

U - Gas News Report

Unconventional Gas Activities in the World

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Main News

COALBED METHANE

South Korea-Indonesia

- South Korea and Indonesia agreed to work together on coalbed methane projects.

SHALE GAS

Algeria

- Algerian cabinet has allowed exploration of country's shale gas reserves. The cabinet gave its approval for the launch of the required procedures to involve foreign partners in exploration the unconventional natural gas.

China

- China Petrochemical Corp hopes joint ventures with overseas firms will provide it with the technology to tap country's shale gas reserves.

United Kingdom

- Cuadrilla prepares next wave of fracking planning applications, it will submit applications to drill four exploration wells in Lancashire in the coming weeks.

Lithuania

- Surprising results of shale gas research in Lithuania.

Ukraine

- Ukraine crisis forces Shell to halt shale wells in Restive East.

Bulgaria

- US shale gas giant Chevron is leaving Bulgaria.

TIGHT GAS

Saudi Arabia

- Russia's Lukoil is set to drill deep for unconventional gas in Saudi Arabia's challenging "Empty Quarter" desert region.

Argentina

- Argentina state oil producer YPF announced recently it had made a discovery of 'tight gas' in the western Argentine province of Mendoza.

CBM

EXPLORATION

AUSTRALIA:

Metgasco still keen on NSW CSG project

GAS explorer Metgasco is committed to its controversial coal seam gas project in northern NSW, despite an ongoing suspension of its drilling licence. The NSW government suspended Metgasco's exploration licence for a farm near Bentley last week, days before drilling was set to commence. The company's lack of community consultation was cited as a reason for the suspension.

The Office of Coal Seam Gas has been urged to undertake a speedy examination of Metgasco's Bentley licence, but the office has told Metgasco the review is not yet completed, and was unable to confirm how much longer it would take.

Metgasco has provided a lengthy submission to the office, which the company says demonstrates it has fully complied with conditions related to community consultation. It said it remains committed to gas resources in the region, despite contrary media reports. (May 20, 2014)

05/22/2014

SOUTH KOREA - INDONESIA:

South Korea, Indonesia plan joint CBM projects

South Korea and Indonesia recently agreed to work together on **coalbed methane projects, a floating LNG terminal, on onshore liquefaction facility and a \$2.8 billion synthetic natural gas plant** in the Southeast Asian nation, according to a report by Platts.

The two countries agreed to expand cooperation in the whole gas value chain, a statement by the Ministry of Trade, Industry and Energy. "On the upstream front, South Korea and Indonesia discussed joint projects to develop coalbed methane gas in Indonesia," the statement said. Quoting from the statement Platts says that in the midstream sector, the two countries are eyeing joint projects to build a floating LNG terminal, small LNG carriers, an onshore liquefaction facility in Indonesia. In the downstream sector, they discussed a proposed investment by South Korea's SK E&S in Indonesia's city gas project, the statement said. SK E&S also signed a memorandum of understanding with Pertamina on joint projects for power generation and LNG infrastructure.

The agreements were signed during the annual Korea-Indonesia Energy Forum held on the island of Jeju in South Korea. (June 2, 2014)

06/03/2014

PRODUCTION

CHINA:

AAG reaches production milestone at its CBM concessions in Shanxi

AAG Energy Limited (AAG), the leading independent CBM company in China, announced that on June 8 the combined gross production from its Panzhuang and Mabi concessions in Shanxi Province surpassed 35.315 MMcf/d or 1 mcm/d.

Production at the Panzhuang concession has grown on average 50% year over year since 2011 when Panzhuang became the first Sino-foreign cooperative CBM project to obtain Overall Development Plan (ODP) approval from the National Development and Reform Commission (NDRC). Due to the swift production increases and rising natural gas price environment in China, AAG has increased revenue ~140% since 2011 reaching \$22.36 million by the end of 2013.

Keeping pace with the rapid development in Panzhuang, in 2013 the Mabi concession obtained preliminary ODP approval from the National Energy Administration (NEA). Mabi has a first phase commercial capacity target of 35 Bcf per year, with future commercial production expected to surpass 100 Bcf per year. "This milestone marker of 1 mcm/d reached June 8 **represents a 200% production increase from a year ago levels.** (June 12, 2014)

06/17/2014

AUSTRALIA:

Australia's Tlou Energy close to gas production at Botswana CBM project

Australia listed Tlou Energy said recently that Selemo pilot pod, at Lesedi CBM project in Botswana, has now displayed **evidence of first gas breakthrough**. The Lesedi CBM project area includes the Lesedi pod and the Selemo pod. "The Selemo pod has seen casing pressure increase steadily over the past week. Tlou is encouraged by the build- up of casing pressure at Selemo and expects, based on the continued build-up of gas pressure, that the pilot should start flowing gas in the near future," the company said.

The Lesedi CBM project's prospecting licenses extend for approximately 3,800km² in the Karoo Kalahari Basin, southeastern Botswana. According to Tlou, numerous exploration and appraisal work programmes have resulted in an independently certified 2.3 TCF of 3C, and 152 BCF of 2C contingent gas resources. (May 19, 2014)

05/20/2014

CHINA:**Green Dragon Gas' production up 178% in 2013**

Green Dragon Gas, one of the largest independent companies involved in the production and sale of CBM gas in China, has reported 2013 upstream gas production of 4.86 Bcf, up 178%. Gas sales for the year stood at 8.01 Bcf up 424% on year, the company said in its annual report.

The company gave a confident outlook for 2014. "Our results for 2013 demonstrate the significant value due to Green Dragon as a result of the agreement reached with PetroChina during the year. Subsequent to the year end, agreements were reached with CNOOC and CUCBM which will result in further increases in production as a result of their work performed on our GSS and GSN blocks. When combined with increases in production expected during 2014 from the company's organic drilling programme, we look forward to another year of significant progress," the company said. (June 9, 2014)

06/11/2014

SHALE GAS

EXPLORATION

ALGERIA:**Algeria allows shale gas exploration**

Algerian cabinet has allowed exploration of country's shale gas reserves. In a statement published recently, the cabinet gave its **approval for the launch of the required procedures to involve foreign partners in exploration the unconventional natural gas.**

The President Abdelaziz Bouteflika asked the government to ensure environment protection while exploring and exploiting shale gas. Algeria's 2013 Law on Hydrocarbons requires the approval of the Council of Ministers for the exploration and exploitation of shale hydrocarbons.

The North Africa nation ranks third worldwide in recoverable shale gas reserves, according to a report by the US Department of Energy (DoE) on non-conventional hydrocarbon reserves. According to the DoE, the reserves are mainly in the basins of Mouydir, Ahnet, Berkine- Ghadames, Timimoun, Reggane and Tindouf. Algerian government says 11 wells will be drilled over the next seven to 13 years. (May 22, 2014)

05/23/2014

ARGENTINA:

Argentina's Chubut region sees more shale wells after initial find

At least 15 more shale oil and gas wells will be drilled in Argentina's southern Chubut province over the next three years, a provincial official said recently, a day after its first shale discovery was made public.

Argentina's state-controlled energy company YPF announced Chubut's first shale oil and gas discovery on Wednesday 21 in the San Jorge basin. It comes at a time of rising interest in the vast Vaca Muerta shale field in Neuquen province, also in southern Argentina. "**There are a lot of areas available for exploration,**" Chubut's top energy official, Ezequiel Cufre, said. YPF is set to drill 11 more wells over the coming three years, while local company Tecpetrol drills another four, Cufre said.

San Jorge is located more than 600 miles (1,000 km) southeast of Vaca Muerta, where U.S. energy major Exxon Mobil Corp recently said it made its first discovery of non-conventional gas and crude oil. (May 23, 2014)

05/26/2014

CHINA:

China Petrochemical targets China shale gas reserves

China Petrochemical Corp hopes joint ventures with overseas firms will provide it with the technology to tap country's shale gas reserves Oil and gas giant China Petrochemical Corp's formation of two joint ventures with overseas drilling technology firms in the past month **could pave the way for technology transfers** that would help unlock the mainland's vast untapped shale gas resources.

Analysts said China Petrochemical's drilling services ventures with Switzerland's Weatherford International and FTSI International of the United States would also boost the image of Sinopec Oilfield Service, a unit of subsidiary China Petroleum & Chemical Corp (Sinopec), which it hopes to spin off for a listing. FTSI said last week it had agreed to form a 15-year joint venture with China Petrochemical that would see the mainland benefit from FTSI's expertise in fracturing underground rock formations to release hard-to-extract oil and gas.

FTSI chief executive Greg Lanham said the joint venture would initially invest US\$55 million to US\$70 million on facilities to serve **Sinopec's shale gas projects in Sichuan province**. Other gas drillers on the mainland could also become customers of the venture later.

The venture will be 55% owned by China Petrochemical and 45% by FTSI. Equipment manufacturing would initially be conducted entirely in the US, but **some work might migrate to China over a three to four-year horizon** to reap potential savings, Lanham said. The venture planned to provide fracturing services for two to six wells a month for Sinopec at first, and its initial annual work volume was projected at US\$50 million, he said.

While Sinopec has seen better-than-expected exploration success in Sichuan and leads the industry in shale gas development, the mainland industry needs the expertise of foreign firms that have operated with great success in the US in the past decade to meet Beijing's target of 60 billion to 100 bcm of shale gas output by 2020. Next year's target of 6.5 bcm is widely expected to be surpassed since Sinopec recently raised its output target to 5 bcm, from 2 bcm two years ago, and state-backed PetroChina lifted its goal to 2.6 bcm from 1.5 bcm. (June 16, 2014)

06/16/2014

UNITED KINGDOM:**Cuadrilla prepares next wave of fracking planning applications**

Controversial company confirms it will submit applications to **drill four exploration wells** in Lancashire in the coming weeks. The UK's most high profile shale gas developer, Cuadrilla Resources, announced recently that it is poised to submit planning applications for exploratory wells at its site in Lancashire, raising the prospect of a summer of protests against the controversial development.

The company issued a statement confirming it would put forward a planning application to Lancashire County Council for it to drill, hydraulically fracture, and test the flow of gas at up to four exploratory wells at its proposed site at Preston New Road. It added that plans would also be submitted to install a series of seismic monitoring stations within four kilometres of the proposed site, in order to monitor the risk of earth tremors that may result from the drilling.

Cuadrilla said the planning application had followed "extensive public consultation" and would be accompanied by a detailed Environmental Impact Assessment undertaken by consultancy Arup. It also said the Preston New Road proposal would be followed later this summer by a separate planning application for a second exploration site at the nearby Roseacre Wood.

The **move is likely to be welcomed by the government**, which has called for developers to accelerate work to assess whether fracking projects will be able to extract commercially viable shale gas. However, the new plans, which are now expected to be assessed by the council for up to 16 weeks, are expected to face **staunch opposition from some local residents and green groups**. Helen Rimmer, campaigner for Friends of the Earth North West, said the proposals came at a time when "**public support for shale gas in the UK has fallen below 50 per cent for the first time**". (May 20, 2014)

05/20/2014

LITHUANIA:**Surprising results of shale gas research in Lithuania**

According to a report by the Ministry of Environment in Lithuania, mainly oil, rather than shale gas, has been produced in Lithuanian rocks. The discovery was made during research carried out on rocks containing shale hydrocarbons, DELFI reported. Following more than 500 studies, it has been concluded that mostly liquid hydrocarbons (shale oil) have been produced, instead of gas hydrocarbons. The Ramuciai-1 borehole (Šilute district) was the only one to indicate the possibility of having reached the zone of condensate and wet gas maturity.

Through analyzing the research data, it is believed that, of the total amount of hydrocarbons generated in the rocks, 70% are liquid hydrocarbons (oil) and 30% are gas hydrocarbons, writes DELFI.

Commenting on the unexpected findings of the report, Daiva Matoniene, Deputy Environment Minister, said: "Basically, the specified results change nothing. For us, as a country, it does not matter if it is oil or gas in the shale layers. The most important thing is safe extraction, and ensuring maximum benefits for the budget and the community. At the moment, the Ministry of Environment is preparing the new legal tax base for the exploration and extraction of the hydrocarbon resources. We have to be very well prepared, so that we will be able to consider the new international tender for shale resources." (May 26, 2014)

05/27/2014

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UKRAINE:

Ukraine crisis forces Shell to halt shale wells in Restive East

Shell is taking a “time-out” on exploration work after drilling two wells since the Hague-based explorer signed a production-sharing agreement last year, Chief Financial Officer Simon Henry said in an interview with Bloomberg.

Europe’s largest oil company has an exploration license for the 8,000-square-kilometer (3,100- square-mile) Yuzivska field in the eastern provinces where hundreds of people have died as armed separatists try to split from Ukraine and join Russia. The company’s operations are more exposed that those of Chevron Corp, which is exploring the Oleska field in western Ukraine. Henry said. “There’s no pulling out, but **we take a time out on the actual drilling activity on the ground.**”

Both Shell and Chevron signed production-sharing agreements with the previous Ukrainian government headed by ex-President Viktor Yanukovich, promising to spend hundreds of millions of dollars on shale and tight-gas exploration.

It will be hard for the foreign investors to develop shale gas in the east of the country under current circumstances, Ukrainian Prime Minister Arseniy Yatsenyuk told lawmakers in Kiev recently. Shell originally planned to drill as many as 15 wells during the initial exploration phase at the Yuzivska field.

The **Ukrainian conflict isn’t stopping Shell from working in Russia**, where it’s exploring for shale oil and plans to expand the Sakhalin-2 gas project. “Russia is a major holder of hydrocarbon reserves, possibly the largest in the world,” Henry said in the interview. “So in the long term it really does matter.” (June 3, 2014)

06/06/2014

BULGARIA:

US shale gas giant Chevron is leaving Bulgaria

Chevron is withdrawing from Bulgaria, Capital Daily reports. Chevron has not been active in Bulgaria for several years. In 2011 the company received a permit to extract shale gas in northeastern Bulgaria, but then a moratorium was imposed on activities using fracking for gas extraction in Bulgaria. "No self-respecting company can afford to lose money in the absence of perspective and the apparent lack of interest of a number of Bulgarian governments in the development of one of the few options for local oil and gas ..." said in his blog energy expert and Bulgaria's former ambassador to Moscow Ilian Vassilev.

Despite the withdrawal from Bulgaria, Chevron will **continue its projects in Romania and Poland**. Chevron Romania received some concessions for the exploration and extraction of shale gas in the country. One is in the northeastern part and covers an area of 6350 square kilometers and the other in southeastern Romania, with an area of 2711 sq. km. The group has already started exploration activities in some of the areas and experimental production is expected to begin this year. According to local media, revenue for the Romanian state will be between 3.5% and 13% depending on the size of the deposits. Attempts by the company to start operations were interrupted twice last year after opponents of shale gas extraction blocked the company's machines .

In its new strategy, the **company focuses on the countries of Eastern and Central Europe, such as Poland, Romania and Ukraine**, which has very favorable climate for the realization of the necessary but risky operations.

According to the assessment of the U.S. Energy Information Agency, **Bulgaria has nearly 480 billion**. (May 28, 2014)

05/28/2014

SUPPLIES - IMPORTS - EXPORTS

AZERBAIJAN:

US shale gas no threat to Azerbaijan export plans

US shale gas no threat to Azerbaijan export plans

Azerbaijan sees little threat to its natural gas export plans from abundant US shale gas because the Azeris **have locked in long-term contracts** and transport and other costs will drive up the price of the US product. Azerbaijan is preparing to supply Europe with 10 billion cubic metres (bcm) of gas each year and Turkey with 6 bcm from 2019 from its vast Shah Deniz gasfield in the Caspian Sea, which holds estimated reserves of 1.2 trillion cubic metres.

Azeri energy minister Natiq Aliyev said that US exports may not be as cheap once the additional costs of liquefying, transporting and re-gasifying are included. "I think that shale gas won't pose any threat for Azeri natural gas to be transported to Europe," Aliyev told Reuters. Buyers of Azeri gas from Shah Deniz II include Shell, Bulgargas, Gas Natural Fenosa, Greek DEPA, Germany's E.ON, France's GDF Suez, Italian regional utility Hera Trading, Switzerland's AXPO and Italy's Enel.

"There will be some limited competition (from the US shale gas), but I'd like to remind you that we signed deals with buyers of our gas (from Shah Deniz II) in Europe for **25 years**,...so we have already taken our place on the market." Vitaliy Baylarbayov, deputy vice-president at Azeri state oil company SOCAR, told. Baylarbayov added that he saw **Asia as a potential market for US shale gas** due to bigger demand, higher gas prices in Asia and cheaper transportation options.

Baylarbayov and Aliyev also said preliminary estimates indicated the presence of quite substantial shale gas reserves in Azerbaijan itself. "We are exploring shale gas production potential, but I don't think we'll start its production in Azerbaijan any time soon," Baylarbayov said. (June 5, 2014)

06/06/2014

GENERAL INFORMATION

UNITED KINGDOM:

Report claims EU regulations are hampering UK fracking industry

The UK government is backing the exploration of shale gas, but is not doing enough to sell it. The UK fracking industry is being held back by European Union regulations, according to a report from the House of Lords economic affairs committee. Changes in the law and the setting up of a special cabinet committee on the issue should make fracking a “national priority”, it says, urging more UK action to develop shale gas.

The UK government has been largely in favour of fracking, contrary to the majority of member states. Prime Minister David Cameron said that the crisis in Ukraine underlined the importance of energy independence, and should encourage the UK and the rest of Europe to embrace fracking. The Lords report cautions that without urgent supportive action, it could be the next decade before the shale gas industry starts operation.

But environmental campaigners immediately criticised the report's findings, and questioned the impartiality of leading committee members. Greenpeace urged attention to renewable energy technology and efficiency measures, and claimed that at least five members of the committee had links to the shale gas industry.

The European Commission in February adopted climate guidelines designed to safeguard health and environment risks from fracking, and required member states to inform the Commission if they chose to use this technology. (May 15, 2014)

05/15/2014

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TIGHT GAS

EXPLORATION

SAUDI ARABIA:

Russia's Lukoil to drill for tight gas in Saudi desert

Russia's Lukoil is set to drill deep for unconventional gas in Saudi Arabia's challenging "Empty Quarter" desert region early next year after a decade-long hunt for conventional deposits that has proved futile. The world's top oil exporting nation invited international oil companies (IOCs) - such as Lukoil, Royal Dutch Shell and Sinopec - to find and pump gas in its southeast Empty Quarter, known as Rub al Khali, more than 10 years ago.

Saudi wants natural gas to help it cover subsidized domestic power demand so it can save oil for more lucrative exports. The IOCs, which formed joint ventures with state oil firm Saudi Aramco, failed to find commercially viable deposits and while the others have abandoned the search, Lukoil has not.

It plans, with Saudi Aramco, to drill two, very deep evaluation wells at depths of up to 19,000 feet in the Mushaib **tight gas field** in the Empty Quarter, industry source said. A Lukoil Overseas official said the joint venture will drill the first well in the first quarter of 2015 and the second during the last six months. "The cost will be very high compared to unconventional reservoirs in the United States," industry source said.

Tight gas is found in reservoirs formed by rocks of low permeability and low porosity typically at depths ranging between 8,000 to 10,000 feet and thus **needs to be fracked**. Another and more commonly known type of unconventional gas is shale, which is trapped within sedimentary rock.

Inspired by a shale gas surge in the United States, the Kingdom has begun investigating its large unconventional deposits and their potential for fuelling long-term growth for its booming population.

Aramco's CEO Khalid al-Falih has said Riyadh will spend \$3 billion on shale gas development in the Kingdom, but has given no details on the investment. The biggest obstacle for Saudi Arabia is probably the lack of water. "Aramco is in the evaluation phase of shale gas and it's an evaluation that requires large capital spending. Further development will happen based on results," said Hussein.

"It seems that Lukoil wants to be a partner in the evaluation process." (May 15, 2014)

05/20/2014

PRODUCTION

OMAN:

Unconventional gas development in the ME: Oman's Khazzan

Oman has been facing an increasingly challenged supply outlook but this has now been overcome with the 'go ahead' given for the Khazzan tight gas development, says Jennifer Cowan, Middle East research analyst for Wood Mackenzie. The Middle East is known for its wealth of oil and gas, however, in recent years **many countries have become short of indigenous gas**. Kuwait and Dubai already import LNG and Bahrain is looking to start imports in 2018. Oman was also faced with an increasingly challenged supply outlook. **Conventional gas production is set to decline from 2017, and with domestic demand continuing to grow steadily, an imminent gas shortage looked unavoidable.**

This challenge has now been overcome with the 'go ahead' given to the Khazzan tight gas development: **the largest unconventional greenfield gas project in the world**. Sanctioned in December 2013, Khazzan is expected to provide around a quarter of Oman's gas supply by the end of this decade.

BP leads the 30-year project, in partnership with the Oman Oil Company, a wholly-owned government entity which backed in for a 40% share in December 2013. Khazzan is expected to be brought onstream in late 2017 and, following an aggressive 18 month ramp-up, it **will supply 1 bcfed over a 15 year plateau**. (June 10, 2014)

06/12/2014

SUPPLIES - IMPORTS - EXPORTS

ARGENTINA:

YPF announces the discovery of 'tight gas' in Mendoza

Argentina state oil producer YPF announced recently it had made a discovery of 'tight gas' in the western Argentine province of Mendoza. The find by the Paso de las Bardas Norte xp-37 exploration well has a **potential 25 million barrels equivalent of recoverable resources**, the company said in a statement. Gas production infrastructure is already in place in the area, allowing for immediate production, said YPF.

The discovery, if the geological model is confirmed, **would increase hydrocarbon reserves in Mendoza province by around 10%**. The Paso de las Bardas Norte well, which reached a depth of 2.784 meters, is in the initial phase of evaluation, contributing at least 70,000 cubic meters of gas. The field has a surface area of 125,000 square kilometers and is around 200 kilometers to the south of the city of Malargüe.

The operation is controlled entirely by YPF, who in recent months have confirmed the discovery of hydrocarbons in Mendoza, Río Negro and Chubut provinces. YPF, which was seized in 2012 from Spain's Repsol and nationalized this year, saw its production of hydrocarbons jump in 2013, thanks in part to its vast Patagonian shale oil and gas formation Vaca Muerta.

A US Department of Energy report has shown that Argentina has more natural gas trapped in shale rock than all of Europe, a 774-trillion-cubic-foot bounty that could transform the outlook for Western Hemisphere supply. (June 2, 2014)

06/02/2014