

U - Gas News Report

Unconventional Gas Activities in the World

www.cedigaz.org

by *Constancio Silva*

N° 91 – July 2014

oo

Main News

COALBED METHANE

Bangladesh

- Bangladesh's state owned company Petrobangla will appoint a consultant to study methane reserves at Jamalganj coal mines.

India

- China National Petroleum Corporation announced recently that it won a second contract to build natural gas pipeline for Indian largest private sector energy firm, Reliance Industries

SHALE GAS

Lithuania

- Chevron announced it has shut down its offices in Lithuania and sold off half of its interests in the country.

Denmark

- Denmark will see its first shale gas well following the granting of a permit to the Danish unit of Total SA by a city council in northern Denmark.

Turkey

- ExxonMobil is in talks with state-run Turkish Petroleum Corporation over a venture to explore for shale gas in the country's southeast and northwest regions.

United States

- Ohio's natural-gas production nearly doubled from 2012 to 2013 because of activity in the Utica shale play.

United Kingdom

- The new oil and gas regulator created for the UK North Sea will also have powers over onshore activities, including shale gas.

Chile

- US to start supplying shale gas to Chile in 2015.

Germany

- Shale gas not in Germany's near term plans, fracking for shale and coal bed gas for economic reasons won't be possible for the foreseeable future

TIGHT GAS

Saudi Arabia

- Saudi Arabian Oil Co. plans to bring down cost of producing tight gas to levels prevailing in the US.

CBM

EXPLORATION

BANGLADESH:

Bangladesh to study CBM potential of Jamalganj coal mines

Bangladesh's state owned company Petrobangla will appoint a consultant to study methane reserves at Jamalganj coal mines, the company said in a statement. The government wants to utilize coal bed methane at Jamalganj to substitute for conventional natural gas without mining the coal.

Under the scope of the project the consultant would drill three core wells and conduct testing of coal samples for feasibility study of coal bed methane at the coal field. Petrobangla intends to prepare a shortlist of internationally reputed consulting firms having requisite experience in feasibility study of coal bed methane with proven credibility and reliability in this area, the company said on its website. (July 8, 2014)

07/15/2014

PRODUCTION

CHINA:

Far East Energy Corp. provides update on operations at Shouyang CBM PSC

Far East Energy Corporation, the U.S. listed company that operates the Shouyang Coalbed Methane (CBM) Production Sharing Contract (PSC) in China's Shanxi Province, provided recently an update to investors on production and its strategic process.

Gas production has settled in at 1.93 million cubic feet per day (MMcf/d), sitting steady at that level for the past 2 months. Gas production from the Shouyang CBM PSC averaged 1.93 MMcf/d in May 2014, compared to 2.1 MMcf/d in April and 2.2 MMcf/d in March. Thus far in June 2014, production has averaged 1.93 MMcf/d.

As the Company has previously stated, the intention of the drilling campaign completed late last year was to produce the wells at a conservative pace in order to maximize the zone of desorption around each wellbore so as to maximize ultimate production from the field. With production growing by almost 300% since last November and having maintained this general level of production for almost 5 months now, the Company is pleased with the results of the drilling program.

In conjunction with the review of the results of the 2013 drilling program, certain wells have been identified to be strategically shut in, and, during the second quarter, 41 wells in total have been shut-in. (June 25, 2014)

06/25/2014

TRANSPORT - DISTRIBUTION

INDIA:

CNPC to build gas pipeline for India's Reliance Industries

China National Petroleum Corporation (CNPC) announced recently that it won a second contract to build natural gas pipeline for Indian largest private sector energy firm, Reliance Industries (RIL). The gas pipeline will stretch 302 kilometers in length, out of which CNPC will build 200 kilometers. The pipeline will run from central India to north India.

Reliance Industries operates **coal bed methane fields** in central Indian state of Madhya Pradesh and it needs a pipeline to carry gas from its fields to customers in Uttar Pradesh. Production from the project is expected to commence by 2015.

With this project, CNPC has entered Indian for the second time after eight years. In 2006, the Chinese state owned company had won its first contract to build Reliance's pipeline that carries gas from KG-D6 to Gujarat state in western India. (July 9, 2014)

07/10/2014

INDIA:

India to add 15,000 km of gas pipeline

India plans to set up 15,000 km of additional gas transport infrastructure and further **exploit coal bed methane gas reserves**, country's Finance Minister Arun Jaitley said recently, reports Indo Asian News Service (IANS).

The south Asian nation has an existing gas pipeline network of 15,000 km and requires to add an additional 15,000 km, which will be developed in the public-private partnership (PPP) mode, the minister said in his budget speech for 2014-15. The enhanced grid will promote usage of gas, reducing dependence on one source of energy, he added. (July 12, 2014)

07/15/2014

SHALE GAS

EXPLORATION

BELARUS:

Belarus performs first frack

Belarus is performing multi-stage hydraulic fracturing for the first time, with technologies used also in Russia's Samara region. 'Hydraulic and acid fracturing fleet of Belorusneft returned to Belarus after the completion of work in Samara region... After coming home, the hydraulic and acid fracturing fleet was used at the Belarusian fields. **For the first time, the technology of multi-stage hydraulic fracturing is mastered in the Republic.** Hydraulic fracturing equipment will be also used in other scheduled geological and technical measures, and in the middle of July it will go again to the Russian Federation,' Belorusneft said recently.

According to the company, Belarusian workers conducted 19 hydraulic fracturing well operations in Samara region, Russia. Belorusneft worked for Ritek from February to June. Last year, the Belarusian industrial group Belorusneft teamed up with the British company Toros to prospect and possibly extract shale oil and shale gas in the Pripyat oil-and-gas bearing basin.

In May, Russia signed a treaty with Kazakhstan and Belarus to further foster integration, guaranteeing the free movement of goods, services, capital and work force. (July 1, 2014)

07/02/2014

LITHUANIA:

Chevron walks away from Lithuanian shale

Chevron announced it has shut down its offices in Lithuania and sold off half of its interests in the country. "Chevron closed its office in Vilnius, Lithuania," a statement posted recently on its website said. "The company has divested its 50% equity interest in [joint venture] LL Investicijos." In a separate statement, Swedish energy company Tethys Oil said it increased its stake in the Rietavas license in Lithuania from 14% to 30% as part of the joint venture in the country with Chevron.

"The work program, focused on evaluation of the license area for conventional and unconventional hydrocarbon potential, continues as planned and is not affected by Chevron's exit," the Swedish company said. **Chevron gave no reason for the divestment.**

Chevron in a 2013 annual report said three exploration wells had been drilled into the Rietavas block and results were under evaluation. No estimate of the reserve potential was given. Britain, Poland and Lithuania are among the handful of members of the European Union said to be rich in shale natural gas deposits. (July 9, 2014)

07/10/2014

DENMARK:

Denmark to see first shale gas well

Denmark will see its first shale gas well following the granting of a permit to the Danish unit of Total SA by a city council in northern Denmark. The municipality of Frederikshavn in Jutland approved test-drilling for shale gas reserves in nearby Dybvad. The decision follows deliberations that commenced in 2012 and involved 1,500 man hours of investigations including the commissioning of a report to evaluate potential environmental ramifications. Only four of the 31 city council members in Frederikshavn voted against the project.

Municipality spokeswoman Karin Rasmussen said that Total will only be permitted to drill conventional wells for testing, without the use of hydraulic fracturing. Rasmussen said any plans for fracking would require a separate environmental study and permits. In 2012, France Total E&P Denmark and the Danish state-owned Nordsøfonden reportedly committed €27 million into search for shale gas in the northern part of the Jutland peninsula. The companies hold two exploration licenses and have committed themselves to a test drilling in this license area, which is the most mature of the two licenses.

According to project coordinator Henrik Nicolaisen from France Total E&P Denmark, there might be about **five times as much shale gas onshore as the country has recovered from the North Sea so far**. He estimates the chances of finding commercially interesting quantities to about 20% and in case of success production might start in 2020. In December 2013, The US Geological Survey estimated that the Alum Shale in Denmark contained **6.9 trillion cubic feet of undiscovered, technically recoverable natural gas**. (June 26, 2014)

06/30/2014

TURKEY:

ExxonMobil in talks with Turkey over shale gas exploration

ExxonMobil is in talks with state-run Turkish Petroleum Corporation over a venture to explore for shale gas in the country's southeast and northwest regions, a Turkish energy official said. Exxon held talks with TPAO in 2012 to over a partnership in shale, but the negotiations were inconclusive. Turkish officials say talks have since advanced and are likely to result in an agreement. Selami Incedalci, the head of the energy ministry's General Directorate of Petroleum Affairs, said recently ExxonMobil was interested in **onshore opportunities in the southeast and Thrace, in northwestern Turkey**.

With domestic gas consumption rising, and its location well-placed to supply international markets, major exploitable reserves could be a game changer for Turkey's economy and highly lucrative for whoever finds them. Investors from the United States, Europe and Canada are also interested in Turkey's shale gas and oil, Incedalci said, adding that the Ministry was planning to hold talks with potential investors in October. (June 23, 2014)

06/23/2014

UNITED KINGDOM:

Modest' reserves mean Scotland will miss out on fracking revolution

The British Geological Survey estimates there are **80 trillion cubic feet of shale gas and six billion barrels of shale oil underground – considerably lower than the 1,300 trillion cubic feet in the north of England and 4.4 billion barrels in the south**. The amount of oil and gas which could be commercially recovered is expected to be “substantially” lower, surveyors said.

The report added: “The complex geology of the area and historic mine workings mean exploratory drilling and testing is important to determine how much can be recovered.” UK Energy Minister Michael Fallon said shale gas and oil reserves in central Scotland would not provide “an energy bonanza”. (July 1, 2014)

07/01/2014

SPAIN:

Spain's Constitutional Court throws out Cantabria fracking ban

Spain's Constitutional Court has thrown out a law against hydraulic fracturing for shale gas and oil in the northern region of Cantabria, saying **the matter is up to the central government**, a court spokeswoman said.

Cantabria passed a law in April 2013 **prohibiting exploration and production of oil and gas using hydraulic fracturing** or fracking, a method of extracting shale gas which has not been used in Spain. The central government contested the local law in the Constitutional Court, arguing it has jurisdiction in the matter and that Cantabria's ban violates the national law on hydrocarbons.

Spain produces almost no oil and gas. The central government hopes to develop a potential shale gas field stretching from Galicia to the Basque Country, passing through the small region of Cantabria, in northern Spain. (June 25, 2014)

06/26/2014

Strategy for Argentina's unconventional oil & gas producers

The 3rd Shale Gas World Argentina is the premier meeting place for shale gas and unconventional resource stakeholders. Join us in to debate the economics of the Argentine shale industry and learn how the country is working to commercialise shale reserves.

2014 key speakers include:



Jorge Sapag
Governor
Neuquén Provincial
Government



Alejandro Jotayan
CEO
Andes Energia



José Luis Manzano
Chairman
Integra Capital



Luis Giusti
Senior Advisor
CSIS



Javier Iguacel
Managing Director
Pluspetrol



Gabriela Gonzalez
VP of Exploration
Pan American Energy

For full programme and speaker line up please visit:
www.terrapinn.com/shale-argentina-cedigaz

ShaleGas
WORLD
Argentina 2014

UNITED KINGDOM:**Total approves Shetlands field, plans another**

Total and Denmark's state-controlled Dong Energy have agreed to development of the offshore Edradour natural gas field in the West of Shetland area after negotiating price concessions with contractors. Total also has acquired a 60% stake in Dong's neighbouring Glenlivet gas discovery, which along with Edradour will help establish West of Shetland as a strategic upstream hub, Total said. Both fields will probably be tied back to the production platform at Total's Laggan-Tormore fields, where gas production is scheduled to start up later this year.

Edradour and Glenlivet will add more than 65mn bl of boe to the reserves that will flow through the Laggan-Tormore development, where operator Total and 20% stakeholder Dong are investing about \$3.8bn on a **gas processing plant, an export pipeline and other infrastructure**. Total has touted the Laggan-Tormore fields, which hold about 230mn boe of gas and condensates, as representing the future of the UK oil and gas industry.

Total and Dong delayed a decision sanctioning Edradour last year because of rising costs. "Subsequent negotiations with the contractors have reduced the costs to an acceptable level, allowing us to successfully launch the project," said Total's senior vice-president for northern European upstream operations, Patrice de Vivies.

Total operates Edradour and owns a 75% stake in the field, while Dong owns the remaining 25%. Terms of the major's acquisition of a 60% interest in Glenlivet from Dong were undisclosed. Dong retained a 20% stake in Glenlivet, while UK upstream independents First Oil Expro and Faroe Petroleum each hold 10% interests in the field. A final investment decision on development of Glenlivet is expected shortly, Total said.

Edradour is located in Block 206/4a in water depths averaging about 300m, 75km northwest of the Shetlands. It will be connected to the main Laggan-Tormore flowline by a 16km pipeline. Production is scheduled to begin in the fourth quarter of 2017 and reach a **plateau of 17,000 boe/d**. Development will cost an estimated \$583mn.

Glenlivet is in Block 214/30a in about 435m of water and is 90km northwest of the Shetlands. It may be tied back to Edradour with a 17km pipeline.

Total and Dong also share ownership of Laggan-Tormore, with stakes of 80% and 20% respectively. The development will have production capacity of 90,000 boe/d. With the start-ups this year of Laggan-Tormore and another North Sea project, the 40,000 boe/d West Franklin phase II, it will become the largest oil and gas producer in the UK, Total said. (July 3, 2014)

07/03/2014

PRODUCTION

UNITED STATES:

Ohio Shale gas production doubled in 2013

Ohio's natural-gas production nearly doubled from 2012 to 2013 because of activity in the **Utica shale play**, the Ohio Department of Natural Resources reports. In fact, history was made with a **97% increase in natural-gas production**; 100 billion cubic feet of gas was produced in both the Utica and Marcellus shales, ODNR officials say. In addition, 3.6 million barrels of oil were produced — increasing production in Ohio by 62% over 2012.

The gas production in the Utica was equivalent to about 16% of the state's gas production, and this year it is at least 58% if not 62%, Richard Simmers of ODNR Division of Oil and Gas Resources Management said at the discussion.

The Utica is primarily a unique gas formation, he said. Some of the products brought out of the Utica include ethane, butane and propane. "These are very valuable products, and they make the Utica very unique in the entire nation and for that matter in the world," Simmers said.

Production data for the first quarter of 2014 shows a total of 418 wells with reported production of 1.9 million barrels of oil and 67 bcf of gas. Last year, ODNR projected about 1,300 wells to be permitted and were right on track with 1,386 permitted in the Utica as of June 28 and 44 permitted in the Marcellus. (July 3, 2014)

07/03/2014

LATIN AMERICA:

The Latin American quandary: lots of shale gas, not a lot of production

Imports of LNG to Latin American are up 18% so far this year, according to Bentek, buoyed by growing demand from Mexico and Brazil. But, with so much recoverable indigenous supply, why is Latin America paying top dollar for imported gas? According to the US Energy Information Administration, technically recoverable shale gas resources in Argentina are the second largest globally at 802 trillion cubic feet, Mexico's reserves are the sixth largest at 545 Tcf, while Brazil ranks tenth with reserves estimated at 245 Tcf.

Accessing these shale reserves **requires political will and costly investments, factors that have combined in various ways across the region to impede domestic production and make LNG an easy, though short-sighted solution** to growing demand for electricity in Latin America.

In Argentina, companies like Chevron, ExxonMobil, Shell and Total have gone forward with investments in the vast Vaca Muerta shale play with an aim to reverse a 36% decline in gas production over the last decade. However, a recent ruling on Argentina's government bond obligations, issued by the Federal District Court of Manhattan, has raised doubts over the possibility of default. Amid such financial uncertainty, attracting additional foreign investment needed to develop the country's unconventional resources will be difficult. Some estimates suggest that full development of Argentina's shale resources could cost upward of \$100 billion. Companies looking to raise capital for such investments could pay an interest rate of 13%-15% or higher, enough to encourage potential investors to look elsewhere.

In Mexico, domestic natural gas production has suffered over the last seven years as state-owned oil company Pemex focuses capex on reversing the country's declining production of crude oil. While recent reforms in the energy sector bring the promise of foreign direct investment, the country's relatively sparse pipeline infrastructure presents serious logistical challenges. Accessing and transporting shale gas reserves will require substantial new investment. Additional pipeline gas from the US, expected to more than double in volume before the end of the decade, will address some but not all of Mexico's growing energy demand.

In Brazil the government is betting heavily on renewables and remains optimistic that new hydro-electric dams and windmills will provide additional base load power needed to meet demand expected to grow at 5 GW annually through 2020. While 62 GW of additional electric capacity will be added by 2019, only 5 GW is slated for thermal generation. Swift development of Brazil's unconventional resources looks even less likely in the near future unless capricious rules that govern energy auctions are overhauled.

While Brazil, Mexico and Argentina all face unique challenges in meeting their growing demand for electricity, it's clear that **all three will remain dependent on imports of LNG over the near to mid-term.**

Tapping indigenous gas supplies in these countries will require policies that attract foreign capital, that prioritize the construction of gas infrastructure and offer a means for investors to make a reliable return on investment. (July 4, 2014)

07/04/2014

SUPPLIES - IMPORTS - EXPORTS

JAPAN:

Japan's Chubu plans to buy stake in U.S. shale gas field

Chubu Electric Power Co, the world's third-biggest LNG buyer, is seeking its first stake in a U.S. shale gas field **as a hedge against planned purchases from the Freeport LNG project** in Texas, the company said.

Chubu has agreed to buy 2.2 million tonnes of LNG a year from Freeport from 2018, and buying an upstream stake would help hedge its fuel expenses by offsetting feedstock costs in the event of a rise in the Henry Hub U.S. domestic gas benchmark price. The firm would look to hedge only part of its purchases, Hiroki Sato, general manager of Chubu's fuels department and head of its trading business, said in an interview.

Chubu has yet to identify a potential stake, Sato said. It would need to purchase a **stake covering production of about 107 billion cubic feet a year** to provide a full hedge, **equivalent to about 2% of output in the giant U.S. Marcellus region.**

Japan, which buys a third of global LNG shipments, hopes to win price reductions of as much as 30% from its average import price by buying from U.S. fields, and use the lower prices to bargain down purchases from other regions.

The **average price for LNG imports was \$16.83 per mmBtu in April. Henry Hub prices are currently around \$4.50/mmBtu**, while the final cost would include liquefaction and transport. Japan imported a record 87.5 million tonnes of LNG last year, helping to push trade deficit to the highest on record. (June 25, 2014)

06/26/2014

UNITED KINGDOM:

New regulator set to oversee shale licensing

The new oil and gas regulator created for the UK North Sea **will also have powers over onshore activities, including shale gas**, City A.M. has learnt. In a bid to ensure security of supply and bring down energy costs, the government has been supportive of the conventional oil and gas sector and the burgeoning shale gas industry, introducing tax breaks for both.

The next onshore oil and gas licensing round, that will allow companies to bid for shale gas permits, is expected to take place this summer. "The government agrees that the new Oil and Gas Authority's remit should extend to onshore and we will consider this in more detail with the onshore industry, focusing on how the new authority should deal with the exploration and subsequent production phases of new unconventional – principally shale – resources," said a spokesperson from the Department of Energy and Climate Change.

It is thought that the **new regulator's powers will cover licensing rather than environmental issues**. Sir Ian Wood's review into the UK North Sea earlier this year proposed a new regulator to maximise the area's oil and gas reserves.

It is unclear whether the regulator will also cover underground coal gasification (UCG) which is defined as an unconventional resource. Aim-listed Cluff Natural Resources has five licences to extract gas from coal deposits under the North Sea and is hoping to drill its first well within the next year, subject to planning permission. "This has never been done before offshore and it would have considerable implications for this country," boss Algy Cluff told City A.M., adding that the firm was in talks with refineries over potential supply deals.

Shale gas player Dart Energy is also looking into UCG, but onshore. It is currently waiting for a decision on its appeal to extract gas from coal in central Scotland. A spokesperson said the firm would not be looking to tap into North Sea coal as it is "unknown territory". (July 7, 2014)

07/08/2014

CHILE:

US to start supplying shale gas to Chile in 2015

Next year the US will begin deliveries of shale gas to Chile, the country's Energy Minister Maximo Pacheco said. "The first port, which will start the export of shale gas from the US, belongs to the company Cheniere. The first ships to depart from this port will be carrying the LNG intended for Chile," The US companies are interested in exporting gas against the backdrop of the so-called shale boom compounded by low domestic prices, but they require permission from the state authorities for the supply of gas to countries not involved in the free trade agreement with the United States.

In 2012, Cheniere Energy became the first company to receive the US government permission to export the shale gas from Cameron Parish in the southern state of Louisiana.

Chile is the world's largest copper producer, importing about 70% of its energy resources, with medium term plans to increase gas consumption. (July 8, 2014)

07/08/2014

CONFERENCE - EXHIBITION - NETWORKING



2ND EUROPEAN SHALE GAS AND OIL SUMMIT 2014

29TH - 30TH SEPTEMBER, LONDON

"IMPLEMENTING SUCCESSFUL SHALE GAS PROJECTS"

+44 (0) 203 131 0048

WWW.ESGOS.EU

TRANSPORT - DISTRIBUTION

UNITED STATES:

Maritimes and Northeast Pipeline capacity to be expanded

The company that owns the Maritimes and Northeast Pipeline has announced plans to expand its capacity to ship inexpensive U.S. shale gas into Maine and the Maritimes. Spectra Energy is responding to a call from New England governors for access to a reliable supply of lower cost energy to generate electricity. But Spectra Energy says it may also bring lower natural gas prices to Atlantic Canada. The Maritimes and Northeast Pipeline was built to carry Nova Scotia gas west and south into New England. Those supplies are running out, however.

In addition, last winter's multiple storms and extended cold stretches led to crippling price spikes throughout the Maritimes and much of the northeastern U.S. Meanwhile, there are abundant supplies to cheap shale gas in the southern United States, in the Marcellus region.

Spectra's pipelines are not currently set up to ship gas into the Boston area and north to Maine. But the company plans to reverse pipelines and increase capacity of the Maritimes and Northeast Pipeline and the Algonquin Gas Transmission pipelines by up to one billion cubic feet per day.

"To enhance the reliability of approximately 60 per cent of these generators, we can expand our mainline and lateral facilities along our existing pipeline footprint while minimizing the effect on communities and the environment," Bill Yardley, Spectra Energy's president of U. S. transmission and storage said.

Spectra's plan remains a proposal at this time. It must first win favour with New England Governors. The target year is 2018. (July 4, 2014)

07/08/2014

ENVIRONMENT

GERMANY:

Shale gas not in Germany's near term plans

The EU's Energy Commissioner has appealed to Germany to keep its options open for the development of its shale gas reserves. Guenther Oettinger made the comments following the statement Friday by Germany's Environment and Economic Ministers, that fracking for shale and coal bed gas **for economic reasons won't be possible for the foreseeable future.**

Concerns over the risks to ground water will see the government introduces regulations which would effectively ban hydraulic fracturing for unconventional gases for the next seven years.

Environment Minister Barbara Hendricks, together with Economy Minister Sigmar Gabriel, said that the proposed regulations would be "the strictest that ever existed in this respect." The ban on hydraulic fracturing will only apply to drilling operations at depths less than 3,000 meters, but prohibits all types of fracking in water protected areas.

Fracking has been used in Germany including by Wintershall and Exxon Mobil, since 1955 in the Schleswig-Holstein region and since 1976 in the country's Lower Saxony region. This practice will allowed to be continued, but the government will tighten rules aimed at preventing water contamination from fluids released during the controversial process.

Germany's Federal Institute for Geosciences (BGR) has estimated the country's shale **gas potential between 0.7 trillion and 2.3 trillion cubic meters**, which at the upper end would cover demand for 27 years. The government said that it would re-evaluate the proposed rules in 2021. (July 5, 2014)

07/07/2014

PUBLICATIONS

ARGENTINA:

Argentina best placed to develop its shale resources of any country outside of North America,

Argentina's Neuquén basin promises the greatest potential for development of its unconventional resources, including shale gas and oil, of any country outside of North America, according to a new report published by Accenture ACN.

Accenture's report, *International development of unconventional resources: If, where and how fast?* reviews basins in Argentina, Australia, China, Mexico, Poland, Russia, Saudi Arabia, South Africa and the United Kingdom. The report examines these basins against eight critical factors required for the development of unconventional resources and analyses their investment prospects. "Before investing in shale oil and gas basins, developers need to consider eight key areas. These not only include the size of the potential resources and an enabling fiscal regime, but also the basin's geology, in particular the availability of data, quality of the rock and requirements to adapt technology to the local rock", said Melissa Stark global managing director of Accenture's new energy business. "It's also important to consider land access and operability, including population density, water availability and existing roads and rail infrastructure, as well as views of local Non-Governmental Organisations (NGOs). Additionally, developers should consider the presence of an existing unconventional services sector to support development; existing oil and gas distribution networks to commercialise the product; competition from conventional or other resources that could divert focus away from shale; and, finally, a skilled oil and gas workforce to enable future development of unconventional resources."

"Although it would seem like the more factors that are met in each location, the sooner it is likely to become a viable unconventional resources investment, any single factor can delay development. We believe that even in the most favourable basins, development is at least five to 10 years away, and one thing that we tried to determine in this analysis is which factor will define the pace of development in each market," Melissa Stark added.

So far, **the largest number of exploration and test wells (~200) have been drilled in Argentina and China**, where the technically recoverable shale gas resources are estimated at 802 tcf and 1,115 tcf, respectively, compared to the United States, which has 665 tcf. Although Argentina is a challenging environment for foreign investment, its **government has begun to offer attractive incentives** demonstrating a commitment to developing its unconventional resources. The established Neuquén basin has significant conventional oil and gas production and existing infrastructure, including roads, pipelines and rail, as well as an experienced oil and gas workforce, making it the next most attractive prospect for development. **The fiscal regime is the most important factor driving its pace of development.** (June 18, 2014)

06/19/2014

TIGHT GAS

EXPLORATION

AUSTRALIA:

Buru Energy allowed to pursue tight gas project in Western Australia

Government of Western Australia (WA) has allowed Buru Energy to pursue its tight gas project in Kimberley region **without an Environmental Protection Authority (EPA) assessment.**

Buru said recently that WA Environment Minister Albert Jacob has upheld the Environmental Protection Authority's (EPA) determination in regard to the company's tight gas testing proposal. "In dismissing the appeals against the EPA decision, the Minister said the EPA had concluded that Buru's "small scale, limited duration 'proof of concept' exploration proposal is unlikely to have a significant effect on the environment"," Buru said in a statement.

According to Buru, the Minister understood that the EPA considered that the proposal would be further evaluated, regulated and mitigated by the Department of Mines and Petroleum (DMP) and Department of Water to meet the EPA's objectives for the environmental factors identified for the proposal. Buru now awaits the outcome of the assessment of the Environment and Operational Plans for the program, known as the Laurel Formation Tight Gas Pilot Exploration Program, currently being undertaken by the DMP.

In addition to the formal approvals process, the company said it has undertaken an extensive community engagement program, which will be ongoing and will ensure the regional community continues to be fully engaged with the project participants. (June 17, 2014)

06/18/2014

PRICE

SAUDI ARABIA:

Saudi Arabia plans to reduce tight gas production cost to US levels

Saudi Arabian Oil Co. plans to bring down cost of producing tight gas to levels prevailing in the US, news agency Bloomberg reported citing a company official. The state-owned producer is **now targeting a cost of \$2 to \$3 per thousand cubic feet of tight gas**, Adnan Kanaan, manager of the company's Gas Reservoir Managing department said in a report published by the Society of Petroleum Engineers.

Saudi Arabia is keen on developing its shale and tight gas deposits to reduce the use of crude oil and other liquid fuels at power plants and free more oil for exports, the news agency said. The Kingdom is estimated to hold as much as **645 trillion cubic feet of technically recoverable shale gas**, the world's fifth-largest deposits. (July 7, 2014)

07/11/2014