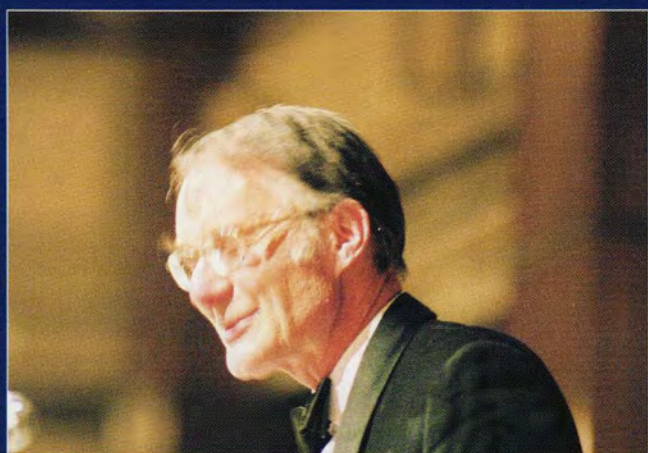
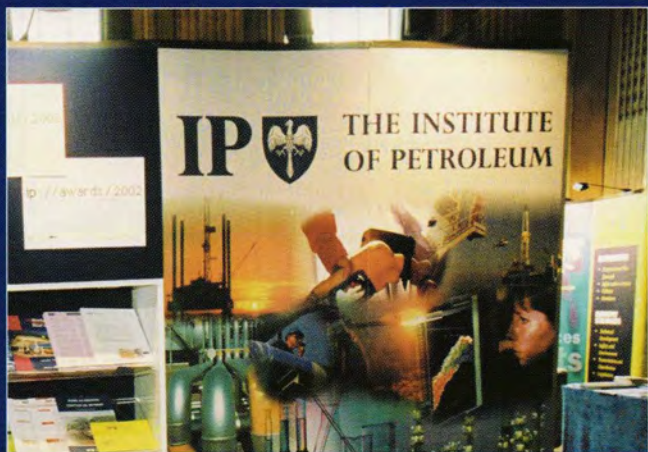


# Petroleum *review*

MARCH 2002



## IP Week – Keynote speeches – Highlights

- Thierry Desmarest: Size is key to profitability
- Rt Hon John Spellar MP: Rising to the challenge
- Charles Henderson: Review of industry and the IP in 2001

## North Sea

- Straining every sinew to boost UKCS production

## North America

- Reducing US dependence on oil imports

Covering the international oil and gas industry from field to forecourt –  
exploration, production, refining, marketing and e-business



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- Annual Conference "Paving the Way" joint with PILOT 22/23<sup>rd</sup> May
- Unlocking Challenging Reservoirs Showcase June 19<sup>th</sup>
- Second Brownfield Showcase June 20<sup>th</sup>

Further details on Events section of LOGIC website

For more information on any of LOGIC's activities and to keep abreast of these key activities and events please contact us by:

Registering on our website - [www.logic-oil.com](http://www.logic-oil.com) or e-mail: [logic@logic-oil.com](mailto:logic@logic-oil.com) or 01224 853420

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# Petroleum review

MARCH 2002 VOLUME 56 NUMBER 662  
£14.00+ SUBSCRIPTIONS (INLAND) £180.00 (OVERSEAS) £210.00/\$305.00

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THE INSTITUTE  
OF PETROLEUM

A charitable company limited by guarantee

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Subscription Enquiries: Portland Press

Tel: +44 (0)1206 796351 Fax: +44 (0)1206 799331

e: [sales@portlandpress.com](mailto:sales@portlandpress.com)

Printed by Thanet Press Ltd, Margate

US MAIL: *Petroleum Review* (ISSN 0020-3076 USPS 006997) is published monthly by the Institute of Petroleum and is available Periodical Postage Paid at Rahway, New Jersey.

Postmaster: send address changes to *Petroleum Review*  
c/o Mercury Airfreight International Ltd.

365 Blair Road, Avenel, NJ 07001

ISSN 0020-3076

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

## ABBREVIATIONS

The following are used throughout *Petroleum Review*:

mn = million (10 <sup>6</sup> )	kW = kilowatts (10 <sup>3</sup> )
bn = billion (10 <sup>9</sup> )	MW = megawatts (10 <sup>6</sup> )
tn = trillion (10 <sup>12</sup> )	GW = gigawatts (10 <sup>9</sup> )
cf = cubic feet	kWh = kilowatt hour
cm = cubic metres	km = kilometre
boe = barrels of oil	sq km = square kilometres
equivalent	b/d = barrels/day
t/y = tonnes/year	t/d = tonnes/day

No single letter abbreviations are used.

Abbreviations go together eg. 100mn cf/y = 100 million cubic feet per year.

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Front cover: IP Week 2002 – IP stand (top left); Thierry Desmarest giving IP Luncheon address (top right); IP President Charles Henderson at IP Dinner (bottom left); Rt Hon John Spellar MP addressing top industry executives at the IP Dinner.

IP Week photos: Jim Four

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The Institute of Petroleum as a body is not responsible either for the statements made or opinions expressed in these pages. Those readers wishing to attend future events advertised are advised to check with the contacts in the organisation listed, closer to the date, in case of late changes or cancellations.



# ROUNDUP

## From the Editor

### Record attendance at IP Week

This year's IP Week was once again a huge success with record attendance at many of the functions and events.

The drivers of the industry and the likely outcomes were addressed by Thierry Desmarest in his IP Lunch speech (see p12) and by the speakers at the Wood Mackenzie seminar. There seems to be widespread agreement that more consolidation in the industry is likely. However, this is a view increasingly tempered by cautions that those left to merge are often less attractive or poor fits, and the view that in many areas of the world consolidation is approaching the limits acceptable to competition authorities.

Environmental concerns are now very much on the agenda and these were starkly explained by some of the NGO's most critical of the industry along with some of the environmental legislators in Brussels.

As a general observation it is undoubtedly true that, while not necessarily accepting the wilder environmental or climate change predictions, the industry is currently working more closely and more harmoniously with legislators and NGOs than at any previous time.

Quite spectacular improvements in fuel qualities and vehicle emissions have been achieved in recent years. It seems a great pity that the general public doesn't really recognise just how large and how rapid the improvements in air quality have been.

Competition in the industry has always posed a challenge when tightening environmental regulations were in prospect. Does a company resist change for as long as possible to maximise returns on existing investment? Or does it invest ahead of the curve and accelerate the change to tighter specifications? There is currently increasing interest and potential legislative pressure for the so-called zero sulfur (under 10 ppm) diesel and gasoline. These are needed in order to allow the development of the new direct injection engines which offer significant fuel efficiency gains (15–20%). BP has just started sales of zero sulfur gasoline and diesel at 18 filling stations in the Edinburgh area. It has also announced that it intends to roll out the fuels across Scotland and then worldwide. Environmentalists, regulators and motor manufacturers will be delighted. Some of their rivals rather less so.

The FPSO conference highlighted two

highly successful developments that have just come onstream. TotalFinaElf's massive Girassol project has apparently proved a great success, already producing close to its 200,000 b/d target plateau and with a company spokesman indicating that 215,000 b/d is possible.

The much delayed Terra Nova project offshore eastern Canada has also come in a storm. Production capacity was reached in a staggering nine days after start-up. Another recent major FPSO development featured was Marlin Sul in the Campos Basin, now producing 170,000 b/d and building to its plateau capacity of 180,000 b/d.

Two important conclusions came out of the conference. First, developments using high capacity FPSOs are now a proved and practical development route in virtually any water depth – from Terra Nova's 95 metres to Marlin Sul's 1,000 metres. The second, and possibly even more important, conclusion is that deepwater production costs are now fully competitive with combined capex and opex in the \$4–\$6/b range.

Meanwhile, back in the UK sector of the North Sea, massive effort is going into maintaining flows by tying back small accumulations to existing facilities. The UK's DTI is enthusiastically supporting these activities (see p28), as is the joint industry/government body Logic (see p25). All this last year monthly production figures for oil fell short of year earlier levels, but in December 2001 production actually exceeded year earlier levels (see p5). However, despite this rebound in December, preliminary indications are that UKCS oil production in 2001 was slightly over 10% lower than in 2000. Clearly it is a great challenge to both government and industry to minimise the decline. Companies seem to be rising to the challenge. Already the Skene and Lewis fields have been tied back to Beryl A. Over the course of 2002 a further 13 accumulations are to be tied back to host facilities on the UKCS, with one possible FPSO development (Chestnut Phase II) and the Tuna gas development featuring a platform and subsea tie-backs.

With UKCS oil production now past peak and gas production due to peak this year, the UKCS is the first major offshore province to enter the decline phase. The challenge for everyone is to slow, or even reverse, the decline.

Chris Skrebowski



The 4Q2001 issue of *Oil and Gas on the Internet* has been released by Analysis Technologies. A demo of each database can be viewed at [www.catsites.com/demo/](http://www.catsites.com/demo/). Demo CD-ROMs are available. For information, visit [www.catsites.com/publications.html](http://www.catsites.com/publications.html) or e: [info@catsites.com](mailto:info@catsites.com)

The UK Government has launched a web-based newsletter aimed at bringing together academics, operating engineers and service providers who are experts in the maintenance of existing infrastructure and improving recovery and the life of existing fields. The IOR newsletter can be found at [ior.rml.co.uk](http://ior.rml.co.uk) and is jointly supported by the UK DTI and the NERC and EPSRC Research Councils. (Note: no [www](http://www) in web address.)

The British Geological Survey's (BGS) Digital Energy Atlas and Library (DEAL) project has won the 2001 Association of Geographic Information award for 'Best Practice in Central Government'. Located at [www.ukdeal.co.uk](http://www.ukdeal.co.uk) the site provides a quality-assured database of key positional data for the UK offshore petroleum industry and on online marketplace.

Quest Offshore Resources has launched a new interactive website – [www.FloatingProductionZone.com](http://www.FloatingProductionZone.com) – that allows subscribers to easily identify their own specific criteria for future floating production system (FPS) business. The site features Quest's seven-year future forecast data and reports detailing all potential global floating production projects and a comprehensive global database of all currently active FPSs. Subscription is priced at \$950/y.

Quest is offering interested parties the chance to trial the system and fully access the 100+ forecast projects and 100+ active fields detailed online by e-mailing [nsearch@questoffshore.com](mailto:nsearch@questoffshore.com) requesting a temporary two-day password allowing full access.

UK watchdog Ofgem has published its *Report on Distribution and Transmission System Performance 2000/2001*. The report can be viewed at [www.ofgem.gov.uk/public/pub2022.htm](http://www.ofgem.gov.uk/public/pub2022.htm)

The UK Health and Safety Executive (HSE) is to put Offshore Operations Notices and Safety Notices on its website at [www.hse.gov.uk](http://www.hse.gov.uk) to ensure that they reach all parts of the offshore oil and gas industry, free of charge. The online service replaces the present subscription-based system.

Aberdeen-based IT specialist BW Scotnet has launched an online store hosting system specifically aimed at helping small and medium-sized enterprises (SMEs) trade online.



*Shell and ExxonMobil are reported to be planning to sell their stakes in the undeveloped Goosander field in the central North Sea. Proven field reserves are put at 16mn barrels of oil.\**

*Halliburton KBR has been awarded contracts by Kerr-McGee for the detailed engineering and offshore construction work for the North Sea Maclure field. It has also been awarded a \$12mn contract from TotalFinaElf Exploration for the supply of a new 34-man accommodation module for the Dunbar platform, to be installed in May 2002.*

*Aberdeen Murray Johnstone Private Equity (AMJPE) is to invest £10mn in new offshore oil company Tuscan Energy which was recently awarded – together with partner Acorn North Sea – licences to redevelop North Sea block 20/24 that contains the Argyll field.*

*Phillips Petroleum's Jade field in the central North Sea came on stream at the end of last month, producing 60mn cfd of gas and 4,500 b/d of oil.*

*TotalFinaElf is said to have transferred its stakes in North Sea blocks 14/14a, 14/15a and 14/30a to Intrepid Energy.*

*Oil services company UWG Group reports that it has successfully completed a four-well abandonment project for Amerada Hess utilising its Subsea Well Abandonment Tool (SWAT), specifically designed to enable the abandonment of previously suspended subsea wells without the use of a drilling rig.\**

### Complete news update

The 'In Brief' news items in *Petroleum Review* represent just a fraction of the news we regularly publish on the IP website @ [www.petroleum.co.uk](http://www.petroleum.co.uk) via the 'News in Brief Service', together with our daily News 'ticker' on the main home page.

Furthermore, those news stories marked with an asterisk (\*) in the magazine are covered in more detail on the News in Brief Service.

Why not visit the site to find out more about the latest developments and trends in your industry? Click on

[www.petroleum.co.uk](http://www.petroleum.co.uk)

## Degas project at full operational capacity

TotalFinaElf reports that the Degas project utilising associated gas production from eastern Syria's Deir Ez Zor region has 'reached full operational capacity.' Costing some \$400mn, the Degas project comprises two phases – the collection, treatment and export of associated gas from the Deir Ez Zor region to the national gas transmission network, and the production of condensate from the Tabiyeh field through gas reinjection.

The 170-km gathering system transports up to 5mn cm/d of gas to a newly built gas processing plant. With a capacity of 13mn cm/d, the facility also

processes 8mn cm/d of gas from the Tabiyeh field before its reinjection into the reservoir. The processed gas that is not reinjected is shipped via a 250-km pipeline to the Syrian national network, where it is then used to fuel power plants and industrial facilities in the west of the country. The LPG associated with production is exported via a rail terminal, while the condensate is transported through the Syrian Company for Oil Transport (SCOT) pipeline to the Banias terminal.

The Degas project is reported to have put an end to the flaring of associated gas and will sharply reduce greenhouse gas emissions in the region.

### NWS gas trunklines

The North West Shelf Venture has awarded Saipem the offshore installation contract for the second gas supply trunkline linking its offshore production facilities to its onshore gas plant near Karratha in Western Australia. The installation programme will run from May 2003 to August 2003, with construction of the trunkline scheduled for completion in April 2004 to coincide with completion of the 4.2mn t/y capacity Train 4 at the plant. First LNG production from Train 4 is slated for mid-2004 boosting the Venture's LNG production to nearly 12mn t/y.

The second trunkline will provide extra capacity to supply existing Japanese and Western Australian customers, as well as for prospective gas-related projects on the Burrup Peninsular.

### Cattle clean up

Researchers in Alberta, Canada, have discovered a way to simultaneously sanitise two environmental hazards common to all oil producing regions that are also home to extensive beef industries – cattle dung and hydrocarbon contaminated earth, writes *Monica Dobie*. Scientists at Olds College Centre for Innovation mixed raw cattle or poultry manure with contaminated soil and turned it repeatedly to introduce oxygen. As a result, the material heated up and produced micro-organisms which fed off chemical compound chains of hydrogen, carbon and oxygen molecules, eventually breaking down both the hardened hydrocarbons and the cattle waste. Experiments show hydrocarbon contamination dropped from 5% to 1% or less, a level at which plant life can once again thrive.

## Industry technology facilitator initiative funds

A total of £8mn was committed by oil and gas companies in 2001 towards the development of new, innovative technologies that will be vital to the future of the North Sea under the oil and gas Industry Technology Facilitator (ITF) initiative. A further £8mn of funds are expected to be invested in ITF projects in 2002.

A total of 30 projects received funding in 2001. Two key current projects are:

- The Structurally Complex Reservoirs Programme – established to promote technology advances in the areas of detection and prediction of geological faults and fractures, and their properties.
- The Seismic Reservoir Characterisation

Programme – established to promote technology advances in the areas of seismic resolution and rapid prediction of reservoir performance from seismic data in order to facilitate better placement of wells, better definition of reserves and where they are to be found, and improve day-to-day well and reservoir management.

These two programmes, each lasting three years, consist of nine interlinked projects led by major UK and overseas universities, with active participation from the SME sector. They will be funded by a consortium of 10 oil companies and the UK Department of Trade and Industry.



## Re-using North Sea drill cuttings

Shell Expro and BP are jointly investigating opportunities for the future re-use and recycling of drill cuttings from the North Sea and have commissioned Mott MacDonald, in association with BMT Cordah, to identify and research potential re-use options.

A by-product from the drilling of oil wells, drill cuttings contain mainly rock fragments and residues from the drilling muds used to lubricate and cool the drill

and to remove debris from the well. Each year, tens of thousands of tonnes of cuttings are brought onshore for treatment in order to avoid any detrimental environmental impact on the marine environment. Currently, this involves processing to recover the drill lubricants, followed by disposal – mainly to landfill.

More information on current research in this area can be found at [www.drillcuttings.com](http://www.drillcuttings.com)

## Upgraded rig unlocking ACG field reserves



BP's plans to unlock reserves at the Azeri-Chirag-Gunashi (ACG) field in the Caspian Sea have entered their next stage following an extensive rig upgrade on the 120,000 b/d Chirag platform. In order to drill the project's first extended reach well, a new, versatile casing cutter capable of coping with the harsh environment had to be installed on the rig. Designed by engineering solutions specialist Furmanite International, the machine is air-powered, avoiding the usual problems and hazards of providing electricity offshore.

The machine is mounted on the casing using clamping jaws gripping the casing outside diameter for external cuts and the hub face for internal cuts, eliminating any requirement for hot work. The cut takes approximately three hours and a total casing cut can be completed in about five hours, including rigging up and rigging down, states the company. Furmanite technicians were also on hand to offer additional expertise on-site during the cutting process.

## Espoir onstream

Tullow Oil (21.33%) and partners Canadian Natural Resources (58.67%) and Petroci Holding (20%) report that the Canadian Natural Resources-operated Espoir field offshore Cote d'Ivoire, Africa, has come onstream at an initial rate of 8,500 b/d of oil. Production is expected to ramp up to 30,000 b/d by the end of 3Q2002 as six more wells are drilled from the East Espoir wellhead tower in the first phase of development. Production of associated gas is forecast to increase to 30mn cf/d. Recoverable field reserves are put at 93mn barrels of oil and 180bn cf of gas.

## UK onshore round

The UK Government has offered 22 petroleum exploration and development licences in the 10th UK onshore licensing round which included acreage never previously considered for oil and gas exploration.

Some 14 licences have been offered to companies concentrating on gas from coal mines, offering the potential for new activity in former mining communities.

Maps which show the locations of the new licences can be viewed at [www.og.dti.gov.uk](http://www.og.dti.gov.uk)

## In Brief

### Europe

**The Spanish Government is reported to have approved BG Group's seven offshore exploration licences in the Ebro Delta. The licences cover an area of some 6,500 sq km, equivalent to 30 North Sea blocks.**

**Gaz de France and TotalFinaElf's Den Helder operations in the Netherlands, together with Velsen-based operators BP, Clyde, Lasmo, NAM and Unocal, have integrated their two existing supply vessel sharing arrangements into the Southern North Sea (SNS) Pool fleet. The fleet – managed by Peterson Supplylink – currently comprises seven vessels and serves six drilling rigs and 106 manned and unmanned production platforms in the Dutch sector of the North Sea.**

**Genesis Oil and Gas Consultants (a unit of the Technip-Coflexip Group) has sub-contracted to East Anglian firm KYE the fabrication contract for the 650-tonnes topsides and 1,000-tonnes jacket destined for Burlington Resources's £185mn Rivers project in the East Irish Sea. KYE is understood to have leased a yard on Teeside at which it will undertake the construction work.**

**Eni of Italy is reported to have signed a production sharing contract covering exploration and development northwest of Gozo, offshore Malta. The company is planning to drill a well later this year.**

**Statoil is reported to have abandoned plans to link oil output from its Statfjord field in the northern North Sea to Shell Expro's Brent field.\***

**Kvaerner is to invest Nkr100mn in a new umbilicals production facility for the subsea sector of the oil and gas industry, to be based in the Gulf of Mexico or Houston area.\***

**Greenland is expected to launch its second offshore licensing round in April 2002, covering acreage offshore the island's west coast.**

### North America

**Houston-based El Paso Energy Partners is to build and operate a new 380-mile oil pipeline, capable of moving 500,000 b/d of crude from oil fields in the western Gulf of Mexico areas to Port Arthur and Texas City, reports**



## In Brief

Philip Fine. The \$450mn Cameron Highway Oil Pipeline System is expected to be in service by 3Q2004.

**BP has changed the name of its Gulf of Mexico Crazy Horse field to Thunder Horse.\***

**BP is reported to have agreed a fast-track development plan with partner Nexen (60%) to bring onstream the Gulf of Mexico Aspen discovery by the end of 2002. The 40mn boe field is located in Green Canyon block 243 and will be developed via two subsea wells tied back to a host platform.**

**BHP Billiton is planning to invest \$100mn and take a 25% stake in the new 450,000 b/d capacity Caesar oil pipeline and a 22% interest in the 500mn cfd Cleopatra gas pipeline in the Green Canyon area of the Gulf of Mexico. The two pipelines will carry oil and gas from the BP-operated Holstein field and link the Mad Dog field and the Atlantis discovery to the existing pipeline network. They are due to be commissioned in 2004.**

**ExxonMobil is reported to be planning to sell its interests in nine exploration licences offshore the east coast of Newfoundland, although it is to retain its stake in one exploration licence located close to the Hibernia oil field.\***

**It is reported that the consortium that is heading development of the Hebron-Ben Nevis oil field offshore Newfoundland has decided to shelve the project, citing that the field is too technically difficult and expensive.\***

**BP is reported to have announced the shelving of the proposed \$20bn Alaskan pipeline that was to bring gas to the North American market.\***

**All 95 bids are reported to have been accepted from the first sale of Federal offshore petroleum leases in the eastern Gulf of Mexico. The bids totalled \$340.5mn.\***

**US-based Gulf Marine Fabricators is reported to have been awarded a contract by Atlantia Offshore to build the 6,000-tonnes topsides for a Seastar tension leg platform (TLP) destined for installation on TotalFinaElf's Matterhorn field in Mississippi Canyon block 243 in the Gulf of Mexico.**

**Shell Canada is understood to have reduced its reserves estimate for the Sable gas project offshore Nova Scotia**

# NEWS *Upstream*

## Production rise following maintenance

UK oil and gas production rose strongly in December 2001, according to the latest Royal Bank of Scotland *Oil and Gas Index*, with oil production being the highest for any month during 2001 and reversing recent falls in output. Oil output in December of 2,425,159 b/d rose 12.2% on the month and 1.1% on

December 2000, driven largely by a number of fields being brought back onstream following maintenance in November.

Gas output continued its rise month on month, reaching 12,621mn cf/d – up 5.6% on November 2001 and 10.3% higher than during December 2000.

Year Month	Oil production (av. b/d)	Gas production (av. mn cf/d)	Av. oil price (\$/b)
Dec 2000	2,399,038	11,439	26.30
Jan 2001	2,274,671	13,061	25.80
Feb	2,206,542	12,293	27.50
Mar	2,301,409	12,465	24.50
Apr	2,223,924	11,918	26.00
May	2,170,520	9,155	28.30
Jun	1,993,483	8,639	27.60
Jul	2,033,323	8,841	24.70
Aug	2,018,982	8,815	25.60
Sep	1,984,388	9,091	25.90
Oct	2,169,226	8,909	20.60
Nov	2,161,755	11,949	18.80
Dec	2,425,159	12,621	18.60

Source: The Royal Bank of Scotland Oil and Gas Index

### North Sea oil and gas production

## Subsea to subsea installation completed

Stolt Offshore has completed a deep-water subsea to subsea installation, including one flowline and one umbilical, for Shell's single well Einset project in the Gulf of Mexico.

According to Bjorn Koi, Stolt's Project Manager, subsea to subsea installations are 'rare' in the industry today, but may become more prevalent as operators

move into deeper waters.

To date most subsea tie-backs have been supported by host platforms in shallower water.

The company's *Seaway Falcon* multi-purpose vessel achieved its deepest pipelay to date, with the Shell Einset well located in 3,463 ft of water on Viosca Knoll block 872.

## World's deepest TLP

Modec International has entered into a Letter of Intent with El Paso Energy Partners for the engineering, procurement and construction of the hull, mooring and production riser system for what is reported to be the world's deepest tension leg platform (TLP). The TLP is expected to be owned by EPN and Cal Dive International and is to serve as a production hub at Green Canyon 608 in the Gulf of Mexico, initially for Anadarko Petroleum's Marco Polo field discovery.

The TLP is to be installed in 4,300 ft of water and will be capable of processing 100,000 b/d of oil and 250mn cf/d of gas. The facilities are scheduled to be commissioned in 2004.

## Hydrocarbon releases

The UK Health and Safety Executive (HSE) has published its offshore hydrocarbon releases statistics report for 2001, giving details of hydrocarbon releases from offshore oil and gas installations on the UK Continental Shelf.

During 2000/2001, 270 releases were reported, an overall increase of 15% compared to the two previous yearly totals. However, the numbers of both major and significant releases have decreased over the past three years to eight and 117 respectively in 2000/2001, 10% lower than a year earlier.

Copies of the report can be downloaded from the HSE website at [www.hse.gov.uk/hid/osd/hsr2001/contents.htm](http://www.hse.gov.uk/hid/osd/hsr2001/contents.htm)

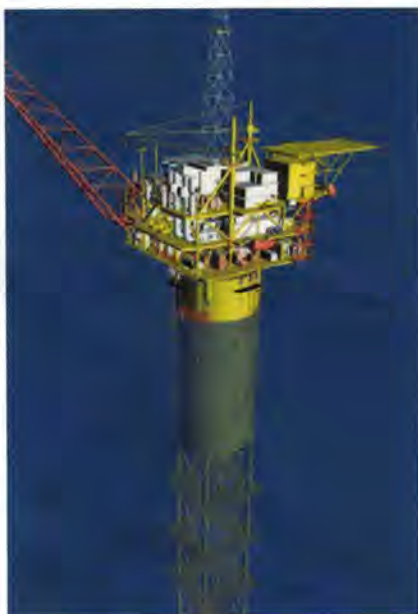


## Truss spars aid GoM deepwater development

Truss spar installations continue to provide vital avenues for deepwater Gulf of Mexico developments, reports ABS, who is currently providing classification services and facilitating fast-track fabrication and installation schedules for both Murphy Oil's Medusa truss spar and the Dominion/Williams Devils Tower truss spar – claimed to be the world's deepest dry tree platform in progress.

Truss spars (see right) – similar to caisson or classic spars in their operational profile – are intended to offer some design improvement. The truss spar is primarily characterised by its space frame of tubular members, which provide the structural linkage between hard tank (flotation tank) and keel tank as well as support to the heave plates. The heave plates provide added mass and damping to further reduce heave motions and to improve stability. This arrangement saves steel, allowing additional deck load, and provides required motion response performance.

In general, spar systems are particularly suited to deepwater Gulf of Mexico applications by providing operators



with increased flexibility in terms of water depth capability, extending traditional floating technology up to 10,000 ft of water.

## New production from old discoveries

UK company Northern Petroleum has been awarded two exploration permits, Huermeces and Valderredible, in the Burgos region of northern Spain. The permits contain the Hontomin and Huidobro oil discoveries and an unnamed gas condensate discovery.

According to Northern's Managing Director Derek Musgrove: 'Given the very favourable hydrocarbon laws and

regulations in Spain such as no royalties, full deductions and a reasonable fiscal regime, even modest production levels could prove very profitable.' The company plans to 'deploy recent advances in drilling and completion technologies on the old discoveries to achieve economic production rates'. Windsor Petroleum (Cyprus) is an equal partner in the venture, of which Northern is the operator.

## World subsea report

The latest *World Subsea Report* from UK analyst Douglas-Westwood predicts strong growth over the period to 2006, with annual spending rising to over \$10bn/y from 2003 onwards. Compared to the previous five-year period, the 2002–2006 period will see a 50% growth in market value. The total value of the global subsea market over the study period is forecast to exceed \$51mn, but could reach \$53bn if the long-term growth trend continues, states the report.

The 196-page report provides a breakdown of the subsea market by the various development components and capex by region and component. For further information, Tel: +44 (0)1227 831879; Fax: +44 (0)1227 832092; e: admin@dw-1.com

## Calder field contract

Burlington Resources has awarded the engineering, procurement, installation and commissioning contract for the initial development of the Calder field, one of the Rivers fields in the East Irish Sea. The £55mn contract for a normally unmanned offshore platform and a pipeline to the Centrica-operated Barrow-in-Furness gas terminal onshore Cumbria went to the Rivers Joint Venture, an alliance between Allseas UK and Genesis Oil and Gas Consultants (a unit of the Technip-Coflexip Group). The platform is to be installed in late 2002, the pipeline in 2003.

The Rivers fields are estimated to contain recoverable reserves of between 350bn and 400bn cf of gas. Costing £185mn to develop, first field gas is slated for 2004. Production is expected to peak at 120mn cf/d.

## In Brief

by 27% following the results of geological studies undertaken since the field came onstream at the end of 1999. The company had originally put sales gas reserves at 1.1tn cf. The field is currently producing 550mn cfd.

**Mariner Energy** is reported to have brought onstream its King Kong/Yosemite field onstream in February 2002. Located in Green Canyon blocks 472, 473, 516 and 517, the field is tied back to Agip's Allegheny tension leg platform (TLP) in Green Canyon block 254. Production is expected to peak at 150mn cfd of gas.

**Shell** is reported to have added 20,000 bld of oil and 30mn cfd of gas to its Gulf of Mexico production portfolio with the bringing onstream of its three-well Crosby field in Mississippi Canyon blocks 898 and 899, and the single-well Einset project in Viosca Knoll block 872. The Crosby project is forecast to peak at 60,000 bld of oil and 90mn cfd of gas by the end of 1Q2002 and has total recoverable reserves put at more than 70mn boe.\*

**Newfoundland's Terra Nova** project is reported to have come onstream more than a year year behind schedule. The 400mn barrel field is being produced through Canada's first FPSO.

**Unocal** is reported to have announced a major new gas discovery with the Grassim Oskolkoff 1 well on the Kenai Peninsula, Alaska. Unocal holds a 40% stake in the well, with the operator Marathon Oil holding 60%.

### Middle East

**Most Opec members** are exceeding their production quotas according to the Middle East Economic Survey (MEES), with overall January 2002 output more than 1mn bld above target.

**Sheer Energy** is reported to have received all approvals to go ahead with its proposed buy-back contract to redevelop Iran's Madjed-I-Suleyman oil field in a joint venture with Naftgaran Engineering Services of Tehran.

**A FURTHER 75 OF THE MONTH'S UPSTREAM NEWS STORIES NOT INCLUDED ABOVE CAN BE FOUND ON THE NEWS IN BRIEF SERVICE @ [www.petroleum.co.uk](http://www.petroleum.co.uk)**



### UK

**BP is understood to be considering cutting up to 5,000 jobs after a slide in the oil price slashed its 4Q2001 profits by 46% to \$2.2bn.\***

**Enterprise Oil is understood to have acquired all of Odebrecht's assets in Brazil for \$153mn; increased its stake in the North Sea Pierce field to 92.52%; and increased its stake in KMOC of Russia to 46%.\***

### Europe

**Statoil has posted a 2001 net income of Nkr2.6bn, down from Nkr4.72bn in 2000.**

**Norsk Hydro has posted a 2001 net income after tax of Nkr7,892 compared with Nkr13,981mn in 2000.\***

**TotalFinaElf has posted a 4Q2001 net income, excluding non-recurring items, of euros 1.41bn – a 34% fall from the same period a year earlier. Total 2001 net income fell by 2% to euros 7.50bn.**

### North America

**Husky Energy is reported to be in talks with PetroChina regarding the sale of all or part of the Calgary, Canada-based company. Specific details are not available at present.**

**Enron is reported to have stated that it is to ditch its corporate name of Enron and move out of its Washington headquarters as part of its plans for a 'fresh start'.\***

**US President George W Bush is understood to have proposed an alternative to the Kyoto Protocol to tackle global warming, suggesting tax incentives to encourage industry to reduce greenhouse gas output on a voluntary basis.\***

**ChevronTexaco has unveiled a \$9.4bn capital and exploratory spending programme for 2002, including \$1.6bn in non-cash affiliates' expenditures. The 2002 programme is 22% lower than 2001 spending of \$12bn due to 'merger-related capital efficiencies' reports the company.\***

**New York corporate workout specialist Stephen Cooper has been appointed Enron's interim Chief Executive Officer**

## BP and E.ON go ahead with Veba deal

BP has announced that it has agreed with E.ON to go ahead with its plan to acquire a majority stake in Veba Oil with effect from 1 February 2002. The two companies separately said they have agreed in principle to sell Veba's oil and gas production subsidiary to PetroCanada for \$2bn.

BP is to pay E.ON \$1.63bn in cash and assume some \$850mn of debt in return for 51% and operational control of Veba Oil which owns Aral, Germany's biggest fuels retailer with over 2,600 retail outlets in the country. From the sale of Veba's upstream oil and gas assets to PetroCanada, BP will receive some \$1.65bn, the balance going to E.ON.

BP has also said that it is prepared to

pay a further \$2.4bn in cash for the remaining 49% of Veba Oil, which E.ON can require it to buy from 1 April 2002 under the terms of an agreement between the two companies announced in July 2001.

The agreement envisaged part of the payment for Veba Oil being met by the sale to E.ON of BP's wholly-owned subsidiary Gelsenberg which holds a 25.5% stake in Germany's largest gas distributor, Ruhrgas. Although that sale was prohibited by Germany's Federal Cartel Office, it is being appealed to the German Economics Ministry which is expected to rule in early summer. If the Ruhrgas acquisition is subsequently approved, BP will sell its Ruhrgas stake to E.ON for an agreed \$2.1bn.

## EC and EU news update

An action plan has been published by the European Commission in order to strengthen weak cross-border links in the European Union's gas pipeline network, reports *Keith Nuthall*. It has highlighted areas where it wants improvements, especially pipes to key producers such as the UK, the Netherlands, and Russia.

Other priority projects include the construction of new pipelines from Algeria to Spain and France, central Asia to eastern Europe, Greece to Turkey, and Italy to Greece. Brussels also wants LNG terminals established in France, Spain, Portugal and Italy, and the construction of underground gas storage in Spain, Portugal and Greece.

Meanwhile, the European Bank for Reconstruction and Development (EBRD) has drawn up plans to lend \$200mn to joint venture company JSC SeverTek, to develop the South Shapkin oil field in western Russia, including construction of wells plus a central processing facility and connection to the regional pipeline.

Other recent petroleum related EU developments include:

- The EC has asked the Norwegian Competition Authority to decide whether the proposed acquisition of Anglo-Norwegian firm Kvaerner by Aker Maritime of Norway

should go ahead, taking into account its impact on the oil and gas market.

- EU Ministers have been asked to approve European Commission plans allowing France to lower excise duties for bio-fuels, including petrol/ethyl alcohol derivatives and diesel/vegetable oil esters.
- The EC is taking Germany to the European Court of Justice for failing to implement an EU safety directive on the use of pressure equipment, notably petrochemical processing plants.
- Brussels has announced that it will award euros18.5mn to nine EU cities that wish to introduce hydrogen cells into their public transport system – Amsterdam, Barcelona, Hamburg, London, Luxembourg, Madrid, Porto, Stockholm and Stuttgart.
- The European Union has approved improvements to the Barcelona Convention's protocol on combating oil pollution, that will encourage cross-border efforts to deal with the problem.
- A European Environment Agency report has reviewed the current disposal of waste oils within the EU. Download the report from [www.reports.eea.eu.int/technical\\_report\\_2001\\_69/en/tech\\_rep\\_69.pdf](http://www.reports.eea.eu.int/technical_report_2001_69/en/tech_rep_69.pdf)



## Reforming Russian infrastructure

Russia should encourage the development of competition in its gas production, notably by separating utility Gazprom's transmission assets from its production facilities, said a new Organisation for Economic Cooperation and Development (OECD) report, *Reforming Russian Infrastructure for Competition and Efficiency*. It also recommends boosting competition in gas transmission through allowing invest-

ment by other companies in new pipelines, writes *Keith Nuthall*. 'Separation of Gazprom's different activities would also enhance transparency of Gazprom's costs and make clearer the cost of maintaining cross-subsidies which are currently holding down domestic gas prices,' said the OECD.

The report follows seminars hosted by Russia's Ministry for Antimonopoly Policy and the OECD.

## BalticPipe update

Dong and Polish gas company POGC report that new figures indicate that Polish demand for natural gas is somewhat below the volume used as the basis for the proposed BalticPipe gas pipeline link between Denmark and Poland. Although the companies report that they will continue to seek regulatory approval for the project, they plan to investigate the opportunities to collaborate with other parties to ensure that only one gas pipeline is built across the Baltic Sea and to clarify the actual gas volumes that will transit the line.

Procurement of pipe and equipment for the pipeline has thus been deferred. It seems unlikely that the pipeline will be commissioned until 2005 at the earliest.

## Fortum fleet

Fortum is to sell its 142,000-tonnes crude oil carrier *Mastera* to the Middle East for euros 40mn as part of the company's asset sales programme. After the sale, Fortum plan to carry out its crude oil deliveries using 100,000-tonnes vessels.

In January, the company renegotiated its time-chartering contracts. The long-term charter party of the 68,000-tonnes product carrier *Varden* has been dissolved, and the chartering of its sister vessel, *Varg*, has been shortened considerably. These charter arrangements are expected to reduce Fortum's long-term liabilities by about euros 25mn. After the arrangements, Fortum's fleet will include 29 tankers, six of which are wholly owned and two partly owned.

## India to liberalise oil and gas price regime

India is moving towards a liberalised pricing regime for both oil and natural gas, with the country's administered pricing mechanism for the products being dismantled from 1 April 2002, report *Swineetha Dias Wickramanayaka* and *Keith Nuthall*. Domestic crude oil producers will from that date get a 100% import parity price, although natural gas prices will remain capped for at

least 18 months.

New Delhi sources have told *The Times of India* that natural gas would maintain a price ceiling of matching 75% of fuel oil prices, less than 50% of international natural gas prices. However, officials said natural gas prices would rise in two annual or three half-yearly installments to reach 100% import price parity.

## Shell posts profit fall

Shell has posted a 47% fall in 4Q2001 earnings to \$1.91bn. The drop was attributed to falling oil prices and the ailing US economy. However, full year adjusted CCS (current cost of supplies) earnings were \$12bn, the second highest in the company's history and only 9% below the record results of 2000. The company reported that cost improvements have already passed the upgraded \$5bn target set, and ROACE (return on average capital employed) for 2001 was 19.2%. Capital investment of \$12bn was reported to have been at the planned level, a rise of 38% from the previous year due to higher investment in growth projects.

## ... as does BP

BP has posted an overall 2001 end of year profit of \$13.2bn, a 7% fall from 2000. Its E&P division reported a 4Q2001 profit of \$2.374mn, down \$2.326mn from the same period last year. However, production was reported to be up 5.5% on the year in line with the company's growth target. Production for the quarter – during which time three new fields came onstream – was a record 3.5mn boe/d. Gas and Power 4Q2001 profits were \$106mn (down 42% compared to 2000); Refining and Marketing \$785mn (down \$536mn on 2000); and Chemicals \$39mn. Group capital expenditure was \$13.2bn for the year. ROACE was 19% for the year compared with 23% in 2000.

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and Chief Restructuring Officer following the recent resignation of Chairman Kenneth Lay.

**ExxonMobil's profits are reported to have halved over 4Q2001** due to weak oil prices and the US economic recession. Net quarterly income was \$2.68bn, down from \$5.22bn a year earlier.\*

**ChevronTexaco is reported to have posted a preliminary \$2.522bn 4Q2001 net loss** following its merger and the write-off of a number of oil and gas assets. Full year net income for 2001 was \$3.288bn, compared with \$7.727bn in 2000.\*

**PanCanadian Energy is understood to be planning to acquire Alberta Energy** in a \$16.8bn share exchange deal to create a new company – EnCana Corporation.\*

### Middle East

**A Memorandum of Understanding has been signed under which Qatar is to supply Bahrain with between 14.15mn and 22.64mn cm/d of LNG**, reports Stella Zenkovich.

**Iran has commenced its first gas exports since 1979**, supplying Turkey with gas under a 25-year contract.\*

### Russia & Central Asia

**The Russian Federal Energy Commission has approved a 20% increase in the gas pipeline transport tariff for third parties**, reports UFG.\*

**Socar of Azerbaijan is reported to be planning to sell 20% of its remaining 45% stake in the the Baku-Tbilisi-Ceyhan Main Export Pipeline project** to foreign investors.

### Asia-Pacific

**Australian company Oil Search and Orogen Minerals of Papua New Guinea are reported to have agreed a proposed A\$1.4bn merger** that is claimed will create Australia's third largest energy company.

**A FURTHER 55 OF THE MONTH'S INDUSTRY NEWS STORIES NOT INCLUDED ABOVE CAN BE FOUND ON THE NEWS IN BRIEF SERVICE @ [www.petroleum.co.uk](http://www.petroleum.co.uk)**



## UK

**UK Energy Minister Brian Wilson** has introduced the new **Renewables Obligation**. It sets a government target of providing 10% electricity from eligible renewable sources by 2010.\*

**Foster Wheeler Energy** has secured an engineering, procurement and construction management contract from **Immingham CHP** for a 730-MW combined heat and power (CHP) plant at the existing **Conoco-operated Humber refinery**, the new £300mn facility is reported to be the largest of its kind to be built in the UK to date.\*

## Europe

**Tunisia's medium-light crude, Isis** was recently launched on the Mediterranean spot market. The 35/36° API crude has a sulfur content of between 0.3 and 0.5%.\*

**Turkey is understood to be planning** to launch natural gas and electricity markets on 2 May and 3 September this year respectively, now that deregulation laws have been passed.

**The European Commission** is reported to have given approval for a proposed Portuguese power distribution joint venture between **Endesa of Spain** and **Sonae of Portugal**. The new venture will be called **Endesa Energia Portugal**.\*

## Eastern Europe

**German utility company RWE** has secured a \$3.54bn deal with the **Czech Government**, under which RWE will take a 97% stake in **Transgas** and between 46% and 58% interests in eight regional gas utilities (six of which will be majority shares). **Transgas** supplies nearly all Czech Republic demand for gas.\*

**The oil pipeline that will connect Thessaloniki in Greece** with **Skopje, the Macedonian capital**, is soon to be commissioned, writes **Stella Zenkovich**.

## North America

**US Republican senators** have introduced a plan that would require American cars and light trucks to average 36 miles per US gallon (mpg) by 2016, writes **Philip Fine**. The Democrats

## Shell surprises with GTL plant proposal for Qatar

With observers' attention focused on Shell's gas-to-liquids (GTL) expectations in seven other countries, the company announced in mid-February that it has signed an Letter of Intent to study development of a world-scale GTL plant in Qatar, writes **Fred Thackeray**.

For Shell, the announcement heralds entry to Qatar's natural gas industry, where it has no present participation. The proposed development of a Fischer-Tropsch GTL plant 'would be integrated with an upstream development of the North field' - Qatar's giant natural gas resource.

For Qatar, the announcement establishes it as the only gas producing country yet to declare a long-term commitment to F-T GTL. At the signing ceremony, Qatar's Energy Minister, **H E Abdullah bin Hamad Al-Attiyah** said: 'We all share the vision of HH the Amir that GTL synthetic fuels will play an important role in the strategic development of Qatar's hydrocarbon reserves.'

**Qatar Petroleum** is already in the early stages of a feasibility study jointly with **ExxonMobil** on a GTL plant of 100,000 b/d; and it is a 51:49 partner with **South Africa's Sasol** in a 34,000 b/d GTL plant which is progressing towards an expected onstream date in 2005.

Qatar is thus on course to acquire knowledge and experience with three of the principal Fischer-Tropsch technologies - **SMDS (Shell Middle Distillate Synthesis)** technology, **ExxonMobil's AGC-21** technology and **Sasol's Slurry Phase Distillate** technology. The **Sasol** plant will be located at **Ras Laffan**, where its economic viability will be significantly enhanced by proximity to two LNG export plants which have established infrastructural and harbour facilities. The same benefit will also probably be available for the further proposed GTL plants of **ExxonMobil** and **Shell** if mutually acceptable gas feed-stock prices are agreed and these proceed to construction.

## Oil trading in Central & E. Europe

**UK consultant Andersen** recently undertook a market study into crude oil trading in central and eastern Europe. The overall aim of the study - commissioned by oil trading company **Crown Resources** - was to consider measures to maximise crude oil export revenues and reduce pricing inefficiencies. The study was based solely on publicly available information.

The study showed that crude oil deliveries via pipeline appeared to

suffer a price disadvantage compared with equivalent crudes delivered by sea to the same markets. **Andersen** concluded that this differential reflected imperfections in the crude oil market, driven primarily by a lack of liquidity, and recommended that the imperfections could be addressed through the introduction of a regulated minimum selling price for crude oil exports and the creation of an independent trading exchange.

## Methanol - a cleaner auto fuel alternative

**Zero-m**, a UK-based clean fuels development company, reports that the UK Government is supporting its pilot project to demonstrate the benefits and uses of methanol as a cleaner alternative to current motor fuels. Through its **Green Fuel Challenge** initiative, the government has granted the company fuel duty relief, enabling it to begin a cost-effective, step-by-step research programme to test its methanol-based fuel as a feasible commercial alternative for road vehicles in the future.

The pilot project is designed to demonstrate that:

- Methanol-based fuels can be very clean and safe substitutes for diesel fuel.
- A safe and practical methanol-based fuelling infrastructure can be estab-

lished in the UK.

- Methanol-based fuels can be made from renewable energy sources in the longer term.

The company plans to develop affordable retrofit engine conversions for a range of older diesel engines, to convert several fleets of older taxis, vans and trucks, as well as measure the improvement in emissions, engine efficiency and performance resulting from the use of methanol-based fuels. It is also to involve car manufacturers in the potential for developing new methanol capable engines, develop innovative methanol refuelling systems, and help the government make decisions on the long-term duty status of methanol-based fuels.



## Save brand remains on UK forecourts

The sale of UK independent retailer Save Group completed on 10 January 2002. The fuel retail assets – a 406-strong network of outlets selling some 660mn l/y of fuel – were acquired by Bayford & Co, together with property group Petchey Holdings acting on behalf of Incorporated Holdings Ltd.

The new venture will operate under the name Save Retail and will be the UK's largest privately owned fuel

retailer and distributor.

The Directors of Save Retail are Jonathan Turner, Managing Director of Bayford & Co, John Murgatroyd, the previous Save Group Financial Director, and Ron Mills. All directors of the Save Group, except Chairman James Frost, and the Save management team remain with the new owners.

No site closures or redundancies were necessary during the 10 months that Save was in administration.

## ICE unveils trading volume data

InterContinentalExchange (ICE), one of the world's most liquid and fastest growing commodity marketplaces, announced at a press briefing in London on 29 January the volume data by

market it operates in as tabulated below. Total transactions in all markets in which ICE operates totalled 400,000 in 2001. The daily average to date in 2002 is 5,000 transactions.

Trade	Total volume 2001	Average vol on 29 Jan
Oil	2bn barrels	12mn barrels
North American natural gas	30tn cf	500bn cf
North American power	1.5bn MWh	15mn MWh
Precious metals	93mn gold-equiv ozs	almost 1mn gold-equiv ozs

## Future global market for gas

Edinburgh-based consultant Wood Mackenzie recently completed a global study on the future markets for gas for the National Iranian Oil Company (NIOC). The study was commissioned by NIOC in autumn 2001 to help the Gas Exporting Countries Forum (GECF) define where future areas of gas demand are likely to be in the coming 30 years and where future new supplies will come from to meet this increasing demand.

The report states that:

- Gas demand will rise rapidly, doubling in the next 30 years to around 4.8tn cm, helped in particular by growth in gas-fired power generation capacity (accounting for 40% of gas demand by 2030). Gas demand is growing within all regions around the world.
- Old market models are changing as liberalisation takes hold, opening markets to new players. These changes are being driven by government policy. Oil company strategy and increased globalisation due to the continued growth in LNG production and trade.
- Since it is unlikely that all proposed gas development projects will obtain contracts, a potential over-supply situation exists in the short-term and this will have an impact on the timing of some projects, with some production deferral and project schedule slippage.
- There will be strong competition for markets and customers but, at the same time, security of supply will remain an energy policy priority. For example, indigenous supply from within Western Europe is declining. As a result, Western Europe is becoming increasingly dependent on gas imports to meeting its growing demand – 1.9%/y on average to 730bn cm in 2030.
- The major oil companies are focusing more on the 'gas-fired economy' by prioritising the monetisation of their gas reserves.
- Gas trade flows will become more complex, particularly as LNG markets expand, allowing more remote reserves to consider many different possible markets.
- Significant new investment will be required in all areas of the supply chain. Some of this will come from energy companies and some may be strategic in nature and may be government funded.
- Technological advancements, such as fuel cells and carbon dioxide sequestration, have significant potential to enhance gas utilisation should they prove to be economically competitive. However, competitive threats to gas demand exist in the pace of development of clean coal technology and renewable energy sources.

## In Brief

want a 35 mpg average by 2013. Currently, cars must attain an average of 27.5 mpg and light trucks 20.7 mpg.\*

**Trade-Ranger**, the online marketplace, is to offer strategic sourcing through Portum, a leading provider of e-sourcing solutions.\*

**Oiltanking** has sold its 50% stake in the 2.4mn barrel capacity Pasadena, Texas based products terminal to Equilon Enterprises for an undisclosed sum.

**The New York Mercantile Exchange** (Nymex) and **Chicago Mercantile Exchange** (CME) are to jointly offer new 'e-mini' versions of key Nymex energy futures contracts for trading on CME's GLOBEX® electronic trading platform and clearing at the Nymex clearing house.\*

**The US Federal Energy Regulatory Commission** has approved El Paso Natural Gas Company's proposal to expand its Samalayuca pipeline from 208mn cfd to 308mn cfd to facilitate the export of natural gas to Mexico.

### Middle East

**Jordanian Minister of State Salih Qallan** has announced that the government has approved the construction of the proposed Jordan-Iraq oil pipeline, 300-km of which will transit Jordan, reports Stella Zenkovich.

### Russia & Central Asia

**Yukos** has finally acquired a 49% stake in Transpetrol, the Slovakian oil pipeline monopoly, for \$74mn.\*

**The Russian Federal Energy Commission** has announced that the domestic gas tariff will be increased by 20% from 15 February 2002, two weeks earlier than the original date set by the government, reports UFG.

### Asia-Pacific

**Thaioil**, which has debts of \$2.3bn, has called for its parent firm PTT to take control of the company and rescue it from further losses, writes Mark Rowe.\*

**Foster Wheeler International** has secured a £4.7mn engineering and consultancy contract from PTT for its fifth gas separation plant project in Thailand



that will recover ethane, propane, LPG and NGLs from natural gas feedstock. The plant will be located in Map Ta Phut, Rayong, Thailand.\*

**The Russian Finance Ministry has contracted to furnish a \$250mn loan via the Foreign Trade Bank for the building of Vietnam's first refinery in Quang Ngai Province, writes Stella Zenkovich. The facility will have a 6.5mn processing capacity.**

**China Petroleum and Chemical Corporation is reported to have made more than 50,000 employees redundant in 2001, well over its original target of 27,000 for the year. The company is targeting a 20% reduction in its workforce (100,000 jobs) by 2005.**

**PetroChina is reported to be planning to shut down seven loss-making refineries and cut its crude oil refining capacity by 14.45mn tonnes by 2005.\***

## Latin America

**Vopak is to acquire GATX Corporation's chemical tank storage interests in Terminal de Productos Especializados (TPE) in Altamira, Mexico for an undisclosed sum.\***

**Endesa of Spain is reported to be planning to build a \$207mn, 310-MW combined cycle power plant in the northern Brazilian state of Ceara.\***

**A FURTHER 38 OF THE MONTH'S DOWNSTREAM NEWS STORIES NOT INCLUDED ABOVE CAN BE FOUND ON THE NEWS IN BRIEF SERVICE @ [www.petroleum.co.uk](http://www.petroleum.co.uk)**

## New-look logo for Wincanton



UK supply chain solutions company Wincanton has unveiled its new corporate logo. Featuring a slanted typeface with directional lines underneath, the concept of the new logo is that of per-

petual motion to symbolise the forward movement of the company. An ellipse surrounds the name and two underlines to signify the continuous nature of supply chain management, states the company.

## Canada deal for Centrica

Centrica is to acquire the home and business services operation of Canadian company Enbridge for C\$1bn, subject to regulatory approvals. The acquisition will more than double Centrica's Canadian customer base, offering the potential to market energy and related products and services to more than 2mn households.

Centrica claims to be the largest unregulated energy retailing company in North America, with over 1.3mn gas customers in Canada and the US. In addition, it has signed up 600,000 electricity customers in Ontario in advance of market opening at the beginning of May 2002.

## Fuel fraud costs

In November 2001, HM Customs and Excise produced estimates for the first time of the revenue loss from frauds on petrol and diesel.

It estimated that in 2000 the loss could be between £450mn and £980mn in the UK, compared to revenue receipts of £22.6bn on oil duties.

Of this, diesel frauds on the UK mainland in 2000 amounted to £450mn, while for Northern Ireland the estimated revenue loss from fraud and legitimate cross-border shopping was £380mn for 2000, up from £140mn in 1998.

## UK Deliveries into Consumption (tonnes)

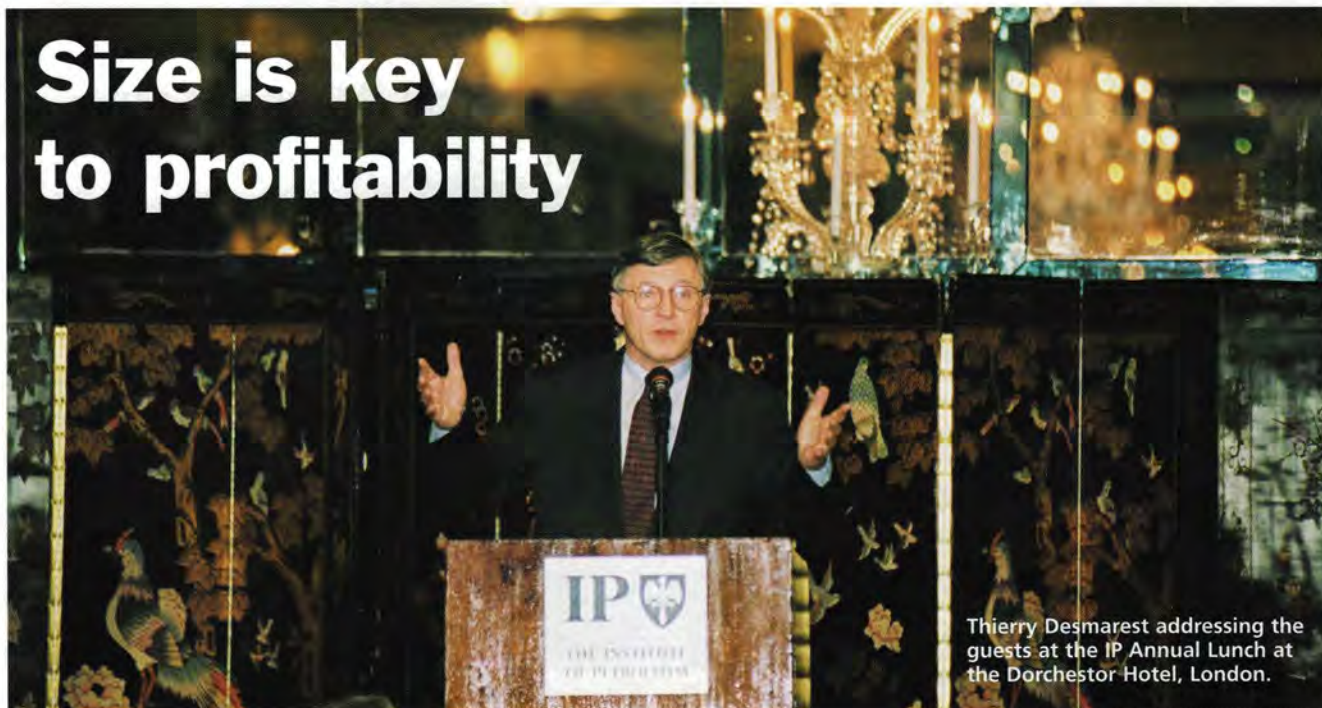
Products	†Nov 2000	†Nov 2001	†Jan-Nov 2000	†Jan-Nov 2001	% Change
Naphtha/LDF	223,841	94,627	2,114,218	1,446,107	-32
ATF - Kerosene	802,992	695,855	9,460,951	9,997,778	6
Petrol	1,906,814	1,720,125	19,378,162	19,133,889	-1
of which unleaded	1,793,733	1,661,591	17,886,251	18,167,269	2
of which Super unleaded	39,311	43,361	436,634	407,089	-7
of which Premium unleaded	1,754,422	-	17,449,617	6,099,468	-65
ULSP (ultra low sulfur petrol)	-	1,618,230	-	11,660,712	-
Lead Replacement Petrol (LRP)	113,081	58,534	1,491,911	896,735	-40
Burning Oil	359,017	354,847	3,253,128	3,627,969	12
Automotive Diesel	1,321,829	1,480,252	14,166,982	14,853,084	4.8
Gas/Diesel Oil	587,407	545,216	6,358,627	5,681,863	-11
Fuel Oil	195,206	161,613	1,523,369	1,672,712	10
Lubricating Oil	75,293	79,291	758,080	795,955	5
Other Products	745,431	589,623	7,760,445	7,224,916	-7
Total above	6,217,830	5,721,449	64,773,962	64,434,273	-1
Refinery Consumption	402,238	474,532	4,723,316	4,298,096	-9
Total all products	6,620,068	6,195,981	69,497,278	68,732,369	-1

† Revised with adjustments

All figures provided by the UK Department of Trade and Industry (DTI)



## Size is key to profitability



Thierry Desmarest addressing the guests at the IP Annual Lunch at the Dorchester Hotel, London.

Addressing the annual IP Luncheon at the Dorchester Hotel, London, *Thierry Desmarest*, Chairman and CEO of TotalFinaElf looked at the challenges that lie ahead for the global oil and gas industry, paying particular attention to recent industry consolidation and mergers. The following is a lightly edited version of his speech, the full version of which can be viewed on the IP website ([www.petroleum.co.uk](http://www.petroleum.co.uk)).

**T**he Institute of Petroleum is one of the oil world's most respected bodies with a fine record in helping to improve our industry's technical and safety performance. IP Week always attracts the best people in our profession and I am conscious that today I am addressing men and women who have played a great role in developing some of the world's most significant energy projects.

### Challenges ahead

What are the challenges our industry is facing today and what opportunities will they create for oil companies? We know that energy demand will be needed to fuel economic growth and, particularly, to permit developing countries to reach the standards of economic well-being that we enjoy in the developed world today. And, of course, it will be vitally

important to develop energy-efficient technologies and renewable energy sources which will allow this growth to be satisfied in a way which is compatible with the sustainable development of the planet. Let me assure you that TotalFinaElf has a strong commitment to be fully involved in these developments.

But, of course, in the short term at least, hydrocarbon energy will continue to play the dominant role in supplying the world's energy needs. The international oil companies need to meet the challenge of bringing on new reserves to replace the natural depletion of old fields and to satisfy new demand in conditions, which, from a technological, political, environmental and financial point of view, are more and more challenging each year.

So, how will these challenges be met? I believe that in the future the very large, major oil and gas companies will



IP President Charles Henderson (second left) enjoys lunch with Thierry Desmarest (far left) and other key industry executives.



be the best positioned to successfully meet the necessary demands which will be made on our industry. It will be their substantial size that will give them:

- The necessary financial strength to carry out large projects.
- The command of leading-edge technologies and management skills.
- Adequate negotiating power with governments.
- The indispensable resilience and flexibility to changing environments.
- And, the patience and long-term vision to develop major projects that will require major advances in technology or market development.

## Size matters

Yes, size really does matter in meeting the future challenges of the oil and gas industry.

This has been confirmed by the wave of consolidation we have seen over the last few years. Out of the top five major publicly traded companies today, four have been formed through mergers – ExxonMobil, BP, TotalFinaElf and ChevronTexaco.

The quest for size has been an obvious, highly publicised trend in the oil industry, although we should keep in mind that the five largest oil companies together account for only 13% of the world's oil output and that production is still dominated by national oil companies.

Size matters for company ratings by the financial markets. Looking at earnings or cash flow multiples, you find that the market systematically rewards bigger companies with higher multiples. Size gives resilience to industry cycles – quarterly results for all the super majors remain more stable than those of smaller companies.

Looking at exploration and production, size enables geographical diversification, thus reducing the risk of being too dependent on one specific country or area. For TotalFinaElf this means that no single country represents more than one-sixth of the group's total production and no single country accounts for more than one-fifth of the group's total reserves.

In the area of technology, size has enabled TotalFinaElf to successfully master extremely difficult challenges without having to be over-exposed to any one in particular. This is evident when looking at the varied projects that we have already successfully carried out or at those which are presently in development phases.

- The Elgin-Franklin development here in the UK is the biggest project to be carried out in the North Sea for more than two decades and is also the world's largest high pressure/high temperature development. Presently in production, the \$2.5bn project has reached its daily

plateau production rate of 200,000 boe. The reservoirs are the deepest ever to be put into production in the North Sea.

- The Sincor project in Venezuela, which is just starting-up production, will at plateau level be upgrading 200,000 barrels of extra heavy crude oil into 180,000 barrels of high quality, low sulfur synthetic crude oil known as Zuata Sweet. Overall investment for production and upgrading was \$4.3bn.
- The \$2.6bn Girassol oil field project in Angola, which started production just two months ago, is the largest deepwater development to be brought onstream in the world. Located in water depths of 1,350 meters, it will ultimately be composed of 39 subsea wells linked to three riser towers carrying a peak production of 200,000 barrels of oil

to a floating production storage offloading vessel with a storage capacity of 2mn barrels.

- The soon-to-be-completed South Pars development in Iran is one of the first projects on the giant South Pars gas field. It is a \$2bn investment for the production of 2bn cf/d of gas. One of its innovations is the long distance 80-km multi-phase transport of wet gas from two offshore platforms to the Assaluyeh onshore gas treatment plant.

In addition to allowing access to various technologies, size also enhances cost efficiency. When compared to mid-size oil companies, the five majors have noticeably reduced their technical costs. Today, the largest companies are able to concentrate on giant fields with low technical costs of around \$7/b.

Size allows a company's management to have a long-term view and to take



above: Exhibition viewing at 1 Great George Street.

below: Networking at the Dorchester Hotel ahead of the IP Lunch.





advantage of all the opportunities available at the right time. This has been the case, for instance, in developing liquefied natural gas (LNG) projects – accepting a very long period of preparation of up to 20 years in the case of Nigeria or Qatar, but enjoying a very long production plateau later on. Today, TotalFinaElf is very happy to have interests in five LNG plants, located in Indonesia, Nigeria, Oman, Abu Dhabi and Qatar, which today represent 40% of LNG worldwide capacity.

I've talked a lot about the importance of size in exploration and production, but size doesn't necessarily mean being present everywhere on the planet. For example, TotalFinaElf has significant positions in the Middle East, Africa, the North Sea, Latin America and the Former Soviet Union, all areas which offer significant growth opportunities, but we have a very small presence in the US where, apart from deep offshore Gulf of Mexico, the ability to develop major projects is limited.

### **Industry concentration downstream**

There has also recently been increased concentration of downstream in both the US and in Europe. Overall refining capacity has not changed much in the past five or six years. However, today's top five refiners in both the US and in western Europe have markedly increased their market share, accounting for 52% in the US and 56% in Europe.

Looking at our own group's situation, the successive mergers of Total with Petrofina and then, TotalFina with Elf Aquitaine have allowed us to better optimise refining. We have been able to establish refinery hubs involving two or more refineries that are geographically linked by pipe. These hubs are optimised

not only in terms of crude selection and short-term production programming but also in terms of investments, so that, for example, a major investment to meet new products specifications may be made in just one of the refineries in the hub and not in both.

This has allowed us to maintain a very strict investment discipline for our refining and marketing, which has been a critical factor in improving return on capital employed (ROACE) in the downstream segment. As an example, we expect to drive down our break-even margin in refining from \$11/t in 1999 to \$8/t in 2003.

Focusing on marketing, the two mergers have allowed us to reach critical market share (above 10%) in most western European countries where we are present. A good example of this is our operations right here in Great Britain. Prior to the mergers, Total, Fina and Elf all had separate market shares of below 4%. Now they add up to a solid, combined overall market share of 11%. And there are similar stories in Germany, France, the Benelux and so on.

For us, the key to profitability in a given market like Europe is to have strong market shares in each country in order to develop strong brands and loyalty programmes. This is a better strategy than trying to be present worldwide without having the critical mass in any individual market.

I hope I've convinced you that size is a very critical factor in the performance of an oil company today. In our opinion, it will be even more important in the future. It is certainly this idea that has driven the recent wave of mergers in our business. Having said that, if you are going to achieve critical mass through mergers you have to be sure the merger is going to work.

### **Making mergers work**

Undoubtedly all of you have read or heard that in many industries, as a general rule, very few mergers are successful. In the oil business, however, almost all of the mergers that we've seen have been successful from a business point of view. They have been welcomed by investors, who have applied premium ratings reflecting the synergies and stronger positions created by the mergers. So, if our industry has created successful mergers, how has it done this?

Well, first of all, you must properly evaluate the synergies that you can expect when taking into account the premium that will most likely have to be paid when closing the deal. Secondly, the corporate cultures of the companies must be a very good fit. In our view, a failure to integrate the cultures is the main source of risk in a merger.

And thirdly, don't forget that size can also have its disadvantages and can imply some dangers. Some companies may lose a part of their efficiency, flexibility or reactivity. You need the advantages size gives you, but you need to keep the dynamics of a small company.

### **Future consolidation**

In concluding, you might ask about what the chances are for future consolidation in our industry. Well, it's always possible that history may not repeat itself. It is certain that value-creating merger scenarios are becoming scarcer due to several reasons.

Firstly, the greatest volume of synergies is normally generated in the downstream sector. In some geographic areas, concentration in this segment has already reached the limits of what is acceptable for anti-trust authorities. So, we may see fewer downstream driven mergers in the future.

Secondly, good cultural fits are getting more and more difficult to find. When merging TotalFina and Elf you get benefits from the cross-fertilisation of two different but not too dissimilar cultures, but you still have to work hard at it. If the cultures are too different, it may be better not to take the risk.

Having mentioned these problems, let me conclude by saying that, in my opinion, the biggest players in our industry now have an important strategic advantage over the small and medium-size players. And, in the future, this advantage will be even more pronounced than it is today. So, despite the difficulties I have talked about, there is still an enormous incentive for smaller players to find merger partners in order to achieve critical size.

All in all, I wouldn't be too sure that the consolidation phase in our industry is over just yet, especially when you look at the dynamism and the imagination of the people who run this industry. ●



Industry news and views were gently debated over lunch at the Dorchester.



# IP President reviews the year



Charles Henderson, IP President.

**Charles Henderson, President of the Institute of Petroleum addressing the annual IP Dinner at the Grosvenor House Hotel, London, examined the impact of oil price on the international oil and gas sector and stressed the need for mutual understanding between government and industry. The following is a shortened version of his speech. (Visit [www.petroleum.co.uk](http://www.petroleum.co.uk) for his full presentation.)**

**O**ur key barometer, the oil price, has continued to be volatile. The significant slow down in world oil demand is exerting heavy downward pressure on price, and it is by no means clear whether recent Opec action will stem this downward pressure or reverse it – and in what timescale.

However, the industry shows no sign of being deflected from its investment strategies by this downward volatility, just as it was not seduced by the exceptionally high prices that we saw 18 months ago. But we have to recognise, and remind ourselves – and government – that the risks and uncertainties of such a strategy are significant.

Last year we saw a revival of concerns about import dependency and security of energy supplies; so much so that the UK Government established an energy review.

But concerns about security of supply have been greatly heightened by the appalling events of 11 September and their aftermath. Western governments have felt the need to consider more urgently how to lessen their dependence on imports from politically troubled areas.

This underlines the importance of the UK Government's commitment, and the industry's commitment, to maximise economic recovery of oil and gas reserves in the UKCS. And it underlines the importance in these very uncertain



Pre-dinner reception at the Grosvenor House Hotel, London.



times of not weakening the industry's commitment by adding to the burden of future taxation.

More generally it underlines the need for the industry and the government to work ever more closely together to ensure that we have a shared perception of the way ahead. Pilot, the body that brings together the oil industry and government interests under the Chairmanship of the Minister for Energy is playing a vital role in this respect. In the last year we have seen useful initiatives coming out of Pilot for reducing obstacles to development of existing discoveries and to the exploration of fallow acreage. And we have seen the level of activity in the UKCS matching up to the aspirations that have emerged from Pilot.

This success is in no small measure due to the readiness of the companies, both large and small, to innovate and to prove new technologies that are then applied worldwide. Without this pioneering spirit, the development of small fields using existing infrastructure, the upgrading of reserves of long-established fields and the development of high temperature/high pressure fields would not have been possible.

### Mutual understanding

The need for mutual understanding is not limited to the upstream sector, as the petrol crisis of 18 months ago demonstrated. The factors that gave rise to that crisis are still present and may reassert themselves. But we have to hope that in working together to handle the crisis itself we – the industry and government – are better prepared for future problems; and that government better understands the dire plight of the petrol retail sector in this country.

That crisis was a striking demonstration of how vulnerable we are to interruptions in energy supplies and how politically sensitive the energy sector is. Energy is not like any other industry. Pilot is a manifestation of government's recognition of this, and the need to maintain close cooperation with the industry.

The effectiveness of this cooperation is crucially dependent on the level of expertise that the DTI [UK Department of Trade and Industry] can deploy.

### Threatened expertise

However, there are two recent developments that seem to me to threaten that expertise. The first is that as part of her recently announced plans to restruc-



IP Director General Jeff Pym (left), with Jean Marvillet, Director General of AFTP, Paris, and Charles Henderson, IP President (right).

ture the DTI the Secretary of State Patricia Hewitt has made clear her wish to see the Energy Directorate of the DTI fragmented and integrated into the rest of the Department.

Mercifully she has postponed this part of her plan for the next year or two while the recommendations of the energy review are considered and implemented.

In my view – and you may say this is a very partial one – it is essential that the expertise, the understanding, and the overall resource of the government which is available for dealing with energy matters, particularly oil, should be strengthened not diminished by any organisational changes. That expertise needs to be brigaded together to enhance the government's ability to take a coherent and holistic view of what are bound to continue to be

highly political issues. And it needs to be under *one* Minister who can give energy matters her or his undivided attention.

The second development is the 'Energy Review' itself. The report of this review appeared last week and recommends, amongst other things, the creation of a single department covering energy, transport and climate change. If this idea does not find immediate favour then it suggests the establishment of a sustainable energy policy unit, located either in the DTI or somewhere else unspecified, to oversee key developments in energy use and supply.

The argument for the single department is that the trade-off between energy, transport and environmental objectives should be handled by one Minister. Joined-up government; no more arguments between Ministers; no



The IP Dinner was, once again, a sell-out success.



more leaks exposing warring factions within the government; good decisions resulting from a careful balancing of the arguments by the responsible Minister.

But is that how it would be? In my view, not at all.

### In reality...

Energy, transport, and environmental issues have long had a way of being highly politically charged. Decisions as to how to trade-off the conflicts between these areas tend to be even more highly charged. I do not believe that Ministers collectively will be content to leave that trade-off to a single Ministerial colleague. Nor do I think the media will allow issues such as this to be answered for by a single Minister.

The rational way to handle such conflicts is through an interdepartmental cabinet sub-committee. The key to 'joined-up government' is to provide a forum in which major cross-departmental issues can be coordinated – not joined-up departments.

Also, and without personalising it, what sort of a signal would it give about the importance that the government attaches to security of energy supplies, to place the responsibility for that with the Minister responsible for the environment? And vice versa?

### Focused attention

But, returning to my theme about the need for a strengthened and coherent capability to handle energy matters, such a unified department would run the risk of diluting that capability and

diminishing the focus.

Even the Report's fall-back position of a sustainable energy policy unit would weaken the government's energy capability by creating two competing centres of power and expertise.

If we care about the future of this industry these are the messages that we all need to convey:

- Energy is too important both in terms of its fundamental necessity to our way of life and in terms of its political sensitivity to be treated like any other industry.
- Government should strengthen, not fragment, its expertise to deal with energy.
- The changes in departmental structures or responsibilities proposed by DTI and in the Review will do the opposite.
- Joining up departments will not make resolution of policy conflicts any easier.

### Skills shortage

But there is a fifth message that we all need to take onboard, which affects both government's and industry's capability in the energy sector. Our record of attracting high quality professionals is in decline. The skills of the industry are too heavily concentrated in an ageing segment of the workforce. We need to attract young people into this industry and all our institutions need to work together to rectify this. The IP, UKOOA [UK Offshore Operators Association] and other bodies all have programmes targeting schools and universities. To maximise the impact, and to work cost

effectively we need to cooperate more closely. This is a challenge for the future.

Generally, though, I think we can welcome the mainly market based approach that the Energy Review commends, and we look forward to a constructive dialogue with the government in the forthcoming consultation.

### IP update

I turn now to the Institute itself. As I have reported throughout my Presidency the IP is changing to meet the changing needs of a changing world.

The Institute is flourishing and it is developing – it has done so now for 90 years. It was founded to foster the dissemination and application of technical and economic best practice, working with the industry and the authorities. That is still our central reason for existence. The IP's standards, codes and guidelines are respected for their authority and independence. They are a vital contribution to the self-regulation of this industry in the areas of health, safety, and the environment. But none of this would be possible without the continuing support of our Members through their subscriptions, the time they give to the Institute and their attendance at meetings and functions such as this. Thank you for your support.

But potentially the most important development for the IP in 2001 has been the opening of discussions with the Institute of Gas Engineers and Managers (IGEM) which might lead to the merging of our two organisations during this year. The soundings we have taken from our Memberships reinforce our belief that this has the potential greatly to strengthen both organisations and enable us together to offer more to our Members, our industry and the public. Subject to further work confirming this belief, we hope to have a proposal to put to the Membership of both organisations later this year.

We are of course operating in an environment where our potential membership constituency is contracting due to mergers, downsizing and outsourcing. And we are facing a tougher economic climate in 2002. So your loyalty is all the more important – please keep up your support. We, for our part, will continue to be responsive to your needs. Help us to do that by telling us how you think we can improve our service.



Top industry executives listen to the IP President's speech over dinner at the Grosvenor.



# Rising to the challenge



The Rt Hon John Spellar MP speaking from the top table at the IP Dinner at the Grosvenor House Hotel, London.

**Addressing the annual IP Dinner at the Grosvenor Hotel, London, the Rt Hon *John Spellar* MP, UK Minister of State Transport, took a closer look at fuel quality issues and the promotion of alternative fuels, and commented on the recent government Energy Review. (A full copy of his speech can be viewed at [www.petroleum.co.uk](http://www.petroleum.co.uk))**

**I**n the last decade the UK Government and the European Union have set the petroleum industry some big challenges. Phasing out of leaded petrol and the shift to ultra low sulfur petrol and diesel have not been easy, but the industry has quickly and ably met these challenges, working closely and productively with government.

These fuels led to immediate improvements to air quality and people comment that the air in cities is already cleaner. This is true of pedestrians and motorists alike – the latter who breathe three times more vehicle emissions as someone on the pavement. This has shown that where the government and industry work together there are real benefits for the environment – but also for consumers and industry – a theme I want to come back to in a moment.

## **Auto Oils programme**

Moving on to the Auto Oils programme, the discussion in Auto Oil 2 is about the European proposals on 'sulfur free' fuels. With so many stakeholders involved and big implications, debate has been lengthy. Nevertheless, it was clear from the outset that all parties recognised the overall objectives – significant reductions in greenhouse gases and further improvements in air quality.

On the government side, we realised that your industry needed a rapid conclusion on the proposals, so that you would be in a better position for planning your development and investment programmes, while the motor industry wanted the early availability of sulfur free fuel, opening up the way for direct injection technology for petrol vehicles and more efficient particulate traps on

diesel vehicles. So, it was difficult to please everyone at the same time. But in December we reached the stage in the Brussels 'sausage factory' where Member States could agree a common position.

I think the common position was a good one. And I hope that the European Parliament, when it gives its second reading to the proposal in the next few months, does not muddy the waters and delivers the certainty that industry needs.

We can be fairly certain that sulfur free petrol will need to be 'widely available' by 2005 at the latest. We will continue to work together and ensure that sulfur free fuel is introduced with the minimum of disruption to the industry.

I am also hopeful that the 2008 date by which sulfur free fuel is mandated is one that the European Parliament can accept.

Industry has pointed to the successful way in which even small duty differentials can speed consumer switches to new fuels. You won't expect me to comment on budget business – but you can be assured that your proposals on this, as on other tax issues, will get the Chancellor's careful attention.

In the meantime, companies have the option of introducing sulfur free fuels now and we welcome the first steps that BP has taken with its introduction of petrol and diesel in the Edinburgh area.



This is good news for motorists and the environment. I congratulate BP, and I look forward to the new fuels becoming available soon elsewhere and from other companies. I hope that availability will stimulate demand for these fuels across the country, and that those of you who are responsible for their supply will rise once again to the challenge, as you have so ably in the past.

## Fuel standards

Finally, on fuel standards and the European Parliament's objective of requiring non-road machinery to use road quality fuel. The government recognises that there are air quality benefits to be gained through this; but we are also very conscious of the costs and disruption that the introduction of a 'third grade' of diesel might have to the petroleum industry and agriculture.

By a third grade, I mean one which sits somewhere between red-diesel and road-diesel but carries a low duty rate. This proposal was originated by the European Parliament and it had the support of a number of EU Governments. However, it clearly failed to meet the principles of value for money and cost effectiveness that are enshrined in the government's 'Better Regulation' policy. We were successful in encouraging enough Member States to recognise this and support a common position that rejected the Parliament's proposals – proof that the UK can influence the EU for the better, despite what some may think!

The only complication is that we still have the European Parliament to convince at the second reading – but I remain optimistic!

If there is a message to come out of this, it is keep on lobbying the key movers and shakers in Europe. Governments do it regularly on a whole range of issues at international level, but lobbying is not a government prerogative. Industry can be equally, and sometimes more, effective. After all, you are the experts on the effect regulations can have on your industry. Make sure you tell them – and keep on telling them until they believe it.

## Biofuels

Your industry and the government have interests in biofuels, including opportunities such as the 20p/l cut in biodiesel fuel duty will provide and challenges like the draft EU Directive on biofuels. As presently drafted, the Directive would set mandatory targets for bio-fuel use – starting from 2% of fuel in 2005, rising to over 5% in 2010.

Many Member States share major concerns about the proposal – in particular the narrow focus on biofuels when we think it should be widened to all renewable fuels. We are also opposed to mandatory targets, preferring a flexible, and non-mandatory approach. I am sure you will agree and I hope that you will work with us to make our market-led approach work.

## Energy review

On a broader issue, but one that is intrinsically linked with both sulfur free fuels and biofuels, is the UK Government Energy Review. The Policy and Innovation Unit's (PIU) Report

argues that the introduction of liberalised and competitive energy markets in the UK has been a success. And this should provide a cornerstone of future policy – in the UK and internationally.

But new challenges ahead may require new policies, and the energy policy framework should address all three objectives of sustainable development – economic, environmental and social, as well as energy security. In particular it argues that alongside low prices and secure supplies, climate change has become a central aspect of energy policy.

The Energy Review is very wide ranging so I will not comment in detail.



The top table at the Grosvenor and some of the 1,500 guests.



But let me point to points made by the PIU which I think are important.

- Its recommendation that energy efficiency should be prioritised. I agree. And note that more fuel-efficient vehicles are a good example of this – they deliver benefits to motorists as well as the environment.

- Its assertion that whilst new types of hybrid and fuel cell vehicles will bring major energy and carbon savings as they reach the market place, immediate energy reductions from transport would be costly compared, for example, to action on domestic energy efficiency.

The government welcomes the PIU Report as a valuable contribution to the debate on how best to meet Britain's future energy requirements. It is a report to government, not by government. It is a good basis for wide, public discussion – a great deal of consideration will be needed on its recommendations.

## Powering future vehicles

The Energy Review argues that government should act to facilitate the development, introduction and take-up of new vehicle and fuel technologies. It also commends the consultation on the draft 'Powering Future Vehicles' strategy, which David Jamieson, from my Department – jointly with the DTI, DEFRA and the Treasury – published in December.

The objective of the strategy is two-fold:

- to facilitate the development, introduction and consumer take-up of low-energy, low-carbon vehicles and fuels; and
- to ensure the fullest UK industry engagement in the new technologies.

Environmental objectives have to be considered together with economics and consumers' interests. The low-carbon agenda typifies this – low carbon goes hand-in-hand with increasing fuel economy and reducing motoring costs.

So, the Powering Future Vehicles strategy is also about winning competitive advantage for Britain's automotive and energy industries – and, just as importantly, benefits to the motorist.

Here in the UK, Ricardo – a world-class UK automotive engineering company – has developed a diesel-hybrid family car, based on an Astra. It has the performance of a two-litre vehicle, but uses a 1.2-litre engine and consumes one-third less fuel. A realistic car that

looks like a 'normal' car and drives like a 'normal' car. Maybe not rocket science, just extremely clever knowledge-driven engineering and vehicle IT.

This is a field where the UK excels... and, through partnerships, this technology can be commercialised across the global vehicle market.

## Challenges ahead

The challenges for the oil industry in all of this are obvious. As your guest it would be very ungracious of me to suggest that you all should be looking for another job! I think the industry will be able rise to these challenges in an open and mutually productive way.

You have great strengths and these are transferable – whatever the future.

The vital thing now is that we engage in debate to maximise our mutual interest.

The Powering Future Vehicles strategy signals that the UK Government welcomes the new vehicle technologies and fuels, and the benefits they will bring – for industry, motorists and the environment alike. We intend the UK to enjoy the benefits as soon as possible.

To sum up then – there are big issues ahead, but that's what life is about. We can go forward confidently, reflecting on the major achievements that this industry has delivered in the past and confident about the positive and constructive relationship which we have established.

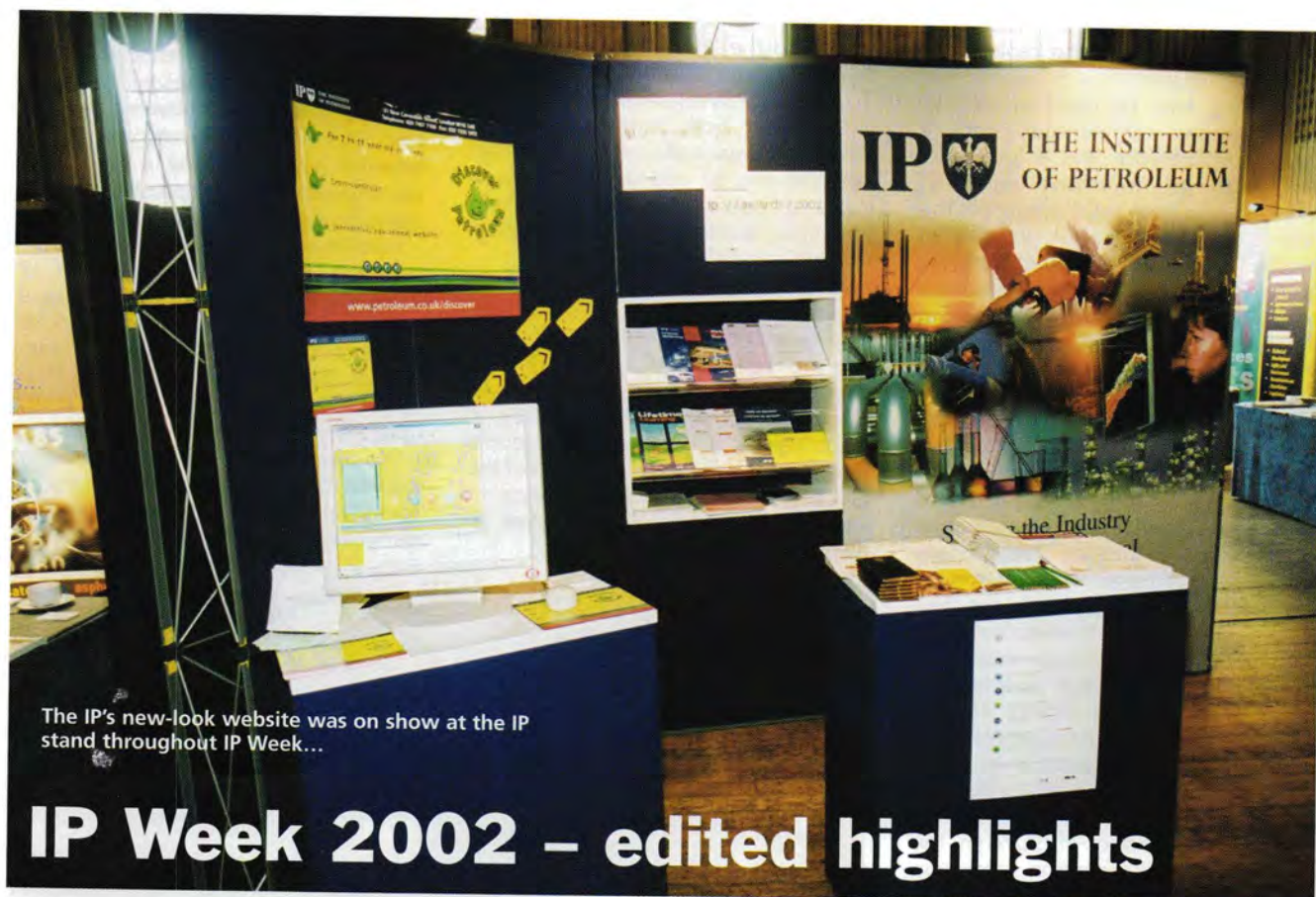


above: The UK Minister of State Transport spoke of the challenges that lay ahead for the industry.

below: The top table attends as the IP President says Grace.







**Aideen Mooney, IP Web Editor, and Petroleum Review Editor Chris Skrebowski** briefly review some of the highlights during IP Week 2002.

more than 3,000 senior executives from all sectors of the industry, while boasting an impressive list of esteemed sponsors and exhibitors.

### **Strategic challenges**

The Monday morning conference launched the first of this year's 14 events. Known as IP Week's 'flagship' event, the conference focused on the strategic challenges facing the energy industry today, including a number of papers from high-ranking executives who are intimately involved with assessing these challenges and the development of strategic responses for their businesses.

Following the official welcoming ceremony, Director of Tawe Oil Managements Peter Ellis Jones chaired the discussion and introduced a panel of familiar industry faces – including Dr Wolfgang Schollnberger, Vice President Technology at BP; Linda Cook, CEO, Shell Gas and Power; Dr Pierre Jungels, former CEO of Enterprise Oil and the IP's President-Elect; and Boris Fyodorov, Honorary Chairman of the United Financial Group, Moscow, and former Russian Finance and Tax Minister. The session highlighted the complex obstacles currently facing the industry, including consumer expectation for reliable and affordable energy supply and



**F**or more than a decade IP Week has acted as an international forum where industry-affiliated companies and independents meet to network, socialise, boost their corporate

profiles, view the latest and most talked about exhibition space and attend many seminars and conferences.

IP Week 2002 has proven to be the most successful to date, welcoming



the persisting problem of discovering new sources of energy to replace the reserves produced.

Speaking after his opening address, Schollnberger commented: 'Today's opening conference was a great success, with an impressive panel of speakers who have set the tone for the rest of the week. IP Week provides an excellent opportunity to meet some old acquaintances and to make some new ones. The conferences themselves bring those in the upstream and downstream industry up to speed with what's going on. We can no longer rely on what we have learnt in university as it is an ever-changing business. It is an influential platform for key decision-makers.'

According to Ellis Jones: 'There is tremendous international representation at this year's conference. The Monday conference was a great success with many key points discussed regarding the challenges and the opportunities facing the industry. One of the most interesting papers discussed was that presented by Boris Fyodorov, the former Finance Minister of Russia about the progressively positive scene in the former Soviet Union and the work that still needs to be done to improve corporate governance. As the Non-Executive Director of Gazprom, this is one of his main concerns. It was also very promising to see so many Russian, Latvian and Kazakhstani delegates. Generally speaking, I believe this is one of the most stimulating sessions to date and it certainly gets IP Week off to a very good start.'

Linda Cook, CEO of Shell Gas and Power, also applauded the values of IP Week and its beneficial impact on the industry by saying: 'IP Week is extremely valuable to all areas of the industry – academia, governmental organisations, international oil companies, suppliers and so on. Getting them together to debate the issues of the day and future trends is just one great example of that sort of interchange and I'm extremely happy to be a part of it.'

## World gas markets

With the pending merger between the Institute of Petroleum and the International Institution of Gas Engineers and Managers (IGEM) on the horizon, one of the main seminars on Day Two was aptly dedicated to the outlook for world gas markets, from both North American and European perspectives.

Introducing a panel of experts from both sides of the Atlantic – including Gary Cardone, President of Dynergie Europe; Richard Giordano KBE, Non-Executive Chairman of the BG Group; and Dr Bob Harris, Technical Director of Advantica – Stuart Andersen, President

of IGEM enthused: 'I'm delighted that IGEM and the IP have got together in this way to run such a prominent seminar during IP Week. And I'm extremely excited that both Institutes are currently in merger talks – the integration between the oil and gas industries is vital and hopefully the merger will help solve this. I think there is a lot of industrial logic to be achieved.'

Following a keynote presentation on 'Prospects for the World Gas Markets' and the current demand of natural gas in the energy business, Richard Giordano, Non-Executive Chairman of the BG Group told *Petroleum Review*: 'IP Week is a golden opportunity for people to talk to each other from all parts of the globe. It enables a great exchange of ideas, which is an important asset to help move the industry forward.'

## Food for thought

Anyone familiar with the sequence of events throughout IP Week will be aware that Day Two of the conference also features the IP Annual Lunch, one of the industry's key events and a major networking occasion, attended each year by a global contingent of industry dignitaries.

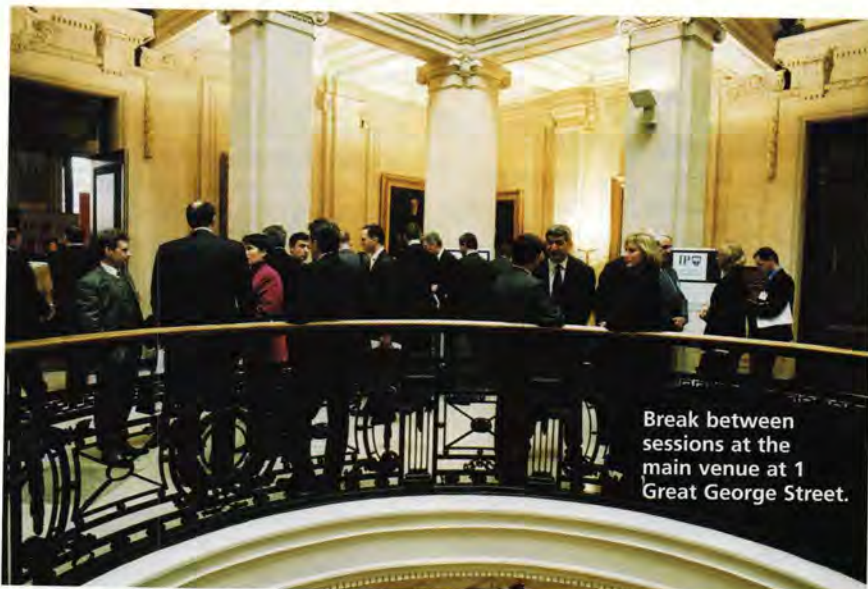
Held in the opulent surroundings of London's Dorchester Hotel, the IP Annual Lunch 2002 provided a unique opportunity for those attending to be audience to a personal address from one of the industry's most influential luminaries – Thierry Desmarest, Chairman and CEO of TotalFinaElf (see p12). Speaking to over 400 industry leaders, Desmarest commended the IP for its topical series of presentations and discussions during IP Week and congrat-



Guests took the opportunity to question speakers and panellists at the various events during IP Week... and to share a joke with the IP President Charles Henderson (bottom right).







Break between sessions at the main venue at 1 Great George Street.

ulated those responsible for their contributions in developing some of the world's most significant energy projects.

Placing the future challenges of the industry in the spotlight, Desmarest emphasised the need for developing countries to achieve the standards of economic 'well-being', currently available to the First World. He urged the importance of the development of energy-efficient technologies and renewable energy sources and pledged a commitment on behalf of TotalFinaElf to continue to do so. He also noted the advantages of size – market presence, ability to handle large projects, economies of scale – as illustrated by the takeovers and mergers that formed the current TotalFinaElf.

He said: 'Size really does matter in meeting the future challenges of the oil and gas industry. This has been confirmed by the wave of consolidation we have seen over the last few years... Looking at exploration and production, size enables geographical diversification, thus reducing the risk of being too dependent on one specific country or area.'

## Oil price

The 15th Oil Price Seminar was one of the main highlights of Day Three of IP Week, once again attracting a crammed auditorium of multi-national delegates. Sponsored by the New York Mercantile Exchange (NYMEX), the seminar entitled 'The Changing Face of the Energy Market: Implications for the Industry' broached the changing factors confronted as new markets are launched and their development across the oil, gas and electricity sectors.

Chairing the discussion was NYMEX Executive Vice President Neal Wolkoff, who introduced the panel of speakers which included Tony West, Director of Trading Innogy; Sally Clubley, Partner,

Invincible Energy; and Patrick Heren, Publisher of the *Heren Report*. Concentrating on a host of issues, including 'Electricity and Gas Derivatives Instruments for Managing Price Risk', the seminar pinpointed the need for global markets to find common ground with the objective of perfecting risk management, while embracing new methods by which they can be implemented.

Speaking after his presentation entitled 'Lessons Learnt from Electricity Pricing Fluctuations in the US', Wolkoff told *Petroleum Review*: 'It has been a tremendous privilege to chair this discussion and the response to today's panel presentations has been extremely enthusiastic. IP Week is by far one of the industry's principal events and the support and attendance from fellow delegates is a sheer manifestation of such fervour.'

## Dinner date

One of IP Week's most famous events is the Annual Dinner which, now in its 88th year, was celebrated by more than 1,300 discerning guests at the Grosvenor House Hotel. Again providing delegates with a rare opportunity to catch up with old and new acquaintances, the IP welcomed the Rt Honourable John Spellar MP, UK Minister of State Transport as its keynote speaker (see p18).

Discussing the promotion of alternative fuels, Spellar commended the industry and the government for their pro-active participation in identifying and developing safer fuels and encouraged all affiliated parties to continue to meet such challenges and to maximise the potential of meeting environmental standards.

In particular, the Minister focused on the Auto Oils Programme and the recent proposals regarding sulfur free fuels. He said: 'On the government side, we realised that your industry needed a rapid conclusion on the proposals, so that you would be in a better position for planning your development and investment programmes, while the motor industry wanted the early availability of sulfur free fuel, opening up the way for direct injection technology for petrol vehicles and more efficient particulate traps on diesel fuels.' The Minister also urged the European Parliament not to 'muddy the waters' and to deliver the much-needed certainty that the industry now requires.

Following his after-dinner speech, the IP's President and Chairman of TotalFinaElf Holdings UK Charles Henderson spoke to *Petroleum Review* and expressed his thoughts on IP Week



There was a large Russian contingent at the conference and events this year – particularly for the Monday conference that included a look at Russian prospects and Tuesday night's talk at the IP.



as a whole. 'The first impression one has about the week is that it is still, after all these years, a major international networking occasion and indeed a sort of festival for the industry. The atmosphere, as ever, is one of great enjoyment, pleasure at catching up with old friends, but a need to extract the maximum business benefit from being here.'

'As President, I see behind the public appearances. My second impression is that it is a triumph of organisation by a very small and dedicated team. With so many events going on at the same time or in quick succession, and with so many people to be looked after, it is a miracle that so little seems to go wrong and such calm and good humour prevail.'

'Turning to the events themselves I think it would be invidious to single out highlights. The point is that this year's programme was fuller and with a wider range of interesting sessions and distinguished speakers than ever before. It is, however, appropriate for me to mention the significance of a very well attended session on gas hosted by the IP and IGEM. This underlines the developing rapprochement between our two institutions and augurs well for the discussions which are presently exploring the possibility of a merger. I very much

hope that we will have a proposition to put to our Members during the course of this year.'

## FPSO developments

The Thursday conference is held in conjunction with OGP (International Association of Oil & Gas Producers). This year's event was on the use and application of FPSOs. An impressive cast of industry figures gave the audience a wide-ranging insight into the way that FPSOs now provide an economic and effective development system for both large and small offshore oil fields.

The session was chaired by J Michael Yeager, Vice President-Europe for ExxonMobil and the keynote address was given by Tom Bourgeois, head of Shell's offshore operations. Speakers gave details of three major FPSO projects that have come onstream in the last few months - Petbras' 180,000 b/d Marlin Sul project in the Campos Basin, TotalFinaElf's 200,000+ b/d Girassol project offshore Angola, and PetroCanada's 125,000 b/d Terra Nova project offshore Eastern Canada.

The conference delegates were also given insights into the China National Offshore Oil Corporation's (CNOOC) wellhead platform and FPSO develop-

ment of the Wenchang oil fields in the typhoon-prone South China Sea. The Wenchang fields are due onstream in June of this year, with a peak output of around 50,000 b/d.

Comprehensive insights were also given into the use of floating production systems offshore Norway. Six FPSOs are currently in production offshore Norway, along with seven semisubmersible developments and two tension leg platforms. Norwegian operators are clearly highly experienced with floating production systems.

The conference then went on to look at innovative possibilities for floating gas-to-liquids units, floating LNG plants and the potential for deliberately creating gas hydrates as a safer and easier way to transport and handle remote gas accumulations. An impressive conference was rounded out with presentations on classification issues, future engineering trends and recent developments in riser technology.

FIND OUT MORE ABOUT IP WEEK  
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[www.petroileum.co.uk](http://www.petroileum.co.uk)

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REDEFINING BUSINESS TRAVEL



# Satellite Accelerator initiative opens window of opportunity

As the North Sea matures, fears are growing that the window of opportunity for developing many difficult fields may be closing as decommissioning of existing infrastructure gathers pace. However, the UK Government has launched a series of initiatives aimed at unlocking the 300-plus discoveries that currently lie undeveloped in the North Sea. *Jeff Crook* focuses on one of these – the Satellite Accelerator initiative, which aims to involve the whole supply chain in developing innovative technical and commercial solutions to developing these reserves.

Fears that the gathering pace of infrastructure decommissioning could significantly reduce the opportunity to develop the vast number of currently undeveloped fields in the North Sea led the UK Government to establish an Undeveloped Discoveries Workgroup initiative under the Pilot forum in June 2001. As well as the geographic and technical clustering of opportunities that resulted from the Working Group's analysis of reserves opportunities, the Satellite Accelerator initiative was developed under the auspices of Logic (Leading Oil and Gas Industry Competitiveness) which aims to involve the whole supply chain in developing innovative technical and commercial solutions to unlocking these reserves.

## Finding solutions

The purpose of Satellite Accelerator initiative is to harness the expertise of a wide range of participants, not just operators, in finding solutions for the more commercially and technically challenging undeveloped fields in the North Sea. There are currently six projects in the programme, the most recent addition being Shell's Curlew A & C field development project in October 2001 (see *Petroleum Review*, December 2001).

Charles Miskin, who acts as Project Coordinator at Logic for the Satellite Accelerator initiative, is keen to emphasise that the scheme is not aimed specifically at small fields. Kessog, one of six projects supported by the process, is one of the largest undeveloped discoveries on the UKCS, with recoverable reserves of over 100mn boe. Instead, the initiative is intended to encourage development of difficult fields presenting a wide range of different challenges.

The principal commercial challenge is to create viable projects from the smaller, difficult fields and discoveries, often lying between existing infrastructure. Reservoir challenges include heavy oil, low permeability and high pressure/high temperature. But there are other challenges, including small reservoir size, marginal economics, remote location, and resource constraints.

Managed by Logic, the Satellite Accelerator scheme brings the operator and wider supply chain together to

identify the organisations best placed to solve the technical and commercial challenges for field development, and ensures that data is made available to those parties capable of creating solutions.

Operators are expected to be open to innovative solutions and willing to share risk and reward. Key is the intent to 'pursue the projects in good faith' – in other words, not to use the ideas generated as free engineering study work.

The competitive nature of the process also ensures that proposals are received in a timely manner, whilst, at the same time, the cost of unfunded proposal work by contractors and suppliers is kept to a minimum. One practical benefit of this approach is that designers of novel equipment, such as subsea separators, are able to evaluate the economic benefits of their technology in real field scenarios, at minimum cost to themselves.

The process is very open, with a freely accessed website ([www.logic-oil.com/accelerator](http://www.logic-oil.com/accelerator)) for the schedule, data and field information as well as details of the companies engaged on the projects. However, the process of data distribution has to take account of the need for commercial confidentiality, since field data and technical information has potential value to competitors. The data distribution is thus a multi-stage process with proposals treated in full confidence. In the first stage, brief outline details of a potential satellite are posted on the Logic website and distributed by means of a freely available 'flyer'. Then, more detailed information is sent off electronically, usually on CD-ROM to companies who have signed a confidentiality agreement.

As the process enters a more intense phase, groups of companies form and begin to work-up their commercial and technical development proposals. This part of the process is facilitated by data rooms that contain comprehensive information about reservoir characteristics and other field development issues. Small teams of suitably qualified personnel are invited to review this data, after which detailed proposals are drawn up and submitted to the operator. Then, the preferred proposal will be selected, allowing the project to be taken forward.



## Wood field first

The BP-operated Wood field, a 10mn boe potential tie-back to the Marnock platform, was the first satellite to move to the design stage in this process. The selected proposal was drawn up by *nisus* – a consortium formed between Global Marine Integrated Services (GMIS), Reservoir Management Ltd (RML), Stolt Offshore Ltd (SOL) and Wood Group Engineering (WGE). The *nisus* group was one of four consortia, representing 17 companies, which each put forward an innovative proposal.

The first phase of this project, announced in February 2001, was to undertake funded studies to confirm that the *nisus* proposal for development of Wood was viable. BP and its partners are thought to have made a request for government approval of the development of Wood during the summer months. The timing of this development will be dependent on discussions with the proposed host facility.

Other opportunities offered under the programme in addition to Shell Expro's Kestrel (which is now onstream) and Curlew are:

- The Amerada Hess-operated Solan and Strathmore fields, located in the Atlantic Frontier.
- The BP-operated Kessog field.
- The Phillips-operated Jill and Julia fields, with cumulative reserves of 9mn boe to be developed by subsea wells tied-back to the Judy platform. Phillips has short-listed three contractor teams who have made proposals. These teams have been invited to give presentations and clarification of their projects over the next few months.
- The BP-operated Don and Don West fields, a brownfield development calling for further investment to increase recovery from the existing Don field by 35mn additional barrels of oil. After a successful investor selection process, BP has commenced the contractor competition phase with a data room – visit the Logic website for more information about the teams involved.

Up to the end of October 2001, when the Curlew fields were added to the list, 13 oil companies had participated either as operators or owners in the six different projects involved in the initiative, and 80 contracting and service companies had been actively engaged in the process in 10 different teams.

## Most technically challenging

The most technically challenging of the projects are arguably Solan/Strathmore

and Kessog. The Solan and Strathmore fields lie in between 400 ft and 500 ft water depth around 35 km from both the Foinaven and Schiehallion fields in the Atlantic Frontier. Appraisal of the fields showed that artificial lift would be needed to achieve commercial production rates. However, this requirement is further complicated by the fact that gas lift cannot be used on Solan because of the risk of asphaltene precipitation.

The development scenarios investigated included a long tie-back to the existing Schiehallion floating production, storage and offloading vessel (FPSO) and stand-alone schemes. The most probable development scheme now appears to involve a FPSO moored over the Solan field.

The Brovig-RDS team was selected in July 2001 from five different teams, to carry out a scope of work for phase three of the project that involves improving reservoir characterisation and definition. This programme will allow verification of the proposed development concept within six months.

Brovig-RDS is a field development

and production specialist with full-integrated capability in reservoir evaluation, well construction, subsea engineering and FPSO technology. It operates two highly advanced FPSOs, *Crystal Ocean* and *Crystal Sea*, which specialise in production from marginal fields. These specialised vessels are highly mobile and ideally suited for phased development that facilitates an early cash flow with innovative new interface refinements offering a multi-well capability.

In contrast, Kessog is a difficult, high pressure/high temperature (HP/HT) gas condensate field located in the central North Sea. Estimated to contain reserves of 100mn boe, it is one of the largest undeveloped discoveries in the North Sea. The field could be the subject of a £250mn development scheme, providing that an initial project involving a single multi-lateral well proves successful.

The field, which lies 8 km northwest of the Jade field and 20 km southeast of Shearwater, has remained fallow since 1987 due to its unique technical challenges. These challenges include

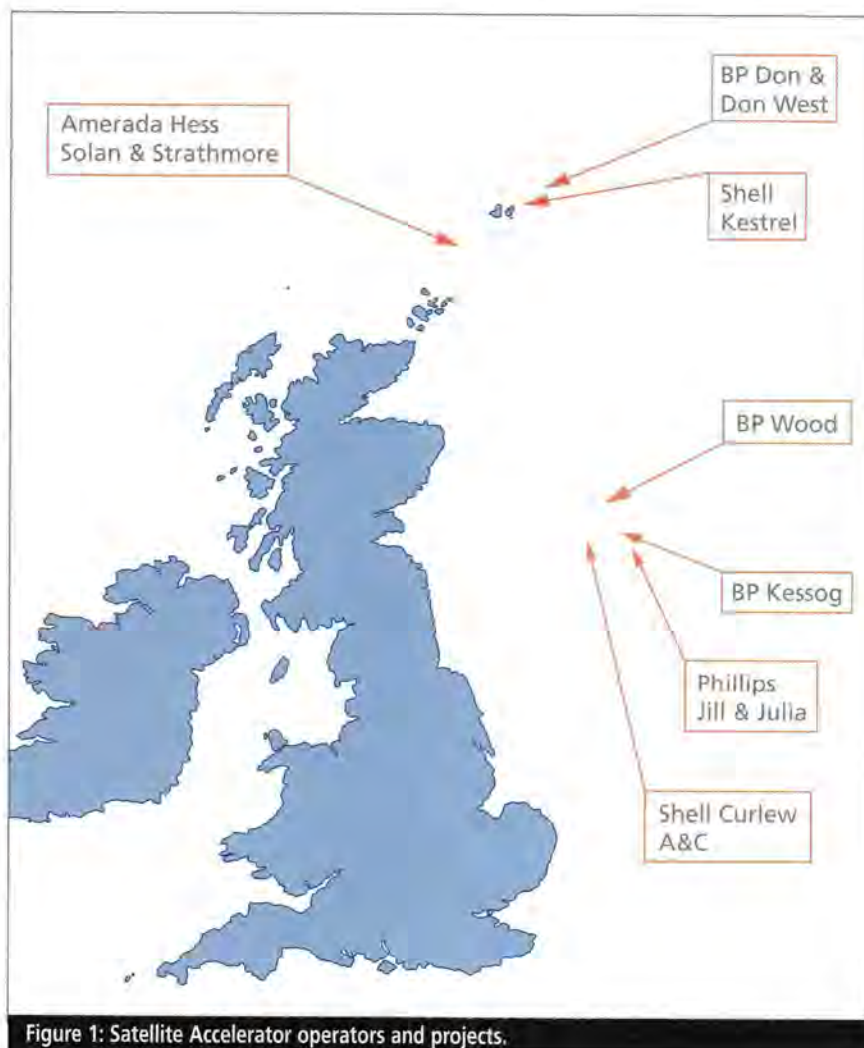


Figure 1: Satellite Accelerator operators and projects.



reservoir pressure of over 12,000 psi, a temperature of over 350°F, and a highly compartmentalised and fractured reservoir structure. The multilateral well design, which will maximise the length of well bore exposed to the thin, fractured reservoir, presents a challenge since the transitions will be located in unconsolidated sand.

This well project is being undertaken in two phases. The first phase, which is currently under way, addresses the well design. This will be followed by a second phase in which front-end design of the process facilities will be undertaken. Some scenarios for facilities development are reported to have been provided by BP in the data room, although this information has not been placed in the public domain.

BP says that there was an 'enthusiastic response' to the introduction of Kessog into the Satellite Accelerator process, with 50 competitive proposals from 20 different companies. The team chosen to develop the Kessog well comprises: Halliburton's Energy Services

Group, with Cooper Cameron, for HP/HT well construction services; Schlumberger, with M-I Fluids, providing the HP/HT completion and testing role; and Baker Hughes bringing HP/HT multi-lateral expertise.

An integrated well design team made up of personnel from these organisations, led by operator BP, has been formed. If successful, this will lead to sanction of a confirmation well. Depending on the results of this well and success in accessing key technologies, the team will go to work on the full field development.

### Rising to the challenge

'The Satellite Accelerator programme, and its fore-runners with projects like Beaulieu, Perth, Helvick, has established the UK oil and gas industry at the forefront of innovative contracting ideas and processes,' states Charles Miskin. 'The challenges raised have proved difficult, but surmountable, whilst the multi-discipline teams that have been

involved have gained a valuable insight into the requirements for progressing field developments. The open nature of the process has also enabled a wide range of companies to get engaged. The most recent fields are also offering opportunities for new investors to enter the North Sea market in conjunction with development projects.'

Initiatives such as the Satellite Accelerator are working. The figures speak for themselves with the number of DTI approvals for offshore field development/incremental projects in 2001 rising to 33 – more than double the annual figure prior to 1999. ●

*For those readers interested in finding out more about the various government and industry initiatives working to unlock undeveloped reserves in the North Sea, visit:*

- [www.pilottaskforce.co.uk](http://www.pilottaskforce.co.uk)
- [www.logic-oil.com](http://www.logic-oil.com)
- [www.ukooa.co.uk](http://www.ukooa.co.uk)
- [www.og.dti.gov.uk](http://www.og.dti.gov.uk)

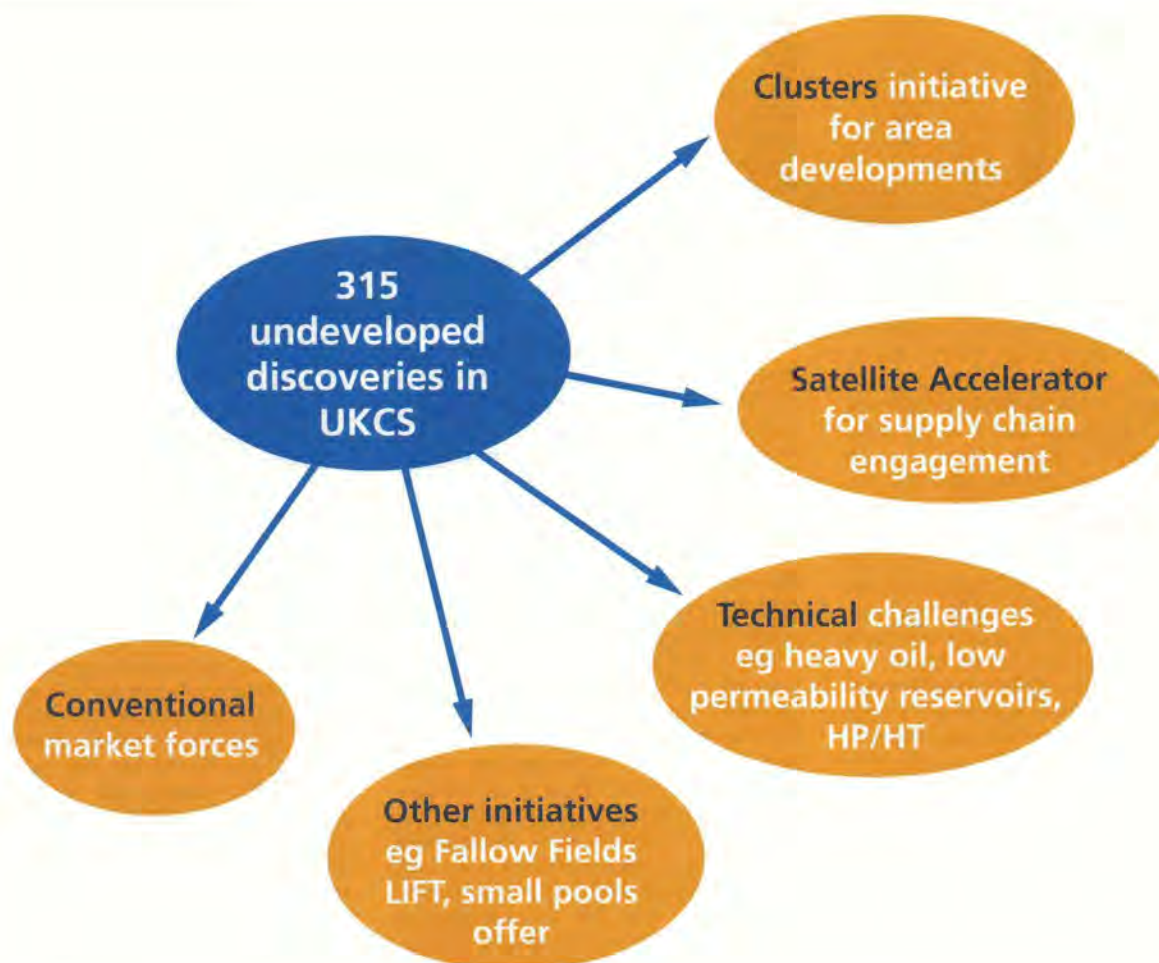


Figure 2: Undeveloped discoveries – unlocking the prize.



# Straining every sinew to boost UKCS production

Only rarely has a government worked as hard to facilitate oil and gas production as the UK Government is currently doing for North Sea production. *Chris Skrebowski* recently interviewed *Simon Toole*, *Peter Haile* and *Jim Munns*\* of the UK Department of Trade and Industry (DTI) team to find out more about the various initiatives being promoted to boost output.



Above (left to right): Peter Haile, Simon Toole and Jim Munns.

**S**imon Toole started by explaining that the department's aim was to virtually double what might otherwise happen in terms of North Sea production. The Oil and Gas Industry Task Force (OGITF) Vision work group defined six 'prizes' for the year 2010 in its report *A Template for Change* published in September 1999. One of these prizes was to set a target of producing 3mn boe/d in 2010. This target was set in the knowledge that projected production on data available at that time is expected to be nearer 1.5mn boe/d.

In mid-December 2001 the UK Energy Minister Brian Wilson welcomed a new survey which revealed that the UK's offshore oil and gas industry is on track to meet production and investment targets for 2005. The interim targets, set jointly with the government as part of the 10-year PILOT vision, are to produce 4mn boe/d and sustain investment at £3bn (rolling average) per annum. The survey identifies the investment and production plans of the UK's 30 offshore oil and gas producing companies and was commissioned jointly by the DTI and the UK Offshore Operators

Association (UKOOA).

The industry currently forecasts that investment levels of between £3bn and £3.5bn/y until 2005 are possible, which could sustain production of oil and gas at about 4mn boe/d. Estimates suggest that capital investment for 2002 will be between £3.3bn and £3.8bn, in the same range as 2001's likely outcome. The survey is based on the investment intentions of operators in the summer of 2001 and was carried out when oil prices were around \$25/b.

Toole indicated that his department was very much aware of the impact that declining North Sea production could have in terms of reduced tax revenues and employment. Achieving the target requires the development of all the remaining discovered reserves, potential additional reserves and incremental reserves from exploration success, he said.

It was against the likely impact on the UK economy that the DTI was seeking to implement the ambitious output target, although he did concede that the target was very much a stretch target. The DTI reported to government in early 2002 outlining the changes nec-

essary to achieve the output targets along with proposed changes to the licensing terms for UKCS acreage.

The department's strategy had three main strands:

- To maximise recovery both by maximising the development of known accumulations and also of output from fields in production.
- To stimulate exploration. (Toole noted that levels had fallen from around 60 wells per annum in the early/mid-1990s to around 30 wells per year over the last few years. Higher levels of exploration were needed to maximise discovery and achieve output targets.)
- To tackle the problem of fallow acreage and fallow discoveries by encouraging companies to drill and develop or sell rather than simply holding on to acreage they had been awarded.

Toole noted that there had already been a series of initiatives mostly organised under the PILOT initiative. His view was that the potential was still not being fully used and that a more aggressive approach was now appropriate. His group's view was that the major challenges were not technical or economic but behavioural. All sorts of attitudes and approaches which had been reasonable enough when tackling the problems of developing major accumulations in the 1970s and 1980s were becoming increasingly inappropriate when developing small, marginal and incremental accumulations now. Progressing partnerships between operators and building more constructive relationships between contractors and operators were increasingly important, he stated.

Energy Minister Brian Wilson had stressed that the country could no longer afford the luxury of fallow acreage or fallow discoveries. The government needed to exert more pressure in this area, although he felt further legislation was probably unnecessary. The view was that market forces could be effectively utilised, but he did not rule out further legislation, noting the considerable powers already available under existing legislation. He made it quite clear that the department intended to remove the companies' ability to do nothing with the 260 fallow blocks (no activity in the last four years) they currently hold and the 300+ significant discoveries (totalling 10bn boe) they have made. The department would, if need be, use its powers to make the companies drill, develop or



pass on. Toole noted that the low rental cost of holding acreage encourages the land bank approach.

The department was also keen to encourage more smaller, niche players into the UKCS. The smaller players are likely to be more innovative and more committed to the area as their limited size restricts their ability to pick and choose developments around the world. He did note, however, that the department valued and recognised the strengths of the larger operators and that a full spectrum of players was needed if the UKCS was to be fully developed.

Although PILOT is moving a number of marginal field developments forward under the Accelerator programme, there is a recognition that many of the small accumulations will only be developed with a technically innovative and low-cost approach as used, for example, in the Gulf of Mexico. The DTI is therefore embarking on a concerted marketing drive to attract niche developers into the North Sea. The arrival of ATP from Houston, who set up an office in Guildford in early 2001, is an early measure of the department's success.

One area that needed to be tackled was the relatively ponderous business process in the UKCS, particularly when compared with the speed at which deals could be concluded and implemented in the Gulf of Mexico. Toole felt that many of the systems used were perfectly appropriate for the big field developments of earlier periods, but had now become an inhibition to exploration and development. To set the tone and encourage speedier decision making the department was working with industry in PILOT to develop a code of practice that would be published in early 2002.

When asked how the existing operators were reacting to the various initiatives, Toole explained these had generally been very positive, with the great majority realising that if behaviours changed all would benefit. The low prices of 1998 had started the process of behavioural change and acreage rationalisation but the recent strength of oil prices had reduced the incentive to 'clean out the garage'. In addition, there were social barriers to clear out – managers didn't wish to run the risk of selling a block that then became some other company's discovery. As a result the market for acreage was not very active at the moment. An initiative that would have considerable benefits would be clear statement by CEOs providing a commitment to rationalising holdings and disposing of excess acreage.

The 20th licensing round is different from earlier rounds and incorporates changes to ensure companies drill or relinquish over a reasonably short time period (see *Petroleum Review*, February 2002). Questioned as to whether the department would favour Gulf of Mexico style acreage auctions, Toole

noted that they keep this under review but auctions take money out of the system, reducing companies' investment capability. The department's view remains that discretionary awards remain the best system for the UK and are important in 'making what we've got run as efficiently as possible.'

Turning to the prospectivity of the North Sea he noted that world class discoveries were still being made, citing the examples of Kerr-McGee's Leadon field discovery in 1999 and PanCanadian's Buzzard field in 2001. He conceded that average field sizes were declining, but noted that to achieve their output target required the discovery of a Buzzard-sized field (300–400mn barrels) every two years. He felt this was a perfectly realistic target, but one that could only be achieved if exploration levels were maintained.

The estimate of yet-to-find reserves is very subjective. The DTI *Brown Book* gives a range of between 4bn and 26bn boe. This appears to be consistent with industry estimates and is even claimed to be somewhat conservative compared to some, he says.

As part of the strategy to achieve sustained exploration effort the government was targeting companies to encourage them to come and work in the North Sea as it provided a profitable opportunity for exploration – those willing to drill wildcats – Kerr-McGee being a good example. The other group of new entrants to the UKCS were UK start-ups such as Highland, Consort and Venture. These, however, faced two major hurdles – acquiring suitable acreage and raising venture capital. At the moment US financiers appeared to be rather more favourably disposed to exploration opportunities and more aware of the impact of technology than their UK counterparts. Toole's view was that the UK financial community needed to become rather more 'canny' about the rewards from financing offshore exploration and development in the UKCS.

Asked about the regulations and costs associated with field abandonment, it was firmly noted that the department has a duty to ensure that the taxpayer is not exposed to unacceptable risks of default in meeting the

...continued on p31

## Promoting UKCS internationally

A new focus for the DTI in the last two years has been a drive to attract new entrants into the UK. In May 2001, it set up a small marketing team led by Jim Munns whose purpose is to broaden the company base in both exploration and development activity on the UKCS. The marketing strategy has identified two types of new entrant company that the DTI is keen to attract:

- Niche developers, particularly those with experience of the Gulf of Mexico, to develop previously undeveloped discoveries through the utilisation of technically innovative and best cost solutions – for example, ATP who opened an office in Guildford, Surrey, in 2001.
- Large independents with the resources to drill wildcat exploration wells, who are not currently represented in the North Sea.

### US target

The marketing strategy adopted aims to raise the profile of opportunities and the remaining prospectivity of the UKCS internationally. It appears that the UK North Sea has some similarities to the Gulf of Mexico some 10 years ago, so the initial target audience is Houston, Texas, as the US industry has focused there in recent years. The DTI plans to be represented

at several trade fairs annually, including the North American Prospect Exposition (NAPE) and the American Association of Petroleum Geologists (AAPG) Convention. This will enable the UK to build a customer base of target companies and allow the DTI to follow up with individual visits.

Plans are to then broaden the target area to cover other North American locations, and possibly Europe.

The DTI is also keen to foster the development of new UK independent companies and has produced a CD-ROM for distribution that contains examples of prospects and undeveloped discoveries on open acreage. These range from small satellite prospects in the East Shetland Basin to a large gas prospect west of Shetlands.

### A proven province

The UKCS has proven to be a very successful exploration province over the past 35 years, with a success rate of 35% for its 4,000 exploration and appraisal wells. Recent successes such as Buzzard have demonstrated that substantial reserves remain to be discovered in the mature North Sea. Meanwhile, although exploration of the Atlantic Margin is still at a frontier stage, this province has the potential to yield further giant oil and gas fields.



# John Brown is back in business



Ian Corbidge, John Brown's Managing Director, has a strong sales pitch.

The name John Brown, synonymous with British engineering excellence for more than a century, is making a comeback under new, Russian, ownership. *Dan Rigden* reports on what the future holds for the company, formerly known as Kvaerner Hydrocarbons, now that it is no longer under Norwegian ownership.

To visit John Brown Hydrocarbons in central London, where the Kvaerner livery still adorns the conveniently located Paddington offices, you could be forgiven for not at once seeing that everything within is both the same and yet totally and irreversibly changed. Independence from Norway, delivered by Moscow's Yukos for \$50mn, has liberated what John Brown now claims is Britain's largest independent engineering company in the oil and gas industry – with headquarters staff of 600 and a further 150 in its Moscow branch office.

Independence built on a heritage brand is what John Brown's Managing Director Ian Corbidge is selling. 'The strategy for going forward is to establish ourselves as an independent contractor with full service capability in both the onshore and offshore oil and gas activities, upstream and downstream,' he says.

## Strong sales pitch

In the most part Corbidge has a strong sales pitch. There has been a warm reception from many oil companies to the return of John Brown with its long oil history dating back to 1948 in the refining and pipeline business and 1971 in the offshore business. Many remember also the best of the plant specialist Humphreys and Glasgow, and the rig and platform designer Earl and Wright, which all came together through Kvaerner's acquisition of Trafalgar House in 1996 and have been inherited by Yukos.

Furthermore, there is a persuasive argument that real independent engineering is borne from having no fabrication yards to fill and no products to sell – a stark contrast to the situation under Kvaerner.

On top of this there is what nobody in John Brown is prepared to talk

about, but the wider industry knows to be a fact – it is an enormous boost to be distanced from Kvaerner's recent financial implosion. Corbidge, a 52-year old with 28 years in the oil business, dodges the subject but acknowledges that clients have been reassured his company now has considerable money behind it and can trust it will continue in business. Analysts say freedom from Kvaerner brings release from a severe risk management policy – imposed by lenders and other financial institutions – that almost certainly limited the Hydrocarbon division's contractual manoeuvrability.

## Downside to liberation

The downside to liberation by the new face of Russia, is that Corbidge and his team have to persuade some sceptics – particularly from the US – that John Brown is independent from its owner Yukos. It is mainly the fact that Yukos is an oil company and a competitor to many of John Brown's other clients, rather than the 'Russianess' per se, that worries companies – although for some the Cold War appears still to exist.

Corbidge dismisses the worries: 'We have had no adverse reactions from our clients whatsoever. Once we have explained that Yukos' intentions are to be hands off, that we will be independent, that we will report in through a holding company – a barrier between us and Yukos – we have been well accepted.'

Yukos is in the process of setting up an international holding company for the two companies it bought from Kvaerner for \$100mn late last year – Kvaerner Hydrocarbons (now John Brown) and Kvaerner Process Technology (now Davy Process Technology). It is likely to be the primary vehicle for Yukos Chief Executive Officer Mikhail Khodorkovsky's international ambitions.

## Safeguarding company confidentiality

Corbidge says the only concerns that have been expressed are in terms of the protection of confidential information between a client and Yukos. 'But they accept that there are established proce-



dures for safeguarding confidentiality between different clients and once you talk around the issue it disappears,' he says. Yukos has taken advice from financial institutions on accepted international practice for setting up so-called 'Chinese walls'.

John Brown will maintain a substantial orderbook from Yukos – Kvaerner Hydrocarbons' extensive work for the company in Russia was one of the prime drivers for the Russian company's acquisition. However, the aim is to limit this as a proportion of John Brown's orderbook to around one third.

Observers say part of Yukos's strategy is the continued 'westernisation' of operations through John Brown's work. Certainly there is an expectation of even greater training, information exchange and support from its new international subsidiaries.

## Future forecast

John Brown is forecasting turnover for 2002 of around £65mn, based on some 1.1mn manhours of work. This is a roughly 20% increase in manhours from last year, driven in large part by expansion of work for Yukos in Russia. Profit in the first year of independence

is forecast to be in the region of £5mn.

Corbridge says John Brown's business plan targets turnover growth to around £95mn in 2004 founded on a similar number of manhours as this year, but with a greater proportion of lump sum, turnkey work.

This year in terms of business type some 28% of John Brown's workload will be pure detailed engineering, 28% engineering, procurement, construction and management (EPCM), 23% project and construction management, 17% front-end engineering design and just 4% EPC. Nearly half, or 47% of this business, by weighted manhours, is expected to be onshore, 29% pipeline work, 19% offshore, and 5% a combination of onshore and offshore. The broad intent is to strive for an equal split between onshore, offshore and pipeline businesses.

Geographically, this year around 32% of John Brown's work is expected to come from Russia, 27% from the Caspian, 15% from the UK, 14% Iran, 7% Canada, 2% Norway, 2% other Middle East and North Africa, and 1% West Africa. Broadening the business base both in terms of industry sector and geographically is a clear advantage of independence from Kvaerner.

## Downstream expansion

A key near-term thrust at John Brown will be the expansion of refining and petrochemicals. 'Yukos is giving us the opportunity to go back into downstream refining,' says Corbridge. 'There is business around the world we can get back into. It was never a major part of our work in Paddington, but it was a significant part.'

Analysts say Kvaerner divisions worked within rigid geographical boundaries. 'From this office it was Europe, Middle East, West Africa, North America and CIS – but as John Brown there are no boundaries. If we see an opportunity there is nothing to stop us working in South America, Asia Pacific or where ever,' states Corbridge.

Being 'Russian' also brings unforeseen advantages when bidding work for foreign oil companies in Russia, says Business Development Director Graham Mead. 'We have something of a unique position amongst contractors in the western world in terms of being able to offer 100% Russian content.'

The company is also developing new businesses in flue gas desulphurisation and wind energy.

*continued from page 29...*

costs associated with decommissioning. The view was that these were not really a disincentive for the explorer, although it was conceded that for existing assets it was rather more complicated. One problem was the current unpredictability of abandonment costs. This, however, was a problem that would diminish as experience was built up and specialist companies and technologies emerged. Similarly, financial and commercial arrangements were being worked on with PILOT so that assets could be freely traded without risk to the environment or the taxpayer.

In fact, the emergence of companies specialising in all elements of the value chain, including abandonment, was something that would help facilitate the maximal exploitation of the UKCS resource.

All members of the DTI team were keen to stress that their objective was to be 'helping hands' and to help facilitate activity. As Toole put it: 'It's not my job to get in the way of activity.' He explained that the Ministry 'isn't a red-tape area' and that broadly it does not seek to constrain activity. He continued by noting that there was a clear and rigorous environmental regime in place. The mystique had been removed from licensing rounds and all appropriate acreage would be made available.

The marketing strategy that the DTI is pursuing is to raise the profile of the future prospectivity of the UKCS internationally. It appears that the UK North Sea has similarities to the Gulf of Mexico some ten years ago, so its initial target audience is Houston as the US industry has focused there in recent years. The DTI plans to be represented at several trade fairs a year, such as the North American Prospect Exposition (NAPE) and the American Association of Petroleum Geologists (AAPG) Convention. This will enable it to build a customer base of target companies and allow it to follow up with individual visits. The department will then broaden its target area to cover other North American locations and possibly Europe. It has produced a CD-ROM for distribution that contains examples of prospects and undeveloped discoveries on open acreage. These range from small satellite prospects in the East Shetland Basin to a large gas prospect west of the Shetlands.

Recent work carried out under the PILOT umbrella indicates that projects are being instigated that will close the gap on the OGITF targets for 2010. Nevertheless, the imperative is still there to broaden the operator base and stimulate exploration with companies that will move the North Sea into its next phase of activity.

The team concluded that in addition

they needed to dispel the oilfield myths that might deter new entrants. These were that:

- It is all sewn up by the majors.
- It is a high taxation area.
- It is played out in terms of exploration.
- It is a mature play compared with other investment opportunities.
- The ownership of the infrastructure means new entrants will be 'creamed' on access costs.

On all counts the myths are inaccurate. The department is convinced the established companies have no interest in being obstructive. Recent initiatives have met a favourable response and increasingly the department found it was pushing at an open door in terms of cooperation from the existing operators.

'Every exploration manager has a favourite prospect – we aim to encourage them to test it and, if successful, develop it. That way the UKCS will not be left with unanswered questions and foregone production of oil and gas.'

*\*Simon Toole is Director of the DTI's Oil and Gas Directorate, Peter Haile is Deputy Director-Promotion, Exploration & Knowledge at the Directorate, and Jim Munns, Manager-Promote UKCS.*



# Looking after our own

For the last five years the Institute of Petroleum has offered private medical insurance from the Hospital & Medical Care Association (HMCA) as a benefit to IP Members. In that time several hundred have taken advantage of this facility. *Ian Cooke*, Association Secretary of HMCA, explains how the scheme fits into the overall picture of state and private medical provision.



**T**he provision of private medical care was born at the same time as the UK NHS (National Health Service). Then, as now, anything you can get from the NHS you can obtain for yourself if you are able to afford it. Of course, there are many individuals who would prefer the comfort of private treatment but know that the cost of this for sudden serious illness would be beyond their pocket, or would deplete their savings. For this reason private medical plans became popular. Initially they were purchased on an individual basis, but subsequently participation widened through the provision of cover by larger employers.

## Private vs NHS

What is not always understood is the difference between benefit plans and the free services of the NHS. The key issue is that of chronic or long-standing illnesses and conditions. Private medical plans are not designed to cover long-term ill-health because it would simply not be possible to do so without charging subscriptions which were so high that neither individuals nor employers would be prepared or able to meet them.

So what are private treatment plans for? They are there to provide treatment of sudden or acute illnesses where, especially today, waiting for a long period could worsen the problem. Private medical plans can provide the means to see a consultant promptly – and, if an operation is necessary, get this done before the situation deteriorates – at a time which suits business and family circumstances.

There is a huge range of acute problems that any one of us could face, from a hernia to a heart by-pass, and pur-



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chasers of protection plans make regular use of them. All plans differ and the cost reflects the scope of the cover provided and the efficiency of the provider. Private health plans provide for the unseen. An analogy is that a householder insurer will not provide cover for a building which is on fire. The practice of HMCA is to ask straightforward questions about health history at the outset, so that members will understand at the time of enrolment what is and is not covered.

## Transferring plans

When the member who wishes to transfer to HMCA has an existing similar plan where health history was declared and taken into account, we will give credit from the original enrolment date. This means that we honour claims in respect of past conditions provided they first arose during the membership of the previous plan, even if this were started 30 years ago.

We at HMCA are proud of the service we have provided to members of the Institute. We aim to provide as wide a scope of cover as possible at an affordable cost and to be innovative when this is to the benefit of members. For example, we offer cover for Chelation Therapy, an alternative to surgery in certain circumstances for arterial disease.

We are confident that the service we give is exceptional – benefits continue to rise year after year in spite of escalating hospital costs, and we are dedicated to looking for ways of improving our service to members.

For more information about what HMCA can offer IP Members, please Tel: +44 (0)1423 866985.



# Tangguh LNG plant on target for low-cost completion

A prediction that the capital cost of the Tangguh liquefied natural gas (LNG) plant in Irian Jaya would be below \$200/t/y capacity was made by Yoga Suprpto of Pertamina, when he spoke at a recent gas conference\*, reports *Brian Warshaw*.

Suprpto compared this cost with historic references to plant start-ups in the early 1990s when costs were as high as \$500/t/y and current costs of around \$250/t/y.

Tracing the development of the Indonesian project, Suprpto, the development's Project Manager, confirmed that three groups – the Technip/Chiyoda consortium, KBR/JGC consortium, and Bechtel International – had each completed a front-end engineering and design (FEED) study and were expected to submit bid proposals this coming July. An award of the engineering, procurement and construction (EPC) contract is not expected until April 2003, with first shipment of LNG planned for 3Q2006.

## Changing LNG market

He surprised delegates to the conference by suggesting that the FEED studies had shown that LNG technology was not the prime factor in reducing the cost estimate for the plant. Notwithstanding, he had become an enthusiastic supporter of the multiple FEED/technology competition that

Tangguh had employed, despite the extra cost and management expertise that it demanded. The market for LNG was changing, he said, due to a shifting supply and demand balance, shorter contract periods, smaller sales quantities and flexible pricing. This, he claimed, would be met at Tangguh by a radical approach. The engineering and commercial teams had responded by linking the marketing and FEED activities in parallel, by designing a low cost fit-for-purpose plant, and optimising the execution of project schedules.

The LNG plant will have two liquefaction trains, each capable of handling 3.5mn t/y, although Suprpto envisaged that long-term expansion plans would allow for a further eight trains. Initially the plant will be supplied with gas from the Wiriagar and Vorwata fields that are located 31 km and 22 km offshore in the Bintuni Bay. Other Tangguh gas fields are Ofaweri and Roabiba, with total reserves estimated at 23.7tn cf of natural gas.

## Working with the community

Tangguh is situated on the island of

Irian Jaya, which was annexed by Indonesia in 1963, and is subject to local demands for independence. The project will necessitate the moving of a village, containing 150 families with a total population of around 500 people.

Suprpto expressed the opinion that, under the influence of BP, the owners would give attention to environmental and community issues. Working with NGOs (non-government organisations) and the Papuan Tribal Association they propose to initiate a conflict resolution programme and community development plan prior to the start of construction. The project team, he said, had also pledged not to repeat the former history of projects in Indonesia, with violence against local people as part of the security procedures.

Suprpto claimed that the owners were considering implementing a 'super green' LNG plant design, including the recycling of acid gas back into the ground. Indonesia has new environmental regulations that require public consultation on an environmental management and monitoring plan.

Beside BP and Pertamina, the other stakeholders in the project are BG International, Mitsubishi Corporation, KG Corporation, Nissho Iwai, and Nippon Mitsubishi Oil.

\*The SMI-organised conference entitled 'LNG IV' was held in London on 25–26 February 2002.

## Offloading procedures for split compartment deliveries of petrol between service station tanks

This new publication contains industry agreed procedures for splitting the delivery of the contents of a road tanker compartment between different storage tanks at petrol filling stations to take account of the need to carry out the operations safely and prevent petroleum vapour escaping from the road tanker. It will be of interest to all those involved in the delivery of petroleum to smaller throughput retail sites and those responsible for the operation of such sites.

In addition to being available in hard copy it can also be viewed and downloaded free of charge from the IP website [www.petroleum.co.uk](http://www.petroleum.co.uk) by clicking on 'Technical', 'Technical Committees', 'Distribution & Marketing Committee', 'Service Station Panel', 'Latest'. The direct address is <http://212.78.70.142/index.cfm?PageID=554>

ISBN 0 85293 353 3

£18.00

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# Nuggets showcases flexible subsea pipeline alternative

The TotalFinaElf Nuggets field development in the UK sector of the North Sea has combined flexible and rigid pipelines together to maximise the benefits of each concept to the operator. The following is a heavily abbreviated version of a paper by *Didier Bertrane* and *Graham Whitehead* of TotalFinaElf Exploration UK, and *Laurent Decoret* of Coflexip Stena Offshore Limited (CSOL), that takes a closer look at the project.

The pipeline design in most step-out projects is usually straightforward – either all rigid, all flexible, or a combination of both where the product or field architecture clearly dictate. The Nuggets project, however, allowed both pipeline types to be utilised side by side, thus gaining the individual advantages that each offers. The five step-out wells of Nuggets are up to 70 km from the host platform, making Nuggets the longest tie-back producing in the North Sea at present. Thus the pipeline design must be dependable, easily managed and competitive to install to make such a long tie-back an economic success. For this reason rigid pipelines formed the majority of the pipelines in the field, but flexible flowlines also had a worthy role to fulfil.

One of the Nuggets wells is located only 3 km from the subsea distribution manifold, which made it ideal to be considered as a flexible. On first inspection, the economics from the contractor Coflexip Stena Offshore Limited (CSOL) were advantageous, however, when the overall picture was considered, the benefits to schedule were greatly increased as the offshore window for the drilling operations could be brought forward.

The high pressure Nuggets gas dictated that the flexibles were more technically advanced than previous similar designs, but valuable expertise could be drawn from existing designs previously used by CSOL. In particular the design was optimised to prevent upheaval buckling, hence alleviating the requirement for backfill or rock dumping.

## Marginal field

In 1998, TotalFinaElf Exploration UK embarked on a programme to increase gas processing capacity at the Alwyn North platform by debottlenecking the gas treatment plant. Completion of this

debottlenecking process has now allowed TotalFinaElf to develop gas-bearing accumulations located within its northern North Sea asset.

The Nuggets accumulations have been designated as N1 (North Nugget), N2 (West Nugget), N3 (Southwest Nugget) and N4 (South Nugget) and lie 125 miles east of the Shetlands, approximately halfway between Alwyn North and Frigg in UK quadrant 3 of the northern North Sea. The water depth at these four sites ranges between 110 metres and 125 metres.

Production from the Nuggets wells is expected to reach 5mn cf/d and deliver up to 7,700mn cf/d over the 15-year field life.

The field development scheme is based on a phased approach with production from ultimately six wells. The initial phase, which came into production in November 2001 just 20 months after project sanction, consists of N1 with two wells, and N2 and N3 with one well each. Future phases comprise N4, consisting of one well, and the potential for a future well in N1.

TotalFinaElf awarded the subsea production and transportation systems contracts to a consortium comprising ABB Offshore Systems (ABB) and CSOL – not on an individual basis but as a single EPIC (engineering, procurement, installation and commissioning) contract headed by ABB. ABB provided the subsea trees, controls system, umbilical and manifold, whilst CSOL supplied the pipelines and performed offshore installation of all items (except trees).

## Field layout

The field layout for the pipeline system, as shown in **Figure 1**, principally comprises the following:

- 39.5-km long, 12-inch diameter rigid production pipeline from the N1 manifold to the North Alwyn (NAB)

platform, with a 3-inch rigid hydrate inhibitor pipeline piggyback.

- 3.3-km long, 6-inch flexible production pipeline from the NGB well to the N1 manifold, with a 2.5-inch flexible hydrate inhibitor pipeline.
- 14.5-km long, 12-inch rigid production pipeline from the N3 manifold to the N1 manifold, with a 4-inch rigid hydrate inhibitor pipeline piggyback.
- 4.4-km long, 6-inch rigid production pipeline from the NGC well to the N3 manifold, with a 2-inch rigid hydrate inhibitor pipeline piggyback.

TotalFinaElf's initial development plan was for the NGB pipeline to be 'rigid' – however, modifying its construction to 'flexible' proved advantageous.

## Number of challenges

The Nuggets pipelines system contained a number of challenges for the pipeline designers that applied equally to both 'rigid' and 'flexible' constructions.

- Although the gas is not high temperature or sour, the design pressure for the 6-inch production pipelines is relatively high at 235 bar.
- The gas is 'wet' and the risk of hydrates forming in the 6-inch production pipelines is high. Management of hydrate inhibitor into the well and the ability to remove a plug if formed are required.
- Upheaval buckling of the pipelines during service has to be mitigated against which is a large commercial concern during the project phase and a large operational risk during production.
- The Nuggets area is heavily fished, and protection from fishing is required.

## Ambitious schedule

An ambitious programme was embarked upon which would see, in a single season, the drill rig complete all four wells, as well as CSOL installing all the subsea facilities. A total of 170 rig days and 200 vessel days were estimated to meet this programme.

The pipeline system was critical to the project, as slippage early on in the project life would clearly have a knock-on effect to the overall schedule. Given that over 120 km of pipeline had to be installed less than a year after contract



award, the onshore critical path activities (manufacture, coating, welding, installation) had to be well managed and clearly defined. Offshore, the pipeline installation activities on each pipeline involved four different vessels operating sequentially (pipelay, survey, trenching and rock dump); to avoid downtime each vessel required uninterrupted access to the site.

## Going flexible

As part of CSOL standard practice when assessing an invitation to tender (ITT) an internal comparison is systematically carried out between rigid and flexible

for the relevant pipelines required in the development. Some field developments are clearly all rigid pipeline. In some cases, however, such a clear cut decision is not so obvious and a combination of rigid and flexible pipe may well prove to be the most suitable solution – as was the case for Nuggets.

TotalFinaElf's initial development plan, which was reflected in the ITT specifications, was wholly based on rigid pipeline. While flexible pipe would clearly not offer a cost effective solution over rigid pipe for the 12-inch production/3-inch service piggy-back long distance pipelines from the N1 manifold to the Alwyn platform

(some 39.5 km) and from the N3 to N1 manifolds (14.5 km), it was not so obvious for the 6-inch and 2-inch pipelines. Indeed, the tie-backs from the NGB and NGC wells to the N1 and N3 manifolds, respectively being 3.3 km and 4.4 km long, were well suited to flexible pipe. In addition, the design parameters (pressure/temperature) were such that a cost effective flexible pipe structure – ie a '55° structure' design – could be proposed. In particular this type of structure can be optimised to mitigate upheaval buckling, without the requirement for backfill or rock dumping.

The initial comparison between rigid and flexible pipeline proved that flexible was overall slightly more cost effective for the NGB well. While the flexible product itself was more expensive when compared to rigid on a stand-alone basis, the advantages it brings in term of installation, in particular removing the requirement for backfill/rock dumping made it a favourable economical solution overall. For the NGC well, however, it remained more effective to maintain a rigid pipeline for a number of reasons. In particular:

- The combination of increased flexible length and the pipelay vessel CSO Apache's rigid pipe carrying capacity meant that it was more cost effective to keep the NGC pipelines rigid.
- To maintain TotalFinaElf's key dates meant that the flexible manufacturing plant's schedule would be on the critical path for the NGC flowline.

In addition, as part of the installation the drilling schedule was another key parameter that had to be considered. Based on a 'rigid only' solution, all the pipelines had to be completed at an early stage prior to the start of the drilling programme. Failure to do so would have resulted in two installation phases with separate mobilisations, and therefore increased cost. Alternatively, the use of flexible pipe would bring more flexibility to the installation/drilling schedule.

## Flexible advantage

Flexible pipe is generally considered either 'rough bore' or 'smooth bore' – the two fundamental designs of unbonded flexible pipe structure. The rough bore structures contain an inner steel carcass on the first layer and can be used for all applications, in particular for multiphase oil and gas applications. A smooth bore design has an inner plastic tube as its first layer and its use is limited to the transport of liquid fluid only, ie without any gas – typically water injection and chemical injection line.

Based on the Nuggets design condi-

...continued on p38

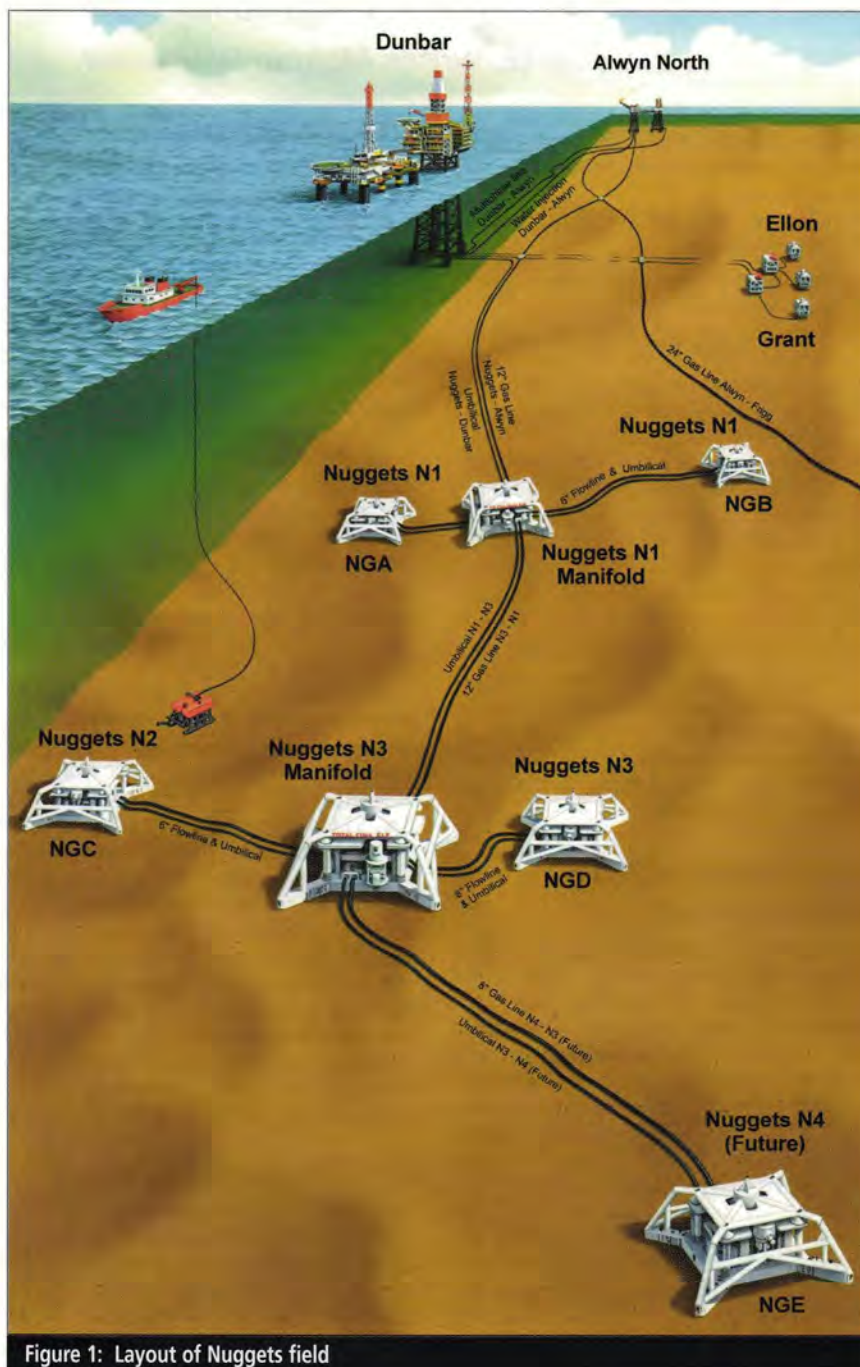


Figure 1: Layout of Nuggets field





# Reducing US dependence on oil imports

Concerns over growing American dependence on Middle East oil has time and again been highlighted whenever there has been political turmoil in the region with, in fact, very little done about it. This time around, however, the 11 September 2001 attacks have vividly brought home America's vulnerability to outside forces and President Bush's pledge of a long and unrelenting war against terrorist networks has added urgency to the debate, writes *Mojgan Djamarani*.

**F**oreign countries provide more than 50% of US oil consumption and, while the country has just 5% of the world's population, it consumes 25% of the world's total oil production of 76mn b/d. Furthermore, the last four years have seen US reliance on imports increase by 11%.

President Carter set up a Strategic Petroleum Reserve (SPR) during a resurgent period in Opec's history. In the early 1990s, when the SPR was tapped into in the aftermath of the invasion of Kuwait, the reserve held 590mn barrels – equivalent to 82 days of supply. Today, it holds 545mn barrels – but with the growth in domestic demand this is equivalent to only 53 days' supply.

The US is particularly vulnerable to an oil shock since oil accounts for 40% of its energy needs. More significantly, the Middle East currently provides more than 25% of its oil imports, with up to 20% of total imports coming from Saudi Arabia and up to 8% from Kuwait and Iraq.

## Increasing domestic oil supply

The US Government's immediate response to what is seen as an impending crisis has been to fill the SPR to its current capacity of 700mn barrels. Last October, the House passed a non-binding resolution to increase the SPR to its authorised capacity of 1bn – estimated to cost up to \$6bn – but without appropriating any money to it.

In the longer term the Bush Administration, as put forward in the President's national energy policy, released in May 2001 plans to reduce US dependence on imports by increasing domestic production of oil and gas; expanding nuclear energy and the use of coal in power generation; and also to improve security by diversification of

sources of imports. This policy was not reviewed in the aftermath of the political crisis caused by the September terrorist attacks.

Increased domestic oil production is to be achieved by:

- enhanced oil and gas recovery from existing wells;
- the provision of economic incentives for offshore oil and gas development, and the bringing onstream of small fields that otherwise would be uneconomical; and
- development of the 1002 Area of Alaska's National Wildlife Refuge (ANWR) and other federal lands. The ANWR is estimated to hold recoverable reserves of between 2bn and 10bn barrels (10bn barrels would be the equivalent of 20 years' supply of Saudi imports).

The policy also calls for the construction of a gas pipeline from Alaska to the lower 48 states and the renewal of the Trans-Alaskan Pipeline system lease to ensure Alaskan oil flows to the west coast of the country.

## Contentious ANWR drilling policy

The policy to open oil drilling in the ANWR has proved to be highly contentious and is holding up the President's energy policy in the Senate. It is opposed by the Democrats on the grounds that it would cause environmental damage and provide windfall profits for the oil companies. They argue that, without renewable energy sources, by just tapping the Refuge's oil reserves the country will not gain the least energy independence. Even with increased domestic oil production, the US would still be heavily dependent on oil imports.

According to the US Energy Information Agency (EIA), oil demand

in the country is projected to grow at an average annual rate of 1.5% per year to 2020, led by growth in the transportation sector (private and commercial) that is expected to account for more than 70% of oil demand in 2020. Even with production from the ANWR, domestic oil production is projected to decline at an average annual rate of 0.2% over the next 20 years to 5.6mn b/d. The increase in oil demand is projected to raise the share of imports from 53% in 2000 to 62% in 2020.

But there are those who see in the President's policy not just greater self reliance but also a chance to lift the oil and gas industry out of the depression that was inflicted upon it by the 1986 oil price collapse. In the period 1981–1999 the number of oil wells drilled each year in the country fell from 89,000 to 19,000.

According to a recent report by Salomon Smith Barney, more money was spent on upstream activities by the major oil companies in 2001 than any time since 1981 (in constant US dollars). The \$115bn spent on oil and gas exploration and development was 25.3% higher than in 2000 and is likely to go up more in 2002. Some 75% of this spending, however, was invested outside of North America with oil companies preferring to invest in low cost regions. The Middle East is potentially the world's cheapest oil producing region, a fact that is likely to clash with President Bush's drive to reduce dependence on the Middle East for oil supply.

## NAFTA cooperation

To achieve a greater degree of energy security the national energy policy takes a continent-wide approach to US energy supply. A key element of this approach is the Trilateral North American Energy Working Group (US, Canada, Mexico) to promote a more



fully integrated energy market among the three North American Free Trade Association (NAFTA) countries.

The Administration has urged Mexico to allow more investment by the American oil companies in the state run oil sector to ensure Mexico remains a reliable and significant oil supplier. According to Pemex, the state-run oil company, oil output will decline by 33% within the next five years unless investments of \$33bn are made in oil and gas exploration. Mexico is the second largest exporter of crude to the US after Saudi Arabia.

The Presidential energy policy also calls for boosting energy investment flows between the US and Venezuela and Brazil. It would be a measure of President Bush's diplomatic skills to persuade President Chavez of Venezuela to revert to the past oil policy of expanding

both capacity and production. After all, it was Venezuela under Chavez who championed Opec's policy of higher oil prices over higher production.

To diversify sources of oil and gas supply outside of the American hemisphere, the Administration urges:

- greater investment and operation by the US oil companies in Africa;
- support for the Baku-Tbilisi-Ceyhan pipeline route for the exports of Kazakh crude and for the Caspian gas pipeline routes to the west; and
- greater cooperation with Russia on energy.

According to EIA projections, non-Opec oil production will increase from 45.7mn to 61.1mn b/d by 2020, with the Caspian Basin, offshore West Africa, Brazil and Mexico providing most of the increase. Oil production from the big

non-Opec fields discovered in the 1960s and 1970s is now declining. According to the International Energy Agency (IEA), the oil majors need to make investments of \$1tn over the next 10 years to replace output lost at these fields and to meet rising world demand.

## Critique of energy policy

The President's energy policy, which currently languishes in the Senate, has been criticised by supporters of alternative energy sources for not doing enough to wean the country off oil, wherever that oil is sourced. They see in the present state of heightened political awareness an opportunity to increase research and funding into renewable energy, not only to reduce dependence on oil imports but on oil altogether.

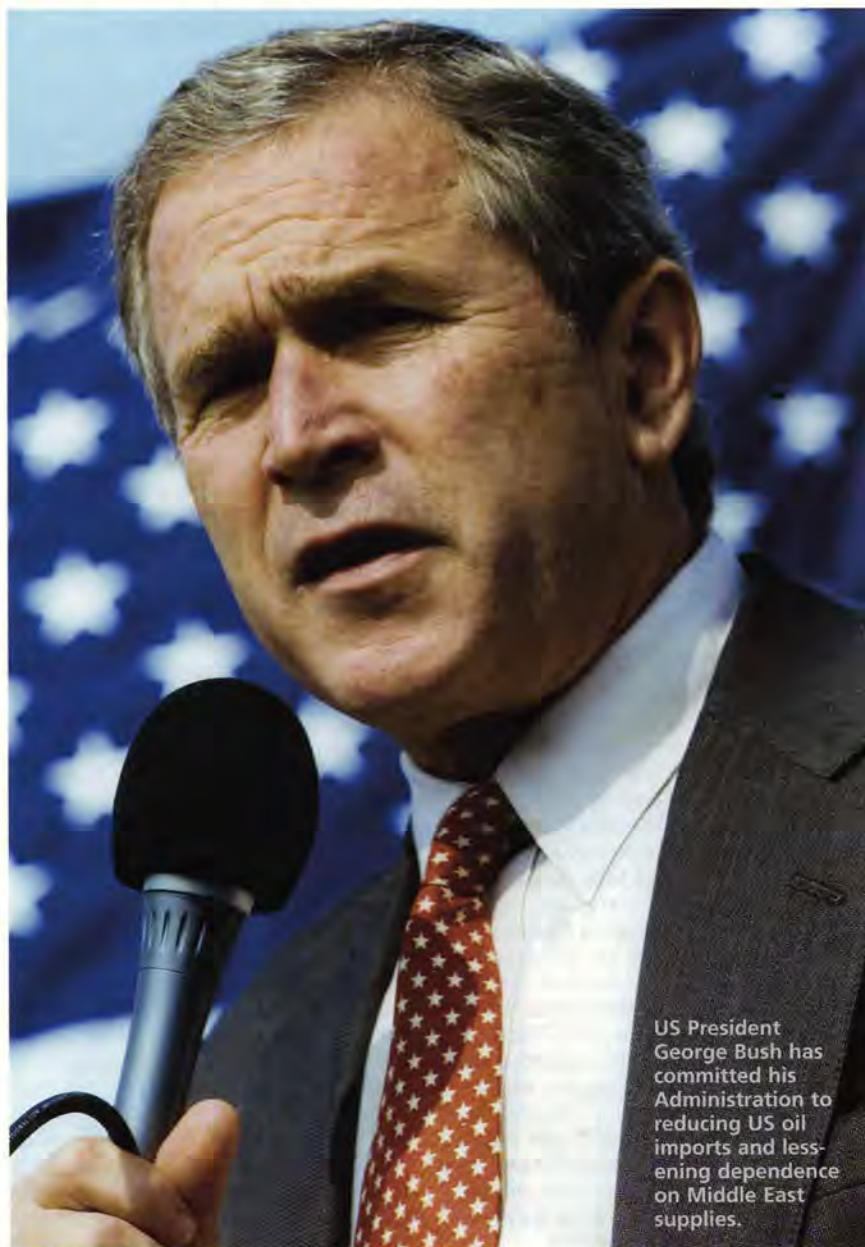
The Administration's policy is criticised for relying too heavily on fossil fuels while ignoring conservation measures, use of renewables and alternative fuels. For example, they argue that by boosting light vehicle mileage requirements by 2.7 mpg (miles per US gallon) the US could wipe out the need for all of one year's Middle East energy imports. According to an Environmental Protection Agency (EPA) report, cars and sport utility vehicles (SUVs) in 2000 yielded the lowest average gasoline mileage since 1980 with 24.2 mpg for cars and 17.3 mpg for SUVs and trucks compared to the current required standard of 27.5 mpg and 20.7 mpg, respectively.

The current debate to reduce fossil fuel use is largely confined to the use of oil in transport. Optimism has been expressed about the potential use of fuel cells that could in future replace gasoline. The cells use energy generated when hydrogen bonds with oxygen to create water vapour. Hydrogen can be extracted from natural gas, methanol and oil; the cleanest way this extraction could be achieved is using solar and nuclear power.

According to Seth Dunn of the Worldwatch Institute (a Washington-based think tank), the Bush energy policy 'has already sewn the first seeds of the country's failure in the hydrogen race.' The Federal budget for the US Energy Department's hydrogen programme is currently only 20% the amount proposed for clean coal technologies and 10% that for nuclear energy.

The national energy policy does provide for limited policy actions including tax incentives for fuel cell vehicles and reauthorisation of the US Hydrogen Future Act of 1996. Currently, the main aim of this legislation is to improve the efficiency and lower the cost of hydrogen production, whether from fossil fuels or biomass, to less than \$15/mn BTU.

Dunn goes on in his report: 'The crit-



US President George Bush has committed his Administration to reducing US oil imports and lessening dependence on Middle East supplies.



ical question is no longer whether we are headed towards a hydrogen economy, but how we should get there and how long it will take... Just as the government catalysed the early development of the Internet, there is a critical role for governments to play in speeding the creation of a clean hydrogen economy.' The report recommends:

- offering tax incentives to buyers of fuel cell vehicles;
- phasing out of the \$300bn/y spent around the world to subsidise fossil fuel use; and
- boosting support for R&D aimed at hydrogen production and storage and cutting fuel cell costs.

According to Dunn, the problem that the companies already involved in hydrogen energy technology face is the fact that the car manufacturers are loath to mass produce hydrogen vehicles until the infrastructure is there to fuel them. Furthermore, the energy companies do not wish to build hydrogen refuelling stations if they do not anticipate significant demand for the fuel.

In contrast to the tax incentive approach of Worldwatch, the Institute for Energy and Environmental Research argues in a report that tax credits for renewable energy purchases tend to keep the cost of the technology high and retard progress. The report calls for vigorous procurement policies instead and recommends that a \$20bn/y programme be established, with half the funding spent on federal purchases of products such as fuel efficient vehicles, fuel cells and solar cells, and half awarded as grants to state and local government for similar procurement programmes. In this way, the report concludes, the new technologies will become commercial and their costs decline.

As to whether the Bush Administration will be successful in promoting its energy policy, John Mitchell, an Associate Fellow at Chatham House, has commented that: 'What we can expect is piecemeal progress through the Senate and House of those policies which require legislation. Some will get through, some will be amended, some will fail. That is the American way.'

## Encouraging renewables investment

High cost and lack of market incentives to encourage investment in renewables are not the only barriers to the expansion of the renewables market. According to Karen de Segundo, Chief Executive Officer of Shell Renewables, speaking at the 6th Annual Greenpeace Business Conference, lack of an adequate market structure for green cer-

tificate trading is another. Such trading would enable energy companies to pay whatever is required to ensure that a certain proportion of the energy they produce comes from 'green' sources. Such a scheme is being piloted amongst six major electricity producers in the EU.

Meanwhile, some oil majors have started to develop alternative energy. Shell has pledged to spend between \$500mn and \$1bn in the next five years to develop new energy businesses concentrating primarily on solar and wind energy. BP is also making significant investments in solar energy and is now reported to be the world's third largest photovoltaic maker.

While the US President's energy policy sees natural gas as 'an important fuel of the distant future,' Shell sees natural gas as the bridging fuel between the present energy market and the future advanced ones. Gas is expected to overtake coal by 2010 and to challenge oil as a dominant source of primary energy. At the same Greenpeace conference, de Segundo stated that renewables will represent, at most, 2.5% of worldwide primary energy by 2010 with wind and solar PV expected to grow faster than other renewables. They are currently growing at a rate of 25%/y.

Shell expects renewable energy to make steady, but unspectacular, progress until 2025. Government support, it says, will encourage the development of renewable fuels early in this century but their price will prevent them from replacing existing energy sources. After 2025, growing use of fuel cells is expected to rapidly expand the consumption of hydrogen. By 2030, the company expects large-scale production of hydrogen from both renewables and nuclear energy.

## Leading the way

Germany, Japan and Iceland are leading the way in creating a hydrogen economy. Germany is leading the field in hydrogen fuel cell vehicles and fuelling stations, as well as in its use of renewable energy to produce hydrogen from water through electrolysis.

Japan plans to spend \$4bn by 2020 on various hydrogen initiatives, with Toyota recently announcing that it will start selling its fuel cell car in Japan in 2003. Meanwhile, in Iceland, Shell, Norsk Hydro and Daimler-Chrysler have entered a joint venture with Vistorka (an Icelandic consortium supported by the government) to create the world's first hydrogen economy in Iceland by 2030. In the first phase, 100 public buses will be replaced with fuel cell buses; in the second phase fuel cell cars will be introduced and, finally, fishing trawlers will be equipped with fuel cells.

...continued from p35

tions and requirements (235 bar and 55°C) CSOL proposed a '55' structure' for the 6-inch production and 2.5-inch service flowlines. The structures were optimised to mitigate upheaval buckling.

## Technical risk and reliability

One of the key aspects for TotalFinaElf was to ensure that the solution proposed for the Nuggets development had a low technical risk and a high reliability. In particular, a high focus was put on the flexible pipe technology that was being used for the first time by TotalFinaElf in the North Sea. The key elements were:

- end fitting design;
- anti upheaval buckling design;
- pressure sheath thickness;
- material selection; and
- dropped object design.

## Installation

The installation of the flexibles was performed from the multi-purpose construction vessel *Smit Pioneer* in September 2001. Both flexibles were laid separately from installation reels and then subsequently trenched using CSOL's Flexjet trenching machine from the *Skandi Inspector*. The installation of the flexibles coincided with installation of the control umbilicals, which removed the need for additional vessel mobilisations.

Following tie-in of the flexibles by divers to the manifold/well, a 1.1 x DP leak test was performed to verify the joint integrity and an as-built survey to confirm the final position of the flexible.

## A working solution

The advantages of using a flexible against a rigid pipeline (impact to schedule, installation flexibility, low cost anti-upheaval buckling measures) have proved extremely beneficial to both TotalFinaElf and CSOL in developing the project. From a managerial viewpoint, the use of flexible flowlines has helped the overall schedule immeasurably by opening up additional work faces to allow the drillers access to the field earlier in what has been a very busy offshore season. The commercial benefits associated with the development have also been two-fold - CSOL accrued greater internal revenue on the project and TotalFinaElf was able to obtain savings in the drilling programme.

Whilst not true in all cases, the use of flexible flowlines in combination with rigid flowlines has proved advantageous to both parties in the Nuggets development.



# Cyber news from the IP

The Institute of Petroleum re-launched its website at [www.petroleum.co.uk](http://www.petroleum.co.uk) to coincide with one of the industry's most prestigious events this year – IP Week 2002 (see p12–24), writes *Aideen Mooney*, IP Web Editor.

**H**aving gone through extensive re-development in 2001, the new website aims to give IP Members and non-members an exclusive close-up of what's happening in the industry and at the Institute.

From the latest training courses, conferences and events to the progress of ongoing projects, [www.petroleum.co.uk](http://www.petroleum.co.uk) also provides a news information service, bringing you the week's top news stories and featuring a daily news summary.

With reporting from some of the IP's key events, such as the IP Awards and IP Week, Members can gain access to in-depth interviews with some of the industry's leading figures. Also new to the site is a 'Hot Topics' section, featuring the industry's current and most talked about issues.

## Award winner

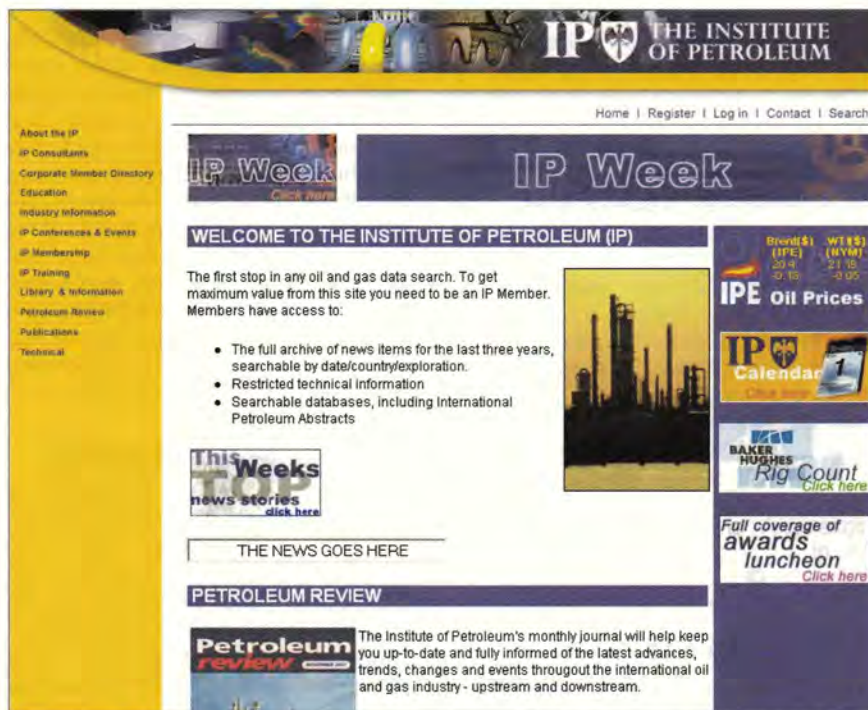
A welcome online addition to the IP site is our award-winning education website – [www.petroleum.co.uk/discover](http://www.petroleum.co.uk/discover) – introducing a unique and informative way for seven to 11 year-olds to get acquainted with the world of petroleum.

This innovative, cross-curricular concept offers five interactive games to help industry members of the future discover the numerous functions of petroleum. Having been awarded an accolade by Journal Publishing Company for the 'Most Innovative Web Site for 7–11 Year-Olds' last October, [www.petroleum.co.uk/discover](http://www.petroleum.co.uk/discover) is a fun and stimulating incentive for the younger generation to learn more about the basics of petroleum.

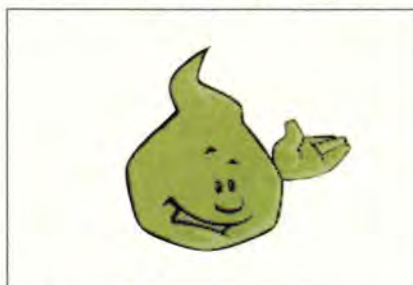
The inspiration behind this pioneering idea came from its creator, Gill Haben, head of the IP's Education Department. Speaking before the events of IP Week commenced, Gill said: 'The plan is to bring factual, transparent information

about all the industry processes and the full range of careers and jobs that support the business to every age group –

from this first module for younger children through every stage of education and beyond.'



IP website Home Page at [www.petroleum.co.uk](http://www.petroleum.co.uk)



'HC' plays a key role on the IP's education website...

... leading visitors through the 'hydrocarbon trail'.



# Highway to Buenos Aires

**Maria Kielmas reports on the latest burgeoning crises in Argentina and Latin America, at the heart of which lie the oil and energy sectors.**

**T**he downfall of Argentina's Government in December 2001 and its deepening political, economic and social crisis is sounding alarm bells in Caracas. In the 1980s, Venezuelan business leaders, watching the then unfolding Argentine crisis of deficit spending, hyperinflation and attempted coups, warned their own deficit-spending government not to build 'a highway to Buenos Aires'.

Today, middle class Venezuelans and an increasing proportion of lower-income level former supporters of President Hugo Chávez are taking to the streets to protest against Chávez' authoritarian and economically incompetent government. They hope they will be able to remove the President from office in the same way as protests in Buenos Aires from middle and lower-income Argentines removed two Presidents from office in December 2001, and maintain pressure on the present incumbent, Eduardo Duhalde.

## Central to the issue

The oil and energy industries have been central to both countries' problems. Over the past 15 years Argentina and Venezuela took different paths to reach similar crisis points. Argentina is the only Latin American country to have privatised its oil, gas and electricity industries. Prior to the present crisis, the Government of President Fernando de la Rúa was moving ahead with plans to liberalise fully the gas and electricity markets on a quasi-British model. Leading this was Energy Secretary Carlos Bastos, a former consultant to Enron and who had held a similar post in the previous Peronist Government of Carlos Menem.

Argentine industry, already shackled by an over-valued currency, had been complaining since the early 1990s privatisations of high utility tariffs. On average these were some 50% higher than tariffs in western Europe when average salaries in Buenos Aires during the best economic period of the mid-1990s were just \$600 per month.

Venezuela has been the slowest Latin American country to open its energy industries to private sector investor. But

the so-called 'apertura', or oil opening, of the early 1990s – which initially focused on marginal field reactivation – proved to be a pioneer model for those Opec countries such as Iran which did not permit private sector direct investment in its oil industry. Venezuela persuaded investors to accept high royalties and taxes on oil production by dangling the prospect of future major oil discoveries in Latin America's premier oil province. The willingness of foreign oil companies to bid huge cash bonuses to acquire such exploration acreage – despite their ineffectual complaints about the stiff fiscal regime – set the pattern for future exploration rounds in countries such as Brazil.

## PdVSA-directed policy

State oil company Petróleos de Venezuela (PdVSA) directed oil and energy policy rather than the Venezuelan Energy Ministry, the Cabinet or the President of the Republic. The publicly unstated, but privately acknowledged, strategy during the period when first Andrés Sosa Pietri and then Luis Giusti were PdVSA Presidents was that Venezuela should step up its oil production as fast as it could and capture as large as possible a share of the US market – regardless of world oil price consequences or Opec. Although an Opec founder member, Venezuela's future lay as an energy giant in the Western Hemisphere and not in the Middle East-dominated producers' cartel, PdVSA believed.

Venezuelan law required the legislature to approve new contracts and thus the petronationalist element in the political sphere successfully delayed, but did not halt, the progress of the apertura. The first lasting complaints came from the poorly capitalised domestic oil service sector which felt itself excluded both from lucrative service contracts with the new investors and in bidding for exploration or field reactivation acreage. It pushed for, and eventually received, favourable treatment in later bidding rounds.

However, an unseemly international argument between Venezuela, led by

the then PdVSA President Luis Giusti, and Saudi Arabia in 1997–1998 – when each country blamed the other for over-production and responsibility for the world oil price slump – brought the festering discontent with the apertura to a head. In a country where over 80% of the population lives below the poverty line, Giusti and PdVSA were blamed for aggravating the recession brought about by the oil price slump. This transferred to popular anger against the corruption of the traditional political elites which permitted the former coup leader Lieutenant-Colonel Hugo Chávez to win the December 1998 Presidential elections and transform the country's oil industry.

## Argentinian experience

Oil industry liberalisation in Argentina from the early 1990s never generated the kind of nationalist backlash which could have been expected in the country some 20 or 30 years earlier. This was because the entire process involved the domestic oil industry from the outset and allowed it to make substantial profits. From its creation in the 1930s, the former state oil company Yacimientos Petrolíferos Fiscales (YPF) never held a monopoly in the national market. Instead, the domestic oil sector was employed as essentially a highly-paid service contractor for YPF and the state gas company Gas del Estado (GdE).

Inflation accounting hid the costs of these sweetheart deals on the state companies' balance sheets until, by the 1980s, their bankruptcy was undeniable. The oil liberalisation progressed and local oil companies quickly took minor stakes in the newly released exploration blocks – placing themselves as well-remunerated intermediaries for multinationals who wished to acquire controlling interests.

Smaller foreign operators shunned Argentina because both the entry costs and field operating costs were too high. The 1:1 peg between the Argentine peso and the US dollar allowed any local company to borrow abroad to finance further acquisitions that they hoped they could later offload to foreign investors at high commissions. The only dissenting voices against oil and gas privatisation came from the trade unions who feared job losses. However, the Government of President Carlos Menem successfully bought off the unions by transferring a proportion of the privatisation receipts into union pension funds.



## Sowing seeds of disaster

But the Argentine Government's rush to privatise the energy sector in order to fulfil short-term fiscal goals, without formulating any clear concept of the future energy market in Argentina, sowed the seeds of the current disaster.

Energy privatisation was conducted back to front. First came the disposal of the electricity sector, sold off without anyone having a clue as to what kind of fuel market the privatised utilities were to operate in since, at the time, oil and gas were state-owned. The internal market was liberalised in theory but as it was, and still is, dominated by companies dependent on YPF and its successor Repsol-YPF, there was no defined free market in oil. Consumer groups raged at what they termed an oil company 'cartel' which kept petrol and diesel prices far higher than those even in Western Europe. Gas utilities clashed with the regulator as they sought to pass through increasing wellhead prices to consumers.

The Mexican devaluation crisis of 1994-1995 focused world attention on the Argentine currency peg and its sustainability. Rather than finding the means to move away from fixed exchange rates, as did Brazil, successive Argentine Governments regarded it as a point of honour to maintain the peg. Local oil companies who had bought into production at \$18/b found that the combination of low oil prices – when Argentine crude was selling at \$12/b – and high operating costs of between \$8 and \$12/b meant that their investments were losing money. First a flood of upstream farm-outs hit the international market, followed by wholesale corporate takeovers. Today, only one Argentine oil company – Pérez Companc, which is 70% family owned – is operational. The deepening economic crisis exacerbated popular discontent with over-priced, dollar-denominated utility tariffs.

## Sector reform

Successive Argentine Governments pledged to reform the energy industry and lower both fuel prices and utility tariffs. But each government attempt to pressurise the energy industries failed as companies argued that such tactics would damage investor confidence in the country and 'juridical security.' In addition, both sides ignored popular discontent and danger signs indicating that they should back away from entrenched positions. President De la Rúa's Government was deposed by those middle class voters who had supported him two years earlier. His

reputation and that of the Radical Party is in tatters, leaving Argentina governed by opposing factions of the Peronist Party, none of which have any political kudos to gain by supporting the energy companies.

The result is that companies face export taxes of 20% on oil exports and 5% on fuel exports. Lobbying by Chile – which imports 60% of its energy from Argentina – stalled the introduction of a gas export tax. Utility contracts will be renegotiated, with the inclusion of a windfall tax and possibly a compulsory reinvestment of a percentage of profits. Calls by European Union governments requesting caution from the Duhalde Government in its treatment of foreign investors fall on deaf ears at best, but usually arouse further public anger.

## Legislative complication

The process is complicated by new hydrocarbon legislation, stalled since 1997, which passes responsibility for regulating the sector from central government to the provinces. Liberalisation never touched the provinces' vast over-spending. Now as central government transfers to the provinces may be cut as part of any deal with the IMF (International Monetary Fund), non-oil producing provinces are keen to maintain high transfers from Buenos Aires rather than lose if the producing provinces are able to cut royalties to attract new investors.

While energy investors' contracts in Argentina were swept away by events, in Venezuela they were swept away by the President. New, but poorly drafted, hydrocarbon legislation was promulgated last year as part of a 49-law package approved by Hugo Chávez under emergency enabling legislation. The new law is ambiguous on whether contracts signed under the *apertura* will be upheld, despite government undertaking that this will be the case. The Venezuelan Petroleum Chamber is currently in talks with the legislature to reform the hydrocarbon law in particular points which stipulate a minimum 51% state stake in all joint ventures and the lowering of new royalty rates of between 20% and 30% down to 16.67%.

Chávez has also been successful in dismantling the power of state company PdVSA. Oil policy is firmly in the hands of the President and administered by the Energy Ministry. PdVSA is to lose its gas interests as the government seeks to create a new gas company. There have also been discussions about breaking up PdVSA into separate

operating companies and even permitting the Energy Ministry to become operator in joint ventures.

Under Chávez, oil policy has coalesced into foreign policy with the creation of the Caracas Energy Accord, a system similar to the San José Accord with Mexico that provides oil at subsidised prices to Caribbean and Central American countries. Venezuela has consolidated ties with Cuba through the Caracas Accord and currently supplies some 55,000 b/d to the island. Venezuela, which officially is sticking to Opec quotas and private sector investors, including those in heavy oil upgrading projects, is obliged to participate in production cutbacks rather than PdVSA alone. The promotion of a harmonised Opec contract for oil investors in member countries is another long-term aim. This is a favoured project of Opec Secretary General Ali Rodríguez Araque, a former Energy Minister who is rumoured to be returning to Caracas when his initial term in Vienna ends.

PdVSA has maintained fair relations with the executive largely because its head, General Guaicaipuro Lameda, became a surprising boost to the company's morale. One of Chávez' increasing number of military appointees, Lameda urged the government to keep PdVSA intact and to embark on a serious national debate on energy policy. As a result, Lameda was fired and replaced by left-wing economist Gastón Parra, a supporter of high taxes who has promised to 'revamp' the company. By early March, PdVSA senior management was in open revolt against Parra.

## Developing major crisis

Current populism of governments in Argentina and Venezuela shows how little influence foreign investors, even those in the most important sectors, have as a political confrontation develops into a major crisis. Argentina is facing a complete social breakdown while, in Venezuela, opposition politicians are seeking to remove President Chávez from office for 'madness.'

The very presence of high profile foreign investors arguing what they believe to be a rational case leads to different public perceptions which can deepen the crisis. The key to investment success could be to identify when – in the words of the Pakistani Finance Minister Shaukat Aziz during that country's protracted contract renegotiations with investors in the controversial Hubco power generation project – everyone, investors and government, 'takes a haircut.'



## Compact repeat formation pressure tester

Reeves Oilfield Services has launched its MFT compact repeat formation pressure tester on the market following well trials in the UK and the completion of operations for clients in Europe and the US. The MFT allows operators to determine in-situ formation pressures at several points along a well during one run. It is reported to be capable of being run in a broad range of well types including low and high-angle, horizontal wells and wells with restricted access.

The setting mechanism closes to a diameter of 2<sup>3</sup>/<sub>4</sub>-inches which enables the MFT to pass restrictions smaller than 3-inches in diameter and to seal in wells smaller than 4-inches diameter – yet it is also able to open to over 11 inches. Such a design

allows the system to access restricted entry wells and makes it ideally suited to re-entry work, sidetracks, and for use in through-tubing drilled and coiled tubing drilled wells, states the company.

It is operated from a compact surface unit, PC-based, enabling the system to be mobilised quickly. It can also operate on a wide range of third-party wirelines, including single core cable. Specialists are not needed to run or maintain the tool, and the whole service is reported to be substantially easier to deliver relative to conventional testing services.

Tel: +44 (0)115 945 7880  
Fax: +44 (0)115 945 7921  
[www.reeves-wireline.com](http://www.reeves-wireline.com)

## Critical duty pump seals unveiled

A range of high duty mechanical shaft seals have been designed by Flowserve of Manchester, UK, to provide reliable operation at the high speeds and pressures now required of critical pumps operating in the oil and gas industry.

The seals have been developed for pumps running at speeds over 12,000 rpm and operating pressures over 100

bar, with static pressure requirements of over 400 bar. The UHTW range can be supplied as a single, tandem or double seal arrangement, with a wide variety of construction materials offered to suit the specific requirements of each application. The QB seal range comprises API 682 compliant type A seals and can be supplied in single or dual seal arrangements. A special version – QBQ – is specifically designed for use on hydrocarbon applications with the advantage of very low emission rates, states the company.

The GSL range of dry running back-up seals is reported to eliminate the need for a costly and heavy seal support system when it is used as the secondary seal in a tandem seal arrangement. It uses a patented wavy face design to provide lift-off at the seal faces, preventing unnecessary seal damage.

Tel: +44 (0)161 869 1200  
Fax: +44 (0)161 869 1235  
[www.flowserve.com](http://www.flowserve.com)



## Zero leakage over extended cycle life



Designed to exceed 100,000 cycles with zero leakage, Hoke 70/71 Series uni-directional ball valves recently introduced by Circor Instrumentation have live-loaded seats that are reported to compensate for wear and temperature cycling to ensure leak-tight operation over their entire pressure range.

High-performance rating of the valves is achieved with two new stem seal designs – the DL delta design and the TL energised Teflon, the latter meant for use where media compatibility is essential.

The 70 Series has a welded end-fitting designed to prevent accidental disassembly, with models providing operating pressures up to 414 bar at 21°C and temperature ranges of –40°C to 177°C. The 71 Series has a gasketed end-fitting to allow rebuilding. Both series have a quarter-turn handle for quick on/off service with visual indication of valve position, and are available with factory-assembled pneumatic or electric actuators. A wide range of connection types and sizes up to 3/8-inch and 10 mm is available.

Tel: +44 (0)20 8423 0113  
Fax: +44 (0)20 8423 5933  
e: [circor@hoke.co.uk](mailto:circor@hoke.co.uk)  
[www.circor.co.uk](http://www.circor.co.uk)

## Trace oxygen sensor offering parts per billion measurement

A new design of trace dissolved oxygen sensor, the Model 499A TrDO, from Rosemount Analytical has been developed to measure parts per billion levels of oxygen in high purity water. Applications include those where oxygen levels are deliberately scavenged from cooling or process water to prevent corrosion – such as in power plant boiler feedwater pipework and in offshore oil drilling water injection applications.

Claimed to have an accuracy of ±1 ppb in the range 0–20 ppb, the sensor's design specification has been improved to pro-

vide a shorter sensor stabilisation period after installation compared with other systems on the market, typically less than one hour following a membrane change or sensor recalibration. 'Once in service, the operational response time for the 0–200 ppb sensitivity range is less than 20 seconds,' states the company. 'As a result, end users experience quicker process turnaround times and overall plant performance improvements.'

A pcb-mounted barometric pressure sensor feeds readings automatically into the calibration routine. Membrane

replacement is said to be fast and easy, requiring no special tools or fixtures, and electrolyte replenishment is carried out via a simple fill plug. A Variopol plug and socket connector is offered as an alternative to having an integral sensor cable connection. The sensor itself has automatic temperature and salinity compensation for the dissolved oxygen measurement, and a flexible bladder to maintain equal pressure between sensor and sample stream.

Tel: +44 (0)151 604 3045  
Fax: +44 (0)151 604 1222



## Free-floating, wireless 'policeman' for oil in harbours

The new Ionics Leakwise WL wireless oil-sheen detector for harbours and off-shore oil terminals uses a satellite and/or cellular link to alert shore-based operators within minutes to the presence of oil. Designed to be installed off-shore close to oil-tanker buoy terminals and loading jetties to detect spills during tanker unloading or discharge, the unit is claimed to be capable of detecting sheens as small as 0.3 mm thick or measure the build-up of oil layers to 25 mm.

The system uses the latest floating detector technology based on electromagnetic energy absorption, a tech-

nique that is said to have proven extremely reliable, with no false alarms. It is reported to be unaffected by dirt or coating, and can measure not only oil presence but also build-up over time.

The detector is mounted on a stable wave-rider buoy, with mooring appropriate to the location and water depths. The buoy also contains a solar panel with rechargeable battery, digital signal processor, electronics for the bi-directional data link, and antennas for satellite and cellular communications. The buoy is built to withstand quite extreme sea conditions and to maintain the sensor position at the liquid/air inter-

face despite fluctuations due to waves or tide. The standard system is rated for 4-knot currents and 2-metre wave heights.

Users can set five field-adjustable alarms, the first when any oil is detected, the other when the layer has reached predetermined thickness. They can also change operational parameters or download new software via the satellite or cellular link. Options include a dual-mode satellite/cellular link and GPS positioning.

Tel: +44 (0)161 866 9337

Fax: +44 (0)161 866 9630

## Configuration of flow computers made simple

A new PC software tool – PC\_Config – from Solartron Mobrey is reported to offer 'dramatic reductions' in the time and skill set required for configuration of flow computers in fiscal and custody transfer applications.

The measurement systems used by the oil and gas industry for fiscal and custody transfer monitoring are complex. Typically they comprise multiple sensors for measurement of flow, pressure, density and temperature, viscosity, water cut and gas composition, as well as interfaces to meter provers, valves, printers and supervisory systems connected to a series of flow computers. Configuration of the system – including location of measurement points, correct set-up of I/O signal ports, flow computer communications, alarms and data acquisition – has traditionally been a considerable task that required specialist knowledge.

However, PC\_Config is claimed to now make this task much simpler. A graphical interface makes the system easy to operate. 'Point-and-click' icons are used to assemble a measurement skid diagram and to identify measurement and alarm points, batching and logging functions. The software then calls on its built-in instrument set-up 'wizards' to create a database showing exactly what information is required for the chosen measurement task – limits, failure details, communication options etc. The engineer simply 'fills in the blanks'.



The software allows engineers to prepare the configuration in an office environment, then simply download it to the flow computer when it is ready. Edits are automatically time and data stamped to provide an audit trail, and there is a built-in reports function for automatic documentation of the process.

In addition, the new software features

a virtual flow computer front panel which can be used online for live remote control of the flow computer, for trouble shooting and diagnostics, or offline for training purposes.

Tel: +44 (0)1753 756600

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[www.solartronmobrey.com](http://www.solartronmobrey.com)

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61 New Cavendish Street, London W1G 7AR, UK  
or e: [petrev@petroleum.co.uk](mailto:petrev@petroleum.co.uk)



## Algeria: The Political Economy of Oil and Gas\*

Ali Aïssaoui (Oxford Institute for Energy Studies, 57 Woodstock Road, Oxford OX2 6FA, UK. Tel: +44 (0)1865 311377; Fax: +44 (0)1865 310527; e: [information@oxfordenergy.org](mailto:information@oxfordenergy.org) ISBN 0 19 730027 8. 312 pages. Price: £29.50.

Algeria occupies a key position in the world economy as a major exporter of oil and gas. Yet, despite efforts to diversify its economy, the country remains overwhelmingly dependent on its hydrocarbon resources. This book assesses changes in government objectives and strategies in the context of history, economic policy and international relations. It traces the policies of national oil company Sonatrach, the changing pattern and destination of its exports and the emergence of natural gas as Algeria's most important export. The book also takes a long-term view of hydrocarbon production and export potential.

## Petroleum Refining: Refinery Operation and Management

Editor: Jean-Pierre Favennec (Editions Technip, 27, rue Ginoux, 75737 Paris Cedex, France. Tel: +33 (1) 45 78 33 80; Fax: +33 (1) 45 75 37 11; e: [editions\\_technip@compuserve.com](mailto:editions_technip@compuserve.com)) ISBN: 2 7108 0801 3. 624 pages. Price (hardback): euro 110; \$110.

This publication, volume 5 in the *Petroleum Refining Series*, provides analysis of the refining industry's current environment and economics. It assesses the role and importance of crude oil, the demand for petroleum products, markets and price setting mechanisms for crude oil and oil products, refining costs and margins, the evolution of refining capacity, and constraints on the industry. It also reviews the tools available for optimising and controlling operations and provides an explanation of material balance management and a description of refinery management and organisation.

## Applied Process Design for Chemical and Petrochemical Plants, Volume 3

Ernest E Ludwig (Butterworth Heinemann, Linacre House, Jordan Hill, Oxford OX2 8DP, UK. Tel: +44 (0)1865 314423; Fax: +44 (0)1865 314572; [www.bh.com](http://www.bh.com)) ISBN 0 8841 5651 6. 700 pages. Price (hardback): £105.

Now in its third edition, this reference book has been expanded by more than 200 pages to include the latest technological and process developments in heat transfer, refrigeration, compression and compression surge drums, and mechanical drivers. It focuses on the applied aspects of chemical engineering design to aid the design and/or project engineers in rating process requirements, specifying for purchasing purposes, and interpreting and selecting the mechanical equipment needed to satisfy the process functions in chemical and petrochemical plants.

## 2002 Yearbook of Road Transport Law

(Available from the UK Freight Transport Association (FTA), Member Service Centre, Hermes House, St John's Road, Tunbridge Wells, Kent TN4 9UZ, UK. Tel: +44 (0)1892 552222; Fax: +44 (0)1892 552336; e: [sales@fta.co.uk](mailto:sales@fta.co.uk)) Free to FTA Members; additional copies/non-FTA Members - £30 for one copy, £24.50 for two to five copies, £23 for six to nine copies, £20 per copy for orders of ten or more.

This publication provides an aid for vehicle operators aiming to keep track of the ever-changing legislation governing the UK freight transport industry. Published annually, this year's edition features two major new issues - the new structure of vehicle excise duty (VED) and the changes to operator licensing and enforcement being made under the new computerised TAN21 (Traffic Area Network in the 21st Century) initiative.

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- *Natural Gas Agreements*. Martyn R David (Ed). 1st ed. Sweet & Maxwell, London, UK, 2002.
- *Oil and Gas: Crisis and Controversies 1961-2000. Volume 1: Global Issues*. Peter R Odell. 1st ed. Multi-Science Publishing Company, Brentwood, UK, 2001.
- *Proceedings of the Eighth International Conference on The Jack-up Platform: Design, Construction & Operation*. L F Boswell, C D'Mello & B McKinley (Eds). AST Press, London, UK, 2001.
- *World Energy Outlook: Assessing Today's Supplies of Fuel, Tomorrow's Growth: 2001 Insights*. International Energy Agency/OECD, Paris, France, October 2001.

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# Membership News

## NEW MEMBERS

Mr C Alcazar-Lopez, Cepsa  
 Mr O A Bekheit, Sudanese Petroleum Corporation  
 Mr A Bimson, Brentwood  
 Mr D R D Boote, London  
 Dr L Bottomley, Ashford  
 Mr D C Briggs, TotalFinaElf UK Limited  
 Eur Ing A D Burchmore, Toyo Kanetsu (M) Sdn Bhd  
 Lt Col N P Challis, Colchester  
 Mr H Dattatreya, Vopak Oil Logistics  
 Mrs N Dawson, The Boston Consulting Group  
 Mr D Doig, OPITO  
 Mrs A Douglas, Retail Petroleum Services Limited  
 Mr P Ellis, The Boston Consulting Group  
 Mr E Enyina, Ibeno Gas Limited  
 Dr G Fish, GKN Technology Limited  
 Mr M Fulwood, Energy Markets  
 Mrs S T Grayson, Aberdeen  
 Dr I Greig, PriceWaterhouseCoopers  
 Eur Ing S Hancock, Federation of Petroleum Suppliers Limited  
 Mr R C Hutcheson, Cameron Associates  
 Miss H Ijewere, HBBE Consulting Limited  
 Mr A E Iwuji, Petroleumchial  
 Mr R C Jacklin, GP Shipping  
 Mr A Kedilerli, London  
 Mr B E Knowles, Clyde & Company  
 Mr Y Koothayan, Malaysia  
 Mr M Kuncir Unipetrol  
 Dr E Leon, IBM United Kingdom Limited  
 Mr S Martin, Lympham  
 Mr T Mondrup, Dansk Olie OG Natural Gas A/S  
 Mr K Murray, PriceWaterhouseCoopers  
 Chief E W Ndarake, Ibeno Gas Limited  
 Mr D Nelson, The Boston Consulting Group  
 Mr A O'Brien, Ondeo Nalco Energy Services  
 Mr P O'Brien, Morgan Stanley Dean Witter  
 Mr B O'Cathain, Enterprise Energy Ireland Limited  
 Mr G Odusanya, London  
 Mr K J Poole, SAIC Limited  
 Mr J Pope, London  
 Mr R Quin, France  
 Miss Z A Reeve, Gaffney, Cline & Associates  
 Mr M A Rosen, London  
 Mr R W M Ross, Ross Deeptech Initiatives Limited  
 M B Schnittler, UPEI  
 Mr M Shea, Serco Gulf Engineering Limited  
 Mr R Shute, Cyprus  
 Mr M C Skidmore, Aberdeen  
 Mr C R Speh, Oakley  
 Mr D M Stuart, Gaffney, Cline & Associates  
 Mr A J Sylvester, Farnham  
 Mr R Sylvester-Evans, RSE Consultants Limited  
 Mr V Tobl, London

Mr A R Tyas, Fleet  
 Mr D G Wilkins, BP Oil  
 Mr R R Wiseman, Stroud

## STUDENTS

Miss B O Asenuga, Edinburgh  
 Miss J M Preston, Plymouth  
 Mr G Sidemen, Dundee  
 Mr P Vlachakis, London

## DEATHS

	Born
Mr G Armstrong	1931
Mr G H Astin	1937
Mr R H Felton	1947
Mr R J Geddes	1917
Mr A J Holden	1943
Mr J L Hopkinson	1929
Mr D M Lane	1932
Mr F J Relton	1934
Mr T Rielly	1932
Mr R S Murray	1925

## GOLDEN ANNIVERSARY

Mr B J Boland, FlinstPet  
 Mr N G Bostock, FlinstPet  
 Mr W Bradley-Bryan, FlinstPet  
 Mr M Bradley-Kidd, FlinstPet  
 Mr P D S Bushe, FlinstPet  
 Mr A G Cox, FlinstPet  
 Mr G W Crayston, FlinstPet  
 Mr J D Duggan, FlinstPet  
 Mr R A A Duncan, FlinstPet  
 Mr E G Everett, FlinstPet  
 Mr G F Gatward, FlinstPet  
 Mr G N Harrop, FlinstPet  
 Mr K B G Hay, FlinstPet  
 Mr H Hoog, FlinstPet  
 Mr A J Kent, FlinstPet  
 Dr P J King, FlinstPet  
 Mr P H S Kirkaldy, FlinstPet  
 Mr A J Littlewood, FlinstPet  
 Mr G McCourt, FlinstPet  
 Mr W C Spikins, FlinstPet  
 Dr F A Swain, FlinstPet  
 Mr P D Wheatley, FlinstPet  
 Mr W R Williamson, FlinstPet

## OBITUARY

### Dr Neil Smith MInstPet

The Institute of Petroleum regrets to announce the death of Dr Neil Smith, a former Chairman of the IP Microbiology Committee. Neil passed away peacefully on 1 January 2002.

He was one of a few microbiologists who specialised in the study of microbial spoilage of petroleum products, in particular pioneering research into the importance of bacterial polymers as spoilage agents of middle distillate fuels. He set up and ran



the Biodeterioration Centre within the University of Hertfordshire that provided microbiological testing and consultancy services to industry. From there, he was involved in the development of numerous test methods for the investigation of microbial fuel spoilage including some which are now adopted as IP standards.

Neil was President of the International Biodeterioration Society from 1981–1983. He was a long-time member of the IP's Microbiology Committee and acted as Chairman from 1998 to 2001. He was also a member of the IP's Environment Management Group. He retired from the University in 2000, but continued as Committee Chair until his struggle with pancreatic cancer forced his retirement in 2001. He was presented with a Certificate of Appreciation for his work for the IP in August last year. He will be fondly remembered in particular for the congenial and friendly manner in which he ran the Committee.

Our thoughts go to his wife Joan and sons Charles and Rick.

### London Branch Activities

#### 12 March

17.15 AGM, and

18.00 *What's Happening to Waste Oil?*  
by Roger Creswell and Chris Williamson

#### Contact

Ian K Robinson, +44 (0)1932 783774

### Midlands Branch Activities

#### March (TBA)

*Seminar on Tanker Operations* (in  
association with Stanlow Branch)

#### Contact

Margaret Ward, +44 (0)1299 896654



### New publications

## Calculations in support of IP 15: The area classification code for petroleum installations

This report addresses uncertainty in dispersion distances determined by the methodology used in the IP publication *A Risk-Based Approach to Hazardous Area Classification*, 1998, following a release containing droplets or a mist. It also examines flammability limits, evaporation from pools, open sumps and interceptors, and releases into confined areas.

The report provides a record of the calculations, methodology and assumptions used to derive dispersion distances with improved confidence; this provides a traceable scientific basis that will be applied to the 2<sup>nd</sup> edition of IP publication *Model Code of Safe Practice Part 15: Area Classification Code for Petroleum Installations* 1990. Specifically, it provides a methodology and physical basis for deriving parameters such as characteristics of two-phase releases; shape factors for pressurised releases; flammability limits and hazards arising from particular fluid types. The report also evaluates hazard radii, vapour composition and similar issues.

**The report will be of interest to safety practitioners who need to demonstrate the basis for their area classifications and to derive specific fluid and process dependent values in a consistent manner.**

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**For further information please contact the IP Publications Department on +44 (0)20 7467 7100**



# EVENTS

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Details: Royal Institute of Naval Architects, UK  
Tel: +44 (0)20 7235 4622  
Fax: +44 (0)20 7259 5912  
e: [conference@rina.org.uk](mailto:conference@rina.org.uk)  
[www.rina.org.uk](http://www.rina.org.uk)

#### 14 W. Yorkshire

*Road Tanker Transport - New Concepts*  
Details: Federation of Petroleum Suppliers and the Institute of Petroleum, UK  
Tel: +44 (0) 1565 631313  
Fax: +44 (0) 1565 631314  
e: [vc@fpsonline.co.uk](mailto:vc@fpsonline.co.uk)

#### 17-20 Birmingham

*Convenience Retailing*  
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e: [cust.serv@informa.com](mailto:cust.serv@informa.com)

#### 17-22 Prague

*The Gas Chain (TGC) - From Reservoir to Burner Tip*  
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Fax: +44 (0)20 7650 1431/1401  
e: [events@economatters.com](mailto:events@economatters.com)  
[www.alphatania.com](http://www.alphatania.com)

#### 18-19 Houston

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Fax: +44 (0)1932 893893  
e: [cust.serv@informa.com](mailto:cust.serv@informa.com)

#### 18-20 London

*Energy and the Middle East*  
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Fax: +44 (0)20 7321 2045  
e: [conferences@riia.org](mailto:conferences@riia.org)

#### 20 Aberdeen

*The Oil and Gas Industry: How to Exploit Biotechnology*  
Details: BIO-WISE, UK  
Fax: +44 (0)1235 433453  
e: [leigh.mapledoram@aeat.co.uk](mailto:leigh.mapledoram@aeat.co.uk)  
[www.dti.gov.uk/biowise](http://www.dti.gov.uk/biowise)

#### 20 Manchester

*Transport of Dangerous Goods for Health Professionals*  
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e: [kateg@pira.co.uk](mailto:kateg@pira.co.uk)  
[www.piranet.com](http://www.piranet.com)

#### 20-22 London

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[www.smi-online.co.uk/oilrefining.asp](http://www.smi-online.co.uk/oilrefining.asp)

#### 25-1 Cambridge

*Price Risk Management in Traded Gas and Electricity Markets*  
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Tel: +44 (0)1420 22862  
Fax: +44 (0)1420 22863  
e: [learning@invincible-energy.com](mailto:learning@invincible-energy.com)  
[www.invincible-energy.com](http://www.invincible-energy.com)

#### 20-22 London

*Cross-Border Oil & Gas Pipelines*  
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Fax: +44 (0)1932 893893  
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[www.ibcenergy.com/fg109](http://www.ibcenergy.com/fg109)

### APRIL 2002

#### 3-5 London

*Maritime World 2025*  
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[www.piranet.com](http://www.piranet.com)

#### 6-11 Qatar

*Middle East Oil and Gas Week*  
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Tel: +65 226 5280  
Fax: +65 226 4117  
e: [info@cconnection.org](mailto:info@cconnection.org)

#### 8-9 Connecticut

*Connections to Commercialism*  
Details: Business Communications Company, USA  
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e: [publisher@bccresearch.com](mailto:publisher@bccresearch.com)

#### 8-10 London

*ERTC Environmental Conference*  
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#### 8-10 Noordwijk

*Gasification: The Clean Choice for Carbon Management*  
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Fax: +44 (0)1788 534407  
e: [mroyce@icheme.org.uk](mailto:mroyce@icheme.org.uk)

#### 8-10 York

*International Conference on Fluid Sealing*  
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Tel: +44 (0)1234 750422  
Fax: +44 (0)1234 750074  
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#### 9-12 Paris

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# MOVES

## People

Royal Dutch Petroleum Company has announced that **L C van Wachem** is to relinquish his position as Chairman of the Supervisory Board on 30 June 2002. He is to be replaced by **A G Jacobs**, who has been a Member of the Board since 1998. It is also proposed to appoint **Professor H S Markl**, President of Max-Planck-Gesellschaft in Munich, to the Supervisory Board, and to re-appoint **Jonkheer A A Loudon** to the Board. It is also planned to appoint **Malcolm Brinded** as a new Managing Director of the Company, and as Presidium of the Board of Directors of Shell Petroleum NV and a Managing Director of The Shell Petroleum Company Limited, thereby making him a Group Managing Director of the Royal Dutch/Shell Group.

**W Douglas Ford**, Chief Executive Downstream is to step down from the BP Board on 31 March 2002. His Board responsibility will be assumed by **Rodney Chase**, BP Deputy Chief Executive.

Ram Energy, the Sunderland-based environmental technology company, has appointed former UK Minister for Energy **Lord Fraser of Carmyllie QC** as its Chairman.

**Mike Hulse** (right), Murco Managing Director for seven years, is to return to the company's US headquarters to take up the position of President, Murphy Oil USA. **Stephen Wylie** has been appointed as President of Murphy Eastern Oil Company and Managing Director of Murco Petroleum in the UK.



**Igor Bavec**, the Slovenian Minister for European Affairs and Vice President of the ruling Liberal Democrats, has been appointed Chairman of fuel trader Istrabenz.

**Dr Andrew Armour** stepped down as Exploration Director of Enterprise Oil last month. Group Exploration Manager **John Crowle** has assumed Dr Armour's responsibilities until a permanent successor is appointed.

**Jim McDonald**, Australian Pipeline Trust Chief Executive, has been elected as the new President of the Australian Pipeline Industry Association (APIA).

**Dr Mary L Fleming**, Director of Programs at the American Statistical Association for the past three years, has been named Executive Director of the Tulsa-based Society of Exploration Geophysicists (SEG).

The Institute of Marine Engineering, Science and Technology has elected **Simon Rickaby**, a Senior Executive Officer of Milford Haven Port Authority and Managing Director of DV Howells, as its new President. He is to take over the one-year Presidency from **Professor Tom Ruxton** on 7 March 2002.

CMG has appointed **Matthew Emmins** an Associate Director of Sales to focus the company's expertise in supply chain optimisation, energy trading and risk management within the oil, gas and utilities industries.

**Nick Candela** has joined Paragon Engineering Services of Houston as Manager of Project Controls.

Elfab, the UK-based pressure-relief systems manufacturer, has appointed **Russell Trotter** (right), former Engineering Manager at Viasystems Group, as Director of Manufacturing. **Stephen Grinsell**, previously Commercial Manager at Corus Northern Engineering Services, has been appointed Sales & Marketing Director.



UK energy regulator Ofgem recently appointed two new Directors – **Iain Osborne** has taken up the post of Director of Supply and **Maxine Frerk** is Director of Coordination and Metering. **Nick Fincham**, previous Director of Supply, moved to the post of Director of Gas Trading Arrangements on the departure of **Steve Smith** who has left Ofgem to take up a new post with AEP Energy Services.

The Society of Petroleum Evaluation Engineers (SPEE) has announced the following new Officers for 2002: President, **Marilyn Wilson** of H J Gruy and Associates, Houston; Vice President, **Mark Doering** of Classic Oil & Gas; and Secretary/Treasurer, **Charles Gleeson** of Charles W Gleeson Inc.

**A H (Ton) Spoor** has stepped down as Chairman of the Executive Board of Vopak. The Supervisory Board has appointed **G E (Gary) Pruitt** as his replacement.

Two ChevronTexaco Executives have been appointed to the Board of Directors of Dynegy – **Glen Tilton**, Vice Chairman of the Board of ChevronTexaco and former Chairman and CEO of Texaco, and **John Watson**, Vice President and Chief Financial Officer of ChevronTexaco.

Alto Technology Resources, a leader in hyperspectral remote sensing imaging, has named **Barbara J Dunn** as Chief Executive Officer of the Houston-based company. **Dr Alfredo Prelat** has been appointed President and Chief Technology Officer.

**Dr Kirsi Tikka** has joined ABS as Vice President Engineering for ABS Europe while **William J Sember** has been named Vice President Offshore Development for ABS. A number of other executive appointments have been made at the company: **Dr Donald Liu**, Executive Vice President & Chief Technology Officer; **Robert J Bauerle**, Senior Vice President & Chief Financial Officer; **Gary A Latin**, Senior Vice President & Chief Information Officer; and **Vincent F Roth**, Senior Vice President & Chief of Staff. **James C Card** has been promoted to Senior Vice President of Technology.

Oklahoma-based Williams has promoted President and Chief Operating Officer **Steven Malcolm** as its new Chief Executive Officer.

EOTT Energy Partners' Board of Directors has announced that **Dana Gibbs**, President of EOTT Energy Corporation, General Partner for EOTT, has been elected to the additional position of Chief Executive Officer for EOTT Energy.

Oil services company UWG Group has appointed **Tom Leeson** as General Manager of the Equipment, Sales and Rental (ESR) Division, and **Duncan Fell** as Technical Sales Engineer.



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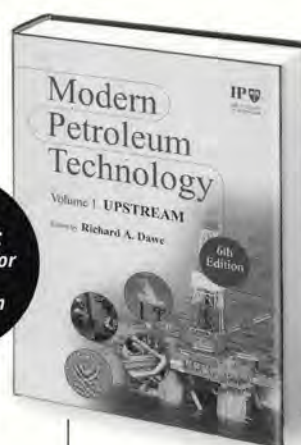
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# THE ENVIRONMENT AND THE OIL INDUSTRY

17 APRIL 2002

ABERDEEN UNIVERSITY, ABERDEEN

Jointly organised by the Petroleum Exploration Society of Great Britain (PESGB), the Institute of Petroleum (IP) and the Division of Environmental Geosciences this one-day series of talks by key industry and environmental experts will address global issues as well as those more specific to the North Sea. The seminar aims to give a pragmatic and open view of the problems and solutions concerning the environment. The morning session will be concerned with the more global topics, while the afternoon session will focus on local issues.

The seminar will be of interest to • other users of the seas • environmental groups • government authorities • those considering a career in the oil industry • anyone wanting an introduction to the offshore environmental agenda and its future outlook.

### Speakers and topics include:

- Richard Hardman (Convenor)  
*The importance of the oil industry to the world*
- Geoff Bolton (University of Edinburgh)  
*Problems caused by oil and gas*
- Alex Haxeltine (Tindall Centre)  
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- Ian Silk (Shell)  
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- Department of Trade & Industry  
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