

## Moving on from Copenhagen

By David Adam

The UN climate change talks in Copenhagen at the end of last year were the most eagerly awaited, most heavily hyped and most intensively reported gathering on global warming ever. The 15th in an annual series of meetings that traces its roots to the 1992 Rio Earth summit, the Copenhagen meeting (COP15) was routinely billed as the last chance to save the world from the ravages of rising temperatures, encroaching seas and dwindling food and water supplies.

COP15 was the time for the world to come of age. It was President Obama's chance to show that the US had broken free from the shackles of the Bush administration and was determined to treat the climate problem seriously. It was the time for China and India to cement their place on the

global stage and acknowledge that their break-neck coal-fuelled economic miracle was built on shifting sands. And it was the opportunity for Europe and the other rich countries that have built their wealth on fossil fuels but ignored the environmental cost to acknowledge their responsibilities. With such incentives and political momentum, the strict cuts in greenhouse gases that scientists say are urgently needed would surely be agreed?

None of it happened.

The talks in the Danish capital started badly and went downhill from there. Rather than unite the world in the face of ecological doom, the summit exposed the traditional chasm between developed and developing nations, as formal negotiating sessions on the fate of the planet descended into squabbling and finger pointing. Heavily-spun leaks of internal documents, some significant and some not, were lapped up by a media eager for stories. Green campaigners, those who could get in to the massively over-subscribed conference centre, gnashed their teeth



The 15th Conference of the Parties to the UN Framework Convention on Climate Change was held in Copenhagen, December 7-19, 2009. (ABOVE) UN Secretary General Ban Ki-moon addresses delegates. (OPPOSITE) Demonstrators make a point.

and railed against injustice, while climate sceptics, emboldened by a new wave of attention paid to their old and repeatedly discredited ideas, tried to throw as many spanners in the works as possible. It was a mess.

With barely a few hours left on the Copenhagen clock, a weak compromise agreement was thrashed out, and grabbed with both hands by those countries that had the most to lose from a total breakdown. Rather than a strong Copenhagen Protocol, which would succeed the existing Kyoto agreement and lead the united world to a low carbon economy, the chaotic few hours of the summit spat out the Copenhagen Accord, a flimsy pamphlet of a deal that did little but restate the problem and the need for action. The promised carbon targets amounted to a blank page. The accord was not legally binding, nor set no route or timescale to make it so. Born of confusion, the nations of the world could not even agree whether their new agreement was an agreement. Should it be formally considered a product of the Copenhagen meeting? Is it a foundation or a hindrance for future talks? When the tired and emotional world leaders headed home, it was not with the smiles and handshakes they had hoped, but with bitterness, frustration and, ultimately, broken promises. They had pledged to reach a deal that addressed the problem, and they had failed to do so.

Green campaigners, acting as the world's conscience, wasted little time in announcing their frustration. Friends of the Earth called the meeting an "abject failure". WWF said the final accord was "half-baked and unclear".

Politicians from all quarters scrambled to find some positives. Gordon Brown, UK Prime Minister, called it a "start", while President Obama admitted that, "We've come a long way but we have much further to go". But within days, the blame game began in earnest.

Developing nations and campaigners accused the rich countries of a terminal lack of responsi-



bility. Many in the developed country camp took out their frustration on China, which they said had blocked targets and timetables at every turn. Others rounded on Obama, who made some very undiplomatic comments about China in a speech to the summit and, with suspicious timing, managed to agree the final accord with a group of key nations in time for the "deal" to be announced on the US evening news.

The UN process itself also drew fire, with some world leaders apparently stunned by their first experience of the red-tape and bureaucracy that the UN's climate consensus approach demands. Prime Minister Brown was among the most vocal in calling for reform, when he accused some countries of playing the system to hijack the talks. "Never again," he declared, "should we face the deadlock that threatened to pull down those talks; never again should we let a global deal to move towards a greener future be held to ransom by only a handful of countries."

### ● Glimmer of hope

Yet, was Copenhagen the failure it is commonly perceived to be? Is there a glimmer of hope for the overheating climate in the months to come?

The reason Copenhagen received so much attention is that, two years earlier at a similarly chaotic meeting in Bali, the nations of the world set the 2009 meeting as a deadline to agree a



(ABOVE) US President Obama strides into action at COP15. (OPPOSITE) Premier Wen Jiabao outlines the Chinese position.

new treaty. The first phase of Kyoto expires in 2012, and the so-called Bali roadmap was supposed to climax in Copenhagen to allow a successor agreement to be in place by then. So on one level, yes Copenhagen failed because no such treaty emerged.

But it could also be argued that Copenhagen was merely business as usual. The world has failed to take the climate problem seriously for some 20 years or so now, and the Copenhagen meeting merely restated that weakness. As long as ago as at the previous climate talks in Poznan in December 2008, UN officials were warning that a fully worked out treaty was impossible at Copenhagen. There was just too much to do, they said. As 2009 raced along, the frustrating truth of that statement dawned on most people involved. Public optimism was tempered by private realism that Copenhagen would not make the progress required.

The election of President Obama in the US, to the widespread relief of those who believed the blocking tactics of the Bush administration would be swept away, offered hope, but also became one of the biggest obstacles to a deal in Copenhagen. Despite pledges to properly engage with the problem, Obama's people were acutely aware that it was the US Senate, not Bush, which rejected the Kyoto Protocol. To avoid a repeat, with the Senate rejecting anything agreed in Copenhagen, and the nightmare situation of the US once again being on the outside of a global treaty, they would have to tread carefully. But as Obama's timetable for introducing a domestic cap and trade system to reduce US carbon emissions slipped, so did realistic hopes for Copenhagen.

With no strong action at home, Obama's hands were tied abroad. And with no significant move likely from the US, there was little chance

that the decade-long geopolitical stalemate over climate change would be freed. To those in Europe, who had already pledged ambitious targets and were pressing ahead with expensive action to drive the introduction of renewable energy and restrict industrial emissions, this was a disaster. Tensions rose behind the scenes and broke the surface in late summer when European officials complained that the US administration was putting its domestic concerns ahead of the international process.

Bilateral talks between the US and China, now the world's biggest producer of carbon dioxide, also appeared to be making little progress. When a much trailed speech by Chinese President Hu Jintao at the United Nations in New York in September failed to announce anticipated targets to reduce the carbon intensity of his country's economy, instead downgrading the pledge to "notable" action, it became clear that, even if a script had been prepared, the private drama between the two carbon superpowers had not yet entered its final act.

Observers have long described a new deal on global warming as an agreement between the US and China, with the rest of the countries there only as lubrication. At present neither nation has any demands made on their carbon emissions and their involvement in a new deal is crucial. Copenhagen, some say, simply came too early for that to happen.

Still, rather than Copenhagen being a failure, some, such as Sir David King, former chief scientist to the British government, argue that the meeting had some positive outcomes, not least that a fully fledged, but fatally weak, protocol was not agreed. There is still time to get it right.

Certainly to many seasoned observers of the UN climate process, the Copenhagen meeting reverted to type. Early optimism prior to the meeting was deliberately played down. The talks themselves blustered and nearly blew themselves out, and then, just when they appeared set to

collapse, a weak compromise was agreed that left the situation very similar to before the meeting was convened.

### ● **Changing the politics**

So what now? If Copenhagen was the last chance, where does the world go from here? Officially, the UN process is still the preferred route, and that means the climate circus, and the last chance saloon, moves on to the next UN meeting in Mexico City in December. The conventional thinking will say that Obama now has some time to get his domestic house in order, and that a domestic bill in the US will grease the wheels of the international process, draw in China, and give the world the confidence to agree in Mexico what was impossible in Copenhagen.

Yet there are signs that, while a deal was not formed in Copenhagen, the first impressions of a new world climate order were. The developing nations found their voice and helped to set the







The final accord was a product of core discussions involving key developing powers and emitters such as India.

agenda in a way that irritated the traditional powers such as Europe. And when it eventually came, the final accord was a product, not of the UN's 190-odd countries, but of core discussions between the US and key developing powers: Brazil, India, China and South Africa.

So has the UN process had its chance? There are signs that other options are being considered – not least discussions outside the UN process with a smaller group of nations.

"Our goal is very simply to design a regime that is going to have the capability to actually help us solve the problem," said Todd Stern, the top US climate official, speaking after Copenhagen. "One of the frustrations in dealing on the international level is that a lot of focus can be paid to debating whether a particular idea is consistent or not consistent with such-and-such an article of a previous agreement. A lot of attention can be paid to proposals or positions that are not very well tethered to reality. We all need to be focused on setting up a structure, and setting up a regime that can solve this problem."

The Obama administration is already talking up the importance of a rival process, which sees the US hold regular but informal talks with major emitters such as China and India. The so-called Major Economies Forum was initiated by President

Bush to widespread criticism, but has been seized by Obama as a way to do business.

"We came in with quite a strong view that we needed to set up a stronger group of countries as well as operating in the larger multilateral arena," Stern said. "For that reason we took the set of countries that President Bush had initiated, rechristened it and gave it a different mission."

The UK has also suggested a smaller group of countries take charge of the discussions, but still under the UN umbrella. There are doubts that cuts agreed outside the UN process could be made legally binding and subject to international rules, a situation that may suit the UN-sceptic US just fine.

So, while Copenhagen did not agree a new global deal, it was never likely to. And while the rhetoric may have spoken of cooperation and united action, the negotiations revealed some hard truths. Global warming has long been a battle of politics, rather than of science. It could be that the current set up of world politics is simply unsuitable when it comes to finding a way to tackle climate change. If the world is not to change in stark and dramatic ways, then perhaps the politics must.

*David Adam is the environment correspondent of The Guardian newspaper ([www.guardian.co.uk](http://www.guardian.co.uk)).*

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## IGU Puts the Message Across at COP15

By Mark Blacklock

IGU's gas event during COP15 in Copenhagen marked a significant stepping up of the Union's presence at the UN climate change conferences. As well as having its usual exhibition stand, IGU organised a half-day session of presentations and discussions looking at what the gas industry is already doing to mitigate climate change and the potential to do far more, given the right policy framework.

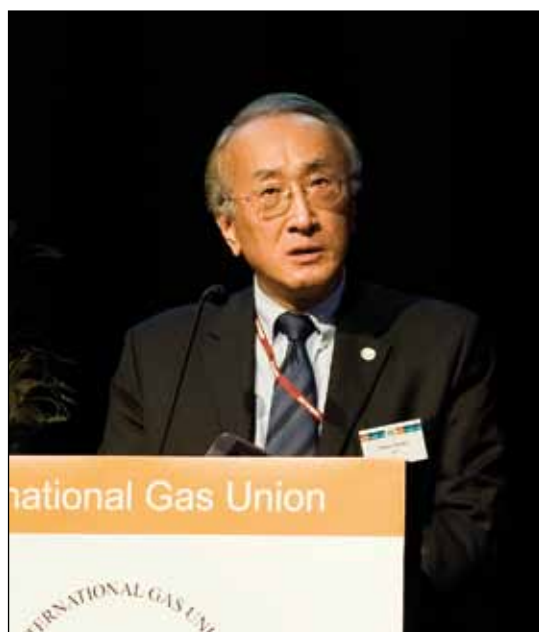
Held midway through COP15, on December 13, 2009, the IGU gas event was attended by over 110 participants including members of COP15 delegations, NGOs and other invited guests, and was sponsored by Dong Energy, Statoil, BG Group and Petoro.

Welcoming participants IGU President, Datuk Abdul Rahim Hashim, said that, "IGU regards

natural gas as being part of the long-term solution in a low carbon energy future", while Secretary General, Torstein Indrebø, pointed out that, "there is a close link between access to energy and living standards", declaring that IGU has an important role to play in the transfer of technology and know-how.

### ● Presentations

The first presentation was made by Nobuo Tanaka, Executive Director of the International Energy Agency (IEA), who outlined the steps needed to stabilise greenhouse gas emissions at 450 parts per million of CO<sub>2</sub>-equivalent, in line with an increase in global temperature of around 2°C. This 450 scenario highlights the potential role of gas as a transition fuel to a clean energy future, with global demand increasing from around 3,000 bcm in 2008 to 4,200 bcm in 2030, but demands substantial new investment over a business as usual scenario – some \$10.5 trillion. And while there would be a significant payback on much of this – Tanaka cited fuel cost savings in the



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Paul Wilkinson: gas will play a vital role in reducing emissions.



Jos Delbeke: we would like to see a transatlantic carbon market.



Nigel Shaw: important that the industry articulates the advantages of gas.



Anders Eldrup: there must be a flexible baseload.

industry, building and transport sectors of \$8.6 trillion compared to additional investment of \$8.3 trillion over the 2010-2030 period – he warned that every year of delay adds \$500 billion to the required investment.

As the world's largest energy consumer, the stance of the US on climate change is crucial. Paul Wilkinson, Vice President of Policy Analysis at the American Gas Association, discussed the role of gas in the US energy mix as the country debates legislation to reduce emissions. Wilkinson pointed out that thanks to new means of exploiting unconventional gas, particularly shale, US gas resources have increased substantially, while the efficiency of gas utilisation has improved. "We believe this legislation will promote the use of natural gas," he said, "and that gas will play a vital role in reducing emissions."

Jos Delbeke, Deputy Director General for the Environment in the European Commission (EC), welcomed the US moves and outlined the European position. "We would like to see a transatlantic carbon market when the US implements legislation and then move to an OECD-wide one," he said, describing the EU's Emissions Trading System as a start on which to build.

The impact that unconventional gas has had on the US energy market could well be repeated in other parts of the world said Nigel Shaw, BG Group's General Manager for Strategy & Portfolio Development. He highlighted the coal-bed methane projects in Australia that will export LNG and foresaw significant potential in Europe. However, Shaw stressed that technological developments need to go hand-in-hand with effective marketing to ensure that increased gas supplies displace more carbon-intensive fuels. "It is very important that the industry articulates the advantages of gas," he declared.

Fuel displacement is a focus of Dong Energy whose CEO, Anders Eldrup, set out a 2040 target of generating 85% of his company's electricity output from renewables compared to the current 15% by cutting back on coal-fired generation, building more wind farms and developing bio-mass. However, he stressed the need for gas-fired plants in a balanced portfolio. "There must be a flexible baseload," he said, adding that better grid connections with neighbouring countries were also needed.

Statoil's CEO Helge Lund looked at the gas industry's pioneering work on carbon capture and





Helge Lund: CCS is an important part of the solution.

storage (CCS) pointing out that Statoil has been active in the field since 1996 and that its projects at Sleipner, Snøhvit and In Salah currently capture 3 million tonnes of CO<sub>2</sub> a year. These are gas fields containing natural gas with a high CO<sub>2</sub> content; the company is now working on a flue capture project for a new gas-fired combined heat and power plant at its Mongstad refinery in Norway. This will start as a pilot capturing 100,000 tonnes of CO<sub>2</sub> a year with the aim of scaling up to 1.5 million tonnes a year by the end of 2014.

"I do not believe CCS is a silver bullet but it is an important part of the solution," said Lund, highlighting the work that needs to be done to reduce the cost of CCS and on the legal environment as regards CO<sub>2</sub> storage.

CCS is part of Total's response to the climate change challenge and the company has recently set up a pilot programme at Lacq in France. "We are committed to making CCS sustainable," declared Total's Manoele Lepoutre, Senior Vice President for Sustainable Development & Environment, "but cooperation is needed with



Manoele Lepoutre: cooperation is needed with private and public stakeholders.

private and public stakeholders." She explained that at Lacq one of the five boilers of the field's steam generating plant has been converted to an oxy-fuel combustion unit in order to capture CO<sub>2</sub> which is then transported by pipeline for injection into a depleted gas field. Injection started in November 2009 and some 120,000 tonnes of CO<sub>2</sub> will be stored over the next two years.

Lepoutre said that Total hoped to be able to move from the pilot stage to industrial scale by 2015. In the meantime the company is also working to reduce flaring, improve energy efficiency and develop solar, biomass and nuclear energies.

Stephan Ramesohl, Head of Research & Development at E.ON Ruhrgas, looked at what the industry is doing to mitigate emissions throughout the process chain, and considered the prospects for biogas. He then addressed utilisation, highlighting the potential to retrofit buildings with more efficient boilers and end-use appliances. "These solutions can be implemented in 10 million German homes tomorrow," he said.

Moving the focus to the transportation sector, Rajesh Vedvyas, Managing Director of Indraprastha



Stephan Ramesohl: retrofit buildings with more efficient boilers and end-use appliances.

Gas Limited, described India's programme to switch public transportation in major cities to CNG using a combination of legislation and financial incentives. The programme started in New Delhi, where there are now over 320,000 NGVs and pollution has declined sharply, and has since been extended to other cities. "There is every chance of replicating this programme globally," said Vedvyas.

#### ● Active debate

As the presentations showed, the gas industry is working hard on the climate change mitigation front and has the potential to make a far greater contribution. In the subsequent debate delegates wanted to know how this potential was going to be converted into concrete results, given that the current low price of carbon is discouraging greater fuel switching from coal to gas. They discussed the main policy instruments – taxes and cap and trade – concluding that the best option is to lobby policymakers to make caps more stringent.

CCS was a key topic with delegates lamenting the fact that many trials have been scaled down due to the economic crisis. They discussed how the



Rajesh Vedvyas: every chance of replicating India's CNG programme globally.

sector could be stimulated by both a higher carbon price and a reduction in costs. "We need 100 CCS projects by 2020 and escalating after that," declared IEA's Tanaka, while the EC's Delbeke said that, "the clean development mechanism (CDM) should be opened up to CCS technology".

While welcoming the increasing exploitation of unconventional gas resources, some delegates stressed that the industry needs to keep a careful watch on the impact of each development on local water resources.

In conclusion, there was general agreement that while the industry is making ground, it needs to do more to make its voice heard and have a bigger place at the policymaking table. As panel member Kjell Pedersen, President & CEO of Petoro, urged, "We need more events like this".

IGU has taken note and the Secretariat is looking at organising a gas event during COP16 in Mexico City later this year.

*Mark Blacklock is the Editor-in-Chief of International Systems & Communications Ltd.*

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## British Gas and Sonatrach: The world's first LNG partners



The Methane Pioneer:  
an LNG first, 1959.

### The world's first LNG shipment

Over 50 years ago, the British Gas Council unloaded the world's first international shipment of LNG at Canvey Island. The Methane Pioneer carried 5,000 cubic metres of LNG – less than 2% the capacity of a modern Qmax vessel – yet this voyage demonstrated to the world that natural gas could outmanoeuvre pipelines and be transported safely by ship.

#### British Gas and Sonatrach

Building from the Pioneer's journey, the world's first LNG trade followed in 1964 making Algeria and the UK the world's first exporting and importing countries respectively. British Gas recognised the benefits of Algeria's abundant resources of natural gas. The discovery of North Sea natural gas in the 1970s meant that the UK no longer needed LNG and trade eventually ceased.

### Running out of gas, relying on LNG

#### LNG's millennium renaissance

The UK is now one of the world's largest gas import markets and Algeria is once again a major UK supplier. The UK gas industry has been de-regulated with Centrica formed from the original British Gas to manage the customer base. Centrica is the UK's largest energy provider with 16 million customers. We also have a major presence in North America. Rapid terminal decline of the North Sea means LNG is once again required by the UK. Furthermore, the "greening" of UK power supply will require additional gas as coal fired generation is retired. LNG has provided 15% of 2009 winter demand, up from 1% in 2008.

British Gas carry out the long tradition of lighting the gas lamps outside the Houses of Parliament

## Back in business

### UK and Algeria gas trading partners again

2005 saw the return of Algerian gas to the UK when the Berge Arzew arrived at the Isle of Grain imported by Sonatrach who have made a significant commitment to the UK by investing in capacity in the UK's deregulated energy market.

50 years after the Methane Pioneer's historic voyage, British Gas welcomed the giant Qatari QFlex Al-Khuwair to Isle of Grain. This marked British Gas' re-entry as a major LNG buyer with 5.8 bcm of regasification capacity contracted for 20 years.



## Catching the tide

### Centrica is the leading buyer in the world's most attractive gas market

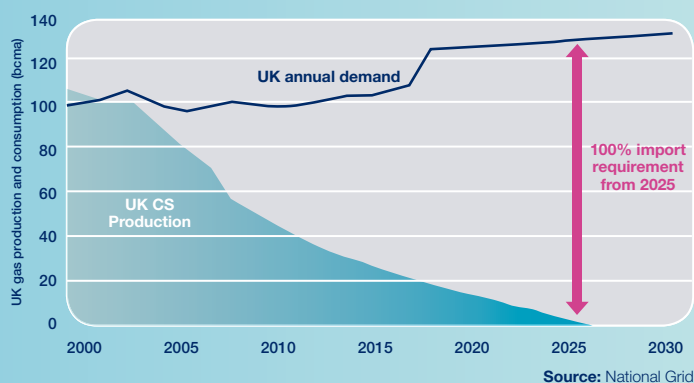
The UK is one of the world's most gas intensive economies with strong demand and an import requirement set to grow as UK supply falls at up to 10% per annum. 50% of UK supply was imported in 2009. This growth of imports is much faster and of larger quantum than even China. The scale, flexibility and transparency of the UK market ensures that the UK will become an important factor in the world LNG trade.

"There is a tide in the affairs of men.

Which, taken at the flood, leads on to fortune;  
...On such a full sea are we now afloat,  
And we must take the current when it serves,  
Or lose our ventures."

William Shakespeare Julius Caesar, Act 4, Scene 3, 218-224

UK gas supply/demand



centrica

British Gas 



## LNG Pioneer Algeria Hosts LNG16

The last year saw an unprecedented amount of LNG capacity coming on stream just as overall energy demand was hit by the global recession. And while most national economies are now starting to recover, the impact on the LNG trade of the USA's success in exploiting unconventional gas resources will continue to make itself felt.

These challenging market conditions will certainly give delegates to LNG16 plenty to debate and it is only fitting that they will be meeting in Algeria, where the commercial LNG trade began in 1964.

The history of the LNG trade is one of technical innovation and partnership, with Algeria's national oil and gas company, Sonatrach, working with its first customers in the UK and France to develop an integrated supply chain. Sonatrach built a lique-

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Sonatrach is the Algerian hydrocarbons company, responsible for the research, exploitation, transportation, processing and marketing of hydrocarbons and derivative products. Sonatrach's activities have a significant international scope covering Africa, Europe, the Middle East, South America and the USA. In addition to the hydrocarbons industry, Sonatrach is involved in power generation, renewable energies, desalination of seawater and mining exploration & extraction.

Sonatrach also operates a wide group of fully or majority-owned subsidiaries which are active in all sectors of the oil and gas business.

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faction plant in Arzew, which is just along the coast from LNG16 venue Oran, while British Gas and Gaz de France commissioned purpose-built tankers and were responsible for the receiving terminals. Sonatrach's Camel (now GL4Z) plant was inaugurated in September 1964 and its first export cargo reached the UK on October 12 on board the *Methane Princess*. Shipments to France started in January 1965 using the *Jules Verne*.

The *Methane Princess* and its sister ship *Methane Progress* each had a capacity of 27,400 m<sup>3</sup> while the *Jules Verne* was slightly smaller. From those first three purpose-built ships the world's LNG tanker fleet has grown to over 300 – the largest Q-max tankers having a capacity of 265,000 m<sup>3</sup> – illustrating how dramatically the industry has expanded. There are now 37 countries and territories involved in the LNG trade, with Peru set to join the ranks of the exporters later this year.

### ● Sonatrach's investment

For its part, Sonatrach has invested in developing Algeria's gas industry, whose origins go back to 1956 when the first oil and gas discoveries were made in the south of the country. The company has pursued a partnership policy to support its development projects throughout the hydrocarbon and energy chain in Algeria and abroad. Today, Sonatrach owns more than 50% of overall national



hydrocarbon reserves, with Hassi-R'mel, one of the biggest gas fields in the world, contributing up to 65% of the total Algerian gas production (92 bcm). Approximately one-third of this is for domestic consumption and the rest is exported as LNG or via pipeline, Algeria having started pipeline exports in 1983.

Besides Hassi-R'mel, Sonatrach operates alone or in partnership other gas fields, such as In Salah, In Amenas, Rhourde Nouss, Tin Fouyé Tabankort, Hamra, Alrar, and Gassi Touil. The company has built a pipeline network of some 7,500 kilometres to transport gas from the production sites.

All the gas produced is collected and dispatched via Hassi R'mel's National Gas Dispatching Centre (CNDG) to the liquefaction plants, national consumers and to Italy and Spain through the respective intercontinental gas pipelines, Enrico Mattei (also known as Transmed) and Pedro Duran Farrell (also known as MEG). A second link to Spain called Medgaz is due to be commissioned by mid-year, while a second link to Italy called Galsi is expected to open in 2014.

Present exports are approximately 38 bcm by gas pipeline and 22 bcm as LNG; and Algeria is the fourth largest LNG exporter after Qatar, Malaysia and Indonesia.

Sonatrach has expanded its liquefaction capacity since that first plant in 1964 and has also

invested throughout the LNG chain. A second plant was commissioned at Skikda (GL1K) in 1972, followed by two more at Arzew in 1978 (GL1Z) and 1981 (GL2Z). From the mid-1970s Sonatrach expanded its customer base by signing a series of LNG supply contracts with new customers in Europe and the USA. Then it moved into the shipping and regasification sectors.

Since October 1997 Hyproc Shipping Company, which was set up in 1982 and operates LNG, LPG and bitumen tankers, has been a 100% subsidiary of the Sonatrach group. Hyproc's LNG fleet comprises nine tankers with a total capacity



TOP A panoramic view of Arzew where Sonatrach operates three LNG plants including GL4Z (formerly Camel) which was the world's first commercial LNG plant (ABOVE).

of over 1 million m<sup>3</sup>, with four of the tankers operated in partnership with other companies (see box).

Sonatrach is a shareholder in the Reganosa regasification terminal in Murgados, northern Spain, which opened in 2007 and has a capacity of 3.6 bcm/year. Elsewhere in Europe the company has contracted capacity at Grain LNG in the UK (4.75 bcm/year) and Montoir de Bretagne in France (1 bcm/year).

At Cove Point in the USA, Sonatrach in partnership with Statoil has access to 2 bcm/year of capacity for 15 years. It also operates in the USA through a purchase/sale contract on an ex-ship basis of a volume of LNG equivalent to 1 bcm/year between 2009 and 2014.

Ensuring reliable outlets for its growing production is a vital objective for Sonatrach, and Algeria is in a good geographical position to serve both the Atlantic and Pacific basins.

#### ● Future plans

Sonatrach has a target to boost overall gas exports to 85 bcm by 2014 and aims to increase its share of the LNG spot market. To this end, it has launched a major investment programme to

supply the additional gas quantities required, covering the following areas:

- upstream for the development of the gas fields;
- transportation with the new Medgaz and Galsi pipelines; and
- downstream with increased liquefaction capacity at Arzew and Skikda.

At Skikda a new LNG train with a capacity of 6.1 bcm/year (4.5 mtpa) is under construction and is expected to start up in 2012, while at Arzew a new 6.4 bcm/year (4.7 mtpa) train will follow in 2013.

Sonatrach's strategic objective in order to become a fully-fledged energy player is to consolidate and widen its position in the European gas market, to acquire a strong position in the Atlantic Basin – towards which could directed a significant part of its LNG – and finally to target the Asia-Pacific market.

#### ● LNG16

While current LNG market conditions may be challenging, the longer-term forecasts for natural gas show increasing global demand for what is the cleanest of the fossil fuels. Moreover, the LNG

### HYPROC SHIPPING COMPANY'S LNG FLEET

| Vessel  | Capacity               |
|---|------------------------|
| Bachir Chihani  | 129,700 m <sup>3</sup> |
| Larbi Ben M'hidi  | 129,700 m <sup>3</sup> |
| Mourad Didouche   | 126,130 m <sup>3</sup> |
| Ramdane Abane   | 126,130 m <sup>3</sup> |
| Mostefa Benboulaïd  | 125,260 m <sup>3</sup> |
| Berge d'Arzew (in partnership with Bergesen)                        | 138,000 m <sup>3</sup> |
| Lalla Fatma N'Soumer (in partnership with Itochu – MOL)             | 145,000 m <sup>3</sup> |
| Cheikh El Mokrani (MedMax tanker, in partnership with Itochu – MOL) | 75,500 m <sup>3</sup>  |
| Cheikh Bouamama (MedMax tanker, in partnership with Itochu – MOL)   | 75,500 m <sup>3</sup>  |

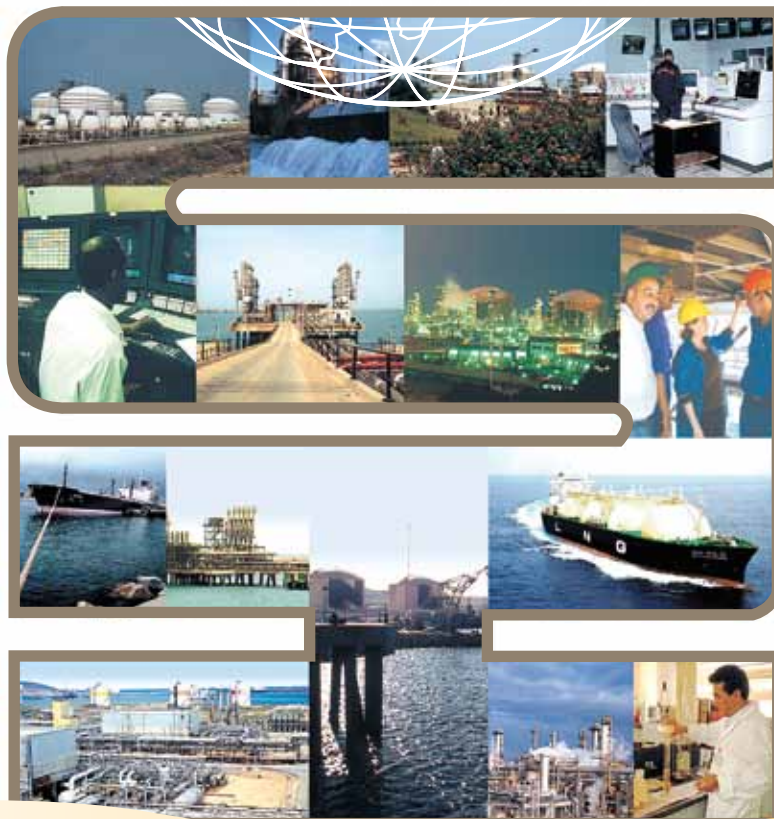


Hyproc's LNG tanker fleet includes the Cheikh El Mokrani.



# Sonatrach

An LNG pioneer  
A world clean energy player



Sonatrach has been exporting gas since 1964 and is today, the third largest natural gas exporter in the world, the second in LNG and the first gas company in the Mediterranean.

**Our assets :**

- A geo-strategic situation close to the growing European Union Market and opened to the world;
- A significant reserve base;
- An extensible and flexible exportation facilities;
- A technological know-how in all gas chain segments;
- A fleet of 9 LNG carriers of different size;
- 4 LNG plants with a combined capacity of 21 million tons per annum (MTPA);
- A reliable partner in NG and LNG exports.





## SONATRACH'S LIQUEFACTION PLANTS

### GL4Z (formerly Camel) in Arzew

- Commissioned: 1964
- Treatment capacity: 1.7 bcm/year
- Number of trains: 3
- Products: LNG, butane
- Annual production capacity:
  - LNG: 1.1 million tonnes
  - Butane: 1,850 tonnes
- Loading station: 1 LNG tanker, 25,000 to 50,000 m<sup>3</sup> capacity

### GL1K in Skikda

- Commissioned: 1972
- Treatment capacity: 5.7 bcm/year
- Number of trains: 3 and one LPG processing unit
- Products: LNG, ethane, propane, butane, gasoline
- Annual production capacity:
  - LNG: 3.1 million tonnes
  - Ethane: 170,000 tonnes
  - Propane: 108,400 tonnes
  - Butane: 92,600 tonnes
  - Gasoline: 60,250 tonnes
- Loading stations: 2 LNG tankers, 50,000 to 125,000 m<sup>3</sup> capacity

### GL1Z in Arzew

- Commissioned: 1978
- Treatment capacity: 10.5 bcm/year
- Number of trains: 6
- Products: LNG, gasoline
- Annual production capacity:
  - LNG: 8.2 million tonnes (11.2 bcm)
  - Gasoline: 123,000 tonnes
- Loading stations: 2 LNG tankers, 40,000 to 125,000 m<sup>3</sup> capacity

### GL2Z in Arzew

- Commissioned: 1981
- Treatment capacity: 10.5 bcm/year
- Number of trains: 6
- Products: LNG, butane, propane, gasoline
- Annual production capacity:
  - LNG: 8 million tonnes
  - Butane: 327,000 tonnes
  - Propane: 410,000 tonnes
  - Gasoline: 196,000 tonnes
- Loading station: 1 LNG tanker, 25,000 to 50,000 m<sup>3</sup> capacity

sector is expected to increase its share of the international gas trade, and delegates to LNG16 will be taking the opportunity to exchange information on all aspects of this dynamic business. During the conference 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;
- The direction of the global LNG market;
- Economy of scale trends and challenges; and
- Safety, asset management and reliability associated with ageing plants.

There will also be a poster session, technical visits and a social programme, and Algeria looks forward to welcoming delegates to this important forum for the LNG community.

*This article was contributed by Sonatrach to mark Algeria's hosting of LNG16.*

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**LIFE MATTERS**

## Gas Finance – Extraordinary Times

By Rod Morrison

Falling commodity prices, falling energy demand and a tightening of appetite among banks for lending would normally add up to a lean period for those seeking to finance new mega gas schemes. But, over the last 12 months, an extraordinary \$26.5 billion of project finance has been raised for four large gas developments around the world – the Dolphin gas pipeline, Ras Laffan LNG, the Nord Stream pipeline and Papua New Guinea LNG.

In the IGU Magazine this time last year – when the credit crunch was still in full bloom – we wrote, “despite the turmoil, the gas market remains an attractive one for investment”. And so it proved. The article concluded that the forthcoming Dolphin deal “will be an important test for the debt finance markets. A successful syndication would calm a few nerves and put bankers in a better frame of mind for stiffer financing challenges to come – such as Nord Stream”. And that is what happened, although not quite as simply as expressed in these few words. This new article looks at how the four deals were financed and draws lessons for 2010.

### ● Middle East

The Dolphin financing emerged early in 2009 and was the first true test of the state of international credit markets and their appetite for large gas financings. In early 2009 there were plenty of doubts that the deal would get done. Credit appeared to have simply dried up for any activity. Long-term credit – the type needed to finance large capital expenditure schemes – was non-existent. One year on, with the credit markets having eased, the position at the start of 2009 does not look so bad now. But, actually, it was bad.

The Dolphin deal had to be adapted to the post-Lehman bankruptcy 9/15 (September 15, 2008) market conditions. Pre 9/15, the financing terms on an asset such as Dolphin would have been very aggressive. Post 9/15, the terms were fairly rich for the banks. Dolphin provides processed gas from Qatar’s North Field via pipeline to the UAE, with an onward connection to Oman. The scheme has been built and is now operating which means it has a low risk profile. The sponsors of the project are top names – Abu Dhabi’s development company Mubadala, with 51%, and Total and Occidental, who own the rest.

Pre 9/15, the financing for such an asset could have comfortably expected to receive plus 20-year debt funding with pricing well below 1% over libor



Gas from Dolphin Energy’s production platforms is processed at Ras Laffan Industrial City.

(100bp). Indeed, the four-year bridge construction loan which initially funded the scheme was priced at 35bp to 45bp in 2005. The bridge loan was guaranteed by the sponsors. The new longer-term financing was to put the scheme on a project finance basis with no corporate guarantees, i.e. the banks would be exposed to the risks on the project.

The Dolphin deal which emerged in early 2009 was radically different to a 20-year plus sub 100bp financing. The loan was cut down to 10 years and the pricing upped to 275bp moving up to 350bp. The fee paid to the banks upfront was 275bp. The sponsors simply had to accept these terms in order to fund the deal. However, the sponsors did benefit from an underlying drop in global interest rates so actually their overall cost of funds was not dramatically increased.

The bank loan was sized at \$3 billion and then cut back when Dolphin managed to diversify its sources of funds via a successful international bond issue during the summer of 2009. The bond raised \$1.25 billion, again with a 10-year maturity. The bond's margin over US treasuries was 337.5bp which, on an equivalent basis, was actually cheaper than the bank loan, with a 5.888% all-in coupon. However, this comparison was only on the basis of the bank loan not being refinanced by year 10, a point considered unlikely by bankers. In addition to the external financing, the scheme benefited from a \$1.225 billion loan from the shareholders.

One interesting sideline to the financing was a local geopolitics issue which caused a stir on the bond deal. Given that the bonds were sold to international investors, a high level of information disclosure was required. During the discovery process, it was found that Saudi Arabia and Qatar had settled a long standing territorial waters dispute which could have meant five kilometres of the pipe was actually in Saudi Arabia, not Qatar. To add some spice the UAE was not aware of the settlement and the precise nature of the settlement was not disclosed. In the end the issue did not adversely impact the bond issue but it shows up

the type of issue that can occur on large-scale, cross-border financings.

The Dolphin bonds attracted a good credit rating – given the credit strength of the project and the sponsors – Aa3 from Moody's. This rating was a major reason for the success of the bond issue.

The Dolphin bank loan was syndicated during the spring. The bond issue came out in July, just after another significant Middle East project finance bond was launched – Qatar's Ras Laffan 2 & 3 LNG financing. Like Dolphin the RasGas bond had an attractive rating, Aa2, rich pricing at 300bp to 325bp and short maturities, three to 10 years. The RasGas bond was a major success. The \$2.25 billion issue raised orders from investors for \$17.6 billion. The success of this deal clearly provided encouragement for Dolphin whose bond followed a couple of weeks later. The Dolphin bond "only" attracted orders worth \$4.9 billion.

The RasGas financing was the final leg in a \$10 billion funding programme which began in 2004, was added to in 2005 and then completed in 2009. As part of the final deal the project sponsors – Qatar Petroleum (QP) and ExxonMobil – put in an extra \$1 billion shareholder loan. Given the fact the funding was the final leg in the programme the risk to investors was lower than the previous fundings. The RasGas 2 LNG trains were operational and already producing substantial cash flows, while the first of the RasGas 3 trains was about to start up. So, once again, while the RasGas financing was a major success, the investors in the deal received a much higher return than they could have dreamed of before 9/15.

Both Dolphin and RasGas depend on gas from Qatar. QP was once a major client of the project finance market as the country raced to develop the potential of the North Field. QP's level of project finance activity has noticeably slowed since the moratorium on future development of the field. Both Dolphin and RasGas are, in effect, legacy deals from earlier times. However, there are important lessons from these two deals for 2010.





RasGas officially inaugurated its sixth liquefaction train in October 2009 in the presence of HH Sheikh Hamad bin Khalifa Al Thani, Emir of Qatar.

QP and Exxon have just appointed Royal Bank of Scotland, the adviser on the Dolphin deal, on the Barzan project. The gas for this scheme was originally earmarked for a proposed QP/ExxonMobil gas-to-liquids (GTL) scheme but is now being allocated to domestic Qatari uses – going to local power stations or manufacturing plants. This domestic project will be a first for the Qataris who up until now have project financed only gas export schemes. The Barzan project will mainly satisfy peak gas demands although it is expected that some gas will be sold for export, particularly at non-peak times. The multi-billion-dollar Barzan financing is likely to be in the capital markets later this year.

The success of the Dolphin and RasGas financings should encourage Mubadala to continue to finance its projects internationally. Pre 9/15 the company had accessed the project finance markets for its Emirates Aluminium (Emal) plant, which is a heavy user of gas. The Emal project will need a further \$2 billion of financing to complete its financing programme this year.

## ● Europe

Nord Stream, the €7 billion (\$10 billion) Baltic gas pipeline project between Russia and Germany, benefited from the improved credit markets and the success of Dolphin. Market sounding exercises took place during the spring among banks to test the appetite for the €3.9 billion (\$5.6 billion) of project debt required on the scheme. The deal was modified to take the new market conditions into account and then formally launched to the banks in early September. The resulting response was highly successful, and 27 banks have committed to the financing. Once again they are being offered generous terms in return for providing credit.

The Nord Stream project is being led by Russian gas giant Gazprom which controls just over 50% of the scheme. The other shareholders are leading European gas buyers – Wintershall, E.ON and Gasunie. GdF Suez is believed to be looking at buying a stake in the scheme but has not yet done so. The pipeline is designed to send gas straight into the heart of Europe and it will bypass transit countries such as Belarus, Ukraine and Poland.



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The Nord Stream pipeline will make landfall at Lubmin near Greifswald in Germany.

The project financing was structured on the conservative side, given the state of the debt markets. The project company tweaked the so-called “sweet and sour” ratio on the financing in favour of the banks. This ratio concerns the amount of the debt which is covered – for political and commercial risks – by government-owned export credit agencies (ECAs). On Nord Stream the ratio was set at 80/20. Of course, this still meant 20% of the debt, €800 million (\$1.15 billion), was exposed to project risks. But the commercial risks on the deal were further mitigated. The cover ratio, which measures the project’s cash flow to interest and principal payments, was low at 1.25x to 1.3x but the ratio was underpinned by the sponsors.

The financing was put together on a low-risk basis, in any case. The project company, which will run the pipeline, will be paid on the basis of simply making the pipeline available, not on the volumes of gas transported or the price of the gas. The tariff the pipeline charges its users will be set partly on

the basis of its financing costs. Therefore having a high ECA (but cheaper) component actually benefits the project company as well as the banks.

The one part of the financing equation the project sponsors did not modify was the Russian risk on the deal. The €800 million uncovered part of the loan did not benefit from offshore revenue accounts, as on many international emerging market financings. Gazprom insisted the accounts for processing the project’s cash should be onshore in Russia.

The \$800 million uncovered tranche was eventually priced at an attractive 275bp during construction, which was guaranteed by the sponsors, moving up to 430bp and 450bp post-completion with fees of 110bp. The other tranches on the deal were a €1.6 billion (\$2.3 billion) bank tranche guaranteed by German ECA Hermes, a €1 billion (\$1.4 billion) loan provided by Germany under its untied loan (UFK) guarantee programme and a €500 million (\$700 million) bank tranche guaranteed by Italian ECA, Sace. The covered



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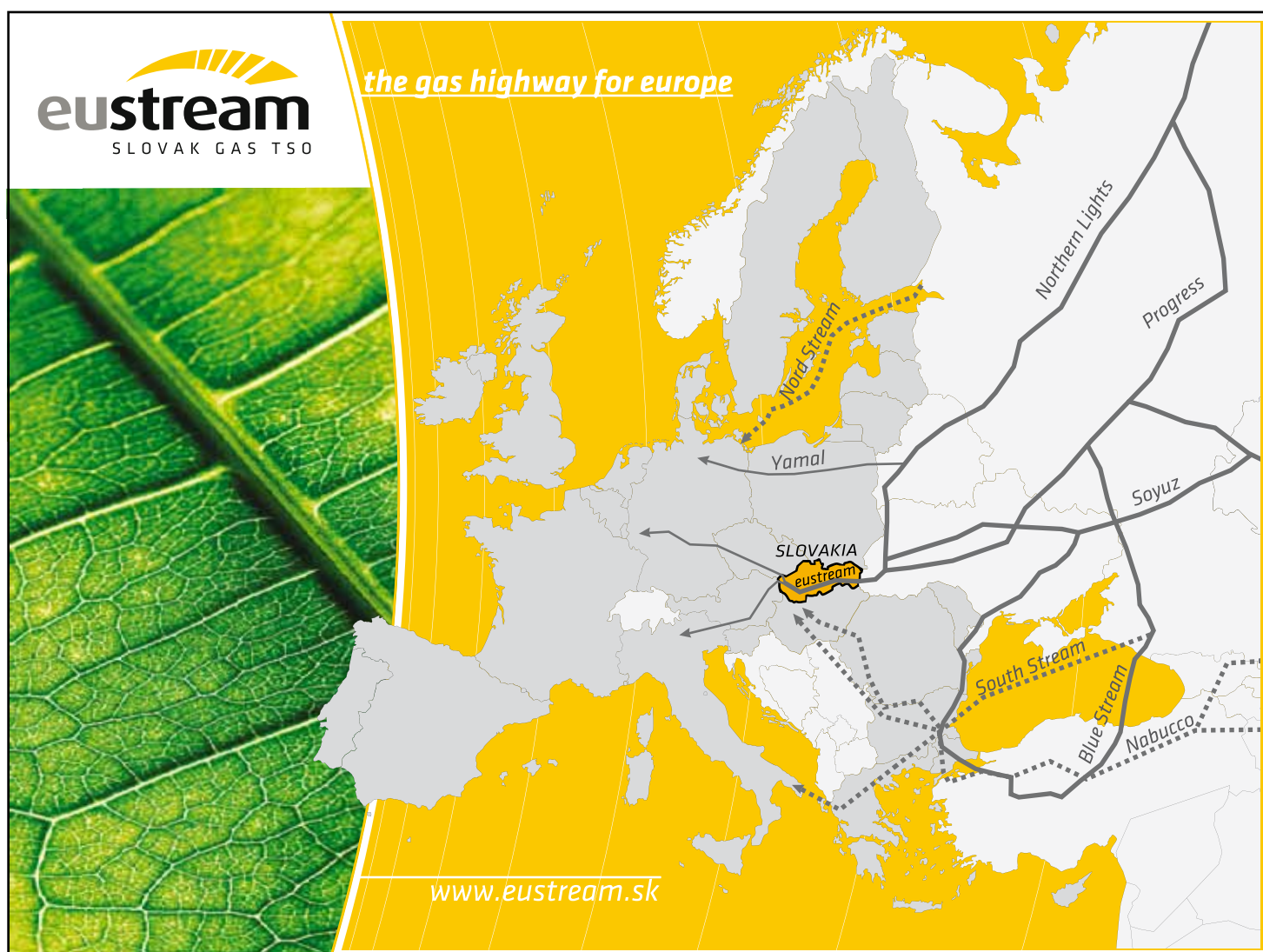
Since 1968, Eustream has secured the transmission of more than 1.9 trillion cubic meters of natural gas. The company therefore successfully continues in the tradition of the Slovak gas industry, which dates back over 150 years.

The annual capacity of the transmission system operated and maintained by Eustream is more than 90 billion cubic meters. Last year we actually transported about 20% of total EU consumption.

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Eustream allows access to the gas transmission network and offers its customers a wide range of transmission services on a transparent and non-discriminatory basis. The access regime is in full compliance with existing legislation and gas industry standards. The business partners of Eustream include major energy companies from EU and non-EU member states.

Of course, with the Russian-Ukrainian gas dispute in January 2009, European gas history has had to be rewritten and also Eustream, in close co-operation with adjacent network operators, is currently reviewing gas flow directions and cross-border capacities in order to enhance further the security of gas supplies to Europe.







Pipe laying for Nord Stream is due to start soon. In the meantime, stocks of pipeline sections have been built up.

tranches run for 16 years and are priced at 160bp to 180bp with fees ranging from 65bp to 75bp.

The 2009 financing, which will shortly be signed off, will lead directly into the second phase of the scheme. The first phase funds the first pipeline plus initial construction costs. Once this is laid, the project company will simply turn around the pipeline laying contractors and lay the second pipe. The construction costs on the second phase will be much cheaper but at €1.5 billion (\$2.15 billion), the second phase is still a major financing.

Looking further afield, it will be interesting to see what lessons Gazprom draws from the Nord Stream funding exercise. Will it be encouraged to expand its usage of the project financing technique? Perhaps. However, with gas demand in the western world flat, its development projects might have to wait before seeking funding and the final investment decisions (FID). Its attention might, instead, be drawn east.

### ● Asia-Pacific

And east is precisely where the Papua New Guinea LNG (PNG LNG) scheme sits. Of all the financings in 2009, perhaps this is the most remarkable. Certainly it could set the greatest precedent. It is the first of a new wave of mega Australasian LNG schemes to be financed which will sell gas into east Asia. Energy-hungry China is one of its key markets. PNG LNG will produce 6.6 million tonnes per annum (mtpa) of LNG from 2014. A staggering 110 mtpa of new LNG capacity is being contemplated in Australia alone in this decade with 35 mtpa coming from coal-bed methane to LNG schemes.

Australia is an OECD country so obtaining finance for LNG schemes in this country does not carry significant political risks. Commercial risks are all-important. But political risk is an important factor in Papua New Guinea. This makes the success in raising \$14 billion of finance for PNG LNG all the more noteworthy.

The fact the financing was led by ExxonMobil helped. It has a 33.2% stake in the scheme. Oil Search has 29%, Santos 13.5% and the PNG government, 16.6%. Nippon Oil, Petromin and local landowners hold the rest.

The financing was very much put together on the basis of an "old fashioned" project financing with a mixed range of funding sources tapped – from bank loans to ECA-covered bank debt, ECA direct loans and shareholder loans. The one difference on this deal was its sheer size.



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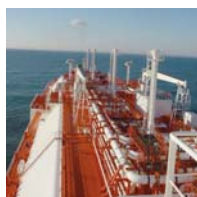
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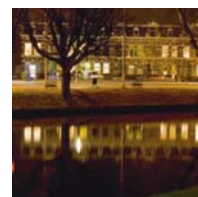
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The commercial bank loan totalled \$2 billion. Half of this is covered by the Japanese agency Nexi. Seventeen banks were attracted into this tranche which runs for 15 years and is priced at 325bp moving upwards. Within the bank group there is one very significant name. China Development Bank provided \$600 million towards this tranche, four times more than any other bank in the deal. This is on the back of the fact that China's Sinopec is taking 2 mtpa of LNG from the scheme.

The multilateral agencies are providing \$8.3 billion in direct loans to the scheme. These loans are linked to: a) equipment contracts on the project's construction; and b) LNG offtake contracts. US Ex-Im, Japan's JBIC, Australia's EFIC, China's Export-Import Bank and Italy's Sace are providing the package. On top of this, ExxonMobil is providing a \$3.75 billion shareholder loan to the scheme.

The EPC contractor on the scheme is a Chiyoda/JGC joint venture from Japan. Apart from Sinopec, PNG LNG's gas buyers are Tokyo Electric and Osaka Gas from Japan and CPC Corporation from Taiwan.

Traditionally Japan, South Korea and Taiwan have been the LNG buyers in east Asia. China started LNG imports in 2006, and while these are still relatively low compared to domestic production, there is significant potential for expansion as overall gas demand grows. The country clearly has the corporate and financing muscle to develop its portfolio of long-term deals, and it will be interesting to see how the LNG market in the Pacific Basin develops. One thing for sure is there will be plenty of financing activity in the coming years.

*Rod Morrison is the Editor of Reuters Project Finance International ([www.pfie.com](http://www.pfie.com)).*



Santos CEO David Knox, Oil Search Limited MD Peter Botten and Papua New Guinea's Prime Minister Sir Michael Somare toasting the FID for PNG LNG (from left to right). Santos CEO David Knox, Oil Search Limited MD Peter Botten and PNG Prime Minister Sir Michael Somare toasting the PNG LNG Project at the commitment ceremony on December 8 last year.

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## Natural Gas Roundtable Introduces US Congressional Natural Gas Caucus

By David M. Sweet and Lauren Blossie

For over 40 years, the Natural Gas Roundtable has been a Washington tradition as the leading organisation bringing together all segments of the US natural gas industry for open and honest dialogue on energy policy and issues facing the energy industry. Politicians, regulators, industry executives, the media and others have flocked to the monthly luncheons, which have been held in the same room of the historic University Club over these years. The Roundtable recently had a hand in launching what will hopefully prove to be another durable Washington institution, the creation of the Congressional Natural Gas Caucus. For the benefit of our international readers, a congressional caucus is a group of

members of the United States Congress that meets to pursue common legislative objectives.

The Natural Gas Roundtable was founded in October of 1968 by the former head of the American Gas Association (AGA), George H. "Bud" Lawrence and former Interstate Natural Gas Association of America (INGAA) General Counsel Jerome McGrath. According to Lawrence's book *Turnaround* (a compendium of stories and recollections about Washington and the natural gas industry), the idea for the Roundtable was hatched when Lawrence appeared before the "Natural Gas Men of Houston" and decided that the existence of a similar organisation in Washington, DC could have obvious benefits. The group has met once a month since its inception, and proved to be a source of communication, information and even sometimes disparate interests. Above all, though, the Roundtable has been a key forum for representatives of the natural gas industry, interested government and regulatory bodies, suppliers of equipment and services, attorneys in private practice with industry clients,



Congressmen Tim Murphy (LEFT) and Dan Boren (RIGHT) united to start the Congressional Natural Gas Caucus.

the financial community and the media to meet and discuss current issues affecting the natural gas industry.

The group was initially launched as the Gas Men's Roundtable (although affectionately referred to as the Round Man's Gas Table). Over 20 years ago the name was changed to the more politically correct "Natural Gas Roundtable". The group continues to be administered by AGA and, for the last decade has been headed up by David Sweet, Executive Director of the World Alliance for Decentralized Energy and active member of IGU Technical Committees.

On November 19, 2009, David Sweet called the Roundtable to order for the purpose of introducing the Co-Chairs of the newly formed Natural Gas Caucus in the US House of Representatives. Congressmen Tim Murphy (Republican-Pennsylvania) and Dan Boren (Democrat-Oklahoma) united to start the Congressional Natural Gas Caucus, a bipartisan effort to educate, promote awareness of, and develop policy in Congress on the importance of natural gas in the nation's energy portfolio.

The Congressional Natural Gas Caucus is committed to informing and educating other members of Congress and the American people about the clean-burning domestic fuel. The Caucus will be focused on discovering environmentally-friendly ways to produce natural gas and explore the ways natural gas can help meet the country's energy needs while leading the country towards an independent energy future. It currently has 66 members – 36 Republicans and 30 Democrats – from 26 states.

There is also talk now about formation of a Natural Gas Caucus in the US Senate. If, and when, that occurs the Natural Gas Roundtable will be there to provide a forum to discuss and advance this initiative as well.

*David M. Sweet is the Executive Director of the World Alliance for Decentralized Energy (WADE)*



At Roundtable luncheons (ABOVE) Jon Wellinghoff, Chairman of the Federal Energy Regulatory Commission (left) and Christoph Vitzthum, Chairman of WADE and (BELOW) David Sweet (left) and political commentator Tony Blankley.

*and Lauren Blossie is the Communications Manager of the American Gas Association (AGA). For more information about WADE, please visit [www.localpower.org](http://www.localpower.org), and for AGA [www.aga.org](http://www.aga.org).*



# Building Strategic Human Capital

By Rod Kenyon

The Malaysian Presidency of IGU has established a Task Force to look at "Building Strategic Human Capital" across the gas chain. A recent survey among 22 top international natural gas and oil companies ranked the shortage of talent as the

most important issue facing the industry. This shortage of talent has transformed from an organisational challenge into a critical business issue.

The Task Force brings together industry experts and executives from across the world to look at the issues affecting the attraction and retention of talent in the gas industry, and how to develop a strategy for building strategic human capital. It is a daunting task.

## ● National perspectives

I would like to add one or two perspectives from the UK. Characteristically for a developed economy, the UK has an ageing population combined with low birth rates (16% fewer school leavers overall by 2019) and high life expectancy. Its higher education system is world class and important changes and initiatives have been taken to improve the vocational and further education system. The economy had until recently been enjoying high employment rates but this performance has been impacted by the current economic downturn. This has led to 2.5 million people being unemployed and of that number nearly 1 million are 16-24 years of age.

There are skills and basic education deficits. The skills base is poor with more than a third of adults not holding the equivalent of a basic school leaving qualification.

A recent report by Engineering UK<sup>1</sup> states, "In order for the UK economy to recover the manufacturing sector will need to recruit over half a million (587,000) engineering and manufacturing workers with state-of-the-art skills by 2017". Major obstacles to achieving this number include a 30% fall in further education lecturers in engineering and manufacturing and a 17% drop in the number of higher education students taking production and manufacturing engineering degrees.



| Attracting and retaining talented staff is vital for the gas industry.

<sup>1</sup> An independent, not-for-profit organisation whose purpose is to promote the work of engineers, engineering and technology. The report, *Engineering UK 2009/10*, can be downloaded from [www.scenta.co.uk](http://www.scenta.co.uk).



An additional 21,000 workers will be needed in the electricity, gas and water, mining and quarrying sectors by 2017.

There are examples in the UK where the gas industry has reacted in a coordinated way to significant skills shortages. In 2002 it was evident that there was a shortage of qualified gas engineers (sub-professional level). Their work typically involved the installation and servicing of central heating systems. A programme known as *Ambition: Energy* was developed. It was one of a number<sup>2</sup> of demand-led initiatives aimed at addressing skills shortages and securing sustainable employment for the long-term unemployed. The demand came from employers who in particular sectors were experiencing chronic skills shortages. The initiative was a product of Jobcentre Plus, an agency within the Department for Work and Pensions. It was sector led, designed by the Energy and Utility Skills – Sector Skills Council and British Gas.

The initiative was launched in June 2002 by the then Prime Minister, Tony Blair, and a pilot was run over a three-year period. Its aims were to help the most disadvantaged people in the labour market (long-term unemployed, lone parents etc.). At the end of the pilot in 2005, 2,264 unemployed people gained sustainable employment through this initiative, while 300 small and medium-sized employers benefited from the programme. British Gas employed 323 people. This initiative delivered a retention rate (>6 months in employment) of 89%. Participants also had to pass the Accredited Certification Scheme (ACS) for registration with the Confederation of Registered Gas Installers (Corgi) now known as the Gas Safety Register.

A benefit to British Gas from being involved with *Ambition: Energy* was that it opened up new and unique routes for attracting people interested in taking up a career in engineering.

Another example of the sector taking an initiative relates to the gas distribution networks



The UK's *Ambition: Energy* programme helped ease a shortage of qualified gas engineers.

negotiating with their regulator Ofgem in the gas price review for 2008-09 to 2012-13. They maintained that they had to address significant skills shortages within their businesses. Ofgem allowed the companies to recover £68 million (\$111 million) over the five years to invest in skills.

On a broader front the government has invested heavily in apprenticeships with the number of starts rising from 25,000 in the academic year 1995-96 to 234,000 in 2008-09. Completion rates have increased steadily and are now standing at 71%.

The government has revised its target for participation in higher education. It originally aimed to have 50% of 18-30 year olds participating in higher education. The recent White Paper<sup>3</sup>, *Skills for Growth*, has broadened this, aiming to have three quarters of young people participate in higher education or complete an advanced apprenticeship or equivalent technician level course by the age of 30.

On the professional engineering level the numbers for engineering subjects are rising with the

2 There were five ambition programmes: Energy, Construction, Health, Retail and IT.

3 *Skills for Growth*, published by the Department for Business Innovation and Skills, can be downloaded from [www.bis.gov.uk](http://www.bis.gov.uk).





The UK government has revised its target for participation in higher education.

exception of production and manufacturing. Science, technology, engineering and mathematics degrees account for a quarter of all first degrees achieved.

All of the above issues need to be seen in the context of increasing globalisation and an interconnectedness of economies. The free movement of labour is one of the underpinning principles of the European Union via its single labour market.

### ● **Global perspectives**

These are just some of the issues for one country; the Task Force has to review the problems from a global perspective. There is evidence<sup>4</sup> that there is a surplus of professionals in Asia and Latin America with shortages in Europe, North America and the Middle East.

One of the first tasks is a piece of work to identify the data which are available on human capital and an indication of current skills gaps.

This will involve mapping the talent and human resources necessary to deliver the projects and business across the gas value chain. In carrying out a study of this nature it is important to talk to the key players in leading companies and academic institutions to understand better the demographic issues taking into account the future challenges. This has to be seen in the context of the worldwide economic downturn and potential recovery. Special attention will be given to the attractiveness of the sector to potential employees with related areas of diversity and inclusion. It should prove an ideal study for producing a register of best practices on how the gas industry is reacting to the challenge by developing bespoke programmes to attract and develop critical skills and talent.

All of us in Task Force 1 look forward to keeping you updated on our work.

*Rod Kenyon is the Vice Chairman of Task Force 1.*

4 Schlumberger Global Human Resources Survey 2005.



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