

www.intsok.com

Frontcover: CO<sub>2</sub> Capture and Storage, Sleipner West, StatoilHydro (Photo: StatoilHydro ASA)

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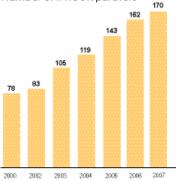
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#### Introduction



Gulbrand Wangen Managing Director, INTSOK



The Norwegian petroleum industry has made huge efforts to expand its international business activities, even though the Norwegian oil and gas market is at a record high level. Many of the regional petroleum clusters have developed a strong international position based on their development and deployment of new technologies. In 2008 INTSOK will deliver a report to the Norwegian Oil Industry's Top Management Forum on the impact of internationalisation on the regional petroleum clusters. The report will present several case studies from different parts of the country, such as the drilling cluster in the southern part of Norway, the maritime cluster on the west coast. the industrial cluster in the area around Verdal and the potential for expanding the cluster in the northern part of the country.

The Norwegian Continental Shelf (NCS) is still of fundamental importance to the petroleum cluster. The high activity level provides a solid basis for growth, both nationally and internationally. The NCS continues to be a laboratory for developments in technology and the testing of new technological solutions, which strengthen the Norwegian petroleum cluster's international competitiveness.

The strict environmental regulations on the NCS have induced operators and technology providers to develop new solutions to reduce emissions to air and water. Canada is now implementing similar policies. The increasing political focus on climate change abating measures in Norway can lead to new technological solutions with a potential global market. StatoilHydro's carbon capture projects on Sleipner and Snøhvit have been seen nationally and internationally as pioneering projects.

INTSOK's growth in recent years has increased due to the presence of small and medium-sized companies. They may not always be able to use INTSOK's resources to its full extent. We have therefore expanded our assistance to the SMEs to help them enter new markets in, for example, Russia, the Gulf of Mexico, Brazil, UK or South East Asia. The entry programmes have grown in size and will be further expanded based on the experience we gain from the current programmes in Houston and Rio de Janeiro. The partnership programme between Russia and Norway has become a huge success.

INTSOK's strategy remains the same – assisting companies' international expansion by providing advice, market and project information to partners and communicating the capabilities of the Norwegian petroleum cluster to key clients in overseas markets. Our database on priority projects has been updated more than 250 times during 2007. The local advisors served close to 180 companies. We had more than 20 workshops and seminars abroad, and we held three training and competence building projects internationally.

Number of INTSOK partners

The main markets are still West Africa, Brazil, the Gulf of Mexico and the UKCS. The focus on Russia, China, India, Canada and Mexico has increased in recent years. Australia and South East Asia are also becoming more important as exploration and developments move into increasingly deeper waters. Interest in resource rich countries like Iran, Nigeria and Venezuela has been reduced as a result of the challenging business climate. INTSOK's market priorities are developed by the industry and some markets have therefore become more important to us. INTSOK's strategy is based on the premise that internationalisation should create value and employment in Norway. We have learned during our ten years of operation that we will not succeed unless we also contribute to value creation in the countries that own the resources. That is why we are engaged in the fabrication project in Nigeria to qualify local fabricators for work in the oil and gas sector and the "train-thetrainers" programme in Angola to ensure that skilled people are available for the successful Norwegian subsea cluster.

#### **INTSOK markets**

Main markets Angola Brazil China Mexico Russia UK USA/GoM Priority markets Australia Canada India Indonesia Kazakhstan Malaysia Nigeria Qatar **Observation** Algeria Iran Korea, South Libya Singapore United Arab Emirates Venezuela

# **High Activity Level in 2007**

INTSOK has been strengthening its relations with the individual partner companies, providing more direct market advice and guidance from local advisors and from the INTSOK employees to the growing number of smaller and mediumsized members. An entry programme was launched in Houston in 2006 to support partners that are entering the Gulf of Mexico market. An Incubator office has been established together with Innovation Norway in Brazil and an entry programme for partners in South East Asia is under development. The UK-Norway Mentoring Scheme has included a total of 32 companies, with 8 mentors and 8 mentees coming from UK and Norway respectively. This programme is designed to assist Norwegian and UK-based SME companies in expanding into their

respective export market. The partnership programme in Russia has also become an important tool for new entrants to the Russian market and a way to evaluate potential Russian business partners.

Providing partners with extensive insights into developments in the global oil and gas markets continues to be one of the most important responsibilities for INTSOK. Two annual reports on global developments in the onshore and offshore markets are available to partners on INTSOK's website. The reports are developed in cooperation with Infield Services and Douglas-Westwood and present detailed estimates of expected investments in the period to 2011 for the relevant industry segments.



Garden Party at the INTSOK annual International Oil & Gas Business Days 2007, hosted by Det Norske Veritas (DNV). (Photo: Gunnar Friberg)



INTSOK partners visit to Hyundai Heavy Industries Co Ltd. in Ulsan, in connection with the official visit of The Norwegian Crown Prince and Crown Princess to the Republic of Korea, May 2007. (Photo: Innovation Norway)

The INTSOK markets represent a substantial share of the total global investment. Nearly 40% of global oil production and more than 50% of global gas production take place in the countries where INTSOK has activities. The markets represent a very large part of the world oil and gas expenditure. Both reports reflect a booming market. The onshore expenditure in INTSOK's markets is estimated at 1.6 trillion dollars in the period 2007-2011, whilst the offshore spending in the same period is close to 800 billion dollars. Offshore investments in the INTSOK markets are estimated to grow from approximately 150 billion dollars in 2007 to more than 230 billion dollars in 2011. INTSOK is monitoring and updating 90 major projects on a continuous basis.

In addition to having access to country reports, partners are able to meet key clients in customer meetings and workshops. Focus on national oil companies has increased substantially in recent years. INTSOK organised 21 seminars and workshops in 2007, meeting close to 50 key clients. The events attracted more partners then ever before. Key clients like PETRONAS and the Chinese national oil companies are making major efforts to secure key personnel participation. The events attracted in total 2,150 participants.

INTSOK's annual International Oil and Gas Business Dav has become a traditional meeting place for partners to network and be updated on developments in the markets. The 2007 event in Oslo focused on presenting the global market outlook in the offshore and onshore sector, and addressed the opportunities in three of INTSOK's markets - the US Gulf of Mexico. Mexico and Australia. The Mexican national oil company, Pemex, gave in-depth presentations on opportunities in the Gulf of Mexico and on how to deal with Pemex as a monopoly buyer. The opportunities in Australia were presented by Woodside, the leading Australian oil company, and Inpex, the largest Japanese oil company. Both are in the midst of developing large fields off Australia.

INTSOK continues to organise network meetings for partners to present opportunities in the main markets and to exchange experience and insights from the markets. Network meetings are now increasingly held in the markets. Anticorruption issues remain an important issue on the network agenda. INTSOK has entered into a cooperative agreement with a law firm specialising in financial investigations, business integrity and ethical advisory. Partners can seek advice from the firm free of charge. Illustrations of situations and dilemmas that companies may meet in the marketplace has been outlined. These cases and questions can be used to develop and clarify company policies on anti-corruption and also be a starting point for internal workshops and dilemma training in a company.

## **Building Partnership in Russia**

The Russian oil and gas market continues to attract significant interest from the Norwegian petroleum cluster. Gazprom's decision to move forward with development of the giant Shtokman field in partnership with Total and StatoilHydro is adding further interest in the Russian Barents Sea. A final investment decision on the first phase of developments will be made by the partners in 2009, but companies are already positioning themselves for the challenges of developing the field, 550 km into the Barents Sea. The Shtokman partners are looking at extracting gas for the first time in 2013 and LNG in 2014 – an ambitious schedule.

Norwegian companies have documented their competitiveness by gaining a major share of the work in the development of the Prirazlomnoye field in the Barents Sea; a field which Sevmorneftegaz believes can start production in 2010.

The Russian market is huge and the oil and gas companies are investing billions of dollars annually in new projects and in modification and maintenance of existing fields. Russia has the largest combined oil and gas resources in the world. Attractive hydrocarbon basins like Timan Pechora, the Arctic Barents Sea, North Caspian, East Siberia and Sakhalin are growing in importance with several new projects under way.

INTSOK's activities in Russia in 2007 attracted significant interest from partners and from Russian companies. The partnership programme between the Russian and Norwegian oil and gas industries was launched in 2005 as a follow-up to the joint statement signed by the Russian President and the Norwegian Prime Minister in 2002, where they emphasized the importance of increased cooperation between the two countries in the oil and gas sector. The project's aim has been to establish partnership between the Russian and Norwegian oil and gas industries with a focus on the Arctic region, support the Russian ambition of increasing the involvement of local industries and support internationalisation of Norwegian and Russian technologies and services.

The project is backed by leading Russian and Norwegian companies and industry associations. Some 240 Russian companies have been mapped at the end of the first phase of the project and became the basis for the first Russian cluster map ever to be developed and made available to partners. A special website (www.intsok. ru) has been developed for the partnership project in Russian and English.

The project has also enabled INTSOK to offer strategic assistance to partners looking towards Russia through systematic use of matchmaking workshops. The interest for the workshops has been well above our expectations. The business-to-business meetings also arranged during Russian Arctic Offshore (RAO) in St. Petersburg provided companies with an opportunity to develop closer relations. Client meetings with Lukoil and Coral in Volgograd and Sevastopel, gualifying suppliers to the Yuri Korchagin field in the Caspian Sea, as well as network meetings in Moscow have contributed to an enhanced relationship between INTSOK partners and key players in the Russian oil and gas market.



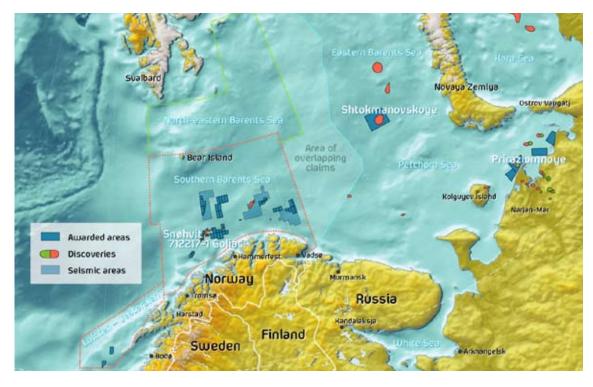
Håkon Skretting (left), Regional Director for Australia, China and Russia

**Morten Bøgild** Advisor Project for Partnership between Russian and Norwegian Industries



Vladimir Ryashin (left), INTSOK Oil and Gas Advisor in Moscow

Nikolay Shavrov INTSOK Oil and Gas Advisor in St. Petersburg



Barents Sea

The Russia-Norway Oil and Gas Conference in Kirkenes in January was opened by the Norwegian Minister of Petroleum and Energy, Mr. Odd Roger Enoksen. The conference addressed the Partnership in the North, with the main focus on the project for partnership between the Russian and Norwegian industries. The presentations and discussions gave a wide perspective of the Russian market, as well as presenting the Norwegian Government strategy for closer cooperation in the north. The aim of the Barents 2020 initiative is to stimulate development of new expertise and technology, needed for petroleum operations in the north. Barents 2020 is also focusing on how to reconcile petroleum technology and environmental considerations in the sensitive marine ecosystem of the High North.

# The Gulf of Mexico – The World's Largest Offshore Market

The US Gulf of Mexico remains one of the largest markets for the Norwegian petroleum cluster. Deepwater development in the Gulf of Mexico continues to be the driving force in Gulf production and potential growth. According to INTSOK's annual market report, an estimated 170 billion dollars will be spent in developing the oil and gas potential in the Gulf of Mexico in the period 2008–2011. Many of the projects are defined as world-class projects of significant interest to the Norwegian petroleum cluster. 25 projects in the Gulf have been identified as priority projects in INTSOK's database and are bimonthly updated.

INTSOK has maintained its high activity level in Houston, focusing on the main oil companies and contractors. The Gulf of Mexico has become one of StatoilHydro's core areas with several fields under development, such as Tahiti, Jack, St. Malo, Knotty Head, Big Foot and Sturgis. More than 100 Norwegian companies are present in Houston and many are looking at establishing a presence in the market. INTSOK has expanded its mentor programme to assist partners entering the market based on the experience from many that have tried to establish business in a very competitive environment. The local advisor has substantial experience which can be drawn on by partners. INTSOK, as a facilitator, aims to guide new entrants step by step through the market entry process by advising and providing local access to appropriate network and business services.

The Annual Houston Week is important for relationship building and for partners to present their capabilities to key clients in major oil and contractor companies. The Norwegian Minister of Petroleum and Energy, Mr. Odd Roger Enoksen, was the key note speaker at the 2007 Week where the overall theme was "Exploring New Frontiers".

INTSOK was present at the OTC Exhibition and Conference in May together with Innovation Norway, Houston at the Norwegian pavilion.

The 5th USA Pipeline & Riser Workshop provided partners with an opportunity to meet all the major oil companies and contractors.



Werner G. Karlsson (left), Regional Director for Middle East, North Africa and USA

John Hurter, INTSOK Oil and Gas Advisor in USA

## Mexico – A New Main Market



**Berit Rynning (left),** Regional Director for Kazakhstan, Mexico and Venezuela

Javier Estrada Estrada, INTSOK Oil and Gas Advisor in Mexico Pemex will, in the years to come, have to push into the deeper parts of the Gulf of Mexico to maintain reserves and production. The giant Cantarell field is in rapid decline. Pemex will retain its monopoly in the E&P sector, but the company is trying to find ways to build alliances with experienced international oil companies and contractors with deepwater competence and technologies. The constitutional restrictions on use of international oil companies have led to Mexico becoming a booming market for international technology companies.

The market is significant as Pemex needs to increase its investments to stop the decline in production. It is estimated that more than 60 billion dollars will be spent in the period 2008–2011, offering opportunities for the Norwegian petroleum cluster.

INTSOK has developed good relations with Pemex over the last few years. The ambition is to strengthen the strategic dialogue with the national oil company on deepwater issues. A business mission led by the Norwegian Minister of Petroleum and Energy, Mr. Odd Roger Enoksen, in 2007 contributed to expanding relations. The visit was also used to emphasize the Norwegian petroleum cluster's strong deepwater technology position and experience. A senior Pemex executive met with



Cantarell (Photo: PEMEX)

INTSOK partners at the annual International Oil and Gas Business Days in Oslo and presented the opportunities facing Norwegian companies in Mexico.

Several Norwegian suppliers are well established in the market. BW Offshore has won the contract to operate the FPSO producing the Ku-Maloob-Zaap field. Norsafe has life boat fabrication in Mexico and ResLab is operating a core analysis laboratory in the country.

# West Africa – A Leading Deepwater Province

West Africa's role in the global oil and gas market is rapidly being expanded as new deepwater fields are put on stream and new countries join the number of oil and gas producers. In 2007, new deepwater discoveries were made in Ghana.

Africa already plays an important role in world oil markets, contributing more than 10 million barrels per day to the world's oil supply. With ongoing exploration, including in deepwater and ultra deepwater regions, Africa will likely be a source of significant additional oil and gas supplies over the next twenty years.

Angola and Nigeria are the two leading oil and gas producers in West Africa. More than 60 billion dollars will be spent in each of the two markets before 2011, mainly on new deepwater and LNG projects. Angola's oil production is now close to 2 million barrels per day. The country became a new OPEC member in 2007. Angola is also moving ahead with its first LNG project.

INTSOK maintains a high focus on Angola, where the Norwegian subsea cluster continues to secure new major contracts in new deepwater fields. Angola's oil production is expected to double over the next five years. Most of the leading international oil companies are present in Angolan deepwater, and the country has become one the most interesting oil provinces outside Norway for the Norwegian petroleum cluster.

StatoilHydro has a strong participating interest in many of the deepwater discoveries made in the last 10 years. Angola is a core area for StatoilHydro. The leading Norwegian contractors, Aker Solutions, FMC Technologies and Vetco have been winning major subsea contracts in the deepwater projects. IFMC's contract on the large Pazflor project is now under way. Sonangol, with some support from StatoilHydro, is developing the Gimboa prospects in block4.

INTSOK continues to organise technical seminars in Angola in close cooperation with the Ministry of Petroleum and Sonangol. The aim is to transfer competence and technology to the Angolan industrial cluster and to the Angolan authorities. The "trainthe-trainer" project, where the Norwegian subsea cluster has developed Angolan subsea technicians, has been a success.

Nigeria has for several years communicated an ambitious plan to increase its daily production to 4 million barrels per day by 2010 from its current level of 2.5 million barrels per day. The situation in the Niger Delta has delayed activities and led to substantial shut-in of production capacity. The new president, elected in May 2007, has launched a major reform programme in the petroleum sector. The aim is to restructure the national oil company, NNPC, and the entire regulatory system. The president is also giving more priority to the use of more natural gas in the domestic economy.

StatoilHydro and a few INTSOK partners are well established. FMC Technologies is expanding its presence as a result of being awarded the Agbami subsea contract. The Agbami field will be brought on stream in 2008, providing StatoilHydro with its first production from Nigeria.

INTSOK is also engaged in capacity building to enable local fabricators to become suppliers to the deepwater projects. Due to the unrest in the Niger Delta, the Norwegian petroleum cluster is showing less interest in Nigeria and INTSOK's activity level is a reflection of the interest among partners.



**Per Hagen** Regional Director for Angola, Nigeria, Malaysia and Indonesia



Emilio Moreso Grion (left), INTSOK Oil and Gas Advisor in Angola

**Moses Ovigho Kragha**, INTSOK Oil and Gas Advisor in Nigeria

# The UKCS – Still a Major Market



FPSO Sevan Hummingbird on the Chestnut field in the UK North Sea. (Photo: Sevan Marine)



**Einar Holmefjord,** Advisor and Regional Director for UK

For many years the UKCS market has been the largest and most important market internationally for the Norwegian oil industry. More Norwegian companies are engaged in the UK market than in any other international market.

The UKCS is now a mature market, with significant expenditure on maintenance, modification and operations. The oil and gas production on the UKCS has peaked, but the industry still provided close to 70% of UK national energy needs in 2007. The investment level is still substantial. Expenditure in the UK oil and gas sector will be significant also from 2008 to 2011. According to the INTSOK annual market report, expenditures will represent an annual market of some 18 billion dollars. Total expenditure in the period is estimated at 72 billion dollars.

The 2007 report from the UK Oil Industry also emphasizes the efforts to keep production levels from existing fields. Fifty-five percent of new investments target existing fields with the aim to extend the life of existing facilities and infrastructure as well as seeking to enhance recovery from these fields. Fifteen new projects were approved in 2007, and so were some 16 incremental projects on existing fields. Half of the new developments used subsea technology, an approach which has grown in popularity as technology has advanced and as a means to reduce infrastructure requirements and hence development costs. The UK Operators have indicated 13 new discoveries in 2007, but most of them are thought to be less than 20 million barrels of oil and gas and could be difficult to develop.

The UKCS market will be of significant interest to INTSOK partners for years to come. Many small and mediumsized companies are successful in the UK. The cross-border cooperation continued with mentoring schemes and the UK & Norway Share Fair.

The London Week and the Aberdeen Week provided INTSOK partners with an opportunity to develop their relations with key clients like BP, BG, M.W. Kellogg, Amec, Wood Group, ConocoPhillips, Marathon and Chevron. The London event in 2007 looked at onshore and LNG activities. The keynote speaker was Ms. Elisabeth Berge, Permanent Secretary in the Ministry of Petroleum and Energy.

# Brazil – Finding Large New Oil and Gas Resources

Petrobras made a significant oil discovery in 2007 which may change the long-term outlook of the Brazilian oil and gas sector. The Tupi field discovered in subsalt reservoirs could contain far more than the 8 billion barrels estimated by Petrobras. The Brazilian national oil company has an aggressive investment strategy outlined in its 2008-2012 business plan, aiming to produce 3 million barrels of oil and gas equivalents in 2011. The planned investment for the period 2008-2012 is 112 billion dollars. Fifty-eight percent of the investments will be made in the upstream sector.

Petrobras is the largest deepwater producer in the world and has a number of large projects under development. The company's vision is to become one of the five leading integrated oil and gas companies in the world by 2020. The company is investing substantially in new technology for deep and ultra-deep waters. Many of the new projects are based on FPSO solutions. Over the years INTSOK has established good relations with Petrobras and maintains a good dialogue on joint activities in Brazil and Norway.

Brazil maintains its role as a global centre for deepwater offshore exploration and production. Annual expenditure is substantial and close to 70 billion dollars will be invested in the period 2008-2011, according to INTSOK's annual offshore market report.

The Norwegian oil industry has established good relations with Petrobras during the last decade. Norwegian research institutes and DEMO 2000 are exchanging knowledge and experience with their Brazilian counterparts. Some 50 to 60 Norwegian companies are active in the Brazilian market. Sevan Marine delivered the floating production unit, Sevan Piranema, to Petrobras in 2007. The two companies have worked closely together to research the potential advantages of cylindrical units since signing a technological cooperative agreement in 2004.

StatoilHydro is under way with the development of the Peregrino oil field. The Norwegian company is the operator for the project and now has a100% stake in the field, which is located in the Campos Basin. Expected reserves in this heavy oil field are estimated at approximately 500 million barrels, excluding identified upsides. The field is expected to come on stream in 2010.

Thematic workshops and seminars for exchanging experience and knowledge have been important elements in the discussions between Petrobras and INTSOK partners in recent years. The technology workshops in 2007 looked at "Safety Design and Equipment -Developing Solutions for Brazil," as well as "E-operations". The workshops enabled INTSOK partners to meet with relevant contacts in Petrobras. In cooperation with INTSOK Innovation Norway has established a new incubator office to assist Norwegian companies looking to establish themselves in Brazil. Currently, the office has 10 Norwegian firms onboard. The facilities will allow Norwegian firms to gain insight into the Brazilian markets more quickly and in a more cost efficient manner.



Lars Andreas Sunde (left), Regional Director for Brazil and Canada

Johnar Olsen, INTSOK Oil and Gas Advisor in Brazil

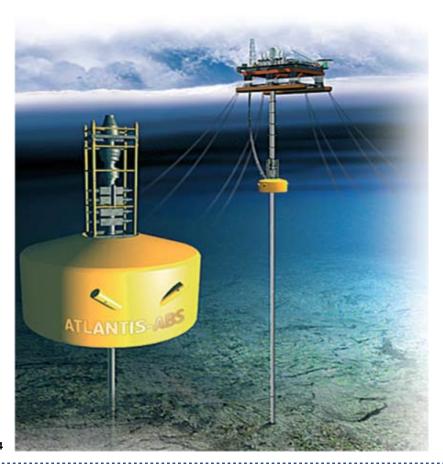
# **China – Expanding the Relationship**



Håkon Skretting (left), Regional Director for Australia, China and Russia

**Guo Jian,** INTSOK Oil and Gas Advisor in China China is doing its utmost to keep its annual oil imports below 60% of its total oil consumption by 2020. The domestic reserve potential is still significant and the three national oil companies are expanding their investments at home far more than the growth in international investments. The high activity level is reflected in growing investments, both offshore and onshore. The onshore market in China is four times higher than the offshore market.

Substantial growth is expected in the drilling segment onshore, in onshore MMO and last but not least in the development of the gas infrastructure, LNG plants and



pipelines. The recent growth in exploration, development and production activity will also continue in the offshore sector until 2011. The spending will be principally centred on the maintenance, modification and operation of producing assets and particularly development drilling, as the exploration and development of China's deepwater areas gathers pace.

Natural gas has historically not been a major part of its fuel mix – it currently constitutes about 3%. China is now a natural gas importer and is determined to increase the share of natural gas in the country's energy supply mix. The country is planning 8 new LNG terminals by 2011.

The Chinese oil and gas industry is expressing strong interest in developing closer relations with the Norwegian petroleum cluster. INTSOK's response has been to develop closer relations with the three largest oil and gas firms, Sinopec, CNPC and CNOOC. They may become important customers for the Norwegian petroleum cluster in many markets in the years to come. INTSOK arranged a training programme for CPOE, the offshore arm of CNPC. NTNU is the main partner in this programme, but many Norwegian companies contribute to it.

INTSOK organised three separate workshops in Beijing in 2006, and will continue the dialogue with the Chinese companies in 2008 in workshops looking at deepwater gas developments.

The Atlantis Artificial Buoyant Seabed (ABS) installed in the South China Sea. (Photo: Atlantis Deepwater Technology Holding AS)

# Australia – Developing World-Class Gas Fields

Many Norwegian companies have been active in the Australian market for years. INTSOK has strengthened its own activities and provides more market information and project information to partners as a result of the rapid expansion in deep waters. The deepwater discoveries lie in the North West Shelf region and are dominated by gas. Australia is poised for a wave of gas-driven exploration activities and new projects are moving forward. Australia's production of LNG is projected to increase from some 12 million tonnes in 2006 to some 24 million tonnes per year in the period of 2011 to 2020 with expansion of existing facilities and the new Pluto project, where several Norwegian companies are involved. By 2030, Australia believes it has the potential to reach 76 million tonnes of LNG annually.

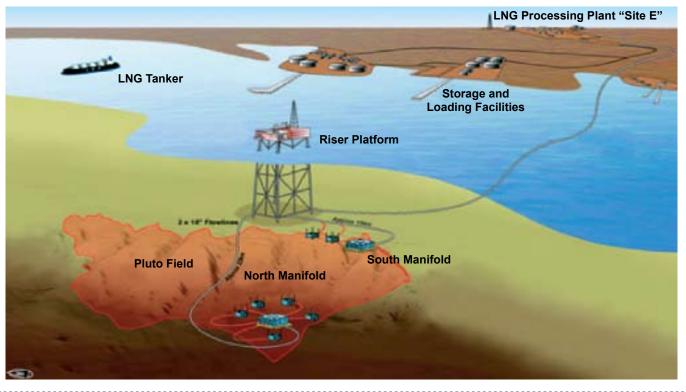
A local advisor is now available to the INTSOK partners. In April, INTSOK organised workshop in Perth with a focus mainly on subsea technologies. The potential in Australia also featured strongly in INTSOK's International Oil and Gas Business Days in 2007 where two of the leading Australian operators presented their future plans and requirements. Several Australian projects, like Pluto and Gorgon LNG, are monitored in the INTSOK project data base.



Håkon Skretting (left), Regional Director for Australia, China and Russia

**Rob Parker,** INTSOK Oil and Gas Advisor in Australia

Pluto field. (Photo: Woodside)



### India – Looking for Deepwater Reserves



**Gulbrand Wangen,** Managing Director and Regional Director for India



FPSO Aker Smart 1. (Photo: Reliance)

India has ambitious plans to increase its oil and gas production to meet the country's growing energy demand. The focus is now on deep and ultra-deep waters.

India's oil and gas industry has expressed strong interest in developing closer relations to the Norwegian petroleum cluster. INTSOK's response has been to increase its focus on the market and on the Indian national oil company, ONGC, and the fast growing Indian oil and gas company, Reliance, who has made a major deepwater gas discovery on the east coast of India. Aker Solutions has developed close relations with Reliance and will deliver a complete subsea system and Aker Floating Production will deliver the FPSO Aker Smart 1 to the deep water project.

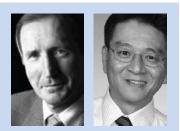
Several members of the Norwegian petroleum cluster see a potential in the Indian offshore sector. INTSOK is therefore working closely with Innovation Norway in supporting its activities. The Joint Working Group on Hydrocarbons, chaired by the Indian Ministry of Petroleum and Natural Gas and the Norwegian Ministry of Petroleum and Energy, has become a useful meeting place for sharing experience and expanding business cooperation between Indian and Norwegian industry.

#### Malaysia and Indonesia – More Focus

INTSOK has increased its attention towards Malaysia and engaged a local advisor in 2007 through Innovation Norway. The country is still attracting substantial foreign investments in the petroleum sector. New discoveries in deep waters have revitalized the oil and gas sector. Malaysia also has the aspirations to become a technological hub. Aker Solutions and FMC Technologies are aligning to this strategy.

PETRONAS, one of the most successful national oil companies, is expanding internationally. Technology development is an important part of the company's strategy. PETRONAS requested INTSOK and Petrad to organise another Deepwater Technology Seminar in 2007. The programme was developed in close cooperation with Petrad and an organising committee set up within PETRONAS. Relevant participants were invited by the national oil company. The theme was "Deepwater Development – Concept Selections and Long Tie-backs." Petrad has organised training activities in Malaysia for several years and has established a good network and position in the country which has been used as a platform for expanding the Norwegian presence.

INTSOK has also intensified its activities towards Indonesia after observing the market developments since 2005. The Government and the national oil company have expressed interest in developing closer ties to the Norwegian petroleum cluster. INTSOK organised a deepwater seminar in Indonesia in 2007 together with Petrad. Indonesia's oil and gas production has been declining in recent years, which has led to more interest in the deepwater potential.



**Per Hagen (left),** Regional Director for Angola, Nigeria, Malaysia and Indonesia

**Tuan Hai Ewe,** INTSOK Oil and Gas Advisor in Malaysia



Kikeh-field. (Photo: PETRONAS)



Lars Andreas Sunde (left), Regional Director for Brazil and Canada

**Tor Naess,** INTSOK Oil and Gas Advisor in Canada

#### **Canada – New Opportunities**

The Canadian market has also been upgraded as a result of increased activities in the offshore areas off of Newfoundland and Labrador. INTSOK has secured the assistance of a local advisor available to partners. INTSOK has mapped the operators to understand their priorities and concluded that emissions to air and water are currently a major focus area. The authorities are discussing reducing the requirements to oil in produced water from 40 to 25 ppm. In a workshop in 2008 INTSOK will address the issues and look at the Norwegian experience in dealing with reductions in emissions to air and water. StatoilHydro will drill its first offshore prospect as an operator in Canada in late 2008 at the Mizzen prospect, off the east coast of Newfoundland. The prospect is located at a water depth of 1,100 meters in a new and almost unexplored area. StatoilHydro has acquired interests in the Canadian oil sands.



**Berit Rynning,** Regional Director for Kazakhstan, Mexico and Venezuela

#### Kazakhstan – Large Potential

Kazakhstan is emerging as a major international oil and gas producer. The Kashagan discovery in the shallow waters in the North Caspian is one of the largest oil discoveries in the world in recent years and the development project is one of the largest, but progress in the oil and gas sector has been slow. The Government has intervened in the ownership structure to secure a larger role for the national oil company, Kazmunaigas. ENI will remain the operator for the ongoing project, but will be replaced by a new operating company during full field developments. "Norwegian Day" was again organised during the large KIOGE 2007 Oil and Gas Show in October. The authorities in Kazakhstan have expressed interest in a dialogue with the Norwegian petroleum cluster on how to develop a stronger domestic petroleum cluster.

# Keeping a Watchful Eye on Other Market Opportunities

#### Libya

Libya has returned to the global oil and gas scene. The country plans to more than double the oil production to 3 million barrels per day by 2015 through EOR-projects, the development of existing discoveries and an aggressive exploration strategy. StatoilHydro is active in Libya and several Norwegian companies are establishing themselves in the country. INTSOK continues to monitor developments.

#### Iran

Iran has the third largest combined oil and gas reserves in the world, but international sanctions and the difficult business climate have reduced the interest for Iran in the Norwegian petroleum cluster. INTSOK will keep the market under observation, but will no longer have a local advisor in the market.

#### Venezuela

President Chavez has introduced major changes in the oil and gas sector, making the national oil company, PDVSA, a key instrument. ExxonMobil and ConocoPhillips have left Venezuela and are demanding compensation through the international arbitration system. Other companies, like Total, StatoilHydro and ENI, have settled their discussions with PDVSA. INTSOK maintains good relations with the Venezuelan oil industry associations and PDVSA, and will continue to monitor development in the country.

## **INTSOK Board of Directors**



Chairman



**Board Member** 



Board Member



Board Member

Board Member



Board Member

**Board Member** 

Ms. Tove Tyberg



Board Member



Board Member



**Board Member** 

#### INTSOK Partners (per December 31, 2007)

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INTSOK, Oslo Hoffsveien 23, P.O.Box 631 Skøyen NO–0214 Oslo, Norway Phone: +47 22 06 14 80 Fax: +47 22 06 14 90 Web: www.intsok.com E-mail: intsok@intsok.com INTSOK, Stavanger Prof. Olav Hanssens vei 7A, P.O. Box 8034 NO-4068 Stavanger, Norway Phone: +47 51 87 48 80 Fax: +47 51 87 48 81 Web: www.intsok.com E-mail: intsok@intsok.com