

U - Gas News Report

Unconventional Gas Activities in the World

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by *Constancio Silva*

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SHALE GAS

EXPLORATION

INDIA:

Central aid for shale gas project

Union minister of state for petroleum and natural resources Dharmendra Pradhan has directed ONGC to speed up the process of setting up the country's first shale gas mine in Andal's Ichapur mouza.

Four years ago 260 trillion cubic feet of shale gas was found 1,170-metre deep, spread over 1,250 to 1,300sqkm. The reserve has the potential to meet India's energy requirement for the next 200 years.

A high-level meeting was held in New Delhi on Wednesday and the Centre has decided to take all steps to expedite the project.

"This was the third meeting on the project in the last 1.5 months. Our government is keen on extracting natural gas in Andal unlike the erstwhile Congress government," said MP Babul Supriyo.

"ONGC CMD and director (exploration) also attended the meeting and have handed me the necessary papers and map. We will be going for a joint spot inspection at Andal very soon," Supriyo added.

According to him, PM Narendra Modi will be briefed about it during his May 10 Asansol visit. (May 8, 2015)

05/08/2015

DENMARK:

Denmark allows Total to resume fracking

French energy giant Total was granted a permission to continue shale gas exploration in Denmark following a week-long ban over using hazardous chemicals not approved by local authorities in its drilling process.

The Danish Energy Agency (DEA) confirmed that Total may resume drilling for shale gas once it obtains all the necessary permits from the environmental authorities. The agency said it had received a confirmation from Total that "it will ensure that no future error occurs by introducing a number of new procedures to control the handling of chemicals." (May 14, 2015)

05/14/2015

SOUTH AFRICA:

Fracking rules could change, says environment minister

THE government may change its rules for companies wanting to explore for shale gas in the Karoo once its two-year strategic environmental assessment is completed, Environmental Affairs Minister Edna Molewa said on Tuesday.

The assessment takes the country a step closer to exploiting what are believed to be vast reserves of the gas in the Karoo basin.

The R12.5m assessment is intended to provide the government scientific evidence to make informed decisions about the development of shale gas.

"We will use this strategic environmental assessment to reinforce and strengthen aspects of the regulations if need be," she said.

Ms Molewa said the exploration licences granted to companies would provide important information about the extent of SA's shale gas resources. Estimates range between 40-trillion cubic feet and 390-trillion cubic feet of recoverable gas reserves.

The assessment, led by Wits University ecology professor Bob Scholes, will involve the Council for Scientific and Industrial Research, the South African National Biodiversity Institute, and the Council for Geosciences. Prof Scholes said a wide range of stakeholders were to be included, ranging from those staunchly opposed to extracting shale gas by hydraulic fracturing, or fracking, to those who strongly supported it.

The study would cover more than 125,000km², and consider the life cycle of shale gas exploitation, from exploratory drilling to final rehabilitation of sites.

Ms Pandor said she would ensure the Square Kilometre Array (SKA) radio telescope was protected from any risks posed by shale gas development, noting that a 25km buffer zone had already been declared around the SKA site. (May 13, 2015)

05/13/2015

UNITED KINGDOM:

Ineos completes purchase of shale gas licences from UK's IGas

Swiss chemicals group Ineos has completed a deal to operate a number of shale gas licences held by Britain's IGas, expanding the Swiss firm's presence in the British shale gas industry.

IGas said on Thursday Ineos would gradually take over running of the four licences after all necessary governmental approvals had been received.

Ineos announced plans last year to make a \$1 billion investment in British shale gas exploration with an ambition to become the country's biggest shale gas player.

Ineos already owns shale licences in Scotland. (May 7, 2015)

05/07/2015

SOUTH AFRICA:

South Africa prepares to give shale gas go ahead

South Africa will gazette final regulations for shale gas exploration by June, two years after releasing draft rules and as companies reconsider investments due to volatile oil prices and delays in awarding licenses.

In March, Royal Dutch Shell said it was pulling back from its shale projects in South Africa's semi-arid Karoo region which is believed to hold up to 390 trillion cubic feet of technically recoverable reserves.

"We have finalised the regulations... It would be gazetted in a month's time," Ngoako Ramathodi, minister of mineral resources, told reporters before his budget speech to parliament.

Shell had applied for an exploration license covering more than 95,000 square km, almost a quarter of the Karoo.

A study commissioned by the company said extracting 50 trillion cubic feet or 12.8 percent of potential reserves, would add \$20 billion or 0.5 percent of GDP to the South African economy every year for 25 years and create 700,000 jobs.

Besides Shell, Falcon Oil and Gas in partnership with Chevron, and Bundu Gas have applied for exploration licenses.

But environmentalists and land owners in the Karoo, situated in the heart of South Africa, have argued that exploring for shale by fracking, or hydraulic fracturing, would cause huge environmental damage in the water-scarce region.

"We have taken into consideration the issues of water and regulations are going to address this sufficiently, providing proper guidance on how to undertake hydraulic fracturing," said Thibedi Ramontja, director general in the department of mineral resources.

It would take companies about three years of exploration to determine if the Karoo reserves were commercially viable, before moving into possible production, he added. (May 7, 2015)

05/08/2015

GERMANY:

The case for shale

Germany is facing some acute energy challenges. Tomorrow Germany's parliament will hold its first reading on a draft law to regulate exploration for shale gas, a potentially significant new domestic energy source.

"Germany has some of Europe's most ambitious environmental objectives. But it also needs to ensure a secure supply of energy that enables its industries to remain competitive and consumers to continue heating their homes at an affordable price. In finding a pragmatic solution that strikes an appropriate balance, the forthcoming debate should avoid unnecessary rhetoric," said Marcus Pepperell, Spokesperson for Shale Gas Europe. "There's no point promoting renewables as the only solution when Germany is consequently having to import more coal to meet demand."

What are Germany's energy challenges?

1. Germany is Europe's biggest energy consumer, representing 19.3% of Europe's total energy demand.
2. Germany has some of the highest electricity prices in Europe, second only to Denmark. This has had a significant impact on its industrial competitiveness effecting jobs and investment.
3. 18.6 million German homes are dependent on gas that also provides industry with approximately 25% of its total energy needs.
4. Germany's has ambitious climate change targets. The country aims to reduce its carbon emissions by 80% of 1990 levels by 2050 and increase the share of energy from renewables to 60%.
5. However Germany will still be dependent on fossil fuels for the foreseeable future, which will still provide 40% of its energy supply in 2050.
6. As Germany seeks to balance supply against demand, it has become extremely dependent on imported energy. Energy dependency is at its highest in 20 years, rising to 62.7% of its energy consumption in 2013. This is 10% higher than the EU average.
7. Germany is also using and importing increasing amounts of coal, a more carbon intensive fossil fuel.

The case for shale

1. Germany holds some of the largest estimated shale gas reserves in Europe - 2.3 trillion m3. This could provide 20% of Germany's annual gas demand for up to 100 years.
2. Any shale gas production reduces Germany's need for more expensive imports. A more secure supply will also ensure it is less vulnerable to external geopolitical factors outside of its control.

Natural gas is also the lowest carbon intensive fossil fuel with a carbon footprint 41% to 49% lower than that of coal-fired plants. Shale gas could therefore work in tandem with renewables by replacing coal, helping Germany continue to reduce its CO2 emissions and meet its climate change objectives. (May 6, 2015)

05/07/2015

DENMARK:

Total drops shale drilling near Danish capital

Total SA has relinquished its permission to for shale gas in Denmark's northern Zealand near to the country's capital Copenhagen after drilling failed to yield attractive results.

Total said its decision on Zealand site was not linked to the criticism it received at separate shale gas exploration site in northern Jutland, where it had to temporarily halt operations after the use of an unapproved chemical.



Speaking to Danish broadcaster DR, company spokesperson Henrik Nicolaisen said the decision to discontinue exploration at the Zealand site was not related to the Jutland incident.

"The shale gas supply is too thin for us to find it relevant to investigate the area further. It has absolutely nothing to do with politics," he told broadcaster DR. (May 23, 2015)

05/27/2015

PRODUCTION

ARGENTINA:

Argentina might be in a downwards spiral, but their shale gas boom is just starting

The shale oil and gas held in the Vaca Muerta rock formation in Argentina's Neuquén Basin is estimated to be the world's fourth largest, and the largest in Latin America. It alone contains more energy resources than Mexico, Brazil and all of Europe. Argentinian president Cristina Kirchner believes it holds the keys to the country's future. Here are four things to know about the biggest untapped shale bed in Latin America.

1. Vaca Muerta Could Turn Argentina Into A Net Exporter.

At the moment, Argentina has to import billions of dollars worth of oil and gas. Vaca Muerta could turn it into a net exporter. It just needs massive amounts of capital to do it. YPF, the state-owned oil company, estimates it'll take about 10 years and \$200 billion of investment.

2. The YPF Will Push Through Laws That Will Attract International Capital.

YPF was at the center of a 2012 fracas when president Kirchner's government decided to expropriate Spanish company Repsol's 51 percent stake. Kirchner said Repsol had not invested enough in exploration. The Spanish company eventually accepted \$5 billion in compensation. Since then, though, YPF has pushed through laws lengthening oil concessions and loosening restrictions on foreign investment. The laws include one which allows firms to repatriate profits after investing \$1 billion over 5 years. YPF is charging less to drill the wells — \$6.9 million per well, down from \$11 million. And the cost of drilling in the province will soon drop 10 percent, after Argentina starts producing its own sand necessary for fracking the shale-oil deposits.

4. Argentinian Government is Going Full Steam Ahead, Anyway.

Of the \$200 billion YPF needs to make Argentina a net exporter of energy, \$140 billion is for fracking. There are already 150 shale wells chugging away in Vaca Muerta right now. About 100 of them were built last year, in addition to well over 600 traditional oil and gas wells. As local opposition has mounted, driven by environmentalists and by "not-in-myprovincial lawmakers, the national legislature passed a law which put the power to make decisions on the issue firmly in the hands of the federal government.

5. Everybody Wants A Piece Of The Pie.

Only a few companies possess the knowledge when it comes to fracking. They happen to be the world's biggest firms. Chevron sunk \$1.2 billion into a 2013 pilot program with YPF, and another \$1.6 billion in 2014. Exxon has exploratory wells. Russia too: state oil giant Gazprom has made vague agreements with the Argentinian government to participate in extraction at Vaca Muerta. Although Gazprom first has to figure out who it would sell to, since it's currently sitting on a surplus due to European sanctions. Malaysia's Petronas is also in on the act, having signed a \$550 million accord last summer that went into effect this week. (May 13, 2015)

05/14/2015

CHINA:

China's shale gas output to top 5 bcm in 2015

China's shale gas output is expected to top 5 billion cubic meters (bcm) in 2015, said Guo Jiaofeng, a researcher with the Development Research Center of the State Council, reported Xinhua Finance on Tuesday.

By 2020, the shale gas output of the country is likely to exceed 30 bcm, accounting for 15 percent of China's total gas output, Jiaofeng said adding that country's shale gas industry is ready for massive commercial development after ten years of exploration experience, technology breakthrough and theoretical approach.

Meanwhile, Sinopec on Monday announced start up of shale gas transmission pipeline connecting Fuling field in southwest China's Chongqing municipality. The 136-km pipeline will be able to transit 6 bcm of shale gas each year out of the Fuling field.

Sinopec plans to build 63 platforms with 253 wells and form 5 billion cubic meters of shale gas production capacity in Fuling by the end of 2015, Xinhua Finance said.

Last year, Sinopec's Fuling field was verified by Chinese government as country's largest shale gas play. The Ministry of Land and Resources verified proven reserves of nearly 107 billion cubic metres (bcm) in the Fuling shale gas field. (May 12, 2015)

05/13/2015

EUROPE:

European Commission rules out EU shale gas boom

European Commission Vice President Maros Sefcovic ruled out on Tuesday any possibility of a boom in shale gas exploration in Europe in the future.

Speaking at the opening session of the EU Energy Security Conference, Sefcovic cited Europe's geological conditions, population density and public environmental concerns as the main obstacles preventing widespread shale gas exploration.

"I think that we have seen over the last years that, simply, geological conditions in Europe are different, that we are more densely populated than in the States and our citizens are much more environmentally conscious also because the potential sites could be much closer to densely populated areas," Sefcovic said.

"I personally – maybe I will be mistaken in the future, but do not expect such a boom as we have in the States because of our geological conditions and also because of the size of Europe and the size of the United States."

In January 2014, the European Commission outlined recommendations for EU member states to ensure that shale gas production is carried out in accordance with appropriate climate and environmental safeguards. The recommendations envisaged that a site for drilling could only be selected after ensuring that there would be no possibility for leaks of pollutants into groundwater, soil or air. (May 5, 2015)

05/06/2015

EGYPT:

Shell, Apache to begin shale gas production in Egypt Early next year

Royal Dutch Shell and Apache Corp are expected to **commence shale gas production from the Apollonia field in the Western Desert in February 2016**, according to Daily News Egypt.

Khalda Petroleum Co, which is undertaking operations on behalf of the two companies, will start drilling two experimental wells, data and pilot wells, in the Apollonia field.

In December last year, **Cairo signed its first shale gas exploration agreement with Apache and Shell.**

Drilling operations will start at the first well by the end of this month, while the second one will be drilled directly after finishing the first well in June after studying and evaluating the core samples and well logs, reported Daily News Egypt. The two companies will start drilling the horizontal wells in November. **The first well will be drilled and completed and the same will take place for the second one by the next half of 2016.**

According to the newspaper, **construction works of surface facilities will start from September until December 2015, while the first well will be linked to the facilities by the beginning of January 2016.**

Egypt has set \$5.45 per mmBtu as the price for shale gas extracted by foreign firms. (May 25, 2015)

05/27/2015

RESERVES

CHINA:

China's Guizhou Province has 1.95 tcf of recoverable shale gas resources

China's Guizhou province has 1.95 trillion cubic meters (tcf) of recoverable shale gas resources, Xinhua Finance reported Monday citing a latest geological survey by local government.

Guizhou has 13.54 trillion cubic meters of shale gas resources with seven potential shale gas-bearing strata.

According to Xinhua Finance Guizhou would compile shale gas exploration and development plan and the provincial government has selected 17 favourable blocks for exploration.

China has been increasing investment in shale gas sector in an effort to commercialise the resources. (May 17, 2015)

05/18/2015

ENVIRONMENT

UNITED STATES:

New York releases final environmental review of fracking

New York regulators have released the final version of an environmental impact review of natural gas development that's expected to lead to the nation's first ban on a drilling process called fracking by a state with significant shale gas deposits.

Democratic Gov. Andrew Cuomo said in December that he would defer to the judgment of his health and environmental conservation commissioners, who said they'd recommend a ban on high-volume fracking, or hydraulic fracturing, which involves injecting large volumes of water with sand and hazardous chemicals underground to break apart rock. Under state law, a formal decision on whether to allow or ban fracking will come 10 days after the environmental review's release on Wednesday.

The report "is the result of an extensive examination of high-volume hydraulic fracturing and its potential adverse impacts on critical resources such as drinking water, community character and wildlife habitat," Department of Environmental Conservation Commissioner Joe Martens said.

"We considered materials from numerous sources, including scientific studies, academic research and public comments, and evaluated the effectiveness of potential mitigation measures to protect New York's valuable natural resources and the health of residents," Martens said.

The report incorporates the state Department of Health report issued in December, which found "significant uncertainty" over whether safety measures could adequately protect public health, including impacts to air, water, soil and community character.

The environmental review that was launched in 2008 drew more than 260,000 comments over the course of several revisions. No shale gas wells have been permitted during that time. The final report, which is more than 2,000 pages long, includes more than 300 pages of state responses to comments.

"There are thousands of pages of fine detail to sort through, and we know much work remains, like banning other states' fracking waste from being dumped inside our borders," said Liz Moran, an associate with Environmental Advocates of New York.

Natural Resources Defense Council lawyer Kate Sinding said: "The governor has rightfully let science and the will of the people be his guide, despite pressure from a powerful industry." (May 14, 2015)

05/15/2015

USE FOR POWER GENERATION

UNITED KINGDOM:

Firm applies for North Yorkshire fracking permit

Independent oil and gas producer Third Energy has applied for a permit to extract shale gas by hydraulic fracturing at a well in Kirby Misperton, North Yorkshire.

The application is currently being assessed by British authorities. If successful, Third Energy plans to carry out a test drill at the site, using the shale gas extracted to produce electricity at a nearby gas-fired power plant, but if substantial amounts were found the gas would pass through the national grid.

"We know that the gas is present but it is only by actually hydraulically stimulating the rock that we can understand the potential of the gas to flow and the likely volumes that can be produced," said Third Energy's Operations Director John Dewar.

Third Energy's well is located in the Bowland shale formation that experts estimate contains the bulk of Britain's shale gas resources.

Britain is estimated to have enough shale gas trapped below its surface to meet its gas needs for decades. But deployment of the fracking technology required to release the gas has been slow because local planning hurdles and massive protests by environmental campaigners.

However, Third Energy's application shows shale gas developers are continuing to push for exploration despite the drawbacks as they try to establish how much of Britain's shale resources can actually be recovered. (May 22, 2015)

05/26/2015

GENERAL INFORMATION

UNITED KINGDOM:

Fracking support falls as Tory government promises to 'deliver shale'

Public opposition to fracking in the UK has continued to rise, according to polling released as the new Conservative energy secretary said she would "deliver shale" now the impediment of the Liberal Democrats had been removed.

In her first interview since being appointed, Amber Rudd told the Sunday Times the government would push ahead with its promises to expedite the extraction of shale gas and change the law to allow frackers to drill beneath national parks.

But YouGov polling, commissioned by the newspaper, showed support for fracking has dwindled to just 32% in the last 18 months – a fall of 12 percentage points. Meanwhile, opposition rose to 43%, up from 29%. (May 19, 2015)

05/20/2015

UNITED STATES:

Tokyo Gas wants to increase investment in US shale gas sector

Japan's Tokyo Gas has plans to increase investment in US shale gas sector as a hedge to LNG imports from the United States to start next year, Reuters quoted a company executive as saying.

Shigeru Muraki, a board member and executive adviser at Tokyo Gas said that the company has **contracted to buy 1.9 million tonnes per year of LNG** from U.S. producers and aims to invest in an equal volume in the upstream sector.

"We try to expand our investment in the shale gas production in the United States. That can be the natural hedge for LNG," he said, reported Reuters on Monday.

In March 2013, Tokyo Gas inked a deal to buy Quicksilver Resources' working interests in shale gas development joint venture in US Barnett basin, Texas and form a joint venture. This was first such deal for Tokyo Gas in the US shale gas space. (May 18, 2015)

05/19/2015

TIGHT GAS

EXPLORATION

PAKISTAN:

Tight gas discovered in Kirthar Block

Pakistan Petroleum Limited (PPL) on Tuesday announced discovery of tight gas from exploratory well Rizq-I in Kirthar Block.

A statement said that in a joint venture, Polish Oil and Gas Company (PGNiG) and PPL discovered tight gas from exploratory well Rizq-I located in district Dadu. The well delivered up to 10.7mmcf/d gas.

PGNiG holds 70 percent working interest as the operator of Kirthar Block, while PPL holds 30 percent working interest in it, the statement added.

The first discovery of tight gas was made in 2009 at well Rehman X-I in Kirthar block and it started production in June 2013. Presently, Rehman X-I produces an average of 10mmcf/d. (May 20, 2015)

05/20/2015

PRODUCTION

ARGENTINA:

Argentina's YPF, Petrolera Pampa expand shale-gas partnership

State-controlled energy company YPF said it has expanded its cooperation agreement with another Argentine crude and gas producer, Petrolera Pampa, with a view to developing the Rincon del Mangrullo shale-gas block in the southwestern province of Neuquen.

The accord, signed Wednesday, ensures the two companies will continue to develop the "tight-gas" project they launched in early 2014.

A total of **49 wells had been drilled in that area through the end of the first quarter of this year, yielding average daily gas production of 1.4mcm (49 million cubic feet)**, YPF said in a statement.

This new agreement calls for **additional investment totaling \$150 million** for surface infrastructure development, with each company accounting for a **50% share**.

These projects, highlighted by the planned construction of a new treatment plant and pipelines, will double gas-treatment capacity and enable the companies to boost daily production to **4mcm (140 million cubic feet)**.

Petrolera Pampa also pledged to invest **\$22.5 million to launch the third phase** of new well drilling, a project aimed at increasing tight-gas production at the block.

"Once that phase is completed, both companies will be able to continue" developing the block and dividing up the investment cost equally, the statement read.

The agreement also encompasses an up to \$40 million exploratory program in the nearby Lajas Formation for the 2015-2016 period, with Pampa Energia, the parent company of Petrolera Pampa, accounting for 85 percent of the total investment outlay.

The expanded cooperation accord calls for YPF and Petrolera Pampa to invest \$350 million this year, the state-controlled energy company, Argentina's largest hydrocarbons producer, said. (May 28, 2015)

05/29/2015
