## International Gas APRIL 2006 INTERNATIONAL GAS UNION





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## International Gas APRIL 2006

## The IGU Magazine

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### Vision, Mission and Objectives

The International Gas Union (IGU) is a worldwide, non-profit organisation promoting the progress of the gas industry. Through its many member countries representing approximately 95% of global gas sales, IGU covers all aspects of the natural gas industry.

#### The Vision

Recognising that natural gas has an important part to play in satisfying the global need for an environment-friendly energy source, IGU will be the most influential, effective and independent non-profit organisation, while serving as the spokesman for the gas industry worldwide.

#### The Mission

IGU will actively, directly and through its members, promote the technical and economic progress of the global gas industry.

IGU will work towards improving the competitiveness of gas in the world energy markets. By promoting the development and application of new technologies and best practices, IGU will help optimise the economics of the entire gas chain, while emphasising sound environmental performance, safety and reliability.

IGU – serving as a global information clearing house – will promote transfer of technology and know-how.

In carrying out this mission, IGU will maximise value to its members and gas customers.

#### Objectives

In striving towards the vision and fulfilling the mission, IGU will regarding:

ECONOMY: Promote all activities within the entire gas chain, which can add to the technical and economic progress of gas;

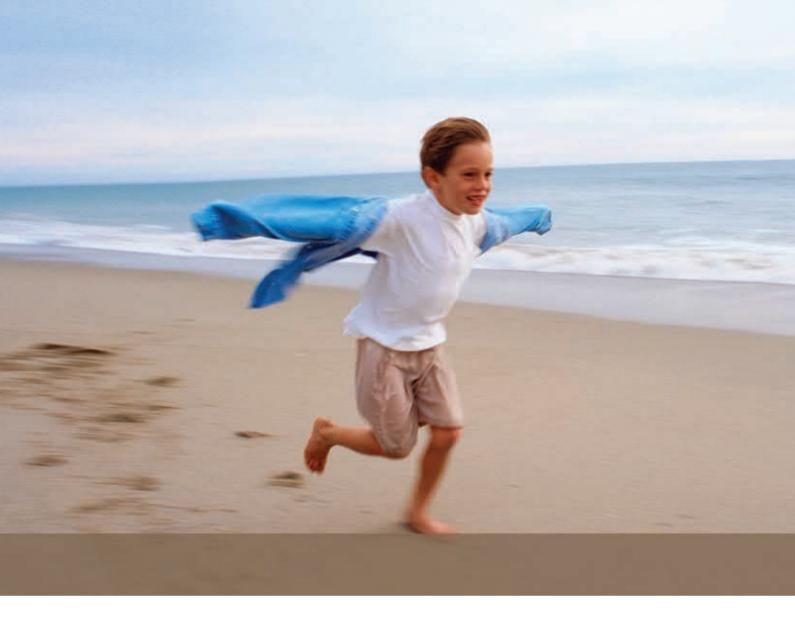
CUSTOMERS: Encourage development of good customer services and customer relations;
TECHNOLOGY: Encourage research and development towards new and better technologies for the gas community;
SAFETY: Promote the safe production, transmission, distribution and utilisation of gas;

ENVIRONMENT: Encourage and promote development of clean technology, renewable energy applications and other activities, which will add to the environmental benefits of gas; INTERNATIONAL GAS TRADE: Encourage international trade in gas by supporting non-discriminatory policies and sound contracting principles and practices;

LEGAL: Promote and contribute to the development of legislation concerning:

- the establishment of equitable, nondiscriminatory and reasonable environmental and energy efficiency regulations, and
- efforts to establish appropriate and relevant international standards, as well as
- the promotion of and participation in the exchange of information relating to regulatory processes;

COOPERATION: Enhance partnership with industry and manufacturers, and cooperation with governments, policy makers and international energy related organisations, and promote the exchange of information among members in order to help them in improving the efficiency and safety of gas operations.



This is where we'll find our future energy sources.

In the open mind.

Perhaps it'll be the wind.

Perhaps the waves. Or perhaps it'll be something that no one has yet thought of. The only thing that's certain is that a viable society is dependent on a stable energy supply. From 2007, the new Norwegian gas field Ormen Lange will deliver 20 percent of Britain's total gas requirements. The gas will be transported through the new 1,200 km long Langeled pipeline, running from Norway to Easington in England. This way, we contribute to ensuring future gas supplies to the UK.

Hydro is a Fortune 500 energy and aluminium supplier, founded in 1905, with 36,000 employees in nearly 40 countries. As we look forward to our next 100 years, we celebrate a century of creating value by strengthening the viability of the customers and communities we serve.





BP is one of the world's leading LNG companies – and we're growing. We participate in projects that provide around 30 percent of total world supply – in Abu Dhabi, Australia, Indonesia and Trinidad – with new ones underway. We are the largest producer of gas for liquefaction for the US. And we supply and source LNG for our customers, often at short notice, using some of the newest LNG ships from our merchant fleet. We also have access to great LNG markets founded on relationships developed over many years in Europe, South Korea, Japan, Taiwan, the US and China where we are the only foreign participant in the country's first LNG import terminal.

It's a portfolio that helps us ensure the right resources target the right markets at the right time. And it's a portfolio that can help add value for our partners and customers as well.

If you would like to find out more, why not call us or visit our website: www.bp.com/lng





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Unless otherwise stated, the dollar (\$) values given in this magazine refer to the US dollar.



### Message from the President

#### Dear Colleagues

Looking back at the past years of this Triennium that started with the slogan "Natural Gas, Powers the People, Preserves the World, Promoted by IGU", we can be proud of our industry's achievements. The speeches, panel debates, committee sessions and expert forums during the 23rd World Gas Conference in June will detail the "state-ofart" of natural gas developments. It was a pleasant surprise to see that abstracts for papers have been submitted by researchers from two non-IGU member countries, Colombia and Mexico, showing that acknowledgement of IGU as the platform for sharing opinions with colleagues from the industry is gaining ground in all countries where natural gas is an important primary energy source. Hopefully the Union's membership will continue to increase

I think it is worthwhile to start this message, which will be my last one before the Presidency of IGU passes to Mr Ernesto Lopez Anadón of Argentina on the final day of the World Gas Conference, to mention briefly a few key topics that are likely to feature in the WGC's debates.

#### Gas projects

All workers in the gas industry can be proud of the way in which the major difficulties caused by natural disasters – in particular the hurricanes – were handled and resolved. Within a very limited time the damage was brought under control. And not only because "time is money", but also because of a deep-rooted will to serve the customers as well as possible even if nature does not cooperate.

Our industry can also be proud of its record of new upstream projects, many in cold and remote areas: the Norwegian Snøhvit field; Sakhalin, Shtokman and other developments in Russia; and the related transport facilities like LNG carriers and receiving terminals and long-distance pipelines. Deep-sea projects are underway west of Africa, in the Caribbean and east of the South American continent. Qatar is ramping up its LNG production. They are showcases of ingenuity, determination and sound and capable professional skills. All are managed with deep respect for safety and for human capital as well as financial capital.

Safety is of utmost importance for our workers, for our businesses and to gain and maintain public acceptance of pipeline and LNG terminal construction. Only with an excellent safety record can we expect to obtain the necessary permits. The licence to operate is difficult to get and easy to lose!

Unconventional gas sources such as gas hydrates and coal-bed methane are still in their infancy, although some concrete plans for the latter have been devised in China and the USA. Recent technological improvements have centred on reducing costs in the LNG chain and 3-D seismic imaging.

#### Security of supply and market model

The gas world is becoming convinced that security of supply is closely coupled with geo-politics. But sometimes it is difficult even for a watcher of the gas industry to discern between geo-political causes and their effects and (poor) commercial relations between gas companies. From this it seems clear that the better the gas industry is at managing commercial relations, the greater the chances will be that the consumer is not troubled by problems or perceived problems in supply.

Crucial for a fruitful development of the gas industry are the relations between governments that issue exploration and production licences in the gas-rich areas of the world and those of the gas-consuming nations. Although the gas trade is globalising and becoming more market-oriented than ever before, we can expect gas field development and the possibility of contracting gas deli-



veries on a long-term basis to remain dependent on a good relationship between the exporting nation and the importer.

Consumer markets are increasingly organised on the assumption that the end customer is best served with more competition, resulting in the lowest possible price. However, the question is to what extent this model will function smoothly in a world with a prolonged sellers' market. In liberalised markets regulation forces gas companies to split trading and transport activities into separate legal entities, with networks open to third parties. In this model long-term contracts seem to be regarded with suspicion.

The gas-exporting nations require secure outlets for their gas to finance exploration and production; the importing nations need a growing volume of secure deliveries.

The challenge for regulators and governments of gasimporting nations will be to find a balance between the right use of long-term contracts to ensure sustainable supply from distant reserves and competition between regional gas companies.

If entering into long-term purchase and transport contracts is jeopardised, the gas producer could find itself in a position of selling gas at the border of a country on a short-term basis, bearing the volume risk as well as the price risk.



George H. B. Verberg, President.



#### Market developments and WGC2006

Over the current Triennium energy prices have soared, but demand for energy has continued to rise in line with long-term forecasts. As the energy business is inextricably bound up with very long lead times, from a technical point of view as well as from the legislative side, one IGU Triennium is not enough to show a move, visible in statistics, to alternatives or to more emphasis on energy conservation. We might however expect some movement away from gas in the power generation market, a movement limited in volume as long as the CO<sub>2</sub> penalty is still moderate.

From a recent study on the possible sources of energy conservation in The Netherlands, it is evident that a general applicable measure affecting natural gas sales is in the domestic domain, where home insulation will have the most impact on gas consumption. This will take effect only over time, as building life is usually 100 years or more and renovation on a large scale is viable only once every 25 to 50 years. Individual conservation measures of this kind represent a small percentage of annual gas consumption, but their cumulative global effect can result in significant fuel savings.

In industry, the current costs of energy might be the driving force to implement conservation measures with short pay-out times, or to relocate production to areas with abundant gas and oil supplies. Relocation of course does not influence the global energy demand.

Long lead times are also dominating research and development of new gas applications. Fuel cells, distributed electricity generation, biogas and carbon sequestration are still on the researchers' agendas just as these topics were during



All workers in the gas industry can be proud of the way in which the major difficulties caused by natural disasters were handled. In the aftermath of Hurricane Rita in September 2005, a crew works to contain waters next to the Henry Hub in Erath, Louisiana, which is the centralised point for natural gas futures trading in the US.



WGC2003. There is progression, but large-scale application is still distant.

Sustainable Urban System
Design will also be discussed
again at the WGC. The
results of the international
collaborative project "Bridging to the Future" will be
presented and it is expected
that more concrete advice on
city developments can be
given to city planners than in
the previous WGC.

Natural gas vehicles have been gaining ground as more car manufacturers deliver NGVs off the shelf, stimulated in Europe by the desire of governments to diversify automotive transportation fuels towards less oil dependence. Another way this goal could be reached

is by converting natural gas into diesel-like fuel using gas-to-liquids (GTL) technologies and dimethyl ether (DME). For oil companies this represents an opportunity to monetise stranded gas resources.

The Panels on Research, Marketing, NGVs and Other Fuels at WGC2006 will elaborate on these issues.

#### Organisation of IGU

IGU's membership has shifted from solely national bodies to a steadily growing number of companies and organisations. The liberalising gas market allows companies to explore new market opportunities and this is reflected in our organisation. We now have 22 Associate Members who are entitled to have three representatives on the 23-member Executive Committee, which governs IGU in accordance with the aims and means fixed by the Council.



Home insulation is likely to have the most impact on residential gas consumption.

#### World Gas Conferences

We congratulate the Malaysian Gas Association on its election at IGU's Council meeting in October 2005 to assume the Presidency of the Union from 2009 and organise the 25th WGC in 2012.

Meanwhile, our colleagues in Argentina have started preparing the Work Programme for the next Triennium, culminating in the 24th WGC in 2009 – the first ever in Latin America. We are all looking forward to their proposals that will be presented on the last day – June 9 – of the 23rd WGC in Amsterdam, where I expect to meet many readers of this Magazine.

godowy.

George H.B. Verberg

# We Power Gas Growth



World's Largest LNG Producer from a Single Location ...

**Second Largest Owner of LNG Production Capacity ...** 

World's Single Largest Owner and Operator of LNG Fleet

And Interests in more than 10,000 km of natural gas pipelines worldwide ...

That's Malaysia - meeting 21 per cent of total global LNG needs with its annual export of 23 million tonnes per annum of LNG to Japan, Korea, Taiwan, the United States of America and Europe. Spearheading this development of the nation's gas industry is Malaysia's very own integrated oil and gas multinational corporation, PETRONAS.

Listed on the Fortune Global 500, PETRONAS, with presence in more than 30 countries and over 30 years of solid experience in petroleum operations, has distinctive competencies, particularly in oil and gas exploration and production, gas pipeline network system and LNG operations including LNG shipping. Our subsidiary, MISC is the world's largest single owner-operator of LNG tankers and has earned a strong reputation for safe,

efficient and timely deliveries worldwide. Backed by more than 20 years of reliable LNG deliveries, PETRONAS continues to chart milestone achievements overseas, notable among which, is the successful completion of our joint venture Egyptian LNG project that came on stream four months ahead of schedule in May 2005.

Recognising gas as an important source of clean and efficient energy, in driving progress and growth for the betterment of society, PETRONAS remains committed to the sustainable development of the global gas industry. Our continuous research and development efforts undertaken by the PETRONAS Gas Centre in supporting our dynamic and growing gas business is testament of this commitment.

With such track record and proven capabilities, Malaysia, via the Malaysian Gas Association, the Malaysian Charter Member of IGU, and supported by PETRONAS, was elected to assume the International Gas Union (IGU) Presidency for the 2009-2012 triennium. For the first time, Malaysia will host the 25th World Gas Conference (WGC), in 2012 at the state-of-the-art Kuala Lumpur Convention Centre, bringing WGC to Asia for the second time since 2003.

See you in Kuala Lumpur in 2012!





### Message from the Secretary General

#### Dear Reader

This is now the fifth time that I have had International Gas distributed worldwide to IGU members, other energy organisations and the relevant authorities.

I welcome feedback and one criticism I have received from several quarters is that it has been difficult to distinguish one copy from the next as only the date changed. The aim was to stress continuity. As you can see from the cover of this issue, I have taken these comments onboard and asked the Art Director to produce a new design while retaining the colours and certain elements to give us continuity. I hope you like it and please keep your comments coming.

#### 75 years

In 2006 we are in the pleasant position of celebrating the 75th anniversary of the foundation of IGU. When the British Institution of Gas Engineers held its 68th Annual General Meeting in London on June 2, 1931, a large number of representatives from other gas countries participated because, after several years of discussions, it had been decided that this meeting in London would also constitute the first International Gas Conference. Later in the day the first IGU Council meeting was held.

You can read more about the beginnings of IGU in a special section of this Magazine, which contains some historical articles and also a look forward to what the gas market is forecast to look like on IGU's 100th anniversary.

The article on the foundation and early years of IGU draws on the memoirs of some of my predecessors. Indeed, when I took office, I was pleasantly surprised to find that all my predecessors



Peter K. Storm, Secretary General.

right from the start had produced yearbooks in black, red and gold with the essential reports, documents and minutes from the major IGU meetings of the year, a procedure that I naturally also follow. Browsing through those yearbooks it is clear that the founding fathers would not be able to recognise today's organisation.

For decades IGU focused on solving problems in relation to the production of gas in the local gasworks and distributing it, and the Union was very much a technical club. After the introduction of natural gas this gradually started to change, although technical issues remain of vital importance.

#### Vision

IGU started the 21st century with a new vision of becoming the most influential, effective and independent non-profit organisation speaking for the gas industry worldwide. This is an ambitious vision, but I believe that everybody will agree that we have



already achieved a lot and that IGU has become more visible than before. In the last Council meeting in October 2005, decisions were taken to strengthen the Secretariat in order to continue and improve on that process.

Although we have always had members from around the world, IGU was clearly dominated by Europe and North America in the last century. Now we can celebrate a change towards a truly global organisation. The Japanese Presidency in 2000-2003 meant that the World Gas Conference took place in Asia for the first time in 2003 and in a similar way the 24th WGC in Buenos Aires in 2009 will be a first for South America. Furthermore, as the President mentioned in his message, it is now decided that the 25th WGC in 2012 will take place in Kuala Lumpur. Do not say that IGU is not planning ahead!

Right now, however, we stay in Europe where the 23rd World Gas Conference in Amsterdam, starting a few days after the IGU birthday, in a number of ways will mark and celebrate this anniversary – both the good old days and the vibrant present ones.

You can certainly look forward to the Conference and Exhibition in June, and I look forward to meeting many of you there.

In the meantime I hope you will enjoy reading this new issue of the IGU Magazine.

Peter K. Storm



The 22nd World Gas Conference in Tokyo marked IGU's coming of age as a truly global organisation.



## **Countries Represented in IGU April 2006**

Algeria Egypt Estonia Argentina Australia Finland Austria France Bangladesh Germany Belarus, Republic of Greece

Belgium Hong Kong, China Bolivia Hungary

Bosnia and Herzegovina India Brazil Indonesia Brunei Iran

Cameroon Ireland, Republic of Canada Israel

Italy

Japan

Kazakhstan

Korea, Republic of

China, People's Republic of Croatia

Czech Republic

Denmark

Latvia Slovak Republic Lithuania Slovenia South Africa Malaysia Spain Monaco Netherlands, The Sweden Switzerland Nigeria Norway

Oman, Sultanate of

**Pakistan** Poland Tunisia

Portugal Turkey Qatar Ukraine

Romania Russia, Federation of

Saudi Arabia

Serbia and Montenegro

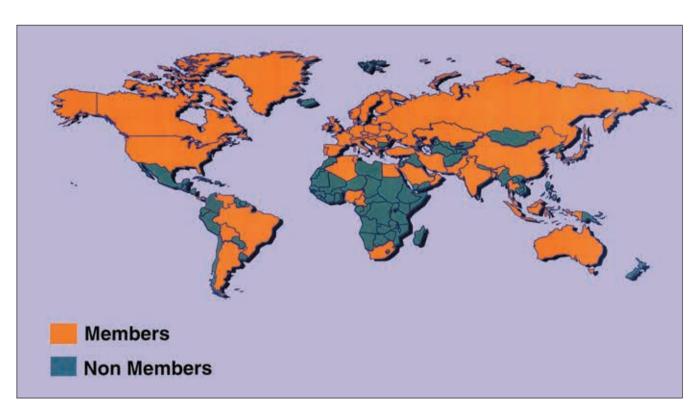
Singapore

Taiwan, China Thailand Trinidad and Tobago

United Arab Emirates United Kingdom

United States of America

Venezuela





#### **CHARTER MEMBERS**

Algeria

Association Algérienne de l'Industrie du Gaz – AIG

Argentina

Instituto Argentino del Petróleo y del Gas

Australia

Australian Gas Industry Trust c/o Energy Networks Association

Austria

Österreichische Vereinigung für das Gas- und Wasserfach (ÖVGW)

Bangladesh

Petrobangla (Bangladesh Oil, Gas & Mineral Corporation)

Belarus, Republic of Beltransgas Belgium

Association Royale des Gaziers Belges

Bolivia

Cámara Boliviana de Hidrocarburos

Bosnia and Herzegovina Gas Association of Bosnia and Herzegovina

Brazil

Associação Brasileira das Empresas Distribuidoras de Gás Canalizado (ABEGAS)

Brunei

Brunei LNG Sendirian Berhad

Cameroon

Société Nationale des Hydrocarbures

Canada

Canadian Gas Association

China, People's Republic of China City Gas Society

Croatia

Croatian Gas Association c/o INA Naftalin

Czech Republic

Czech Gas Association

Denmark

Dansk Gas Forening – Danish

Gas Association

Eavpt

Egyptian Gas Association

Estonia

Estonian Gas Association

Eurogas

Finland

The Finnish Natural Gas

Association

The American Gas Association congratulates the International Gas Union on its 75<sup>th</sup> Anniversary

We wish you a very successful World Gas Conference in Amsterdam.



The American Gas Association represents 195 local energy utility companies that deliver natural gas to more than 56 million homes, businesses and industries throughout the United States. Natural gas meets one-fourth of the United States' energy needs.



#### CHARTER MEMBERS (CONTINUED)

France

Association Française du Gaz (AFG)

Germany, Federal Republic of Deutsche Vereinigung des Gasund Wasserfaches e.V. (DVGW)

Greece

Public Gas Corporation of Greece (DEPA) S.A.

Hong Kong, China The Hong Kong & China Gas Co. Ltd

Hungary

Association of Gas Distribution Companies

India

Gas Authority of India Ltd (GAIL)

Indonesia

Indonesian Gas Association (IGA)

Iran

National Iranian Gas Company (NIGC)

Ireland

Irish Gas Association – Bord Gais Eireann

Israel

The Israel Institute of Petroleum & Energy

Italy

Comitato Italiano Gas (CIG)

Japan

The Japan Gas Association

Kazakhstan KazTransGas

Korea, Republic of Korea Gas Union

Latvia

Latvijas Gāze

Lithuania

Lithuanian Gas Association

Malaysia

Malaysian Gas Association c/o Petronas

Monaco

Société Monégasque de l'Électricité et du Gaz (SMEG)

Netherlands, The Koninklijke Vereniging van Gasfabrikanten in Nederland (KVGN)

Niaeria

Nigerian Gas Association c/o Nigeria LNG Ltd

Norway

Norwegian Petroleum Society (NPF) – Norwegian Gas Association

Oman, Sultanate of Oman LNG L.L.C.

Pakistan

Petroleum Institute of Pakistan

Poland

Polskie Zrzeszenie Inżynierów i Techników Sanitarnych (PZITS)

Portugal

GDP – Gás de Portugal, SGPS, S.A.

Qatar

Qatar Liquefied Gas Company Ltd (Qatargas)

Russia, Federation of JSC Gazprom

Saudi Arabia

Saudi Aramco – Shedgum Gas Plant Dept

Serbia and Montenegro Gas Association of Serbia & Montenegro

Singapore Power Gas Ltd

Slovak Republic

Slovak Gas & Oil Association

Slovenia Geoplin

South Africa CEF Ltd

Spain

Spanish Gas Association – Asociación Española del Gas (SEDIGAS)

Sweden

Svenska Gasföreningen – Swedish Gas Association

Switzerland

Société Suisse de l'Industrie du Gaz et des Eaux

Taiwan, China

The Gas Association of the Republic of China, Taipei

Thailand

PTT Public Company Ltd – Petroleum Authority of Thailand

Trinidad and Tobago

The National Gas Company of Trinidad and Tobago Ltd

Tunisia

Association Tunisienne du Pétrole et du Gaz (ATPG) c/o ETAP

Turkey BOTAŞ

Ukraine

Ukrainian Oil and Gas Academy /Naftogaz of Ukraine

United Arab Emirates Abu Dhabi Liquefaction Company Ltd (ADGAS)

United Kingdom

The Institution of Gas Engineers and Managers

United States of America American Gas Association

Venezuela

Petróleos de Venezuela S.A. (PDVSA)



#### ASSOCIATE MEMBERS

BP Gas, Power & Renewables (United Kingdom)

Bursagaz (Turkey)

Chevron Corp. (USA)

ConocoPhillips Company (USA)

Gaz de France (France)

IGDAŞ – Istanbul Gas Distribution Co. (Turkey)

Instituto Brasileiro Petróleo e Gás (Brazil)

Naturgas Fyn A/S (Denmark)

NV Nederlandse Gasunie (The Netherlands)

NV NUON Asset Management (The Netherlands)

PetroChina (People's Republic of China)

Petróleo Brasileiro S.A. – Petrobras (Brazil)

E.ON Ruhrgas AG (Germany)

Russian Gas Society (Russia)

RWE Gas AG/ RWE Energy (Germany)

Shell Gas & Power International B.V. (The Netherlands)

S.N.G.N. Romgaz S.A. (Romania)

Suez S.A. (Belgium)

TBG – Transportadora Brasileira Gasoduto Bolívia-Brasil S/A (Brazil)

TOTAL S.A. (France)

Unión Fenosa Gas (Spain)

Union of Independent Gas Producers (Russia)

## There is a company in Turkey, serving natural gas distribution business in world standards.



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We are subsidiaries of Çalık Holding which is a group of companies engaged in the businesses of textile, energy, construction, financial services and trade

Our job is to deliver natural gas safely and reliably to our customers in Bursa. The city is one of the most important industrial centers in Turkey. Bursa, with 1.5 million population, has a potential of using 4 billion m³ of natural gas per a year. In a short period of time, we became the third biggest natural gas distribution company in nationwide. We offer a standardized service to consumers with the latest technology and with our professional team.

The certificates of ISO 9001 Quality Management System, ISO 14001 Environmental Management System, OHSAS 18001 Occupational Health and Safety Management System are the proof of our success in quality management.

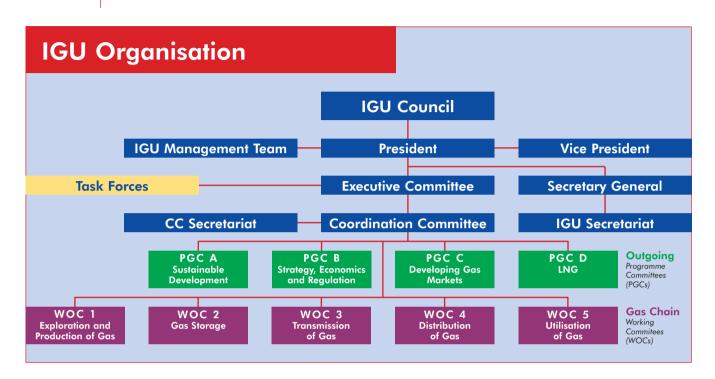
We are focused on meeting our customers energy needs in an environmentally responsible manner. We know that today's operations affect tomorrow's environment. Therefore, we want to leave a green environment for the next generations.













The IGU Secretariat is currently hosted by the Danish energy company DONG in its offices in Hørsholm outside Copenhagen.



#### IGU MANAGEMENT TEAM



Mr George H. B. Verberg, IGU President (Chairman) (The Netherlands)



Mr Ernesto Lopez Anadón, IGU Vice President (Argentina)



Mr Hiroshi Urano, Immediate Past President (Japan)



Mr Bert Panman, Chairman of IGU Coordination Committee 2003-2006 (The Netherlands)



Mr Roberto D. Brandt, Vice Chairman of IGU Coordination Committee 2003-2006 (Argentina)



Mr Peter K. Storm, Secretary General

#### IGU EXECUTIVE COMMITTEE 2003-2006 TRIENNIUM

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Mr Ernesto Lopez Anadón	Dr Eng. Domenico Dispenza	Mr Engbert (Bert) Panman	Dr Robert J. Harris United Kingdom
Argentina	Italy	The Netherlands	Mr John Kean Sr
Mr Roberto Daniel Brandt	Mr Hiroshi Urano	Mr Hans Riddervold	United States of America Mr Christian Beckervordersandforth Ruhrgas AG, Associate
Argentina	Japan	Norway	
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Mr Ole Nygaard Olsen	Mr Abdul Rahim Haji	Mr Alexander I. Lipatov	Member
Denmark	Hashim	Russia	M. Yves Tournié
M. Daniel Paccoud	Malaysia	Mr Pavol Janočko Slovak Republic	Total, Associate Member





### From the IGU Secretariat



Peter K. Storm, Secretary General.



Lisbeth Koefoed, Assistant to the Secretary General.



Lotta Hållén-Kragh, Secretary and Webmaster.

These pages feature news items and information from the Secretary General (PKS), his Assistant (LKO) and the Secretary and Webmaster (LHK). However, comments and suggestions of general interest from members or other organisations may also be displayed here. When submitting contributions to the Secretariat please ensure that any electronic pictures are supplied in a high resolution – 300dpi is the minimum required for print reproduction.

## Welcome to N.V. Nederlandse Gasunie and PetroChina

Endorsed by the Executive Committee, the IGU Council welcomed at its 2005 meeting in China N.V. Nederlandse Gasunie (Gasunie) and PetroChina as Associate Members of IGU.

Gasunie owns and operates The Netherlands' national high pressure gas transmission network. It became a standalone company wholly-owned by the Dutch state on July 1, 2005, as part of the progressive liberalisation of the country's energy sector.

PetroChina is the People's Republic of China's largest producer and transporter of crude oil and natural gas. It is represented in IGU by its subsidiary PetroChina Natural Gas and Pipeline Company.

IGU welcomes these two very important companies, who have pledged to become involved in the Union's work in the future.

IGU now has 22 Associate Members, which are listed on page 19.

PKS

#### IGU Autumn Session in Tianjin, People's Republic of China

The China City Gas Society assisted by China Gas Association organised a splendid venue for the IGU Autumn Session 2005 in the Tianjin Economic-Technological Development Area (TEDA), some 150 kilometres east of Beijing.

The Council meeting, which probably had the highest attendance in IGU's history, was a very important milestone in the recent development of the Union. Our Editor, Mark Blacklock, has filed a more detailed report, which you will find on pages 32-36 together with a picture gallery of the events.

PKS

#### Next IGU Council meeting

Traditionally IGU stages two Council meetings in the year of a World Gas Conference and the next



Wang Zehou (left), Deputy Director – Natural Gas of new Associate Member PetroChina, addresses the Council meeting on October 19, 2005.



Council will be convened on the morning of June 5, prior to the opening of the 23rd WGC in the afternoon. The main purpose of this meeting, which will be held in the Hotel Okura in Amsterdam, is to elect new officers for the 2006-2009 Triennium.

Whilst the Chairmen and Vice Chairmen of the nine standing IGU Committees have been elected already, at this time the Council will elect the President and the Vice President for the 2006-2009 Triennium and it will confirm the nomination of Chairman and Vice Chairman of the Coordination Committee (CC) as well as the CC Secretary. The Council will also confirm the election of a Deputy Secretary General to take office from July 1, 2006.

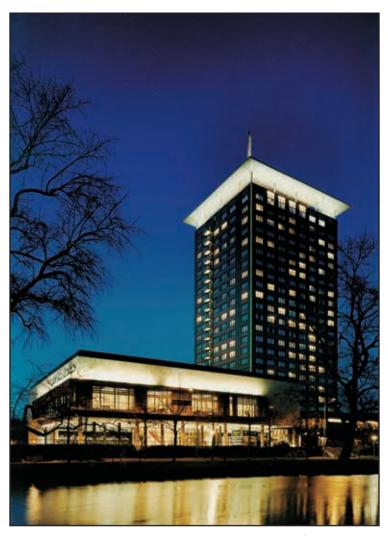
A new Executive Committee (EXC) will have to be established. The Council will confirm the nine nominations from the nine countries taking charge of the standing Committees and will also confirm the three representatives of the Associate Members nominated after election by the latter (see below). Finally, it will elect six countries and their nominated representatives. In the course of April I will be inviting all Charter Members, except those taking charge of the nine Committees in the next Triennium, to indicate interest in acquiring one of these six seats in the next EXC.



#### Associate Members' reps on EXC

According to the Articles of Association the Associate Members are entitled to nominate from among themselves up to three representatives from different countries to the EXC, where these representatives have speaking and voting rights. Since IGU now has 22 Associate Members, the latter can elect the maximum representation of three for the next Triennium.

The election will be conducted by the Secretariat by electronic means in the course of April and May. All Associate Members will receive a list of their fellow members and a voting paper by e-mail.



The venue for the June Council meeting is the Hotel Okura in Amsterdam.

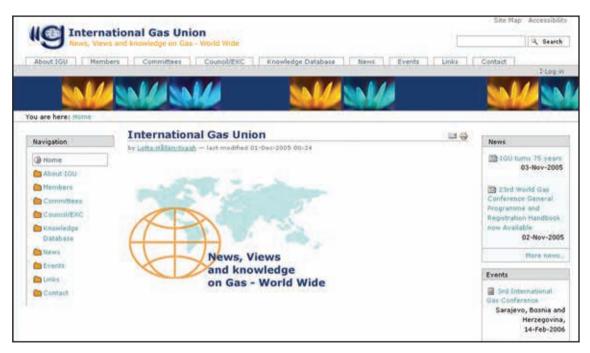
They will then have 14 days to return their voting papers with a maximum of three names to the Secretariat. After that the names of the winners will be communicated to Associate Members and presented to the Council for approval.

PKS

#### Start-up of the new Triennium

Obviously most of IGU's work right now is concentrated on the coming World Gas Conference in June, which is always the Union's biggest event. However, it is also important that the next Triennium





This draft page gives an impression of the new IGU website although there may be some changes as testing is still underway.

has a good and efficient start, so that we do not use too much time getting organised.

For some time the incoming Presidency from Argentina has been working on new Strategic Guidelines and a draft Triennial Working Programme (TWP). The EXC, meeting in New Delhi in February, approved the new Chairmen and Vice Chairmen of the nine standing IGU Committees and they all met shortly after in an informal meeting in order to get to know each other and to discuss the draft TWP.

The IGU Secretariat is now contacting all IGU members encouraging them to start the process of choosing the individuals who should join the different Committees in the next Triennium. The first meetings of the new Committees are scheduled to take place in the course of this autumn.

As indicated above the remaining IGU officers for the next Triennium will be elected at the beginning of the WGC in Amsterdam.

On the last day of the Conference (Friday, June 9) the new Presidency will present the draft TWP in

a special session with the aim of getting further input before it is finalised and presented to the Council for approval in October.

PKS

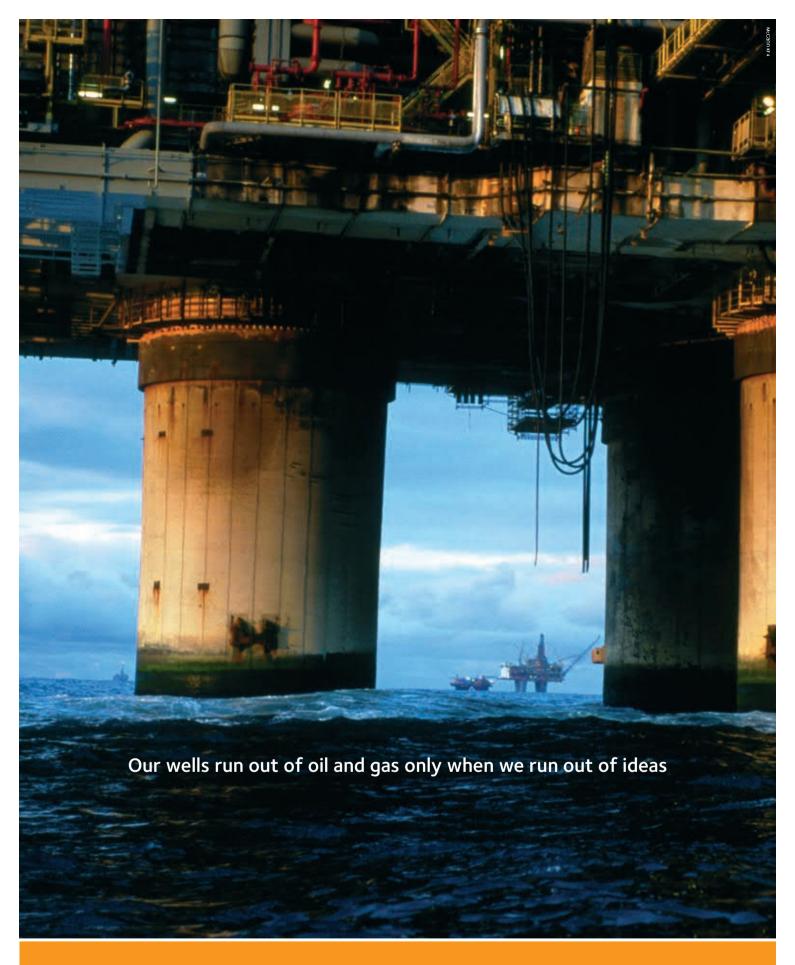
#### Dates of the IGU 2006 Autumn Session

The first ordinary Council meeting in the next Triennium is scheduled to take place in Lima, Peru. At the Council meeting last October we announced the tentative dates for this meeting to be October 23-26. It later turned out that this might clash with other important meetings as well as the Muslim festival of Eid al Fitr. At presstime we were looking at changing the dates to October 16-19. Readers are requested to check the IGU website under "Members only" and then "Council/Next meeting" for the latest information.

**PKS** 

#### Polishing-up the IGU website

Over the last few years the IGU website has become increasingly important to the Union's work and communications. At the beginning of this



Facing the world's growing demand for energy has become one of the biggest challenges of our time. In addition to finding and developing new oil and gas fields, it is crucial to recover as much oil and gas from the reservoirs as possible. Statoil is strongly dedicated to this approach and our efforts within improved oil recovery (IOR) have yielded excellent results, for instance an extra

1.5 billion barrels of oil from the Statfjord and Gullfaks fields alone. Statoil has also launched an extensive IOR strategy for increasing production from subsea fields, which present tremendous technical and operational challenges. When world demand for energy is rocketing, resources cannot be left underground.







LNG-15 will be held at the Barcelona International Conference Centre (CCIB).

Triennium the Dutch Presidency introduced the Collaboration Portal with a large number of special facilities, where the CC, Committees and Task Forces can upload and download their documents and in general communicate in designated "rooms" for each Committee. This has been a great asset for the work of IGU thanks to the efforts of the Dutch Presidency.

The IGU Secretariat is now redesigning the website to integrate the portal and improve accessibility. The new website is currently being tested and should be ready for general use from July 1. The address will of course remain the same: www.igu.org.

 $\mathsf{LHK}$ 

#### IGRC and IGM

Until recently the International Gas Research Conference (IGRC) and Intergas Marketing (IGM) were considered as "Organisations Affiliated to IGU" They are not any more. After decisions last year IGRC (now with the name IGU Research Conference) was re-organised under the auspices of the Union and is now considered as an IGU Specialised Research Conference. The new organisation was explained to you in the last edition of International Gas (see pages 23-25, October 2005).

IGM and IGU agreed last year to cooperate much more closely, and in the next Triennium IGM will become a specialised Committee known as the IGU Marketing Committee with its programme integrated into the next TWP.

In many ways the two specialised activities will operate in the same way as the traditional nine standing Committees of IGU, but they are "specialised" because they differ in a number of ways from the traditional Committees. In the case of IGM the new structure is still under debate taking into account that up to now IGM has been an independent organisation with its own





Constitution and assets. The detailed future structure of IGM will be described in a later edition of this Magazine.

PKS

#### LNG-15 preparations gather pace

The triennial LNG-X event is the premier LNG conference organised by the gas industry and LNG-15 will take place in Barcelona, Spain, April 24-27, 2007. The increasing importance of LNG is reflected in the fact that the exhibition space is already sold.

The deadline for abstracts was March 31 this year. You will be able to learn more about LNG-15 at the World Gas Conference in Amsterdam, and the Programme and Registration Handbook is expected to be ready shortly afterwards.

PKS

#### COP 11 a success

As usual IGU participated in the annual meetings of the United Nations Framework Convention on Climate Change (UNFCCC). The 11th session of the Conference of the Parties to the Convention (COP 11) took place at the Palais des Congrès in Montreal, Canada, November 28-December 9, 2005. This was also the first meeting of those nations who are parties to the Kyoto Protocol.

The meeting was considered a success because a number of tools to facilitate the work were agreed upon as was a timetable for discussing what should be done after 2012, when the Kyoto Protocol expires.

#### **DID YOU KNOW?**

- Close to 600 leaders and specialists from the worldwide gas industry are participating in the work of IGU in this Triennium.
- The IGU website www.igu.org is normally visited by some 6,000 people a month.
- You can still find a gallery of more than 50 pictures from the last World Gas Conference, held in Tokyo, Japan in June 2003, on the website.

IGU had a stand at COP 11 from which a large number of copies of *International Gas*, the programme for the WGC in Amsterdam and other information about IGU were distributed.

PKS

#### IGU Annual Report

The 2005 Annual Report has been published on the website under "What is IGU?"

There is no IGU tradition of issuing expensively printed reports for general circulation. We believe that this Magazine, appearing bi-annually and with 6,000 copies distributed around the world, is a better representative of IGU.

However, in order to have a record of information about the IGU organisation and activities the Secretariat prepares an Annual Report, which is also forwarded to the authorities in Vevey, Switzerland, where IGU is registered.

LKO



More than 10,000 delegates from 189 countries attended COP 11 in Montreal.

# Shell knows which way to go when it comes to LNG



# It has been leading the way for over forty years

Shell is a pioneer in the LNG industry with more than 40 years experience in LNG technology, production, shipping and marketing. Brunei LNG, in which Shell owns a 22.5% interest, has been producing LNG for some of the world's biggest markets since 1973 and has seen a capacity increase of 40% through innovative debottlenecking activities over its lifetime.

Today, Shell is the leading IOC with interests in LNG plants in Australia, Brunei, Oman, Malaysia and Nigeria that together produced approximately one-third (50 million tonnes/year) of the world's LNG production in 2004.

Shell Global Solutions, provider of technology and technical services to a number of Shell joint venture operations, has a 100% record in meeting design capacity with its LNG technology, while delivering a low unit cost

LNG. LNG plants where Shell Global Solutions is technical advisor set the industry benchmark in reduced  ${\rm CO_2}$  emissions.

Shell offers a portfolio of LNG plant designs in a range of 2 to 10 mtpa, tailored to specific needs of Major Resource Holders and JV partners, delivering average plant utilisation of 95%, which is 10% higher than the 85% industry average (without Shell).

To meet increasing global demand, Shell and its partners are developing new plants and terminals in a further nine countries. In 2005 alone, Shell announced significant new LNG ventures in Qatar, Libya and Nigeria.

Experience and expertise in integrating the full LNG value chain sees Shell playing a leading role in all aspects of the LNG chain – from supply and liquefaction to trading, shipping, regasification and delivery to our customers.





## A Record Council Meeting in Tianjin, China

By Mark Blacklock

A total of 140 delegates and 50 accompanying persons attended the 2005 Council meeting, acclaimed by Mr Shen Yu Sheng, Vice Secretary General of IGU Charter Member the China City Gas Society, as "a record in the history of IGU". The event was also notable for two important elections: the 2009-2012 Presidency and the hosting of the Secretariat from 2007. This was the second time the Council had come to China, the first being in 1990.

The 2005 Council meeting was held in the Tianjin Economic-Technological Development Area (40 kilometres to the east of Tianjin City) on October 19, following the autumn meetings of the



The Coordination Committee (TOP) and the Executive Committee (ABOVE) held their autumn meetings just before the Council.

Coordination Committee and the Executive
Committee. The meetings were organised by the
China City Gas Society together with the China
Gas Association, and supported by the North
China Municipal Engineering Design and Research
Institute. Additionally the local gas group, Tianjin
Gas, sponsored a gala dinner on October 18.

The Society is a gas technical mass organisation with around 700 members from design and research institutes, municipal gas departments and companies, equipment manufacturers and academia, while the Association is a commercially-oriented body bringing together representatives of companies involved in the gas industry. The two have a close working relationship cemented by the fact that the President of the Society, Mr Cao Kai Lang, is a Vice President of the Association and the President of the Association, Mr Zhou Chang Xi, is a Vice President of the Society.

The North China Municipal Engineering Design and Research Institute is one of the largest municipal institutes in China with just under 900 staff including one academician of the Chinese Academy of Engineering.

The day opened with a closed session to discuss internal affairs including approval of the 2004 accounts, the budget for 2006 and the estimates for 2007-2009. Delegates also approved the admission of N.V. Nederlandse Gasunie and PetroChina Natural Gas and Pipeline Company as Associate Members, bringing IGU's total membership to 89 of which 22 are Associates. After this the meeting was opened to delegates from international organisations and other invited guests.

#### • Election for the Presidency

The second session started with presentations from the Malaysian and Russian Charter Members as the final stage in their bids for the 2009-2012 Presidency and the hosting of the 25th World Gas Conference in 2012. Each contender had 15 minutes and each opted for a combination of a personal address to delegates and a video presentation.



Datuk Abdul Rahim Hj Hashim, President of the Malaysian Gas Association and Vice President Gas Business of Petronas, opened with a strong appeal to delegates to support the return of the IGU Presidency to Asia after the current European and forthcoming South American Presidencies. He pointed out that Asia is a key player in the LNG trade and by 2025 is expected to account for 35% of world gas production.

Mr Yuri Komarov, Adviser to the Chairman of Gazprom's Management Committee, fronted the Russian presentation. His theme, after reminding delegates that the Russian Federation has the world's largest gas reserves and is the top gas producer, was the importance of promoting natural gas as the cleanest of the fossil fuels.

After the presentations ballot papers were distributed for the 45 Charter Members present to vote and the count was performed by Honorary IGU Presidents John Kean and Hans Jørgen Rasmusen, with Dr Pierce Riemer, Director General of the World Petroleum Council (WPC), as a neutral observer. Malaysia won and thus Datuk Abdul Rahim Hj Hashim will become Vice President for 2006-2009 and President for 2009-2012, while Kuala Lumpur will be the venue for WGC2012. Datuk Hashim took the podium to thank delegates for their support and declared: "I will devote my full energies to working to fulfil the goals of IGU."

Having lost out to Argentina in the elections for the 2006-2009 Presidency, it was second time lucky for Malaysia and it seems likely that Russia too will have a second go and be back to bid for 2012-2015.

#### • Election to host the Secretariat

Seeking to make best use of time while the votes were being counted, IGU President George Verberg had taken the opportunity of bringing an agenda item forward, namely the deepening of cooperation with WPC. He reported on studies done by IGU Secretary General Peter Storm and Pierce Riemer of WPC on comparing the work of the two

organisations and announced that IGU Management was "prepared to look into the ins and outs of a merger without any [prior] commitment to a merger". He proposed that a Task Force be set up chaired by himself with an alternate from Asia, and Peter Storm and a representative of the Argentine Presidency as members, and this was approved by the Council.

The day's second election was for a new host of the IGU Secretariat. DONG of Denmark took on the role in 2000, initially for a six-year period, and generously offered to extend this to 2007 to avoid a changeover in a busy year marked by a World Gas Conference and the handing over of the Presidency to Argentina. Peter Storm also offered to serve for another 18 months and the Council approved the extended term of the current Secretariat.

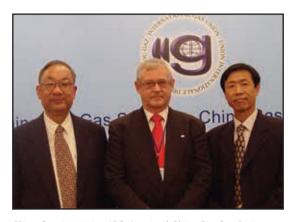
Hosting the Secretariat represents a substantial financial commitment and George Verberg paid





IGU President George Verberg calls the Council meeting to order, which attracted 140 delegates from 45 countries.





China Gas Association (CGA) assisted China City Gas Society (CCGS) in organising the meetings. Here the Secretary General is joined by the Presidents of CGA, Mr Zhou Chang Xi (to his left), and CCGS, Mr Cao Kai Lang (to his right).

tribute to the fact that three Charter Members were putting themselves forward as candidates for 2007-2013: the Association Française du Gaz from France, the Deutsche Vereinigung des Gasund Wasserfaches e.V. from Germany and Norway's Norsk Petroleumsforening.

Each had 10 minutes to make a presentation and following the presentations a vote was taken of Charter Members using the same procedure as the Presidency ballot. When there are more than two candidates IGU's Articles of Association stipulate that to win outright an absolute majority of the votes cast is needed, otherwise a second voting



Following the Presidency election Datuk Abdul Rahim Hj Hashim (left) will become Vice President for 2006-2009 and President for 2009-2012. With him is Mr Shen Yu Sheng, Vice Secretary General of CCGS.

round is necessary. In this case there were two rounds and Norway was declared the winner.

Thus from the autumn of 2007 the IGU Secretariat will be based in Oslo in a new head office being built for Hydro, and Mr Petter Nore, currently President of Hydro Oil & Energy, Russia, will become the candidate for Secretary General. In accordance with IGU's tradition of ensuring a smooth handover, Mr Nore will stand for election as Deputy Secretary General in July 2006 to work alongside Peter Storm. Mr Nore describes himself as "a dedicated gas man" and worked for the Norwegian government and the World Bank prior to joining Hydro.

As the workload of the Secretariat has increased significantly in recent years with the expansion of IGU and the assumption of administration for Intergas Marketing and IGRC, IGU Management is proposing to appoint an Assistant Secretary General and create one or two positions to which young people could be seconded. All these new positions would be open to both Charter and Associate Members. The proposal was approved by the Council and appointments will be made in due course. Applications have already been received from a number of countries including Germany, Iran and Norway.

#### Other morning business

The proceedings continued with an update on preparations for WGC2006 in Amsterdam from Coordination Committee Chairman Bert Panman. He announced that 532 abstracts had been received from 43 countries¹ and that the Chairman of the European Commission, José Barroso, had agreed to open the Conference seconded by the Dutch Minister of Economic Affairs, Laurens Jan Brinkhorst. He was followed by Robert Doets, Secretary General of the National Organising Committee for WGC2006, and Daniël Vlugt, Chairman of the Exhibition Committee. They reported that sponsorship was going well, led by ING and Shell as gold sponsors, and that 75% of the exhibition space had

1 Late submissions that were accepted after the Council meeting brought the final total to 537 from 46 countries.



been contracted. Delegates were presented with the preliminary edition of the General Programme and Registration Handbook (for the latest information on WGC2006 see pages 42-43).

Then the Council approved the nominations of the countries appointing Chairmen and Vice Chairmen of the five Working Committees and four Programme Committees for the 2006-2009 Triennium (see Table 1). Traditionally the Vice Chairmen of the current Triennium become Chairmen in the next, so the new selection was for the Vice Chairmen. Additionally France will chair the Task Force on Research and Development.

At this point Vice President Ernesto Lopez Anadón addressed delegates announcing that the first Council meeting of the Argentine Presidency would be held in Peru, in October 2006 and that the dates of the 24th WGC in 2009 would be October 19-23.

To round off the second session, George Verberg invited representatives of related international organisations to give presentations. These were Angelo Ferrari of the International Group of LNG Importers (Groupe International des Importateurs de Gaz Naturel Liquéfié – GIIGNL), Urs Zeller of Intergas Marketing and Pierce Riemer of WPC.

#### Afternoon session

After lunch the Council reconvened for the third session, which followed the successful format introduced for the October 2003 Council meeting in Cape Town of having a presentation and debate on a topical issue. The issue was "Actual Energy Developments in China and Neighbouring Countries and their Impact on the World Gas Market" with four presentations, reaction and views from two members of the President's Wise Persons Group and general discussion.

First up was Mr Li Yan Qiang of the China City Gas Society who gave a paper on the development of the gas industry in China and pointed out that while natural gas is growing in significance, manu-

LEADERSHIE	OF IGU COMMIT	TEES 2006-2009
Committee	Country Holding Chair	Country Holding Vice Chair
WOC 1	Russia	Algeria
WOC 2	Czech Republic	France
WOC 3	Germany	The Netherlands
WOC 4	UK	Italy
WOC 5	Denmark	Japan
PGC A	Norway	Spain
PGC B	Spain	UK
PGC C	Malaysia	Brazil
PGC D	Japan	Qatar

factured gas and LPG are still important sectors. Then Professor Shen Cheng Zhi of the China Petroleum Engineering Co. Ltd, Southwest Company, focused on the current status and development of China's natural gas transmission network. He said that this network had grown to 22,000 kilometres (20,000 onshore, 2,000 offshore) since the first pipeline was built in 1963, and that four underground storage facilities with a total capacity of 11.47 bcm were in operation. The steel used in pipeline construction had been upgraded from X60 to X70, and X80 grade was being considered for future projects.

ABOVE Table 1



In the evening a farewell party was held.







The farewell party offered traditional Chinese folklore performances including one that required the help of Coordination Committee

Next up was Dr Mohamed Farid bin Mohamed Amin, Vice Chairman of PGC C, who presented the highlights of his Committee's case study of China as an example of an Asian country with a developing natural gas market. He was followed by Dr Chi Zhang, Director China Energy in the Beijing office of Cambridge Energy Research Associates (CERA), who had recently been appointed to Beijing from the US and gave an international perspective on Chinese energy developments. Dr Chi Zhang highlighted the fact that although China has been a net oil importer since 1993, in overall energy terms it is 94% self-sufficient.

From the Wise Persons Group Mr Yoshihiro Sakamoto, President and CEO of Arabian Oil

Farewell Party
Wish You a Wonderful Time Tonight in China

The President and Secretary General of IGU with their wives and the entire CCGS organising team, who did an excellent job.

Company Holdings, and Professor Dr Coby van der Linde, Director of the Clingendael International Energy Programme, gave their observations and kicked off a debate involving the panel speakers and delegates. With domesticallyproduced coal being so important in China's energy mix, initial issues raised centred on changing the economics of gas in relation to coal and the fact that for China pursuing the common international policy of diversification of energy sources means an increased reliance on foreign suppliers. Discussion then moved to the fact that with western Europe and the US increasing gas imports, China will face more competition for foreign supplies. It was also pointed out that the move towards a sellers' market has implications for regulatory regimes developed when the market favoured buyers.

George Verberg closed the main proceedings by thanking the participants for a lively debate, and the day's business was drawn to a close by a meeting for IGU contact persons.

As 2006 is World Gas Conference year there will be two Council meetings, one immediately prior to the WGC on June 5 in Amsterdam and the second in Cuzco in October.

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



PetroChina Company Limited (PetroChina) was established as a joint stock company with limited liability under the Company Law of the People's Republic of China (the PRC) on 5 November 1999 as part of the restructuring of China National Petroleum Corporation (CNPC).

PetroChina, a large integrated petroleum company comprising of upstream and downstream businesses, import and export, production and sales, is engaged in a broad range of oil and gas related activities, including:

- \* Exploration, development, production and distribution of crude oil and natural gas;
- \* Refining, transportation, storage and marketing of crude oil and refined products (including import and export);
- \* Production and marketing of basic chemicals, derivative chemicals and other chemical products; and
  - \* Transmission of natural gas and crude oil, as well as marketing of natural gas.

PetroChina divides the above businesses into four segments: exploration and production, refining and marketing, chemicals and marketing, and natural gas and pipeline.

The American Depository Shares (ADRs) and H shares of PetroChina were listed on The New York Stock Exchange and The Stock Exchange of Hong Kong on 6 and 7 April 2000, respectively.

PetroChina recorded outstanding financial performance in the past two years. Its net profit reached RMB69.6 billion in 2003, and RMB102.9 billion in 2004, which is a record high since its IPO.



\* The West-East Pipeline is designed for a length of 4,000 kilometers and the annual transmission capacity of 12 billion cubic meters. The pipeline carries natural gas sourced from Tarim basin to the Eastern China region catering consumers along its route including that in Shanghai. In 2004, the pipeline was put into full commercial operation with a transmission volume reaching 1.34 billion cubic meters.



### News from Organisations Affiliated to IGU

#### IGU and IANGV

By Dr Garth Harris and Dr Jeffrey Seisler

Over the last 10 years, IGU and the International Association for Natural Gas Vehicles (IANGV) have been developing an increasingly closer relationship. Both are organisations dedicated to providing services to members, services that can be provided more efficiently by members grouping together than by acting individually.

Former IANGV President Loek Mobers (1994-98) was, for the 1991-1994 Triennium, the Chairman of the first full IGU Task Force on NGVs, producing what was at the time a landmark report on the status of NGVs and the opportunities for natural gas as a vehicle fuel. He encouraged collaboration with IGU and arranged for the appointment of an IGU representative, Tom Gorman (then with British Gas) as a Vice President of IANGV. Perhaps more importantly, Loek Mobers was responsible for updating the original IANGV Position Paper through the Working Committees of IGU. With rapid changes that were occurring in the NGV industry at the time, the Position Paper was an essential document to acquaint a wide range of people with the technical and commercial status of NGVs.

IANGV has been very fortunate in the willingness of IGU to participate in IANGV's Executive Committee, helping to provide input and insights from the larger, worldwide natural gas industry to the efforts and issues of the global natural gas vehicle side of the industry. From IGU, Chiaki Gomi participated as Vice President of IANGV for the 2000-2003 Triennium and Bert Panman continued for the 2003-2006 Triennium. Both have been engaged in a productive and energetic relationship that has brought the organisations closer together. Furthermore, in 2004,

IANGV signed an agreement to become affiliated to IGU, which emphasises the strengthening of our relationship.

At the 1997 WGC in Copenhagen there was one short seminar session on NGVs. The "new market" for natural gas as a vehicle fuel still was not appreciated for its potential alongside the traditional residential, commercial and industrial gas sectors.

In Tokyo at WGC2003 there were two sessions on NGVs and an outdoor exhibit, thus demonstrating the increasing acknowledgement by the gas industry of the potential for NGVs and gas use in the transport sector. One session was a report by Study Group 6.3 (NGV 1) "Gas as a Transportation Fuel for Today and Tomorrow". Principally this study was aimed at discovering successful natural gas utility company strategies to build the market for NGVs. The main issues covered in the project were identification of the business approaches of natural gas utilities and others that have been successful in making money in the NGV marketplace; identification of strategic marketing approaches for gas companies to build NGV markets; identification of market challenges and opportunities for alternative paths to NGV business; and identification of challenges and opportunities for the long term (CNG, LNG, biogas, fuel cells).

The second session had four senior speakers from the NGV industry. While there was good attendance – about 100 to 200 people participated in both sessions – compared to the overall conference attendance it showed that there is a long way to go in sparking interest in NGVs among gas companies. Since then NGVs have become more established within IGU based upon the work of our NGV subgroup with growing interest in the natural gas (and biogas) contribution to what is now still a small sector of the gas industry.

The sessions established that, with the support of governments, gas utilities, vehicle manufacturers and fleet operators, together with the availability of



today's sophisticated refuelling and storage equipment, natural gas is positioned to emerge as a major vehicular fuel that is available today. As gas distributors/retailers search to increase network throughput and sales volumes, the use of natural gas as a vehicular fuel was shown to merit as much attention and support as other emerging gas applications.

#### Current and future work

For the current Triennium, a most ambitious project has been undertaken: "Global Opportunities for Natural Gas as a Transportation Fuel for Today and Tomorrow". This is an overview of NGVs and refuelling, correlated with government actions and market conditions that look back and into the future, seeking to learn how to improve future markets by taking account of past actions. The study also provides an overview of the best available NGV technology. The main objective of the study is to demonstrate the long-term worldwide potential for natural gas as a transportation fuel including CNG and LNG, biogas, and the transition to hydrogen from natural gas over a short and medium term. By showing the development path to hydrogen in the longer term, the project enables gas companies to consider the implications and the risks to their future development and investment programmes in relation to NGVs. Thirty experts, many from gas companies from around the world, participated in this study and the results will be reported in June at the WGC in Amsterdam. IANGV is intending to propose an extension and more in-depth focus of this project for the next Triennium.

For the future, it is with pleasure and pride that IANGV learned that the 2009-2012
Triennium will be organised under the leadership of Abdul Rahim Hi Hashim in Malaysia. Rahim is dedicated to NGVs as current and founding
President of the Asia Pacific NGV Association.
There is much potential for growth in NGVs in the Asia-Pacific region and there have been great



A CNG filling station in Rio de Janeiro – Brazil has the world's second largest fleet of NGVs with over a million in service.

successes in countries like India, Pakistan, Malaysia and China.

We salute IGU for its 75 years of service to the gas industry. The NGV industry traditionally concentrates its efforts on refuelling and vehicle issues and relies on the members of IGU to deliver the gas to refuelling stations. IANGV was founded only in 1986 and has seen the number of NGVs worldwide rise from 300,000 in that year to over 4.5 million 19 years later. While this is only a fraction of the potential long-term growth opportunity, it does demonstrate that there is a substantial and growing gas load in the transport sector that should really gain the interest of gas companies. IANGV, our executives and members look forward to working closely with IGU and its members in the next 75 years to bring about a future with 50 million NGVs by 2020 and many more subsequently.

Dr Garth Harris is the Secretary General of the International Association for Natural Gas Vehicles and Dr Jeffrey Seisler is the Executive Director of the European NGV Association. Further information is available at www.iangv.org.

## **GAZPROM**

# Becoming a Global Energy Company

Gazprom is the world's largest gas company engaged in prospecting, production, transportation, storage, processing and sales of natural gas and other hydrocarbon products.

The major shareholder in Gazprom is the Russian Federation. The company's Management Committee is headed by Alexei Miller.

Gazprom's gas resources are estimated about 28 trillion m3, which equals 16% of the world's and 60% of Russia's aggregate. Gazprom produces 20% of the world's gas and 86% of all gas produced in Russia. Gazprom group companies produced 545.1 billion m³ of gas in 2004.

Gazprom's performance in 2004 proves its solid financial and economic standing, as well as its great potential for further dynamic growth.

#### EXPORT PERFORMANCE

Gazprom, which supplies 25% of Europe's gas market and boasts a domestic market share of more than 70%, exports to 21 nations: Germany, Italy, Turkey,



France, Hungary, the Czech Republic, Poland, the Slovak Republic, Austria, Finland, Romania, Bulgaria, the Netherlands, Serbia & Montenegro, Greece, Slovenia, Croatia, Switzerland, Belgium, Bosnia & Herzegovina and FYR Macedonia.

Gazprom has safely supplied Russian natural gas to Europe for over 30 years, always meticulously upholding its export commitments. Gazprom has proved to its international partners its reliability and responsibility for European energy security.

Gazprom operates with Europe under long-term contracts exceeding 20 years in duration, which bind the company to supply

a total of over 2.1 trillion  $m^3$  of natural gas, which amounts to 7% of Gazprom's prospected gas reserves.

As Europe's natural gas market undergoes liberalisation, Gazprom is

www.gazprom.ru



implementing a more energetic marketing policy, promoting new trading formats and methods, including swap deals, one-off and stock exchange transactions, short-term contracting and electronic commerce.

Gazprom's strategic objective is to become a global energy player ruling the world market.

For the achievement of this goal, Gazprom consistently diversifies its markets, product portfolio and supply routes.

Gazprom is currently looking into ways to boost exports and build up its transportation facilities to meet Europe's gas needs, which are forecasted to increase. Specifically, Gazprom is soon to bring its Yamal-Europe and Blue Stream gas pipelines to full capacity.

Major preparations are underway for the Northern Europe Gas Pipeline (NEGP) to be built across the Baltic Sea. Once the NEGP goes into operation, Russia will be able to supply its natural gas to Europe directly, without having to transit through other countries. Construction of the NEGP, slated for launch in 2010, began in December 2005.

As a strategic export priority, Gazprom is working to enter new Asian-Pacific markets. Gazprom is also active in the fields of liquid hydrocarbons and electric power.

Gazprom is currently preparing to go ahead with its project to supply liquefied natural gas to North America, drawing mainly on the Shtokmanovskoe gas field in the Barents Sea. The project to supply liquefied gas, worth an estimated US\$10 billion, is expected to take five or six years to complete. The first two cargo ships with Gazprom's LNG reached the US in 2005.

#### STRUCTURE

Gazprom is working to improve its internal management structure, having recently embarked on phase two of its reforming, aimed at optimising daughter company management. From now on, Gazprom daughters will rigidly specialise by business type, i.e. prospecting, production, transportation, storage, processing and sales. The reform will leave Gazprom daughters more transparent and better managed within the group's top-down integrated corporate structure.

Another step that has been made by Gazprom on the way towards its strategic goal to become a global energy player is the liberalisation of its shares, a move designed to attract first-class strategic investors and boost capitalisation.

#### INTERNATIONAL COOPERATION

Gazprom is always open to expanding its business with international partners inside and outside the International Gas Union. Gazprom currently chairs the IGU's Working Committee 2 (Storage) and, from June 2006 on, will preside over Working Committee 1 (Exploration and Production).

Gazprom takes part in IGU's conferences on natural gas research agendas, and hosts exhibits and conventions for IGU representatives to update them on Gazprom's expertise in natural gas production, processing, storage and transportation.

In collaboration with its IGU partners, Gazprom analyses and summarises the international experience in gas industry in order to absorb and utilise best practice and thus contribute to the industry's success.





Alexei Miller was born in Leningrad on January 31, 1962. In 1979 he finished secondary school and enrolled in the Institute of Economics & Finance (IEF) named after N. Voznesensky in Leningrad.

After graduation, Alexei Miller worked as an engineer and economist at the General Planning Studio of LenNIIproyekt, the Leningrad civil engineering research and design think-tank reporting to the Executive Committee of the Leningrad City Soviet.

In 1986 Mr Miller enrolled in a graduate course at IEF. He wrote his dissertation and obtained the degree of Candidate Doctor of Economics in 1989.

Mr Miller joined the IEF staff as a junior research fellow in 1990. The same year he was appointed to head a subsection at the Economic Reform Committee of the Executive Committee of the Leningrad City Soviet.

From 1991 through 1996, Alexei Miller worked at the External Relations Committee of the Mayor's Office of the now renamed St Petersburg and headed the Market Watch Department at the External Economic Relations Office. He subsequently headed that office and was also deputy to the Chairman of the External Relations Committee.

From 1996 through 1999 Mr Miller worked as Director of Development and Investment at St Petersburg Seaport, and from 1999 to 2000 he was General Director of the Baltic Pipeline System.

In 2000 Alexei Miller was appointed deputy Energy Minister of Russia. He has chaired the Management Committee of Gazprom since 2001.

Alexei Miller has been awarded the Medal for Outstanding Services to the Fatherland II Degree Order, the II Class Order of the Hungarian Republic Cross for his outstanding services to the energy cooperation, and the Sergiy Radonezhsky II Degree Order of the Russian Orthodox Church, Patriarchal Merit Certificate.



# Final Countdown to the 23rd World Gas Conference

By Robert C. A. Doets

Final preparations are being made in the last months before the start of the World Gas Conference in Amsterdam. Please find below an update about the plans and activities.

#### Highlights of the Conference programme

The programme of WGC2006 has been evolving over the last months. On Tuesday June 6, a Strategic Panel "Capital for Gas" covering financial aspects of the gas business has been included. And for Friday June 9 the theme of the day is: "Gas Goes Global, Sellers' or Buyers' market". The day will start with a session on "Natural Gas and Geopolitics" followed by Ministerial Addresses and the related Panel Discussion on "Gas Goes Global". Dr Chakib Khelil, Algeria's Minister of Energy and Mining, and Abdullah Bin Hamad Al-Attiyah, Second Deputy Premier and Minister of Energy and Industry from Qatar, as well as the EU Energy Commissioner Andris Piebalgs have already

confirmed their presence at this session, which will be chaired by Claude Mandil, Executive Director of the International Energy Agency (IEA), while Daniel Yergin, CEO of Cambridge Energy Research Associates (CERA), will act as moderator.

#### Results of the call for papers

A total of 537 abstracts from 46 countries were submitted via the abstract submission site. The IGU Committees have carefully selected around 320 papers for inclusion in the programme, either in oral or poster sessions. In addition to the original list of topics in the call for papers a special poster session has been added on "Metering, Measurement and Gas Quality" for which about 20 abstracts have been selected. As of May 1 the complete technical programme including the text of the full papers will be available via the website: www.wgc2006.nl.

#### Handbook

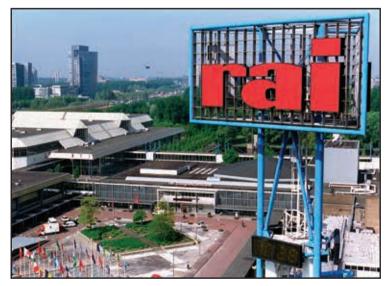
The General Programme and Registration Handbook has been distributed to 20,000 addresses all over the world. Via the website participants are also able to register and book hotel accommodation. A searchable list of all pre-registered conference delegates is available on-line.

#### Partner programme and excursions

The WGC2006 organisers have planned a full day programme for registered partners on Tuesday June 6. The day starts at the Amsterdam RAI Convention Centre, with an interesting art lecture, workshop and lunch. In the afternoon partners can make their own choice from a selection of Amsterdam tours. Additionally various excursions can be booked by delegates and partners during the week of the Conference and afterwards. Full information can be found on the website.

#### • Each participant on-line during WGC2006

The WGC organisers will provide delegates with ample opportunities to keep in touch with the



Amsterdam's RAI is the venue for WGC2006.



home front. Each delegate will be able to use the intranet message system, which offers you the opportunity to easily find other participants present in Amsterdam. Delegates will be informed about their personal e-mail address a few weeks before the start of the Conference. Via this address they will be able to receive messages from all over the world during WGC2006.

In three different Internet cafés (Holland Hub Participant Service Centres) and at three hot spots throughout the Amsterdam RAI delegates will be able to enter the WGC2006 information system, either via their own laptop or via the available computers. The system offers participants the opportunity to draw up their personal programme, find information about Amsterdam and the exhibitors, and a lot more. As of May 1 all information will also be available via www. wgc2006.nl.

#### Exhibition and HSE Pavilion

Over 12,000 square metres of exhibition space have been booked at WGC2006. Please visit the list of exhibitors via the website if you would like to know which companies will be there. Special attention has been given to the Health, Security and Environment (HSE) Pavilion, where exhibitors will show their innovations in the HSE domain.

For any last-minute bookings please check the information on the website or contact the WGC2006 Secretariat via wgcexhibition@eurocongres.com or by telephone: +31 20 679 3411.

#### Sponsorship opportunities

If you are interested in becoming a sponsor to the World Gas Conference 2006, enabling the recognition of your company, institution or association, there are various sponsorship options. Please ask the National Organising Committee for further information and possibilities that are still left. Present WGC2006 sponsors are: Shell, ING, Chevron, ConocoPhilips, Ernst & Young, Essent,

Total, Qatargas, Accenture, BP, Flyxys, EnergieNed, Energy Delta Institute, Logica Consulting, McKinsey & Company and PriceWaterhouseCoopers. Please contact the WGC2006 Secretariat for more information (e-mail: wgc2006@eurococongres.com, telephone: +31 20 679 3411).

#### Key dates

May 1 is the next key date. This is the deadline for pre-registration and for cancelling existing registrations. At this time detailed programme information including all papers will be available via the website.

The Conference and Exhibition will take place from the 5th to the 9th of June.

#### More information

Please refer to www.wgc2006.nl to find more details about Amsterdam, the programme, on-line registration, how to reserve hotel accommodation, contact details of the Conference Secretariat and other information.

See you in Amsterdam!

Robert C. A. Doets is the Chairman of the National Organising Committee WGC2006.



The website at www.wgc2006.nl is the first call for all information.





# Introducing the 2006-2009 Triennium

#### By Ernesto Lopez Anadón and Roberto Brandt

During the IGU Council meeting held on October 19, 2005, in Tianjin, China, the incoming Argentine authorities presented a status report on the preparation of the 2006-2009 Triennium activities that will lead to the 24th World Gas Conference (Buenos Aires, October 19-23, 2009). The highlights of this report are summarised below.

#### • 2006-2009 Coordination Committee team

Following approval by the IGU Council, the Coordination Committee team has been completed.

Working Committees 1-5 will be chaired respectively by Russia, the Czech Republic, Germany, the United Kingdom and Denmark.
Programme Committees A-D will be led by

Norway, Spain, Malaysia and Japan. A Task Force on R&D will be chaired by France.

24th WGC National Organising Committee

The NOC is fully "up and running", headed by Eduardo Ojea Quintana, well known through many years of active involvement in IGU.

2006-2009 TriennialWork Programme (TWP)

The incoming Presidency presented the draft 2006-2009 Strategic Guidelines at the Coordination and Executive Committee meetings in New Delhi, India, on February 22-23, for information and feedback. The final version of this document will be published in the next issue of *International Gas*.

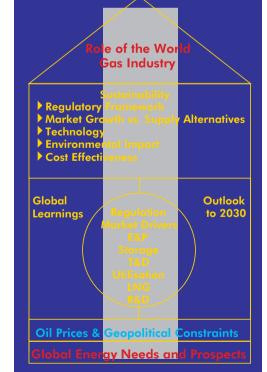
The key milestones for the preparation of the 2006-2009 TWP during 2006 are the following:

- February 26-28: First incoming WOC/PGC Chairs meeting in Madrid, Spain;
- March-June: Final development of the TWP;
- June 4: Second incoming WOC/PGC Chairs Meeting in Amsterdam, The Netherlands;
- June 5 and 9: Presentation of the draft TWP to the Council and World Gas Conference in Amsterdam, The Netherlands;
- October (exact dates to be finalised): Formal approval of the TWP by the Council meeting in Cuzco, Peru.

The 2006-2009 TWP concept is based on a "retrospective/prospective" analysis of the world gas industry's experiences and challenges, which will include the development of a collective outlook to 2030, as shown in *Figure 1*.

The 75 years of IGU, as well as recent developments in the energy and hydrocarbon markets, provide a suitable foothold to review the strategic role of natural gas. For this purpose, key regulatory, market, environmental, exploration and production, transmission and distribution, LNG and R&D drivers will be reviewed, adequately "filtered" by sustainability criteria.

Ernesto Lopez Anadón is the Vice President of IGU and Roberto Brandt is the Vice Chairman of the Coordination Committee.



RIGHT

Figure 1.

## Pan American Energy Today

PAN AMERICAN ENERGY LLC is the result of a strategic alliance for the Southern Cone between BP (60%) and Bridas Corp. (40%), and consolidates the international experience, technology, know-how and potential of two leading players in the oil, gas and energy industries.

PAN AMERICAN ENERGY, the second largest hydrocarbon producer in Argentina, is one of the main natural gas suppliers in the Argentine and Southern Cone markets, and owns oil and gas reserves in the richest basins in Argentina and the main producing regions in Bolivia.

PAN AMERICAN ENERGY has an extensive well-balanced exploration block portfolio as well as a robust experience in deep drilling, offshore drilling, inhospitable terrain and success stories in the face of severe geologic challenges.

PAN AMERICAN ENERGY staff count among the Company's major assets and they work under stringent quality, health, safety and environmental protection standards.

PAN AMERICAN ENERGY is committed to development in the natural gas value chain and energy integration of the Southern Cone. This objective has led the Company to join first tier companies in projects addressing the region's need to develop and diversify energy supply using the least polluting fossil fuel: Natural Gas.

A robust financial position and low production costs are key strengths underlying PAN AMERICAN ENERGY's steady growth performance in adverse scenarios. This solid financial position is enhanced by the expertise of its personnel in conducting flexible, brisk negotiations affording each party with the most satisfactory outcome.

Economic and financial power, human quality, professional skills, high safety and efficiency standards, environmental commitment and social responsibility are key elements in the continuous growth of PAN AMERICAN ENERGY.



**Exploration and Production in the Southern Cone** 



## LE SYNDICAT PROFESSIONNEL DU GAZ EN FRANCE

- L'AFG est le syndicat professionnel de l'ensemble des acteurs de la filière gazière (Gaz Naturel et GPL).
- L'AFG rassemble l'ensemble des entreprises, industriels, professionnels et associations professionnelles intervenant sur le marché français.
- L'AFG est le lien entre tous les acteurs de ce secteur et contribue à sa promotion.
- Etre adhérent de l'AFG, c'est être représenté dans tous les domaines de l'industrie gazière.
- L'AFG représente l'industrie gazière française au sein de l'Union Internationale de l'Industrie du Gaz (UIIG).
- L'AFG est membre d'Eurogas (Union Européenne de l'Industrie du Gaz Naturel), de Marcogaz (Association Technique de l'Industrie Européenne du Gaz Naturel) et d'EASEE gas (Association Européenne pour la Rationalisation des Echanges d'Energie gas). Elle est ainsi en mesure de mettre en valeur, de promouvoir et de défendre l'industrie française au niveau européen et, plus largement à l'international.

## THE GAS TRADE ASSOCIATION IN FRANCE

- The AFG is the trade association for all those involved in the gas sector (Natural Gas and LPG).
- It includes all businesses, manufacturers, companies and trade associations operating on the French market.
- The AFG is the link between all participants in this sector and contributes to promoting it.
- Being a member of the AFG means being represented in all fields of the gas industry.
- The AFG represents the French gas industry in the International Gas Union (IGU).
- Union of the Natural Gas Industry), of Marcogaz (Technical Association of the European Natural Gas Industry) and EASEE gas (European Association for the streamlining of Energy Exchange gas). It is thus able to enhance, promote and défend the French industry in Europe and, more broadly international.





## COORDINATION COMMITTEE PROGRESS REPORT

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# Introduction and Key Developments

The purpose of the Coordination Committee progress report is to provide all Charter and Associate Members of IGU, and members of the Council, Executive Committee, Coordination Committee, Programme and Working Committees, Task Forces and Special Projects as well as other interested parties with information about the progress of the work as described in the Triennial Work Programme (TWP). The progress report consists of contributions from all parties involved. It is published as part of the IGU Magazine as well as on the IGU Collaboration Portal. The report is edited by the Coordination Committee (CC) Secretariat under the responsibility of the CC Chairman. The account of key developments below is based mainly on the monthly CC progress reports.

As far as the content of the work of the Committees, Task Forces and Special Projects is concerned, this fifth report in the Dutch Triennium concentrates on the second half of 2005.

#### CC meeting Tianjin, China, October 17-18, 2005

This meeting was organised on two consecutive days, a format introduced at the 2004 autumn session. The closed organisational part took place on the afternoon of Monday, October 17, with the reporting part taking place the following morning. For the latter part members of the Executive Committee (EXC) were invited as well. The minutes of the meeting and the presentations have been published on the CC section of the Collaboration Portal.

#### Committee membership and meetings

Based on the information collected so far, 612 people are involved in the work of the Committees. This figure includes delegates, alternate delegates, corresponding members and Study Group members. The spread over the regions is: Africa 37, Asia-Pacific 119, Europe 387, Middle East 34, North America 15 and South America 20. Some 67% of countries represented in IGU appointed nominees, with this Triennium's goal of 65% being reached in October 2004.

All Committees held their 2005 autumn meetings before the CC, EXC and Council meetings in Tianjin (see *Table 1*).

**ківнт** Table 1.

Committee	Date	Venue
WOC 1	September 28-30	Je Ju Island, Korea
WOC 2	October 3-7	Prague, Czech Republic
WOC 3	September 12-14	Stavanger, Norway
WOC 4	September 18-21	Barcelona, Spain
WOC 5	October 13-14	Prague, Czech Republic
PGC A	October 13-14	Oslo, Norway
PGC B (Chairs)	September 28-29	Barcelona, Spain
PGC B (Plenary)	November 20-22	Buenos Aires, Argentina
PGC C	October 6-7	Rio de Janeiro, Brazil
PGC D	October 4-7	Hammerfest, Norway