

U - Gas News Report

Unconventional Gas Activities in the World

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by *Constancio Silva*

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CBM

EXPLORATION

INDIA:

Now, CIL can explore natural gas in coal seams

The government has allowed Coal India to produce natural gas (CBM) from coal seams in mining leases it already holds.

Until now, Coal India was allowed to mine only coal from its mines or leases.

The Ministry of Petroleum and Natural Gas in a November 3 order said Coal India and its subsidiaries will be allowed to explore coal-bed methane (CBM) gas in mining leases they possess.

Coal India Ltd (CIL), however, will not be allowed to "alienate CBM lease rights". It can also not involve a third party for CBM exploitation except Central or State PSUs with experience in CBM mining lease.

The majority stake shall remain with Coal India, the order said.

CIL will have to submit within 24 months of the grant of CBM mining lease, a field development plan (FDP) to the Directorate General of Hydrocarbons (DGH) and it would have to start production not later than the projected date in that plan.

It will be liable to pay a penalty of Rs 1 lakh per month for any delay in production after the stated deadline.

The timeline for submission of FDP, which will detail investment as well as production profile, may be extended by 12 months on a case to case basis with sufficient justification but any delay beyond this would attract a penalty of Rs one lakh per month.

While the government has so far awarded 33 blocks for exploration and exploitation of CBM, a majority of the gas bearing areas are under coal mining. There was no policy that allowed for simultaneous production of coal and CBM gas.

CIL holds about 80 per cent of the CBM bearing areas and the move to grant it the rights to explore coal seam gas is aimed at expediting production of gas.

"CBM areas covered under coal mining lease area will be utilised by the lessee (Coal India) in a manner so as to facilitate extraction of CBM prior to coal mining operations or simultaneously with coal mining operations to optimally develop and conserve CBM," the order said.

Coal Bed Methane is methane (natural gas) trapped in coal seams underground. Such gas can be extracted by drilling into the seam.

Coal India will have to comply with all statutory requirements relating to environment and safety. (November 6, 2015)

11/06/2015

GENERAL INFORMATION

AUSTRALIA:

Palaszczuk welcomes CBM-to-LNG investment

The Premier of Queensland, Annastacia Palaszczuk, has welcomed QCG's AUS\$1.7 billion investment in the state's coalbed methane (CBM: called coal seam gas in Australia) to LNG industry.

"As the LNG industry in Queensland moves from the construction phase to the operational phase, there have been fewer jobs in the industry than there were in the boom years," said Palaszczuk. "QCG's announcement that they are investing AUS\$1.7 billion in this industry is a welcome boost to the Queensland economy that will support 1600 jobs."

The investment by QGC, a subsidiary of the UK-based BG Group, and its joint venture partners, China National Offshore Oil Corp. and Tokyo Gas, into the so-called Charlie project will help support gas production west of Wandoan in the Surat Basin.

The works are part of the continuous development of QGC's tenements in the Surat Basin to sustain natural gas supply to both domestic customers and the two-train Queensland Curtis LNG (QCLNG) liquefaction plant on Curtis Island, near Gladstone, QGC said in a statement.

"I visited Curtis Island in May this year to see their LNG plant and we will see millions of tonnes of LNG exported through the facility," continued Palaszczuk. "I said then that the LNG industry had a strong future in Queensland and QGC's announcement is proof of that.

According to Queensland State Development Minister, Anthony Lynham, Queensland's LNG exports are projected to his AUS\$15 billion by 2016/17, while the state will become the fourth largest LNG exporter by 2018.

"Gas-fired power is cleaner than coal-fired power and will play an increasingly important role in global energy needs," Lynham said in a statement. "Queensland has strong partnerships with key markets like Asia and we're well-placed to benefit from this and play an increasing role in a global clean energy future.

Not all are positive about the growing unconventional gas industry in Australia, however. Senator Glenn Lazarus, a prominent critic of coalbed methane and other unconventional gas extraction recently introduced measure to the Australian Senate that would set up an enquiry into the safety of the industry and the way it interacts with the rural communities in which it operates. (November 18, 2015)

11/19/2015

SHALE GAS

EXPLORATION

CHINA:

China pushing ahead with shale while alling prices dim interest

China is poised to further open up its acreage to shale gas exploration even as the appetite for producing the fuel ebbs amid a global glut and plunge in energy prices.

China's Ministry of Land and Resources may announce details of the third round of shale gas auctions within two months, Guo Jiaofeng, a researcher at the Development Research Center of the State Council, a government think tank, said in an interview in Chengdu, Sichuan province. An announcement is expected by the end of the year, he said.

The new blocks will be offered as interest in exploring China's shale potential has cooled amid falling prices and the country's challenging geology. Brent, the benchmark for more than half of the world's crude trading, has fallen more than 40% in the past year, pulling gas prices down with it. The government is trying to lure more private companies in the next bid round as part of broader reforms of an industry dominated by state-run giants.

"It may not be the best time for private companies to bid for shale parcels," said He Sha, a professor at Southwest Petroleum University. "Falling oil prices, shrinking government subsidies and a lack of technology, among other things, will hurt private companies' chances to succeed in shale gas exploration."

Subsidy Cut

China will cut subsidies for shale gas developers from 2016 to 2020 even as the country encourages explorers to produce more natural gas as a replacement for coal. **Shale gas subsidies will be cut to 0.3 yuan per cubic meter from 2016 to 2018 and further to 0.2 yuan from 2019 to 2020 from 0.4 yuan currently**, China's finance ministry said in April.

The oil and gas research center at the China Geological Survey, an affiliate of the ministry, has selected 40 parcels in northern and southern China and submitted the list to the land regulator for the auctions, Guo Tianxu, an engineer at the center, said in an interview at the conference. The ministry may select more than 20 parcels from the list for the auction, he said.

China last held shale gas auctions in 2012 when it awarded 19 blocks to companies including coal producer Shenhua Group Corp. and power generator China Huadian Corp. None of the blocks offered then have yielded producing assets. PetroChina Co. and China Petroleum & Chemical Corp., the country's biggest and second-largest explorers, began large-scale commercial shale gas production in 2013 at parcels allocated to them in Sichuan and Chongqing.

'Mixed Results'

This year, ConocoPhillips ended talks with PetroChina on a shale gas development in Sichuan after a two-year study. Royal Dutch Shell Plc gave similar indications when it said in July it's evaluating drilling results in Sichuan, which have shown "mixed results."

China Petroleum, or Sinopec, is the country's biggest shale gas producer. Its Fuling field in Chongqing currently produces more than **10 mcm of the fuel a day**. **The company announced on Oct. 15 that proved shale gas reserves at Fuling increased by 273.9 bcm to 380.6 bcm, making it the world's second-largest shale gas field outside North America.** **The country's total proven shale gas reserves are estimated at 500 bcm**, according to the Chinese Academy of Engineering. (November 5, 2015)

WORLDWIDE:

Global shale gas market expected reach 17,201.6 Bcf by 2021

Global Industry Analysis of Shale Gas Market Size, Share, Growth and Forecast 2015-2021. Shale Gas Industry is expected to Reach 17,201.6 Bcf Globally by 2021, growing at a CAGR of 7.9% from 2015 to 2021.

Discovery of new shale gas basins in China, Australia, etc. have created great opportunity for this market's growth. In addition, it is expected to increase the ethylene production in the next few years. Shale gas is extracted through techniques like horizontal drilling and hydraulic fracturing. It involves applications such as power generations, transportation and various other applications.

United States is the largest market for this natural gas followed by Canada and China. Eventually, North America is the leading region for shale gas market and will continue to grow over the forecast period. This region was the only active producer of shale gas till 2010. Europe and Middle East & Africa are the second fastest growing market, followed by Asia Pacific and Latin America region. (December 3, 2015)

12/03/2015

INDONESIA:

Indonesia invites bids for three shale gas blocks

The Indonesian government on Monday invited bids for three unconventional hydrocarbon blocks.

According to a note published on the website of energy and mines ministry, bids have been invited for three shale gas blocks- Blora, onshore Central and East Java; Batu Ampar in East Kalimantan; and Central Bangkanai, onshore Central and East Kalimantan.

Last date for submission of bids is December 15, the ministry said

According to Platts, government has identified seven shale gas basins in Indonesia, including Baong, Telisa and Gumai, which are located in Sumatra and believed contain of the biggest reserves of gas; two basins on Java island and two others in Kalimantan. (November 3, 2015)

11/05/2015

LITHUANIA:

Lithuania puts off shale gas plans indefinitely

Lithuania says it has not scrapped its shale gas exploration and mining plans, but that it is putting them off indefinitely. Back in April, the country's the Lithuanian Ministry of Environment and Government announced that it was postponing a tender for shale exploration and extraction.

It was not the first time Lithuania's nascent shale gas industry faced a setback. In 2012, U.S. explorer Chevron was awarded mining rights to search for shale in Lithuania but announced it was exiting the country in October 2013, blaming the ever-changing legislative, taxation, and regulatory environment. Chevron's decision earlier this year to give up on Romanian shale gas exploitation marks the the U.S. company's final departure from its Eastern European shale gas adventure.

Given the uncertain global market for traditional oil and gas, the time is not right for unconventional exploration, one Lithuanian politician told Natural Gas Europe.

"The dynamics of global oil and gas prices have been very adverse to hydrocarbons and we might be seeing it for very long, so pursuing alternatives does not make much sense," Kestutis Dauksys, a Lithuanian lawmaker and member of Lithuanian Parliament's Energy Committee, said. "Especially [because] Lithuania puzzles where to put the excessive amount of liquefied natural gas in the Klaipeda LNG terminal."

Shale gas is also unlikely to find the government support it needs in Lithuania at this time. Lithuania's Minister of the Environment, Kestutis Treciokas--unlike his predecessor Valentinas Mazuronis who was a staunch supporter of shale gas exploration--has always been hesitant about the pursuit.

Previously the minister said that there "had been several serious investors," but after scrutinizing the ministry's submitted geological data they concluded that Lithuanian resources "aren't of interest to them" and withdrew from the bid.

11/05/2015

LITHUANIA:

Lithuania's Constitutional Court rules fracking is OK

The Constitutional Court of Lithuania ruled on Wednesday that hydraulic fracturing waste can be buried underground.

The Court considered the new Underground Law, which stipulates that industrial waste originating from hydraulic fracturing, used to explore or extract underground resources like shale gas, may be buried underground. The law does not violate constitutional provisions on health and environmental protection, the court ruled.

The Constitutional Court heard the case brought by a group of MPs who believe that hydraulic fracturing for the exploration and extraction of hydrocarbon (shale gas or shale oil) resources is hazardous to the environment and people's health.

The Constitutional Court ruled that the Constitution provides for legal regulation of economic activities which allows to explore and exploit underground resources using methods that could endanger the environment or human health. However, the court emphasised that effective measures have to be established which would create preconditions for proper protection of the environment and human health, and prevent economic activities that could be harmful.

Lithuania's shale gas resources are estimated at 100 to 120 bcm. The American company Chevron had been the only candidate to explore and extract shale gas in Lithuania, but abandoned the plans in 2013, quoting unfavourable regulation environment and public resistance.

In October, Environment Minister Kestutis Treciokas said Lithuania would not be exploring its shale gas resources in the near future. The Geological Survey has cancelled a public tender for shale gas exploration issued in April. (December 16, 2015)

12/17/2015

PAKISTAN:

Shale gas can help country meet energy needs

US Monday said that exploitation of shale gas would be a commercial decision of oil and gas companies and that will take time.

Actual exploitation of shale gas would be a commercial decision of oil and gas companies and could still be a few years away, said US Embassy spokesman Chris Snipes.

US response has come days after the government of Pakistan ambitiously announced starting pilot project after the USAID in a recent study found 10,159 trillion cubic feet shale gas and 2.

3 trillion oil reserves, several times higher than the initial estimates.

The US believes the study was just a start and the country has been moved into next stage.

USAID support has created an enabling environment for further work that is required prior to actual exploitation, which includes pilot programs, development of policy and regulatory frameworks, demarcation of blocks, a campaign to promote international private sector investments, and the awarding of blocks via competitive processes, spokesman said.

He said that the study made an assessment of the technology including hydraulic fracturing, infrastructure requirements, and water availability in the area of interest, which was the Lower and Mid Indus Basin of Pakistan.

He said actual exploitation of shale gas would be a commercial decision of oil and gas companies and could still be a few years away.

Answering a question about the costs of finished product (oil or gas) obtained from shale resources the US embassy official said that cost would be up to government of Pakistan.

USAID helped Pakistan estimate the amount of shale gas potentially available and helped Pakistan look at various technology options for exploitation of those resources. It would be up to the government of Pakistan how it calculates final prices and whether and how it uses USAID-suggested cost estimates, he said.

According to the U.S. Energy Information Administration, the United States, Canada, China, and Argentina are currently the only four countries in the world that are producing commercial volumes of either natural gas from shale formations (shale gas) or crude oil from tight formations (tight oil). The United States is by far the dominant producer of both shale gas and tight oil.

Notable shale resource exploration efforts are underway in several countries, including Algeria, Australia, Colombia, Mexico, and Russia.

However, commercial shale development of the type demonstrated in the United States requires the ability to rapidly drill and complete a large number of wells in a single productive geologic formation.

The logistics and infrastructure necessary to support this level of activity, including the drilling and completion processes, the manufacturing of drilling equipment, and the distribution of the final product to market are not yet evident in countries other than the United States, Canada, China, and to some extent, Argentina, claims USEIA. (November 24, 2015)

11/25/2015

UNITED KINGDOM:

Shale gas test drilling within a year as new licences announced

Test drilling for shale gas is set to start within a year after the announcement of new licences, which sparked differing reactions from supporters and opponents of fracking.

The industry welcomed the move, saying it paved the way for a shale gas “revolution” which could create tens of thousands of jobs.

But environmental groups warned that “vast swathes” of rural landscapes were now being opened up to the controversial process of extracting gas from underground.

Energy giant Ineos has been awarded 21 new shale gas licences, making it one of the biggest players in the nascent industry, with a total of a million acres under licence.

Gary Haywood, chief executive of Ineos Shale, said the licences were an “important first step” for the industry.

Ineos will now engage with local communities in areas such as Cheshire, the East Midlands and North Yorkshire before submitting planning applications, and working to dispel some “myths” about fracking.

Mr Haywood told the Press Association that test drilling could start at the end of next year, although he estimated it would be four to five years before commercial development took place.

Ineos is spending around £400 million on the appraisal phase of the venture, and Mr Haywood said the “time is right” to press ahead with developing energy “under our feet.”

Energy Minister Andrea Leadsom said: “Last month we set out the vital role gas will play in the UK’s transition to a low-carbon future.

“The licences offered today move us a step closer – driving forwards this industry which will provide secure, home-grown energy to hard-working families and businesses for decades to come.”

Shadow energy secretary Lisa Nandy said: “This morning the Energy Secretary slipped out that more than 18,000 people could lose their jobs in the solar industry because of Government cuts.

“This afternoon she snuck out that fracking companies will be awarded licences to explore for shale gas underneath our precious national parks. It’s a disgrace that the Government is ignoring all the risks to the environment and serious public concern.”

Former energy and climate change secretary Ed Davey said it was “incredibly difficult” to see how the Government was going to meet its climate change targets without technology such as solar.

“I always aimed for solar to be subsidy free by about 2020. I cut solar subsidies so I can hardly complain about the principle of subsidy cuts.

“But cutting it by two-thirds, as announced today, in one go, it’s going to see huge job losses and a break in solar investment,” he told the Press Association.

He said that the “one-off massive slash” to subsidies, creating a hiatus in investment and losing skills that the UK would need in the future, was an expensive way of reducing the costs of renewable technology.

Mr Davey challenged the Government’s claim that renewables support has to be cut because the budget for green energy is overspent, and accused ministers of having an energy policy from the early 1980s before innovation and climate change science.

He criticised the cutting of solar subsidies on the same day as approving scores of licences for new shale gas exploration, while failing to develop technology to capture and store carbon from power stations – the key thing to make shale gas “climate change friendly”.

“If you are going to have shale gas and be credible about climate change you need to invest in carbon capture and storage,” he warned.

Adam Marshall, executive director for policy and external affairs at the British Chambers of Commerce, said: “Issuing new shale gas licences will be meaningless unless planning permission can actually be secured for projects to get up and running.

“Ministers must take urgent action to pare back the long-winded cycle of applications and appeals, which is undermining both interest and investment in energy projects across the UK.”

The Campaign to Protect Rural England said the licence blocks included land for shale exploration in three national parks and six “areas of outstanding natural beauty”, opening the possibility for fracking underneath the protected areas.

Greenpeace energy campaigner Hannah Martin said the Government’s approach to a new fossil fuel industry was “bizarre and irresponsible” just days after the historic international deal to tackle climate change was agreed.

Lady Barbara Judge, chairman of the Institute of Directors, said: “This latest step towards unlocking Britain’s shale gas potential is good news for the UK. We have all seen the benefits of the shale gas revolution in the United States.

“Now Britain has the chance to follow in their footsteps and reap the rewards – new high-skill jobs, more secure energy, and a smoother transition to a low-carbon economy.” (December 18, 2015)

12/18/2015

CHINA:

Sinopec makes large shale gas discovery in Chongqing

Sinopec on Monday said it has discovered a major shale gas field near Southwest China's Chongqing.

The Fu-Ling field has estimated reserves of 2.1 tcm, China's CNTV reported, adding it's also the first large-scale discovery of its kind in China.

The discovery is expected to speed up larger scale commercial development of shale gas in China.

According to Sinopec's Chairman, Fu Chengyu, said 10 years can now be cut off from China's planned development time for shale gas energy.

"Our Fuling project, which will ultimately produce 10 bcm a year by 2017, will build shale gas capacity to 5 bcm a year by 2015." Fu Chenyu said.

The discovery of the Fuling field means China's official target for annual shale gas production, 6.5 bcm a year, will be easily surpassed, CNTV said.

But Sinopec may be faced with a cash squeeze as it looks to develop the field, according to CNTV. (November 30, 2015)

12/02/2015

UNITED KINGDOM:

UK needs to start fracking before touting benefits

Britain should begin exploratory drilling or fracking of shale gas sites to allow the industry and government to fully assess its economic benefits for the country, a shale gas industry-funded task force said on Tuesday.

Britain is estimated to have substantial amounts of shale gas trapped in underground rocks and Prime Minister David Cameron has promised to go "all out for shale", hoping it will help reduce dependence on energy imports, generate additional tax revenue and create thousands of jobs.

But exactly what kind of benefit it can bring cannot be established until developers are allowed to start exploratory drilling, the report by the task force on shale gas said.

"We know roughly where there are shale rocks and where there is likely to be shale gas but exactly how much is genuinely recoverable no one knows at the moment," Chris Smith, chairman of the task force, said.

Analysis published in 2013 by the Institute of Directors estimated shale gas production could generate 74,000 jobs and attract investment of 3.7 billion pounds (\$5.6 billion) a year at its peak.

Fracking applications have struggled to get approval from local communities, concerned about noise and environmental impacts and the effect on house prices. To address this the government has changed planning rules to make its own decisions on shale gas appeals.

The report, the fourth in a series published by the group, said if best practice methods are used fracking would provide no greater risk to the public's health than other comparable industries such as traditional gas extraction.

It said there could be a negative impact on house prices in regions where a fracking well has been given permission, but added the impact would be negligible a year or more after the well had been drilled.

However, green groups said the government should re-assess its strategy in light of a global climate deal forged in Paris by almost 200 countries.

"If the UK government is really committed to keeping its end of the Paris deal, it must rethink its support for fracking and back safe, cheap, clean energy instead," said Greenpeace UK energy campaigner Hannah Martin.

The task force was set up last year to examine the risks and benefits of shale gas extraction and says it is independent of its funders Cuadrilla, Centrica, Total, Weir Group, Dow Chemical and GDF Suez E&P UK. (December 15, 2015)

12/15/2015

PRODUCTION

ARGENTINA:

Argentina inks \$500mn gas production deal with Dow Chemical

Argentina's state-run energy company YPF said yesterday it has entered a \$500 million joint venture with Dow Chemical to drill for natural gas next year in the Vaca Muerta shale formation in Patagonia.

A spokesman for the company said the investment will be split evenly between Dow and YPF during 2016. Production will come from Vaca Muerta's El Orejano field.

"By the end of 2016, production at El Orejano could triple to reach an average two million cubic metres per day," a YPF statement said, adding that the investment comes atop an earlier \$350 million joint venture between the two companies.

YPF estimates the Vaca Muerta deposit contains 661 billion barrels of oil and **1,181 tcf of natural gas, making it one of the biggest shale reserves in the western hemisphere.** (December 16, 2015)

12/16/2015

ARGENTINA:

Madalena Energy making progress as eyes first multi-frac well in Vaca Muerta shale

Madalena Energy and partners are planning a first horizontal multi-frac well on the Coiron Amargo block in the Vaca Muerta shale and expects to **kick off operations in the first half of 2016**.

The news was unveiled as the company posted a positive operational update on recent activity.

Madalena also told investors it had made progress on the Lower Agrio shale oil play and the Mulichinco tight sand gas play.

Madalena holds over 950,000 net acres in four provinces of the South American country and is focused on the large shale and unconventional resources in the Vaca Muerta shale, Lower Agrio shale, Loma Montosa oil play and the Mulichinco liquids-rich gas play.

This month, Madalena has successfully deepened the Yapai.x-1001 well, drilling through 550 metres of the Lower Agrio formation, with the bottom 270 metres encountering continuous oil and gas shows , it said.

The firm then drilled around 24 metres into the underlying Mulichinco formation, which it believes is sufficient to initiate a hydraulic fracture treatment in this tight sand horizon. The mud logging over this interval continued to yield good gas shows.

Elsewhere, Madalena and its partners have drilled their fifth and sixth horizontal wells in the conventional Sierras Blancas formation on the Coiron Amargo block and a seventh is being set up.

Initial 30 day production on the fifth well was 135 Bbls/d of oil and **140 Mcf/d (160 boe/d) of gas on a 6mm choke but the firm reckons the choke could be increased to 8mm to increase output**.

Mackie Research repeated a 'buy' call on the shares and \$0.70 target price.

This is based on the company's growing conventional production in Argentina, and the massive upside potential the Loma Montosa, Mulichinco, Vaca Muerta, and Lower Agrio resource plays, it said.

News that the firm had begun liquidating its holdings of par value US\$ 11.1 million Argentina issued government bonds from the Petroleo Plus incentive program enhance its financial flexibility, Mackie also noted.

Industrial Alliance securities said: "All good news for Madalena which remains very attractive given US\$76/bbl regulated prices.

"We continue to believe Madalena provides investors with tremendous upside from both its ongoing organic drilling and as a potential take-out target from one of the larger industry players looking to enter Argentina or expand existing in-country operations." (November 13, 2015)

11/13/2015

CHINA:

PetroChina, Sinopec 2015 shale output said below China goal

China is on track to miss its shale gas production target for this year as its biggest producers throttle back output amid weakening demand growth and a collapse in energy prices.

PetroChina Co., the country's largest oil and gas company, may produce about 1.6 billion cubic meters of the unconventional gas this year, lagging behind its stated target of 2.6 billion cubic meters, according to people with direct knowledge of the matter.

China Petroleum & Chemical Corp., the nation's second-biggest oil and gas producer, may pump around 3.5 billion cubic meters of the fuel, according to the people, who asked not to be identified because the information isn't public. The explorer plans to complete an expansion project this month that will boost capacity to 5 billion cubic meters a year.

China's efforts to copy the success of the U.S. in shale production has foundered as an economy growing at the slowest pace in 25 years curbs demand. The combined production of the two companies of 5.1 billion cubic meters in 2015 accounts for almost all of China's commercial shale gas output. The country in 2012 announced an annual production target of 6.5 billion cubic meters for this year. (December 9, 2015)

12/10/2015

CHINA:

Sinopec's Changning-Weiyuan shale gas zone daily output stands at 5.36 mcm

Sinopec Corp. on Friday said it has **produced 1.006 bcm of shale gas cumulatively from Changning-Weiyuan national shale gas demonstration zone in southwest China's Sichuan basin.**

Currently, daily shale gas output from the demonstration zone stands at 5.36 mcm. PetroChina has 64 shale gas wells in operation in the area, the company said.

Late last month, Sinopec discovered a major shale gas field near Southwest China's Chongqing. The Fu-Ling field has estimated reserves of 2.1 tcm. The discovery of the Fu-ling field means China's official target for annual shale gas production, 6.5 bcm a year, will be easily surpassed.

Sinopec's Chairman, Fu Chengyu, said 10 years can now be cut off from China's planned development time for shale gas energy.

"Our Fuling project, which will ultimately produce 10 billion cubic meters a year by 2017, will build shale gas capacity to 5 bcm a year by 2015." Fu Chenyu said. (December 4, 2015)

12/07/2015

RESERVES

UNITED STATES:

Barnett shale gas estimate doubles

The U.S. Geological Survey said its review of the Barnett shale basin in north-central Texas led it to double the estimated reserve potential.

"We decided to reassess the Barnett Shale following the successful introduction of horizontal drilling and hydraulic fracturing, setting the stage for the current shale gas boom," USGS researcher Kristen Marra said in a statement.

The USGS estimates the shale basin holds 53 tcf of shale natural gas, 172 million barrels of shale oil and 176 million barrels of natural gas liquids. **The estimate, which is double the previous level forecast in 2003, is for undiscovered, technically recoverable resources.**

The USGS said the increase in reserve potential was largely a reflection of the industry's use of horizontal drilling, where the well turns at depth to parallel the source, in coordination with hydraulic fracturing. The previous assessment relied on vertical drilling. Since 2003, more than 16,000 horizontal wells were tapped into the Barnett shale, the report said.

The Texas Railroad Commission, the state energy regulator, estimates the Barnett shale may be one of the more lucrative natural gas basins in the country. The Marcellus shale in the eastern United States overtook Barnett, however, as the larger producer earlier this decade.

Referencing field data, the (Fort Worth) Star-Telegram reported the number of rigs deployed in the Barnett shale went from 200 in October 2008 to just a single rig at one point in early 2015.

Lower crude oil prices are starving energy companies of the capital needed to invest in exploration and production, a trend reflected in declining rig counts. June data from the U.S. Energy Information Administration suggests Barnett shale peaked earlier this decade, but may recover somewhat by 2020 before leveling off through 2050. (December 18, 2015)

12/18/2015

WORLDWIDE:

Four countries added to global shale oil, gas assessment

The U.S. Energy Information Administration said Monday it's added four countries to its list of countries assessed for technically recoverable shale oil and shale natural gas.

Chad, Kazakhstan, Oman, and the United Arab Emirates (UAE) were added to a previous assessment covering 42 countries, increasing by 13% the total resource estimate for shale oil and 4% for shale gas.

A total of 26 formations within 11 basins were analyzed in the four new countries, Kallanish Energy finds. While the formations contain significant volumes of technically recoverable resources, there is currently no shale exploration underway in any of the countries, meaning the new assessed resources are not yet economically recoverable.

"The portions of resources that become economically recoverable in the future will depend on crude oil and natural gas market prices, as well as the capital and operating costs and productivity within the countries," according to EIA.

Each of the countries has an existing oil and natural gas industry with infrastructure connecting the basins to global markets.

The resource estimates of the four countries, plus the other 42 countries previously assessed in 2013, estimate proved and unproved technically recoverable resources of 419 billion barrels (BBbls) of shale oil resources and **7,576 Tcf of shale gas resources**.

However, only four countries (the U.S., Canada, China, and Argentina) are currently producing oil and natural gas from shale at commercial scale, with the U.S. alone providing 4.4 million barrels per day (MMBPD), or more than 90%, of global tight oil production, and 42 Bcf/d, or more than 89% of global shale gas production. (December 15, 2015)

12/15/2015

PAKISTAN:

Pakistan has 10,159 trillion feet reservoirs of shale gas

Pakistan has a massive potential of 10,159 trillion cubic feet shale gas and 2.3 trillion oil resource, several times higher than the initial estimates of US Energy Information Administration (USEIA), reveals latest study conducted with the help of USAID.

USEIA had reported in April 2011 presence of 206 TCF shale gas in place in lower Indus Basin out of which **51 TCF were technically recoverable**.

However, in June 2013, USEIA revised shale gas resource in Pakistan as 586 TCF in place out of which 105 TCF were tipped as risked technically recoverable and also included 9.1 billion barrel shale oil risked technically recoverable out of 227 billion barrel shale oil in place.

In an interaction with media persons here on Thursday Petroleum Minister Shahid Khaqan Abbasi said that shale gas study was initiated with support of USAID in January 2014 which had been completed in November this year. He said that study had confirmed that Pakistan had 10,159 trillion cubic feet shale gas resource and 2,323 billion shale oil.

“Risked technically recoverable resource is 95 trillion cubic feet shale gas and 14 billion barrel shale oil resource,” Abbasi said adding that recoverable data of 1,611 wells was collected and shale formation of 1312 wells through drill was done. He said that 70 per cent of wells data was used to develop this study.

He said that samples were sent to New Tech laboratory in Houston to verify shale gas and oil resource in place. He said that study confirmed that Pakistan had potential of shale gas and oil which was more than expectations.

The minister further said that technology available in Pakistan for exploring conventional oil and gas could be used for exploiting shale oil and gas. However, country requires more technology for the purpose on a larger scale. He said that real challenges were environmental issues, provision of water and higher cost of drilling. He said that one well required 3-8 million gallons water. The minister said that OGDCL has been asked to initiate one pilot project for exploring the shale gas well.

“We have water but real issue is disposal of water,” he said adding that shale gas would cost \$10 per Million British Thermal Unit (mmbtu). However, he said that cost would come down further in case more recovery of shale oil. He said that world was exploring shale gas and oil and Pakistan wanted to utilise this potential also. “We have assigned OGDCL and PPL to explore shale gas and oil from one well to determine cost of extracting this resource,” he said adding that shale resource policy would be formulated following cost of drilling by these two companies”.

Petroleum Advisor to Petroleum Ministry Zaid Muzaffar said that OGDCL was working on one well to find out shale gas and oil. “We are hopeful to find results in next two to three months,” he said adding that one well needs \$2 to \$3 million additional cost to explore shale resource.

Petroleum minister said that country had 20 trillion cubic feet conventional gas reserves and 385 million barrels oil.” The gas is enough to meet requirements for 15 years at existing level of production,” he said. (November 20, 2015)

11/20/2015

SUPPLIES - IMPORTS - EXPORTS

UNITED STATES - UK:

INEOS strikes deal with ExxonMobil and Shell to supply US shale gas to Fife Ethylene Plant

INEOS has struck a deal with ExxonMobil Chemical and Shell Chemicals Europe to supply ethane from US shale gas from Grangemouth to the Fife Ethylene Plant.

The purchase agreement will be from the middle of 2017 and it is hoped access to this source will help complement supplies from North Sea natural gas fields.

Geir Tuft, business director at INEOS O&P UK, said the deal was a “landmark agreement”.

He added: “We know that ethane from US shale gas has transformed US manufacturing and we are now seeing this advantage being shared across Scotland.”

INEOS has committed to investing £450million to construct a new ethane import terminal at its Grangemouth facility.

An existing pipeline will transport the gas from Grangemouth to Fife.

The Fife Ethylene Plant is one of Europe’s largest and most modern ethylene facilities and supplies manufacturing in Scotland, the rest of the UK and export markets with ethylene.

It has an annual capacity of 830,000 tonnes of ethylene. Shell Chemicals has a 50% capacity rights at the plant.

Last month INEOS struck a deal to buy 12 UK North Sea gas fields from billionaire Russian oligarch Mikhail Fridman’s DEA Group, who had been forced to sell the assets by the UK government. (November 9, 2015)

11/09/2015

USE FOR POWER GENERATION

UNITED KINGDOM:

Shale set for key role as Britain plans to switch off coal-power

Given that Britain currently imports about half its gas, domestic sources such as shale may be crucial if it is to replace coal-fired power by 2025

A reflex analysis of the UK government's plans to scrap coal-fired power by 2025 suggests the pressure is being ratcheted higher for shale gas projects to go ahead.

Amber Rudd, Britain's energy secretary, today unveiled new government policy that proposes coal-fired gas generation accounting for around 25% of the country's current power needs should be switched off ten years from now, to be replaced by gas-powered stations.

One slight flaw in that plan is the fact that, amid falling output from the North Sea, the UK currently has to import around half its existing gas needs.

Proponents of Britain's nascent shale gas industry, which estimate that the reliance on imports could potentially rise to 75% over the next fifteen years, believe that domestic gas should now play an important role.

It comes after local planning decisions have stalled progress, with applications for key shale test projects being turned down earlier this year.

UKOOG, lobbyists for UK onshore oil and gas producers, said it welcomed the reiteration of government policy towards onshore oil and gas in Rudd's speech.

"We have a clear and pressing need to secure gas for 84% of our homes that use it for cooking and heating, the 40% of electricity that is produced from it and over 500,000 jobs that are sustained by using it to create everyday products we know and love," UKOOG said in a statement.

"UKOOG supports the creation of an energy mix that includes natural gas, nuclear and renewables.

"We now need to get on and appraise and develop the gas below our feet, in particular the huge resources of natural gas locked up in the shale rock underlying the UK."

Environmentalists, meanwhile, are unhappy with the government proposals with a number of campaign groups criticising the lack of emphasis on the role of renewable energy.

Paul Barwell, chief executive of The Solar Trade Association, in a statement said: "Phasing out coal power electricity is of course good news and was expected – this is an essential move.

"However it makes little sense to replace fossil coal only with fossil gas.

"Gas and large-scale solar will soon need very similar levels of support, but unlike gas solar has the bonus of zero carbon emissions, future price certainty and no dependency on imports from unstable countries." (November 18, 2015)

TIGHT GAS

PRODUCTION

OMAN:

Oman's Khazzan tight gas project 45% complete

Kazzan tight gas project in Oman is halfway through, according to BP.

Almost 45% of project and infrastructure work has been completed at the Khazzan gas field, which is being developed by BP, Muscat Daily quoted president of BP Oman as saying.

"Over 45% of project and infrastructure works have been completed at Khazzan so far, and there are seven drilling rigs in the field, with 12 wells already having been drilled. We continue to invest significantly in Oman despite low oil prices," Yousuf al Ojaili said in a press statement Monday.

Sanctioned in December 2013, the Khazzan project represents the first phase in the development of one of the Middle East region's largest unconventional tight gas plays. Total investment in the first phase to reach the initial gas production target will be \$16 billion.

Earlier this year, BP **said first gas from the project is expected to flow sometime in 2017.** (November 2, 2015)

11/03/2015
