technologies to enable utilities and road authorities to identify, locate, inspect, install and renew buried infrastructure with minimum disruption to the street environment. It's only by minimising, or even eliminating, the length of time that utilities need to work in the street that we will see reductions in congestion and improvements in traffic flow.

This is clearly not only a gas industry problem; it's a European, indeed worldwide, issue with implications for a sustainable environment, energy efficiency in transport, citizens' health and quality of life and, as such, needs to be addressed on an international front. ESWRAC¹, the European Street Works Research Advisory Council, a forum of European cities, highways agencies and utilities, notably GDF Suez, is collaborating in an effort to resolve some of these issues and to identify R&D priorities.

It's clear that:

- all street works stakeholders need better technologies to help locate and inspect buried assets accurately, so avoiding third party damage, reducing associated safety risks, and minimising disruption to the travelling public;
- a collaborative, international and inter-utility



Klaus Altfeld (RIGHT) and Dave Pinchbeck (LEFT) seen at the first GERG Academic Network Event in June. The academic network aims to enlarge and strengthen links between selected universities and the European gas industry's research centres.

¹ This paper has been prepared by GERG, the European Gas Research Group, a founding member of ESWRAC, the European Street Works Advisory Council. ESWRAC is a strategic platform comprising European utilities, cities and highways agencies that seeks to frame and align various initiatives to provide momentum for realisation of the European street works practitioner's vision.

approach is needed to develop and apply these new technologies to ensure that a sufficiently large market is created to encourage investment and to ensure adoption of best practices;

- a multi-million Euro technology initiative is needed, overseen by a combination of road users, utilities and city authorities, to ensure that the results of research are appropriately directed and applied.

The background

Demand for natural gas is set to grow across Europe and the development of safe, well controlled, reliable and cost effective natural gas networks will be essential for end users. The safety of gas infrastructures must remain the priority both for future investment and for operating and maintaining existing systems.

Efforts are mainly concentrated on maintaining and upgrading existing assets by, for example, increasing the operating pressure. Most of the existing high pressure network in Europe will continue to be used for the coming decades, which means that degradation mechanisms will have to be very well understood. Proof of integrity of pipelines will also be essential and will demand new inspection techniques, especially for non-piggable lines, and rehabilitation techniques.

In addition, many households remain to be connected to the gas network and, as a consequence, the low pressure gas distribution system will be progressively extended by means of new pipelines. Hence, there will be a continuing requirement for new technologies to enable the installation of new house connections and also for the repair and renovation of parts of the more than 1.2 million kilometres of existing low pressure distribution pipes in Europe (EU25).

Urban and suburban air quality is improving, but resident populations are still exposed to undesirable levels of vehicle-derived pollution. There would be undoubted benefits to the environment, to quality of life, resource management and



It is important to minimise the disruption caused by street works.

fuel efficiency from minimising the amount of street-works related to buried infrastructure in cities and in rural environments. Consequently, more R&D funding targeted at developing the technologies to minimise street works disruption would have a considerable positive influence on air quality, traffic noise reduction and citizens' state of mind (consider road rage). It must also be noted that this point applies to every utility: gas, water and sewerage, electricity and telecoms and, indeed, to all city administrations.

What we need to do

Experts from the US and Europe representing utilities, contractors, manufacturers, research organisations and academia, have spent a considerable amount of time and effort researching performance of current technologies and identifying potential research opportunities. GERG

members, working with ESWRAC, in light of its diverse experience with interested parties, such as utilities, transport organisations and city administrations, have contributed to developing the research programme to address the needs of the utilities in Europe.

The programme has six themes:

- Making the best of what we have currently.
- Improved future surface-based survey techniques.
- Below-ground survey techniques.
- Future developments and possibilities.
- Better construction methods.
- Better asset management.

The requirements are based around the premise that, over time, we need to:

- develop a better understanding of user needs and the real costs and risks associated with installing and maintaining underground infrastructure;
- implement best practice and improve the skills base;
- move from open cut excavation to trenchless technology, to reduce impact on the above ground and underground environment;
- develop further existing location technologies and give us new location technologies that will reduce the time spent in the highway, and;
- develop radical longer-term solutions to the problems.

Concluding remarks

The developed world absolutely relies on utilities to deliver, usually unseen, and with little, if any, difficulties. As a result, utilities are mostly taken for granted unless something goes wrong. That they usually do deliver is clearly not a result of good fortune but rather the product of extensive and rigorous R&D programmes conducted at some time in the past. And it's clear that utility companies must continue such activities if their critical assets are to be maintained and improved so that they will be available to provide continued delivery of product into the future. Many countries are currently coping with their ageing infra-

structure, with a resultant increase in maintenance and replacement costs and an impact on customer expectations regarding system security and reliability.

Utilities are under pressure from waves of change brought on by deregulation, globalisation and restructuring, and demands to optimise shareholder value, while at the same time having to meet stringent safety and regulatory requirements and fulfil customer demand for high reliability in an increasingly competitive market. To achieve all of these objectives – whether measured in terms of shareholder value, revenue growth, profitability or customer satisfaction – companies must adopt more sophisticated asset management approaches that make it possible to inspect, maintain and manage diverse assets.

R&D will be necessary if new assets are to operate as well as or better than those currently in the field, which is characterised by a complicated and varied asset base, with numerous interacting assets and asset types, principally below ground.

A positive outcome will require:

- an interdisciplinary approach, including integrated application of tools and techniques developed in such diverse fields as engineering, finance, economics, management, environment and social science;
- multiple stakeholder views and often conflicting goals (e.g., high levels of service versus low tariffs, social and environmental responsibilities versus financial ones);
- technologies to overcome the high level of uncertainty and a lack of information, especially with regard to the condition and performance of spatially distributed and, crucially, buried pipeline assets.

In addition, climate change and calls for more sustainable practices must be taken into consideration while fulfilling the industry's fundamental mission, which is to ensure security of supply into Europe.

Finally, it's necessary only to reiterate ESWRAC's response to the European Commission's document

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“Towards a Thematic Strategy for the Urban Environment”:

- Modern cities can't survive without utility services.
- Most utility services are buried, unseen and trouble free.
- Some utility services will (continue to) need maintenance and renewal.
- Street works practitioners need better tools to detect assets and minimise third party damage.
- New techniques and improved practice will minimise disruption to traffic and to citizens and will safeguard the environment.
- New technologies will ensure that future generations can locate buried assets easily.
- And, perhaps most importantly, this is an international problem, which should be addressed appropriately, if only to ensure that the scale is sufficient to encourage investment and adoption of best practice.

Dr Klaus Altfeld is Head of the gas measurement competence centre, E.ON Ruhrgas, and President of GERG. Dave Pinchbeck is General Secretary of GERG, the European Gas Research Group (www.gerg.eu).

● **Energy Delta Institute: Sharing the Energy of Knowledge**

By Catrinus Jepma

Energy Delta Institute (EDI) is the international energy business school in The Netherlands with a primary focus on natural gas. Our Institute is based on top of the Groningen gas field. Its discovery 50 years ago was celebrated in June and a production life of 50 more years is predicted.

The opportunity provided by IGU for EDI to become an affiliated organisation in 2008 was accepted with enthusiasm. Since then our Institute has developed much further and we would like to update you on how EDI is instrumental in bridging the knowledge gap in the industry especially now that many senior experts are starting to leave the industry.

In 2008, EDI welcomed over 550 participants to its Master Programmes, specific courses, introduction courses and in-house training programmes. We expect to welcome an even larger number this year despite the global recession.

EDI offers three executive Master Programmes in cooperation:

- Executive Master in Petroleum Business Engineering (Delft University of Technology);
- Executive Master of Finance & Control for the Energy Industry (University of Groningen); and
- Flexible Executive Master in Gas Business Management with the modules Natural Gas Strategy, Large Energy Projects, Gas Market Regulation and a Summer Academy (University of Groningen).

These three modules can also be followed on a stand-alone basis.

Given the increasing number of students especially for our specific and in-house courses, the energy community has come to appreciate EDI as the platform for knowledge exchange. The continuously changing energy markets and the additional challenges resulting from the economic crisis, force companies to consolidate but also to innovate in order to be better prepared for the future. Investing in (permanent) education to stay ahead of the competition is often seen as a prerequisite. Now that senior experts are starting to retire, the energy sector is confronted with the possibility of a growing shortage of qualified personnel in the coming decades. The sector has only one choice and that is to invest in knowledge. EDI's main objective is to fill the knowledge gap and to contribute to the development of current and future energy professionals and managers to keep your organisation vital.

We are proud to have attracted more than 220 lecturers with wide-ranging and in-depth experience from their active professional life within the energy sector. They are instrumental in transferring, through the EDI structured and supported programmes, the knowledge to succeeding generations of energy professionals and management.



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REDISCOVERING ENERGY



EDI has a proven track record of organising programmes with a maximum of 20 students per course. It is our experience that this is a group size that generates sufficient interaction and generates knowledge exchanges between participants also after the course. Some professional networks have started during our programmes and lasted well beyond the time span of our programmes. The organisation of alumni events is also supportive in that respect.

For the present IGU Triennium that is ending with the World Gas Conference in Buenos Aires and also during the next Triennium under the Malaysian Presidency, EDI staff members are actively participating in the IGU work programme, to exchange knowledge from our studies and to be updated on the latest developments. Moreover, of our 220 lecturers coming from all parts of the energy business and related activities, many of them are actively involved in IGU – sometimes they have been for many years – and at all levels in the IGU organisation.

Together with our partners we identify their educational requirements, and as a result we adapt our programmes to their specific needs. We constantly trim our training programmes to the rapidly changing energy market circumstances. Most of our lecturers are in day-to-day contact with the main players that are at the forefront of – or even determining – the latest developments in the energy markets.

EDI further supports the knowledge base and knowledge exchange between partners through dedicated studies and our own international consultancy. We are intensifying the knowledge exchange between partners and others through our renewed website (www.energydelta.org) and partner events, dedicated round tables on selected subjects and our free quarterly magazine.

We are proud of our partners' support of our Institute and that we in return can contribute to their management development programmes. EDI has chosen a network approach as good networks are to our mutual benefit, leading to more creativity and innovation (for the list of partners, see box).

EDI PARTNERS

Founding partners

In 2003, N.V. Nederlandse Gasunie, GasTerra B.V., OAO Gazprom and the University of Groningen founded the Energy Delta Institute. They were later joined by Shell in 2006 and RWE in 2007. These organisations are the founding partners of EDI. All the founding partners are members of the Board of EDI and meet annually, not only to discuss EDI's results, progress and plans, but also to strengthen their mutual bonds.

Associated partners

To ensure our products and services meet the demands of the energy sector and are of the highest quality, EDI cooperates with a number of parties in the business and knowledge

sectors. In order to realise our mission and vision, EDI is expanding its network of business partners, known as associate partners. Our present and future associate partners are active players in the international energy market. Currently, Electrabel, Essent, DONG and Energy Beheer Nederland (EBN) are associate partners.

Knowledge partners

The current knowledge partners of EDI are the University of Groningen, Delft University of Technology, Clingendael International Energy Programme, Oxford Institute for Energy Studies, Institut Français du Pétrole (IFP), Gubkin University, Moscow State Institute of International Relations (MGIMO) and VNIlgaz.



Share.

Knowledge needs to be shared. This is an absolute must in the fast developing energy business. And it is what Energy Delta Institute drives. EDI was founded by leading global energy businesses. Its purpose: to capture knowledge of the top experts, to make it accessible for young professionals, let it evolve and make it applicable. EDI opens up knowledge on energy in comprehensive research and executive programmes. EDI brings current and future executives together to exchange views and share knowledge. Empower your business. Share the energy of knowledge.

See our programmes at www.energydelta.org.

Sharing the Energy of Knowledge.

Founding partners



Associated partners





Participants in the first FEP module pose for a group picture outside the Gasunie headquarters in Groningen.

Recent developments

EDI Intelligence

The newest division of the Energy Delta Institute, EDI Intelligence functions as a hub to facilitate an exchange of knowledge between the research community and the business world. It identifies and communicates specific issues in the market that require further research. The aim is to “translate” the results of fundamental and applied research to its partners and other market actors.

EDI Intelligence collects the most relevant research that is being conducted in the academic community and the business world on the energy sector to create a database. This database centralises the research and offers the information in a consolidated and easy to understand format (updates + archives). This allows our partners to stay in touch and up to date with the very latest developments in the energy world.

Every three months EDI Intelligence releases EDI Quarterly, a publication discussing important energy issues at the present time. This gives readers an overview of the latest developments regarding pressing energy topics as well as important research results.

EDI Intelligence offers a new and vast energy encyclopaedia covering in detail an abundant number of topics related to the natural gas sector. This vast collection of knowledge will help our

partners to be updated on the latest developments within the energy field as well as being a useful tool to serve as a book of reference.

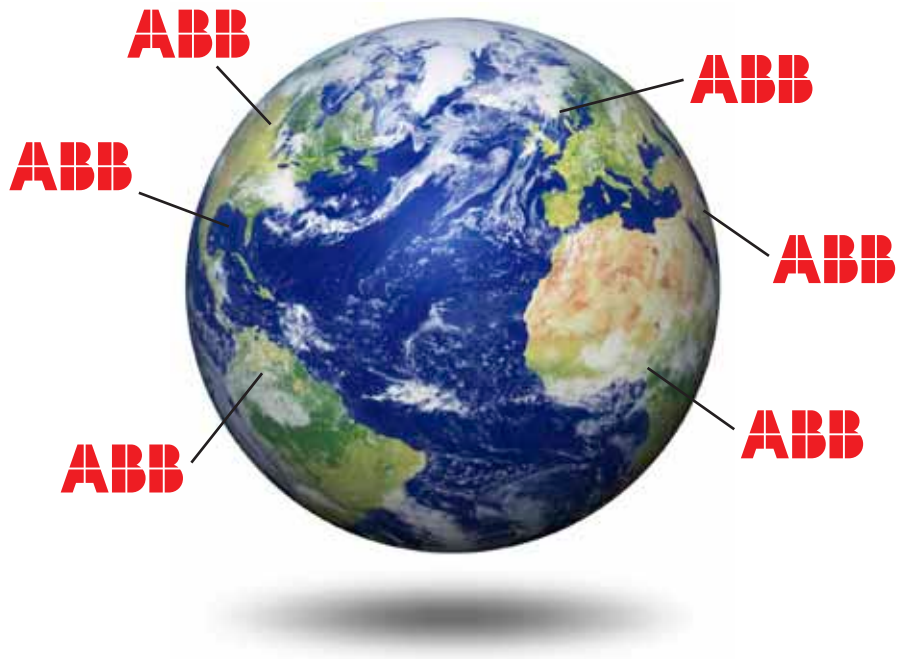
The information that is provided on our website will have three levels of disclosure:

- 1** First, there will be information that is freely available to the general public;
- 2** Second, there will be information initially accessible only to our partners and that will be made public after a certain period of time; and
- 3** Finally, there will be information available only for our partners that will be restricted to the general public.

EBC Fellowship on Energy Programme

On 11 May, the first programme module of the Fellowship on Energy Programme (FEP) hosted by N.V. Nederlandse Gasunie started with 17 highly-placed senior professionals in the field of energy from: Bulgaria, Germany, France, Kazakhstan, Lithuania, Russia, Slovenia, and The Netherlands. FEP has been initiated by the European Business Congress (EBC), which stands under the presidency of Mr Alexei Miller, CEO of OAO Gazprom. EBC consists of 110 companies from 14 countries operating both in eastern and western Europe. EBC focuses on energy supply as one of the major challenges facing Europe. This calls for new solutions and also new forms of leadership, which

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EDI's President Catrinus Jepma (RIGHT) debating during the Young Professionals Day.

inspired EBC to launch FEP with modules in Berlin, Groningen and Moscow, organised by EDI in cooperation with the European School of Management and Technology (ESMT) in Berlin.

FEP's aim is to prepare future leaders of the energy sector for the major transitions in the European energy business in East and West through intensive courses aimed at enhancing cooperation in the energy sector, acknowledging cultural, economical and structural differences and the different interests that need to be taken into the equation for companies to obtain their full licence to operate from stakeholders. The programme focuses therefore on current and future energy markets and policies in Europe and leadership skills. The first module was recently concluded very successfully. It focused on energy policy choices facing us in north-west Europe and on what personal leadership skills are required for a successful completion of transitions in the energy business environment. The second module started in September in Moscow and its focus is on what choices companies need to prepare for and how leadership can be effective.

Young Professionals Day

On June 15, EDI organised a one-day event for young professionals working in the energy

industry. The aim of this day was to discuss the energy mix for the coming decades and how climate change should be addressed. To stimulate discussions, four political parties with different views on energy were founded. The young professionals were asked to back one of the parties, which sparked immediate discussion. They actively seized this opportunity to try to win others for their own party.

The lecturers and the attending members of the board of the Foundation World Gas Conference 2006 listened with interest to how the young professionals presented their visions on the matters discussed. At the end of the day, an Energy Parliament was formed. The main conclusions of the young professionals are that they expect the energy industry, and not politicians, to take the lead in reducing carbon dioxide emissions and making the energy mix less dependent on fossil fuels. In addition they consider that nuclear energy should be an important element in the energy mix of the future, alongside wind and solar energy.

Overall, the event proved to be a big success with participants from all across The Netherlands. The next day during the G50 International Conference to celebrate the discovery of the Groningen field, the EU's Energy Commissioner Andris Piebalgs was asked by the moderator Ruud Lubbers (a former Dutch Prime Minister) to comment on the outcome of the Young Professionals Day. He expressed his contentment to hear that the young professionals have so much faith in their own industry in addressing energy and climate problems.

Given the enthusiasm of both participants and lecturers, Energy Delta Institute has the ambition to make it a yearly event and broaden the scope by inviting young professionals from abroad and raising the commitment of the next generation of professionals to our forward-looking industry.

Professor Catrinus Jepma is the President of EDI (www.energydelta.com).



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Welcome to the 24th World Gas Conference

By Eduardo Ojea Quintana

The World Gas Conference is the key global forum for the gas industry to meet and exchange information. Every three years one city becomes the temporary capital of the gas world and we are proud to welcome you to Buenos Aires.

Hosting the 24th World Gas Conference marks the culmination of the Argentine Presidency of IGU, during which 750 members of the Technical Committees have carried out a Triennial Work Programme covering the whole gas chain. The guidelines were to review the strategies for natural gas towards 2030 and consider its contribution to sustainable development with a particular focus on gas market integration. The conference will present the results of the work done and we have prepared a comprehensive programme of keynote speeches, paper presentations and workshop debates, as well as an exhibition and a range of social events.



Eduardo Ojea Quintana.

● Technical programme

La Rural Conference and Exhibition Centre is the venue for the 24th World Gas Conference. Each morning and afternoon session starts in the main 1800-seat Auditorium with Keynote Addresses by leading industry figures from around the world. Four of the Strategic Panels are also being held in the Auditorium, while the other Strategic Panels together with the Committee Sessions and Expert Fora take place in the Ochre Pavilion, which has eight meeting rooms ranging in size from 700 to 100 seats. The venue for the Luncheon Addresses is the 500-seat El Central Restaurant. By extending the working day, we have been able to create a dedicated slot for the Strategic Panels so delegates can attend them without missing the Committee Sessions and Expert Fora.

There was a tremendous response to the Call for Papers (the introduction to the Coordination Committee's Progress Report will give you more



La Rural Conference and Exhibition Centre is the venue for the 24th World Gas Conference.

details) and to do it justice we have launched the Technical Cafés. These new venues in the Ochre Pavilion's circulation area allow us to present more papers, bringing the total during the conference to 356. The idea is to combine a traditional display of posters with computer access to more detailed presentations in a relaxed environment with tables, chairs and a refreshments service. The Technical Cafés are open throughout the Conference and

the authors of each paper are taking it in turns to be by their poster and answer delegates' questions personally.

● **Exhibition**

The accompanying exhibition covers 15,600 square metres net with 222 companies from 42 countries exhibiting and a particularly strong presence from the host country.

KEYNOTE AND LUNCHEON SPEAKERS

Tuesday, October 6

Antonio Brufau, Chairman and CEO, Repsol YPF and Vice President, Gas Natural Group

Faisal Al-Suwaidi, Chairman and CEO, Qatargas Operating Company

Helge Lund, CEO, StatoilHydro

Alexey B. Miller, Deputy Chairman of the Board of Directors and Chairman of the Management Committee, Gazprom

Bernhard Reutersberg, CEO, E.ON Ruhrgas

Wednesday, October 7

Maria das Graças Silva Foster, Director of Gas and Energy, Petrobras

Norio Ichino, Chairman, Japan Gas Association

Nobuo Tanaka, Executive Director, IEA

George Kirkland, Executive Vice President, Global Upstream and Gas, Chevron Corporation

Jean-François Cirelli, Vice Chairman and President, GDF SUEZ

Thursday, October 8

Christophe de Margerie, Chairman and CEO, Total

Tan Sri Dato Seri Mohd Hassan Marican, President and CEO, Petronas

Paolo Scaroni, CEO, Eni SpA

Tony Hayward, Group Chief Executive, BP

Thomas E. Skains, Chairman, President and CEO, American Gas Association

Friday, October 9

Azizollah Ramezani, Deputy Minister and Managing Director, National Iranian Gas Company

Marcel P. Kramer, Chairman of the Executive Board and CEO, N.V. Nederlandse Gasunie

Zhou Jiping, President, Petrochina



● Photography contest

An innovation in the run-up to the 24th World Gas Conference has been our photography contest “Views on Gas Worldwide”, which was open to employees of organisations affiliated to IGU Charter and Associate Members. We received over 150 entries and the winners will be announced during the Closing Ceremony on October 9.

All of us on the National Organising Committee wish you an enjoyable and successful stay in Buenos Aires.

Eduardo Ojea Quintana is the Chairman of the National Organising Committee for the 24th WGC.



The jury for the International Photography Contest met in London to select the winners who will be announced during the Closing Ceremony of the 24th WGC.

Pan American Energy

Pan American Energy (PAE) is a hydrocarbons exploration and production regional company, the result of a strategic alliance between BP (60%) and the Argentine oil firm Bidas Corp. (40%). **PAE** has activities in Argentina, Bolivia and Chile and its area of action is the Southern Cone of South America.

In the last decade, **PAE** has established itself as the second largest oil and natural gas producer in Argentina. The company currently accounts for 16% of the country's hydrocarbons production.

From 2001 to 2008, **PAE** invested about \$5,000 million in its exploration and production activities in Argentina. As a result of such investments, the incorporation of technology and the quality of its technicians and professionals, **PAE** increased by 82% its natural gas production and contributed with 60% of the natural gas added by

Argentina since 2002. Today the company produces more than 18 million cubic meters per day, and much of this gas comes from recently developed fields in Salta, Chubut, Santa Cruz and Neuquen provinces and the Southern Argentine Sea.

In fact, **PAE** is one of the few companies in Argentina to have consistently increased its oil and gas production in recent years: the company succeeded in achieving a 90% increase in its production, from the 121,000 barrels of oil equivalent per day (boe/d) reached in 2000 to 229,700 boe/d in 2008.

In the same period, **PAE** also recovered 100% of its production, adding a 62% of additional reserves and contributing significantly to employment generation in its areas of operations, especially in the Golfo San Jorge Basin.

Pan American ENERGY

Oil & Gas
Exploration and Production

A successful story of growth with Argentina

In the period 1999 through 2008, without having acquired reserves, Pan American Energy succeeded in doubling its hydrocarbon output in Argentina from 40 million BOE per year to 84 million BOE per year, recovering 100% of the production and adding an 89% of additional reserves.

Algeria Prepares for LNG-16

By Mark Blacklock

The world's leading forum for the exchange of information on liquefied natural gas is the LNG-X series of conferences organised by IGU, the International Institute of Refrigeration (IIR) and the Gas Technology Institute (GTI). The first was held in 1968 and they have now settled into a three-yearly cycle, alternating between exporting and importing LNG countries. For LNG-16, the baton has been passed to Algeria.

"LNG-16 will be held in Oran, April 18-21, 2010," says Dr Abdelhafid Feghouli, Vice President of Sonatrach Downstream Activity and Chairman of the National Organising Committee (NOC) for LNG-16. "LNG continues to grow in importance in global energy markets, with major developments throughout the value chain, and we

expect unprecedented interest in this important event which will take place in Algeria in 2010."

There has been an excellent response to the Call for Papers with over 250 abstracts submitted and a good distribution among countries and businesses. The Programme Committee chaired by Dr Nirmal Chatterjee is set to finalise its selection of papers and posters in October. During the conference the papers will be presented in seven sessions covering:

- LNG markets and LNG projects;
- Commercial and technical developments;
- Sustainability, safety and environmental benefits;
- Cost trends and optimisation;
- Managing the resource constraints;
- LNG facility issues including operations, maintenance, ageing and training; and
- Competitive energy markets.

There will also be four workshops addressing:

- Future trends in technical and commercial innovations;



Dr Abdelhafid Feghouli (LEFT) receives the conference banner at the close of LNG-15 in Barcelona in April 2007.



LNG-16 will be held in Oran, Algeria's second city.

- The direction of the global LNG market;
- Economy of scale trends and challenges; and
- Safety, asset management and reliability associated with ageing plants.

"Based on the abstracts received I am confident that we will have a very interesting and informative programme," says Dr Chatterjee. "We have papers on world markets, new projects under development, the results of project and plant start-ups, exciting developments in process, equipment and plant operations, safety innovations as well as informative papers on storage and distribution. We will also have a poster session dealing with many long-term, high-potential and pioneering developments across the entire LNG chain."

Additionally there will be technical visits to the liquefaction plants around nearby Arzew, a social programme and a half-day pre-conference course on LNG. The course has been designed by the

LNG-16 Steering Committee for personnel who are new to the LNG business and accompanying persons who want to learn more about LNG.

The overall organisation of LNG-16 is in the hands of conference specialist ITE, which has extensive experience in the energy sector including the organisation of the 19th World Petroleum Congress in June 2008.

● **Exhibition**

Having done an excellent job at the previous four LNG conferences in Barcelona, Doha, Seoul and Perth, the Australian company Exhibitions and Trade Fairs will be managing LNG-16's exhibition. "We have had a tremendous response from all sectors of the LNG business and from all over the world," says Exhibition Director Rodney Cox. "Indeed, many repeat exhibitors have taken more space than they had in Barcelona."



Sonatrach operates three LNG plants around Arzew – this is GL1Z – and one at Skikda.

The venue for LNG-16 will be Oran’s new convention centre, which is currently under construction on a site to the east of the city centre. “This is being purpose-built for LNG-16 and will be a state-of-the-art conference and exhibition centre in a dramatic location overlooking the Mediterranean,” says Cox. The facilities include a main auditorium seating 3,000, a range of meeting rooms, a 20,000 m² exhibition area and a 300-room hotel.

Apart from the new hotel, accommodation in Oran will be boosted by the chartering of two cruise liners, *Grand Celebration* and *Grand Voyager*, while the city’s Es Senia airport is being upgraded and LNG-16 delegates will be handled in a special terminal. Direct charter flights will be organised to Oran from London, Paris and the Middle East, while there will be extra flights on the Oran-Algiers route.

● Partners and sponsors

The Honorary President of the NOC is Mohamed Meziane, the Chairman and CEO of Sonatrach, and the Committee’s members include representatives of the major companies active in the Algerian gas sector who are supporting LNG-16 as partners and sponsors. Additionally there are opportunities to sponsor specific events and topics.

Algeria was the first country to start LNG exports back in 1964 and exported 22 bcm in 2008 ranking it number four in the world after Qatar, Malaysia and Indonesia. Algeria hosted LNG-4 in 1974 and is looking forward to welcoming delegates to LNG-16.

Mark Blacklock is the Editor-in-Chief of International Systems and Communications.



For more information on LNG-16 go to www.lng16.org

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ISTANBUL METROPOLITAN MUNICIPALITY

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The UK's Energy Excellence is a natural asset.



With world-beating expertise the UK's energy industries can lead the way to a global low-carbon economy.

Global demand for energy continues to rise and is not likely to be slowed much by the current economic downturn. The International Energy Agency's latest forecast says that the world's energy needs will grow by 55% between 2005 and 2030, with fossil fuels accounting for 84% of this. This means that the challenges of meeting energy demand while combating climate change cannot be separated. The need to convert to a low-carbon economy is taken very seriously, by government, industry and the general public: what we need now are serious capabilities in energy technology and services to bring that transition about. The UK energy industries have those capabilities and are already applying them to global energy and climate change projects.

Global Energy Needs

Although oil and gas will continue to be major ingredients in the global energy mix, new oil and gas resources are becoming harder to reach and more difficult to produce. Reservoirs are at ever greater depths, at higher temperatures and pressures, and require complex drilling and completion solutions. Ever increasing environmental pressures also need to be managed. Cleaner and more efficient utilisation of oil, gas and coal will be required for new power projects. As hydrocarbons use declines and renewables come to the fore, projects will require forward-looking expertise in wind, wave, tidal, solar and biomass, among others. A new generation of nuclear power facilities is likely to emerge in the next few years, to fill any shortfall between declining hydrocarbons and expanding renewables. The UK has leading-edge expertise in all these areas.

UK Energy Expertise

The UK's energy supply chain has developed its skills through decades of oil and gas production from the harsh environment of the North Sea and elsewhere. Those skills have grown into a set of capabilities applicable across all energy sub-sectors, including the increasingly vital renewable energy sources. The UK energy industries have proven expertise in major project management and engineering capability; the design, manufacture and installation of advanced equipment; in conducting ground breaking research and development; and in providing learning and skills training across the entire energy spectrum. All of this expertise comes with a global commitment to human and environmental safety. The key UK strengths of innovation, reliability, adaptability, sustainability and knowledge can be brought to bear on any energy project, anywhere in the world.

Meeting the World

UK energy companies currently generate revenues of more than \$180 billion from domestic and international business and employ 600,000 staff. This is expected to rise to \$400 billion and one million employees by 2030, by which time perhaps \$22 trillion will be spent annually, worldwide, on supplying energy. Clearly there is a great deal for UK energy companies to offer and to gain. UKTI can help those companies substantially in the global market place.

UKTI offers information and support that only government can provide. For example, facilitating access to key decision makers in government and industry; providing in-depth advice on the political, economic and cultural environment; as well as help with identifying business opportunities and provision of specific, detailed market information.



The UK Energy Excellence Marketing Strategy provides a compelling message to the world, positioning the UK as the destination of choice for energy trade and investment. The strategy is being implemented by the UK energy industries, supported by the UK Government – working in a 'UK Energy' partnership – to convey the key attributes of UK business excellence – Innovation, Reliability, Adaptability, Sustainability and Knowledge, to potential and actual buyers and investors overseas. These attributes are common to UK companies working across the energy industries – in oil and gas, power generation, carbon capture and storage, renewable energy, clean coal, hydro, nuclear and network technology. There is no part of the global energy scene where UK excellence is without relevance.

Marske Site Services (MSS) is an engineering projects and employment business operating in the oil and gas, petrochemical and power generation industries, among others. MSS sources, interviews, and selects experts then introduces them to clients looking for permanent staff, or assigns them for a specific duration on a contract-hire basis.

The company's strategy for business growth has been to focus on exploring overseas markets. It was not until early in 2003 that MSS gained significant overseas business. Since then, MSS has provided engineering consultants to companies in Holland, Mexico, China and Saudi Arabia, and over the last six years MSS has been providing specialist personnel to major operators in Libya through a third party company. After participating in a UKTI mission to the Deep Offshore Technology conference in Norway, in 2007, MSS secured a contract with Deep Sea Group to recruit senior management for Thailand. UKTI also helped MSS with a grant to attend a trade mission to Libya, in October 2008, one of the company's key target markets.

"At this time in our business development, it was useful to have people working so proactively for us," said Alan Gibbin, Business Development Director of MSS.

"We continue to receive help and support from UK Government agencies. This really gives us a sense of 'partnership' and any success we have in achieving business exports eventually concludes in a win-win situation for us as a company and the UK economy."



The UK's energy excellence makes us the world's natural energy champion. New natural gas resources are becoming harder to reach and more difficult to produce. Reservoirs are at ever greater depths, at higher temperatures and pressures, and call for complex drilling and production solutions. Ever increasing environmental pressures also need to be managed. The UK's energy supply chain has developed its skills over decades of working in the North Sea and other highly challenging environments and is second to none in conducting cost effective and environmentally friendly developments. Those skills are at your disposal, wherever you are in the world.

For more information contact us
on **020 7215 8000**
or email us at **energy@ukti.gsi.gov.uk**

Delivering energy excellence

