

# U - Gas News Report

Unconventional Gas Activities in the World

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## CBM

### EXPLORATION

#### **AUSTRALIA:**

#### **AGL offloads Queensland gas permit**

Australian utility and gas group AGL Energy has sold its 50% interest in the ATP529P onshore exploration permit in the Galilee basin in Queensland, which has been targeted for development of its coal-bed methane gas resources.

AGL sold its stake in ATP529P to Australian independent Galilee Energy where AGL will not receive any funds, but instead it will contribute A\$590,000 (\$456,000) to Galilee to support future operations at the Glenaras well, which forms the main part of the Galilee gas project, where it will also become the operator. Galilee will own 100pc of ATP529P.

The transaction is expected to be complete in late July or early August 2015. Galilee Energy completed a study of ATP529P in March 2014 that confirmed the potential for commercial gas production in the area.

The disposal of AGL's 50% interest in ATP529P follows the company announcement last month that it plans to sell A\$1bn of assets by the end of the 2016-17 fiscal year ending 30 June. AGL earmarked some of its CBM exploration assets as part of this planned disposal programme. (June 5, 2015)

06/05/2015

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## SHALE GAS

### EXPLORATION

#### **DENMARK:**

##### **Denmark does a U-turn on fracking**

Denmark stopped its first exploratory drilling for shale gas just one day after it began, only to perform a U-turn one week later.

Earlier this month, Ture Falbe-Hansen, a Danish Energy Agency (DEA) spokesman said that French company Total had used “a product that was not authorised for the procedure”.

The product — Null Foam — is considered to be an environmental hazard, according to Danish public broadcaster DR.

After a meeting with Total representatives on 13 May, DEA director Martin Hansen said: “The DEA has now received a satisfactory statement from Total in which the company described how a number of new procedures to control the handling of chemicals will ensure that no future error occurs.”

Henrik Nicolaisen, who is in charge of the drilling project for Total, said that Null Foam had been left off the initial list of products used at the site “because we did not expect it to be a problem.

“We had been in dialogue with both the municipality and the DEA since February, and we felt that we had an understanding that the substance could be used.”

The Danish government gave Total permission to start test drilling for shale gas in Vendsyssel in the far north of the country last July, despite widespread resistance from local community groups and various environmental organisations.

Denmark is one of the few European countries to allow test drilling for shale gas — alongside the UK, Poland and Romania. (May 30, 2015)

*06/01/2015*

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## INDIA:

### Government to tweak PSC to boost shale gas, CBM exploration

In order to fully utilise the hydrocarbon potential of the country, the Oil Ministry is in the process of making an amendment to the existing production sharing contract (PSC) under the New Exploration Licensing Policy (NELP) rounds. The amendment will allow oil and gas companies to explore and develop shale gas and coal-bed methane gas in their existing blocks awarded. According to a senior oil ministry official, "Permission for extraction of new hydrocarbon resources from existing oil and gas blocks would come with a rider that all investment in the new exploration activity would be ring fenced and cost will not be clubbed with its existing operations."

The government also plans to extend other incentives for explorers to attract investment in the space. At present, exploration blocks under NELP are currently given for specific hydrocarbon extraction either for oil or gas, but the government feels that a few of these may also have potential to produce shale gas and CBM and would remain unexplored in the absence of a clear policy.

"There were many instances during exploration we find other natural resources other than what we were actually looking for. But the PSC doesn't allow us to extract other resources," said an ONGC official.

The production sharing contract framework for the oil and gas sector currently allows for cost recovery by oil and gas explorers before they pay the government a share of revenue. The Directorate General of Hydrocarbons (DGH) manages petroleum resources, besides monitoring production sharing contracts, and assists the government in auctioning oil and gas exploration fields.

So far nine rounds of bids have been concluded under NELP, where 254 exploration blocks have been signed under PSC. **This has so far yielded around 210 discoveries (104 crude oil and 106 natural gas) in 60 blocks. And just about 30 blocks (20 oil and 10 gas) are currently under production.**

The total production from these discoveries and few others prior to NELP round is less than 2,00,000 barrels of oil per day (bopd) and **15 mmscmd of gas. At this rate, it is unlikely the domestic production programme would help to reduce India's huge import dependency.**

The response to NELP has been largely tepid with around **70% of the blocks are largely unexplored by investors. India has an energy import bill of around \$150 billion. That is expected to reach \$300 billion by 2030.**

**Hydrocarbon explorers in India have made a total payment of \$15.41 billion to the Central government as royalties, cess and profit petroleum, and \$1.93 billion to state governments since 1994.** The government however, is likely to shift to open acreage policy that will allow companies to exploit all resources falling in their exploration area. (June 19, 2015)

06/19/2015

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**POLAND:**

**Last foreign player pulls out of Polish shale gas**

Global energy giant ConocoPhillips has said it is stopping exploration for shale gas in Poland amid unsatisfactory results, the last in a string of major global oil companies to pull out of such projects as early hopes of a gas bonanza in the country have faded away.

The company said on Friday its subsidiary Lane Energy Poland had **invested around \$220 million in Poland since 2009. It drilled seven wells over its three Western Baltic concessions. However it has not encountered production-level flows of the gas.**

Lane Energy Poland's three exploration licenses were among the most promising ones in Poland, Parkiet daily writes. By September the company wants to complete remediation of drilling sites and will then close its Warsaw office.

ConocoPhillips was the last major foreign player looking for shale gas in Poland, after Chevron Corp's withdrawal in February.

Exxon Mobil, Total and Marathon Oil have also stopped searching for shale gas in Poland in the last three years.

The Polish government originally hoped the **first commercial shale gas production could be achieved in 2014, but now only state-run firms Polish companies are drilling.**

However, fuel group PKN Orlen has returned one of the concessions near Hrubieszow, southeastern Poland and is left with eight out of the initial ten.

Earlier this year gas giant PGNiG, in turn, gave up four concessions and is left with 11. The firm wants to focus on the most promising fields, spokesperson Dorota Gajewska said at the time, adding that exploration works have proved more geologically and technologically challenging than expected. (June 8, 2015)

*06/09/2015*

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**UKRAINE:**

**Shell plans to exit \$10bn Yuzivka gas exploration project in Ukraine**

Anglo-Dutch multinational oil and gas company, Royal Dutch Shell is reportedly planning to **pull out from \$10bn large-scale shale gas exploration projects in Donetsk and Kharkiv regions of Ukraine.**

Shell signed an agreement in January 2013 with Ukraine's Nadra Yuzivska to explore the Yuzivka field to help reduce the country's dependence on Russian gas imports.

The withdrawal of Yuzivska production sharing agreement comes as the project operations have been suspended for almost a year as result of the ongoing battle between Ukraine and the pro-Russian rebels.

Financial Times quoted Shell as saying in a statement that the company was unable to perform its commitments under Yuzivska for an extensive period of time due to circumstances beyond its control, also known as Force-Majeure.

"Back in July 2014 Shell took the contractual step of declaring force majeure on some specific obligations of the Yuzivska PSA.

"The purpose of such a step was for the parties to the PSA to be notified that Shell is unable to perform certain specific activities, in the timeframe agreed under the PSA, for reasons outside of the company's control." The company said that the suspension has materially changed the implementation conditions of the project, which is located close scene of conflict.

**Discovered in 2010, the Yuzivska field is estimated have around 70.8 tcf of reserves and was planned to commence production in 2017.**US-based Chevron had also pulled out from a \$10bn shale gas agreement last year in Ukraine.

The two project developments come amidst Ukraine crises and plunging global oil prices since mid-June 2014. (June 12, 2015)

*06/15/2015*

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## PRODUCTION

### CHINA:

**China invested \$3.7bn in shale gas exploration, development during 2009-2014**

**China invested 23 billion yuan (\$3.7bn) in shale gas exploration and development between 2009 and 2014**, Xinhua Finance said Wednesday citing latest report by China Geological Survey with the Ministry of Land and Resources.

The country had **54 shale gas blocks spread over an area of 170,000 square km. Total of 780 shale gas wells had been drilled by the end of 2014**, according to the report.

**Shale gas developers reported near 500 bcm of shale gas geological reserves by the end of 2014, including 106.75 bcm of proven geological shale gas reserves by Sinopec Corporation**, the report stated.

By end-2014, China had **3.2 bcm of shale gas production capacity** with accumulated **shale gas output at 1.5 bcm and 1.3 bcm of shale gas output in 2014**, Xinhua Finance said citing the report.

In 2015, the MLR would spend **680 million yuan (\$109 mn) in shale gas** survey to guarantee realizing shale gas output targets.

China aims to produce **6.5 bcm and 30 bcm of shale gas in 2015 and 2020**, respectively. (June 10, 2015)

06/11/2015

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### UNITED STATES:

**Ohio shale gas production up in 2015, but growth slowing**

Oil and gas drilling is off to a good start in 2015, but the quarterly jump in gas production has slowed.

**Natural gas production increased more than 11% during the first three months of 2015 compared with the previous three months.** Gas production had increased by 25% in the fourth quarter compared to the third, according to the Ohio Department of Natural Resources.

The downturn in the oil and gas industry has caused rigs to pull back from drilling expensive new wells in eastern Ohio's Utica shale play, but less-costly production continues. Hydraulic fracturing and horizontal drilling started in Ohio later than most of its state peers.

Partly because of that, Ohio is home to a sizable amount of wells drilled but not completed, so it could take some time to see the impact of fewer drilling rigs on production figures, mostly in the natural gas arena.

The state's horizontal **shale wells produced 183.6 bcf of natural gas from January to March.** Oil production increased to 4.4 million barrels. (June 1, 2015)

06/02/2015

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## **UNITED KINGDOM:**

### **Shale prospects flail after UK vote**

A few years ago there were heady predictions of a shale gas boom from Poland to the U.K. The reality is a lot more disappointing.

Lancashire County Council manages just a small patch of northwest England, but its negative vote on a shale gas application Monday has made the already troubled development of the unconventional fuel in Europe even less likely.

The U.K. has become one of the last EU countries where shale gas development remains a viable prospect, as it has strong national government backing on the grounds that it provides cheaper, home-grown energy sources for the future.

But people in Lancashire were not convinced, and they made their voices heard over the last week, as the council considered whether to approve two applications for fracking from oil and gas explorer Cuadrilla.

The first decision, last week, was somewhat expected. The council voted in line with recommendations from the planning commission, and rejected Cuadrilla's application to drill at a site called Roseacre Wood. Monday's vote on the Preston New Road site was less certain, as the planning commission had recommended approving it.

Instead, it voted 9 to 3 against, with three Conservative members joining the majority and another two abstaining.

"This decision is a Waterloo for the fracking industry and a triumph for local democracy," said Daisy Sands, from Greenpeace U.K.

For Tory Prime Minister David Cameron, shale gas offered a potential way to ensure the country would still have domestic oil and gas as its aging fields in the North Sea start to run out. But while he has famously said the U.K. would go "all out" for shale gas, Cameron cautioned earlier this year that it would not be done without safeguards in place.

Hydraulic fracturing, a drilling technique that injects chemicals and water into deep shale rocks to crack them and release oil and gas, has turned the United States from an importer into a self-sufficient producer and exporter in less than a decade.

But while oil and gas companies saw potential of replicating the boom in Europe, strong public opposition has gradually turned governments against it, causing companies to step away in recent years. The geology of shale deposits in Europe is also different and more complicated than in the U.S.

"Shale in Europe isn't going to be a game changer on the energy side," Karl Falkenberg, the European Commission's director-general for environment, said at a shale event in Brussels earlier this month. He added that the U.K. and Poland were the last enthusiasts.

But this year has been a particularly bad one for shale gas hopes.

Scotland and the Welsh parliament imposed moratoriums on fracking in January and February, and the German government announced stricter regulations in April. The U.S.'s Chevron and Italy's Eni dropped their shale gas projects in Poland, and Chevron did the same in Romania a month later. The U.S.'s ConocoPhillips then became the last global company to ditch Poland this month, after hitting a dry well.

In a county of roughly 1.5 million, concern over Cuadrilla's fracking plans was decidedly local. More than 40,000 people signed a petition circulated by Friends of the Earth, and hundreds showed up to protest at the council.

They worry about the safety of fracking, and whether it can contaminate water supplies and cause earthquakes. "Are our residents being used as guinea pigs? If so, this is unacceptable," one woman said during the council's discussions. (June 29, 2015)

## UNITED KINGDOM:

### UK officials delay decision on key shale gas permit again

British officials have adjourned until Monday the process for deciding whether to grant shale gas firm Cuadrilla Resources a project planning permit in northwest England.

If approved, the shale gas project at Preston New Road near Blackpool could become Britain's first producing shale gas site.

A decision was expected on Wednesday, but councillors at the Lancashire County Council decided to gather additional legal advice and deferred a vote until next week.

Councillors are due to decide whether to grant a second shale gas planning application submitted by Cuadrilla for a separate site in the area on Thursday.

"There is obviously a high level of concern among the councillors because of the level of scrutiny they will be under whichever way the decision goes," said John Williams, senior principal consultant at the consultancy Poyry Management.

Britain is estimated to have substantial amounts of shale gas trapped in underground rock. The national government has backed developing the reserves to make up for declining North Sea oil and gas output.

However, progress has been slow because of local opposition worried about the environmental effects of hydraulic fracturing, or fracking. Critics say chemicals used in the extraction can contaminate groundwater and vibrations can cause earthquakes. Some local residents are also concerned property prices could drop or tourism could be hurt. (June 24, 2015)

06/25/2015

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## UNITED STATES:

### US shale sector more resilient than it may seem

The US shale oil and natural gas sector is seeing a decrease in drilling activity during the current low price environment, but it is more resilient than some may think, Philippe Charlez, unconventional development expert at France's Total, told the World Gas Conference in Paris Wednesday.

Shale plays have given the US energy independence, Charlez said. At the **end of 2014, the US was only 35% dependent on imports for oil and 4% for gas.**

But shale oil and gas wells have been falling, with the rig count halving since October 2014, from **1,800 to 900 rigs, with oil drilling decreasing 75% and gas 25%.**

However, Charlez said shale activity in the US is more resilient than some might think as there is a large portfolio of wells, which acts as a "buffer."

In addition, **shale production is flexible**, he said, which will help the sector through the downturn in prices. (June 3, 2015)

06/04/2015

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## SUPPLIES - IMPORTS - EXPORTS

### **JAPAN:**

#### **Why does Japan need natural gas from the Eagle Ford Shale?**

Japan needs to diversify how it produces electricity and is looking at the Eagle Ford Shale as a potential source of natural gas to run its new power plants.

A delegation from the Consulate General of Japan in Houston toured the Freeport LNG construction site south of Houston as well as Tidal Petroleum's oil and natural gas drilling site near Moulton in Lavaca County on Thursday.

The two tours came just one day before their visit to San Antonio. Former Japanese Ambassador Yasuo Saito told the San Antonio Business Journal that all of Japan's nuclear reactors remain shut down years after the 2011 Fukushima earthquake.

The U.S. Energy Information Administration (EIA) reports that nuclear power once generated nearly one-third of Japan's electricity but Saito told the San Antonio Business Journal that Japan is diversifying its energy portfolio.

In order to replace nuclear power, Japan has been increasing the amount of electricity it generates using natural gas power plants.

Japan currently receives its natural gas from Qatar, Australia, Indonesia and Russia, but Saito said it is important to diversify and believes the Eagle Ford Shale in Texas could be a potential source of energy.

Saito said Japan and the United States do not currently have a free trade agreement, which means that natural gas producers in Texas need to obtain an extra permit from the U.S. Department of Energy before they can ship natural gas to Japan.

If the Trans-Pacific Partnership passes, Saito said it would eliminate a step and make shipping natural gas to Japan easier for energy companies in Texas. (June 22, 2015)

06/23/2015

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### **UNITED STATES:**

#### **Will us shale gas bring**

The second US shale gas revolution is about to begin.

Vast quantities of fracked gas have already seen domestic energy prices tumble, providing not only US manufacturers but the wider economy with a hefty shot in the arm.

Now the country is looking beyond its own borders to become a major player in global gas markets. In fact, by the end of this decade, the country plans to challenge Qatar, the undisputed king of liquefied natural gas (LNG).

Considering the US currently exports virtually no LNG, the scale of its ambition is staggering. (June 3, 2015)

06/03/2015

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## GENERAL INFORMATION

### EUROPE:

#### Exxon CEO says Europe should see climate benefits of shale gas

Exxon Mobil Corp. CEO Rex Tillerson said Europe should see the “tremendous environmental benefits” of producing natural gas from shale, pointing to the U.S. output boom as a model for cutting greenhouse-gas emissions.

“Natural gas and shale have been instrumental in reducing CO2 emissions to levels not seen since the 1990s” in the U.S., the chairman and chief executive officer of the Irving, Texas-based company said at the World Gas Conference in Paris Tuesday. “U.S. gas production has soared and emissions have declined” as the fuel replaces coal facilities that emit more greenhouse gases.

European oil companies including Royal Dutch Shell Plc, BP Plc and Total SA are promoting gas as a way to limit the growth of emissions blamed for climate change. They have also called for a price on carbon dioxide. Tillerson said the U.S. example shows emissions can be reduced using technology and free markets, without requiring a carbon price.

Exxon, Chevron Corp. and other producers have unsuccessfully attempted shale drilling in Europe, where Tillerson said “there’s significant and meaningful natural gas potential.” Chevron pulled out of western Ukraine last year, months after Shell retreated from the eastern provinces riven by a bloody war with pro-Russian separatists. Exxon and Chevron failed to find gas in commercially large volumes in Poland.

France and Germany are among European nations that have banned or blocked hydraulic fracturing, or fracking, used to crack open shale-rock formations to release oil and gas. The U.K. is reviewing permits amid concerns drilling techniques could pollute water sources and cause earthquakes.

#### EIA Estimates

No commercial volumes of gas are produced from shale in Europe. The U.S. Energy Information Administration estimates Europe has technically recoverable shale gas reserves of **470 tcf**. **France has the highest resources 137 tcf** after Poland. The U.S. has **567 tcf of shale reserves**, according to the agency.

The U.S. shale boom was helped by laws that give individuals ownership of the oil and gas beneath their property, something that doesn’t exist elsewhere, BP CEO Bob Dudley said at the conference. That’s a primary reason shale output has not spread outside North America, said B.C. Tripathi, chairman of GAIL India Ltd., the nation’s biggest gas distributor.

“Certainly technology is a huge part of the solution,” Dudley said. “We think a carbon price is also essential.” (June 2, 2015)

06/04/2015

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## **EUROPE:**

### **IGU boss dismisses European shale revolution**

There will be no US-style shale gas revolution in Europe, the president of the International Gas Union has told the BBC.

"You cannot duplicate [the US experience] in Europe," said Jerome Ferrier. "Politicians are hesitating to accept shale development."

Abundant shale gas in the US has helped domestic energy prices fall. As a result some European governments, are keen to develop their own shale resources.

The IGU president, talking to the BBC at the World Gas Conference in Paris, said there was resistance to shale development in the UK and Poland, while there was "no way" it would take place in France.

Other countries, including Germany, Romania and Bulgaria, have placed moratoriums on fracking. He added that it was "a pity" not to explore the possibility of shale development, but said "the future of gas does not depend on shale gas - there is enough conventional gas [to meet demand] for more than a century".

Mr Ferrier also stressed the need for a carbon price to reduce coal use, which emits huge amounts of CO2 linked with global warming. "Without carbon pricing, countries will maintain coal power generation due to the low price of coal," he said.

In April, Ineos welcomed the findings from a survey sponsored by Greenpeace which found that the public is warming to the idea of fracking.

Research consultancy ComRes interviewed 2,035 UK adults online about their views on fracking.

The study found that 42% supported the idea, 35% opposed it and 23% answered 'don't know'.

Although Britons were most likely to say that a local candidate backing fracking would not make a difference to the way they voted (44%), the survey found they were twice as likely to say that it would make them less likely to vote for the candidate (31%) as say it would make them more likely to vote for them (13%). (June 4, 2015)

*06/04/2015*

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## **UNITED STATES:**

### **New York bans fracking, ending 7-year review**

New York formalised its ban on high-volume hydraulic fracturing for natural gas on Monday, concluding a seven-year environmental and health review that drew a record number of public comments.

"After years of exhaustive research and examination of the science and facts, prohibiting high-volume hydraulic fracturing is the only reasonable alternative," Department of Environmental Conservation Commissioner Joe Martens said in announcing the decision. "High-volume hydraulic fracturing poses significant adverse impacts to land, air, water, natural resources and potential significant public health impacts that cannot be adequately mitigated."

In its decision, the DEC noted that more than 260 000 public comments were submitted on its environmental impact study and proposed regulations, an unprecedented number. The agency said most of the comments urged it to severely restrict or prohibit fracking.

New York is the only state with significant natural gas resources to ban fracking, which has allowed other states to tap huge volumes of gas trapped in shale formations deep underground. The technology has produced new jobs, created economic growth and reduced energy prices but has triggered concern that it could pollute air and water, cause earthquakes and pose long-term health effects that aren't yet known.

While environmental groups praised the ban, drilling proponents have said the decision was based on politics rather than on science.

"Hydraulic fracturing is a proven, 60-plus-year-old process that has been done safely in over 1 million American wells," said Karen Moreau, executive director of the New York branch of the American Petroleum Institute. "Surging production of natural gas is a major reason US carbon emissions are near 20-year lows."

Moreau noted an Environmental Protection Agency report earlier this month that found fracking had not caused widespread threat to drinking water, but it warned of potential contamination of water supplies if safeguards aren't maintained.

"Remaining questions cited by EPA have all been addressed by a wide array of strong state regulations, industry standards, and federal laws," Moreau said.

Moreau said industry lawyers will review the state's decision and decide whether to mount a legal challenge. (June 30, 2015)

*06/30/2015*

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## **POLAND:**

### **Polish shale gas hits a dry well**

Hopes kindled just four years ago that Poland would become a gas exporter — a “second Norway,” in the words of then-foreign minister Radek Sikorski — have been doused by the decision of U.S. energy giant ConocoPhillips’ Polish subsidiary to halt exploration.

The exit this month of the last global player from Poland’s shale gas market, leaving just a few domestic and smaller foreign firms among whom drilling has come to a near halt, further undermines the case for fracking in the European Union, where Poland and the UK have been its strongest backers.

“The appetite for drilling has dried up,” said Tomasz Chmal, an expert on shale gas with law firm White & Case in Warsaw.

The industry’s fall is hard to swallow for those who had hoped for 300 years worth of energy independence from Russia, where Poland gets just over half of its gas imports. (June 16, 2015)

06/17/2015

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## **NETHERLANDS:**

### **Shale energy insider: shale gas in the Netherlands: the story so far**

“There will be no US-style shale gas revolution in Europe,” said Jerome Ferrier, president of the International Gas Union (IGU), at the World Gas Conference in Paris earlier this month. Is this really going to be the case, or will one of Europe’s nation states prove him wrong?

**Home to the largest natural gas field in continental Western Europe, the Netherlands** has always been a large producer and consumer of natural gas.

The Dutch state-owned energy company, Energie Beheer Nederland, recently revealed its **ambitious plan to achieve 30 BCM production of gas from small fields by 2030.**

To achieve this, the country will need to invest in new technologies and new areas including, in all probability, shale gas development. (June 23, 2015)

06/24/2015

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## UKRAINE:

### Ukraine's shale dream falls apart

Ukraine's hopes to cut its dependence on gas imports from Russia through shale gas development have been dashed. The two multinationals that won government tenders to develop non-traditional gas deposits in Ukraine, Chevron and Shell, stopped their works last year, and there is no clarity about possible shale gas development in western Ukraine by the Italian company Eni.

Shale gas proponents have suffered fiascos across Europe due to the opposition from environmentalists, poor geology, and a recent fall in traditional gas prices. But in Ukraine, all these factors have been exacerbated by war and its extremely negative consequences for the domestic economy.

The now fugitive Ukrainian President Viktor Yanukovich gave a green light to shale gas projects in 2011–2012, when his government failed to persuade Russia to cut its natural gas price for Ukraine, and global economic recovery sent Russian gas prices to new highs.

At that time, the United States' Energy Information Administration estimated that **Ukraine had Europe's third largest shale gas reserves behind France and Norway, equaling 1.2 tcm**, while the Ukrainian National Agency for the Efficient Use of Energy Resources estimated domestic **shale gas deposits at more than 2 tcm**.

In May 2012, Shell and Chevron won government tenders to develop shale gas, respectively, in Yuzivska area (in the eastern provinces of Donetsk and Kharkiv) and in Oleska area (in the western provinces of Lviv and Ivano-Frankivsk) (see EDM, May 22, 2012). The Ukrainian government expected that commercial shale gas exploration would begin in 2016–2017. Yanukovich claimed that the projects with Shell and Chevron would allow Ukraine to stop importing gas by 2020.

While Shell signed a production sharing agreement with the government in January 2013, and immediately proceeded to drill exploration wells (Minprom.ua, January 25, 2013), Chevron signed its PSA only in November 2013 due to opposition from local environmentalists and bureaucracy. Later the same month, the Maidan revolution began in Kyiv, scaring investors, so the PSA with Chevron was never practically implemented.

The war with Russia-backed rebels that erupted in eastern Ukraine in spring 2014 prompted Shell to scale down its work there, as the towns of Slovyansk and Kramatorsk, where heavy fights took place, happened to be located right above the Yuzivska field. This even prompted conspiracy theories that Russia sponsored the rebels in that area specifically to prevent Ukraine from diminishing its dependence on Russian gas.

Despite that, Shell said a year ago that it planned to resume its work after eastern Ukraine became stable (BBC–Ukrainian service, June 24, 2014). However, with the conflict reaching a stalemate, there have been no indications that Shell will become more active in eastern Ukraine. Moreover, this past March, Shell announced it would not continue exploration works in Kharkiv province.

The war and economic crisis prompted the government to hike Ukraine's mineral extraction tax to 70%, from 28% last year, in order to increase state budget revenues and defense spending. This prompted the remaining investors in the oil and gas sector to revise their projects in Ukraine and alarmed more potential investors. Hardly by coincidence, Chevron terminated its shale gas contract with the Ukrainian government the same month.

Chevron's Ukrainian project was probably also affected by the shale gas exploration difficulties in Poland, where exploratory wells failed to meet expectations. Indeed, western Ukraine's Oleska field is part of the disappointing Lublin basin shared with Poland.

After Poland and Ukraine, Chevron abandoned its shale gas projects also in Romania.

The head of the Ukrainian state geology service, Dmytro Kashchuk, claimed in an interview last December that 16 US firms expressed interest in Ukrainian shale gas. However, he admitted that it was difficult to conduct talks with potential investors when war continued in Ukraine. Kashchuk also said he hoped Shell would return to the Yuzivska field after the conclusion of war.

For the moment, the government is apparently pinning its hopes exclusively on Italian Eni. The Ukrainian Environment and Natural Resources Ministry said last December, after a meeting between Minister Ihor Shevchenko and Eni-Ukraine CEO Luigi Barberis, that Eni was ready to develop shale gas fields in Ivano-Frankivsk province.

In 2012, Eni bought 50.01% of shares in the Ivano-Frankivsk-based company Zakhidhazinvest, which holds rights to several shale gas license areas in Ukraine. In January 2015, Shevchenko said Eni would begin drilling its first exploration well in western Ukraine by the end of the year.

Kyiv officials are no longer making loud statements about cutting Ukraine's dependence on Russian energy supplies with the help of domestic shale gas. Furthermore, shale gas development has all but disappeared from public discourse in Ukraine of late. If natural gas prices remain relatively low, and the Ukraine-Russia conflict continues to simmer, investors are unlikely to return to the local gas industry, especially to the risky non-traditional shale gas sector. (June 5, 2015)

06/08/2015

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**UNITED KINGDOM:**

**We could be next, says MP**

A green light for fracking could open the floodgates for applications in Lancaster and Morecambe, the city's MP has warned.

Cat Smith, MP for Lancaster and Fleetwood, said it was "crunch time" as Lancashire county councillors prepared to vote next week on whether to approve shale gas drilling applications for Roseacre Wood, near Blackpool, and Preston New Road, Little Plumpton.

More than 1,000 people have co-signed Ms Smith's letter to the county council opposing the applications.

On Monday, council officers announced they were rejecting plans for hydraulic fracturing at Roseacre Wood but supported plans at Preston New Road.

The plans - proposed by oil and gas company Cuadrilla - seek permission to develop two new sites to explore for shale gas by drilling, hydraulically fracturing (fracking), and testing the flow of gas.

Separate applications have also been received for a series of boreholes to monitor for seismic movement and water quality.

The application for Preston New Road will be heard on June 23 at 10am, and for Roseacre Wood on June 25 at 10am, at County Hall in Preston.

The idea of hydraulically fracturing the ground to release gas has divided opinion in the county.

Small earthquakes caused by fracking company Cuadrilla's activity in 2011 saw a moratorium put in place. (June 18, 2015)

*06/18/2015*

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## PUBLICATIONS

### **WORLDWIDE:**

#### **Argentina and China lead shale development outside North America**

As recently as last year, only four countries in the world were producing commercial volumes of either natural gas from shale formations or crude oil from tight formations: the United States and Canada, and more recently, Argentina and China. Beyond these four countries, other countries have started exploring hydrocarbons from shale and other tight resources, but they are still short of reaching commercial production.

The 2013 World Shale Gas and Shale Oil Resource Assessment, produced by EIA and Advanced Resources International, noted large shale deposits in China and Argentina. Exploration and drilling is already underway in these countries. For the last two years, China has drilled more than 200 wells, and Argentina has drilled more than 275 wells. Each country has the potential to significantly increase production of shale gas and tight oil.

In Argentina, many international companies hold leases and have drilled wells in shale formations. Much of the initial activity has targeted shale oil and natural gas in the Neuquen Basin's Vaca Muerta shale formation, located in west-central Argentina. National energy company Yacimientos Petroliferos Fiscales, the largest shale operator in the country, reported production in April 2015 of 22 900 bpd of oil and 67 million cubic ft<sup>3</sup>/d of natural gas from three joint ventures in Vaca Muerta: one with Chevron at the Loma Campana field, a second one with Dow Chemical at the El Orejano field, and a third joint venture with Petronas at La Amarga Chica field. In addition, China's national oil company Sinopec and Russia's national oil company Gazprom have recently signed a memorandum of understanding with YPF to jointly develop shale from the same basin.

China has targeted the Longmaxi formation in the Sichuan Basin, located in south-central China, as its initial shale gas exploration and development objective. While several international companies are active in China, much of the early effort has been led by Sinopec and China National Petroleum Corporation's PetroChina, two of China's national oil companies. According to China's Ministry of Land and Resources, these two companies are on schedule to reach 600 million ft<sup>3</sup>/d of shale gas production by the end of 2015. CNPC has drilled 125 shale wells, bringing 74 of them into production, and is on schedule to produce 250 million ft<sup>3</sup>/d of shale gas by the end of this year. Sinopec has a commercial-scale effort underway at the Fuling shale gas field in the Sichuan Basin, currently producing 130 million ft<sup>3</sup>/d. By the end of 2014, Sinopec completed 75 test wells at the Fuling field, with plans to drill an additional 253 wells.

Other countries have also begun to explore shale gas and tight oil, including Poland, Algeria, Australia, Colombia, and Russia. Shale oil and natural gas exploration drilling is also underway in Mexico, particularly in the country's portion of the Eagle Ford Shale and in La Casita formation within the Burgos Basin in northeastern Mexico. In May 2015, the national oil company Petroléos Mexicanos released the results for 13 of its shale exploration wells, with 10 of these categorized as commercial. These 10 shale gas wells have initial production ranging from 2 to 11 million ft<sup>3</sup>/d. Pemex also drilled three horizontal wells into the Tampico-Misantla Basin's Pimienta formation in 2013, and the company plans to complete all three wells this year. (June 29, 2015)

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**INDIA:**

**India needs a long term shale gas policy**

India needs a long term shale gas policy that is holistic and incorporates from the experiences of other countries on issues like gas pricing, environment and land acquisition, ICICI Securities, a Mumbai based brokerage, said in a report on Sunday.

"India needs a long term shale gas policy, which has to be holistic and incorporates lessons learnt from the issues of gas pricing, environment safety, land acquisition, etc. from the experiences of other countries that are further ahead," Indo Asian News Service quoted the brokerage as saying.

"Shale gas has potential but is not the silver bullet, which will resolve India's energy crisis tomorrow," the report said.

The report pointed out how individual landowners in US can lease mineral rights to their property, a right which landowners do not have in other nations, IANS said.

"These mineral rights have helped to overcome the issue that has stopped operations elsewhere in the world," ICICI said.

**Country's shale gas reserves is estimated at 187.5 tcf**, spread over the Cambay, Krishna-Godavari, Cauvery, Ganga and Assam and the Assam-Arakan basins.

"Understanding the challenges around fresh water requirement, environment, natural calamities, investment incentives, land acquisition, among others, will allow policymakers to create a more robust policy for India, which will sustain over the long term," ICICI said, IANS reported. (June 21, 2015)

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