SHALE UPDATE

UNDERSTANDING SHALE GAS AND ITS GLOBAL ENERGY DYNAMICS

- MOST HAPPENING EVENTS IN SHALE GAS
- QUEST FOR EXPLORING SHALE GAS IN COUNTRIES OUTSIDE US
- SHALE GAS REVOLUTION AND GLOBAL ENERGY MARKET

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Purpose of Shale Update:
The purpose of this update is to:
- To create awareness about shale gas and recent development in global energy markets due to shale gas
- Understanding the innovation and advancement in technology for developing shale plays
- Experiences of countries other than US in developing shale gas plays
Special Note:

Dr Gulfaraz Ahmed (Phd in Petroleum Engineering, Stanford University), renowned expert in upstream oil and gas sector and Chairman, “National Task Force on Exploitation of widespread shale oil/gas resource plays in Pakistan” has welcomed the launching of e-Newsletter and briefly remarked, "I greatly appreciate and compliment the Energy Wing of the SDPI for a far reaching initiative of putting out an eNews Letter on global shale oil/gas developments. It is a timely initiative of great importance to Pakistan that has substantial shale oil and gas resource plays and is mired in a serious energy crisis that is threatening its energy-economic- and national security. This initiative by SDPI will serve national need in drawing our focus on exploiting shale oil and gas on a fast track basis.

I will look forward to the weekly editions for updates and breakthroughs in a field of my personal and professional interest.

Dr Gulfaraz Ahmed
Chairman, National Task Force on
Exploitation of widespread shale oil/gas resource plays in Pakistan
A natural gas boom through the development of Shale plays has revolutionized global energy politics and abundant natural gas obtained through unconventional methods has created a deep impact on the structure and dynamics of natural gas markets. The Shale Gas revolution in the US has not only increased gas availability but has also created employment opportunities at a massive scale and also lured foreign investment.

Inspired by the economic impact and growth driven by shale gas in the US, other countries outside the North America are now actively pursuing the development of unconventional resources to decrease their dependence on oil imports.

However, China and Poland are the only countries outside North America which have been successful in producing natural gas through shale plays. Nevertheless, countries like Argentina, India and Mexico are striving to develop these unconventional beds yet they face several challenges in doing so. It is pivotal to highlight here that each country is facing unique challenges in harnessing this resource potential depending on the unique properties of shale. However, the risks associated with the development of these plays can be minimized by a comprehensive understanding of reservoir chemistry and geology through data gathering and data modelling.

A recent report has disseminated very sad facts about India that shale is not expected to bring any revolutionizing impact in India as the volumes of unconventional resources are not significant for hydrocarbon recovery and thick population and problems in land acquisition pose key challenges in harnessing these resources. It is expected that India will continue to depend on oil import.

Henceforth, the success in extracting gas from unconventional bed in one country cannot determine the success in the other country. It is argued that Indian experiences act as a good example for other countries to learn from it and be very cautious in stepping forward to develop these unconventional resources through unconventional methods.
The Prospects of Shale Gas in India are Distant:

According to International Energy Agency (IEA), the prospect of shale in India is becoming distant. The Geological Research suggests that India lacks the type and volume of shale reserves that US has discovered. Moreover, India being thickly populated area, issues of water availability and problems in land acquisition poses key hurdles in exploiting shale reserves in the country.

As a result of this, India will continue to depend on imported energy and is set to become a biggest driver of global oil demand by year 2020, in accordance with IEA. For this purpose, India needs a comprehensive energy policy to determine the growing domestic demand in medium to long term at affordable prices and without any disruption risks.


Indian Oil Corporation may buy minority stake in Canada Shale Gas & LNG Project for $1 billion:

The state run Oil Corporation (IOC), the country’s largest refiner and fuel retailer is planning to obtain a minority stake in a Canadian shale gas and liquefied natural gas projects for about $ 1 billion. It is expected that the Cabinet Committee on Economic Affairs (CCEA) would approve it this month. The company currently is in advanced talks of negotiations for the assets that include 10% stake in Progress Energy Resources Corporation.

IOC is expected to follow the model of Malaysian Oil major Petronas which had acquired a stake of $5.2 billion last year. Petronas recently sold a 3% interest in Progress Energy’s gas assets and LNG export facility to Petroleum Brunei. Similarly, earlier in April, Japan Petroleum Exploration Company had acquired 10% interest in Canadian shale gas and LNG projects for an undisclosed amount.

Progress Energy has shale gas assets in northeastern British Columbia and its sister concerns, Pacific Northwest LNG are planning to build an LNG export facility on Canada’s west coast. The Progress Energy is producing greater than 350 million cubic feet of gas per day in northeast British Columbia and northwest Alberta. IOC’s proposed acquisition would be third major overseas acquisitions by India’s State run oil firms for the current fiscal year involving a deal size of $ 1 billion and more. Hence, India is intending to acquire stakes in international oil producing and gas fields and exploration blocks to secure fuel supply to satisfy the mounting energy demands.

Dear Humans of Pakistan,

Today I’m going to tell you my story. It begins more than 10000 meters deep in the ground, when I, as a little blob of gas, am trapped under layers and layers of Shale rock… I am locked under the rocks, placed in horizontal slabs like my own personal tomb. With sheets of shale rock making up the Indus Basin is my homeland.

There’s about a 105 Trillion Cubic Feet of me and 9.1 billion barrels of Shale Oil, but both of us have been trapped inside for billions of years. We long to be free and I write to you, dear friend, as an appeal to unlock me.

In return, for the noble act of setting me free, I will fuel your every engine… I will help you fulfil your energy needs, and also create thousands of jobs in the industry. Not only that, but you’ll also be able to save USD 15 billion that you won’t have to pay as import bills for oil. I may just be the solution to your energy problems. Take a chance on me.

Waiting,
Shale Gas
Next Round of Chinese Shale Block Option Delayed:

The Local press report have identified that the next round of auctions for Chinese shale gas block has been delayed until spring 2014 to give Ministry of Land and Resources (MLR) more time to work on reducing the risks and costs of exploration. The Sinopec and China National Petroleum (CNPC) hold the existing oil & gas rights to the most lucrative shale gas blocks. According to US Energy Information Agency, China have largest known shale reserves in the world. The MLR has predicted that country’s shale gas output could reach 6.5 billion cubic meters per annum by 2015 and by 2020, this could touch the figure of 100 billion cubic meters per annum. *However, the shale reserves in China are buried deep below, thus making them difficult to extract commercially.*

To avoid this problem in third round of bidding, the MLR will first invest in geological exploration wells which will provide physical data about the tender blocks to ensure the progress of tender. The exploration costs for winters of the first two rounds of shale gas development were too high and risk is too great. Therefore, to avoid these risks the companies have to re-enact the development for successfully developing shale play.

Moreover for commercialization of shale, China still lacks the defined set of rules to regulate shale gas activity, despite the announcement of number of policies and incentives (subsidies and tax incentives) to accelerate the development of shale gas industry within the country.

*For Further Details:*
Discovery of Shale Gas Wells in South West China

The State owned Chinese news Agency ,”Xinhua” has reported that Sinopec had discovered a shale gas well in South West China, at the depth of 4,417 meters and with maximum daily output of 105,000 cubic meters. The Ministry of Land and Resources have highlighted that this discovery is the deepest well found so far in the country and its exploration would mark technological breakthrough in China’s deep shale gas drilling.

For Further Details:

Reasons for US-China Cooperation on Shale Gas

A Senior Associate of World Resources have highlighted that US & China should cooperate more on shale gas exploitation as the two countries share some key reasons to collaborate in this area which are:

- Both are continental sized countries
- Both have dispersed energy resources geographically with demand centers away from energy supply
- Both Countries rely heavily on fossil fuels to run their economies

Therefore the two countries should enhance their cooperation on these grounds and satisfy the increasing needs through natural gas driven from shale gas exploitation.

For Further Details:
http://www.globaltimes.cn/content/841151.shtml#UwraFfnA3K9

Closer Collaboration on Alternate Energy with US could help China to accelerate the exploitation of its Shale Gas Reserves
Veresen gets license to export Canadian gas for U.S. LNG project

Veresen Inc has highlighted that Canada’s National Energy Board had approved its request for license to export the Canadian gas for US liquefied natural gas project. The board has said that the company operating pipelines and gas processing facilities had approved a license to ship 1.55 billion cubic feet per day of gas to its Jordan Cove LNG project at Coos Bay, Oregon. The gas will be shipped through existing pipelines to Malin Hub in Southern Oregon. From there a planned 232 mile (370km) line will take the gas to Jordan Cove sit which will then supply 6 million tons of gas per year to Asian markets.

Suncor retreats from LNG rush

Suncor Energy Inc, Canada’s top oil company has silently suspended the plans to develop shale gas properties in in British Columbia and ruled out liquefied natural gas as money maker project. The company has deferred the exploration activities the B.C. in early stage in B.C.’s Montney Zone which is a vein of gas rich rock including the B.C. Alberta border the industry expects will anchor billions of new development in coming decades — after assessing prospects for the play including potential partnerships tied to export terminals planned for the West Coast. This move is another sign of weak North American markets for fuels, despite a recent bump in prices. It comes with major energy companies under pressure to focus spending and boost returns as rising costs threaten to squeeze margins.

For B.C., the decision underscores the degree to which future prospects in the Montney — estimated to hold 271 trillion cubic feet of gas just in B.C. — hinge on tapping fast-growing Pacific markets.

For Further Details: http://www.reuters.com/article/2014/02/20/veresen-lng-approvals-idUSL2N0LP2SC20140220
http://business.financialpost.com/2014/02/20/how-oregon-lng-facilities-could-be-key-to-exporting-canadian-gas-to-asia/?__lsa=4bbe-784c

Shale Oil Changes All:

It is argued that shale oil America’s rise in shale oil production will make the US economy more energy efficient and will provide an opportunity to keep all global trade safe, cheap and possible for many trading entities. The shale oil is becoming more acceptable due to safe underground water storage and technological developments of nontoxic additives.

The shale oil expansion in the Bakken fields is a game changer as it takes away the America’s need to protect all foreign shipping, including competing Saudi Arabian shipments of crude oil which is predicted to drop to one third of the current volume.

For Further Details:
http://www.agweek.com/event/article/id/22774/

$ 100 Billion Spent on New Shale Related Petro-Chemicals

The American Chemistry Council (ACC) Trade group has announced last week that shale gas in US is having profound and incredible impact on chemical industry. According to ACC, 148 shale related chemical industry project having worth of $100 billion have been announced so far. These projects constitute new factories, expansions and process changes to increase the capacity. It is estimated that the new spending could lead to $81 billion per year in new chemical industry output and 637,000 permanent jobs by 2023. It is interesting that more than half of investment in this regard have been done by the forms outside the US.

For Further Details:
http://marcellusdrilling.com/2014/02/acc-says-100b-of-new-shale-related-petrochemical-spending-on-way/
In EOG’s Eagle Ford Shale operation set to drive oil growth in 2014:

The best asset among the US upstream operators is now setting to drive oil growth this year. Last year, the EOG was focused on improving well productivity in western part of the play. EOG now considers itself as the largest oil producer and acreage holder in Eagle Ford with 178,000 b/d of equivalent oil output at the year-end 2013, up 69% year on year.

In addition to this, EOG has another 68,000 net acres for dry and wet gas of the play, thus bringing a total of 632,000 net acres in the play last year. The company having 12 years’ experience in drilling inventory in the play has witnessed improvements in well completion last year. The net recoverable reserves per well has been increased by 12.5% and also enlarged the net potential recoverable reserves for Eagle Ford from 2.2 billion boe to 3.2 billion boe.

The company currently is experimenting with improving the down spacing of increasing the well productivity while decreasing the well costs and striving to achieve optimum well spacing (determining the best placement of wells in given amount of acreage thus allowing for maximum drainage of reservoir).

Henceforth, EOG, after having years of experience in the upstream oil and gas sector has been set to increase the oil production in 2014

For Further Details:

America’s Shale Boom: A Major Job Creator

The oil and gas field in America accounts for 40% of the employment opportunities. It is estimated that employment growth has outpaced the US average growth rate in 10 states where hydrocarbon production is increasing. The jobs in addition to oil and gas jobs also include positions in information services, health care, housing education and manufacturing. This is accompanied by 60% increase in oil production, 50% decrease in oil imports and also brought in foreign investment driven by abundant and low cost energy. Additionally, 100 factories are set to be up and running by 2017, which will increase gross domestic product by $300 billion and additional 1 million jobs when become operational.

For Further Details:
Shale Oil Rally

A wave of enthusiasm has been witnessed across the globe, as US oil companies are going to report their earnings later this week. Kodiak Oil & Gas (NYSE: KOG) and Continental Resources (NYSE: CLR) are trading very close to theoretical highs. Whiting petroleum is another stock on the run according to the following screen. Interestingly, these stocks have more momentum than Priceline.com Inc. (NASDAQ: PCLN), Tesla Motors (NYSE: TSLA), Google Inc. (NASDAQ: GOOG), stocks trading at all-time highs. Facebook Inc. (NASDAQ: FB) and Apple Inc. (NASDAQ: AAPL) don’t come near close... and Groupon Inc. (NASDAQ: GRPN) is sinking with no end on sight.

The shale oil rally is fueled by expectations of another great quarter. However, despite a huge rally in last two weeks, none of the shale oil plays have reached theoretical highs.

For Further Details:

Shale Gas Cut in to Natural Gas Trade

The shale gas production over the last decade has eaten away at natural gas imports. According to Energy Information Administration (EIA), the values of US imports of natural gas hit their lowest levels in 20 years. The US imports natural gas largely through pipelines from Canada, but with flooding of domestic natural gas imports have dropped substantially since 2005.

Moreover, EIA has recently released that tight oil production has led to a significant drop in oil imports. Hence, the value of US trade in natural gas dropped dramatically due to shale gas revolution and US imports reach its lowest level in 2012 since 1995.

For Further Details:
Australia’s Massive Shale Gas Potential

The Australia’s shale gas potential is considered to be as largest as that of US, where shale gas has transformed the energy dynamics.

Australia has most attractive shale gas prospects outside North America, according to Magnum Hunter Resources Corp.(MHR), a Houstan based producer. The unconventional resources in Australia are more advanced Whereas, the unconventional resources at Colombia, Poland, Mexico, Argentina and China are not prepared to allow the unconventional technologies to develop these plays easily.

The Cooper Basin, an area spanning the broader of South Australia and Queensland states has also lured investment from Chevron Corp and BG Group Plc(BG/) a head of expected shortages of the fuel to feed greater than $60 billion of liquefied natural gas projects in eastern Australia that will ship to Japan, South Korea and China. Explorers Santos Ltd. (STO) and Beach Energy Ltd. (BPT) are among Australian companies developing shale properties in the Cooper Basin as demand for gas on Australia’s east coast is forecast by the government to triple by the end of the decade. Hence, Copper with existing gas processing and transportation infrastructure, may be the first commercial source of shale oil and gas, according to EIA report. The biggest hurdle in developing shale plays in Australia is drilling well costs which are three times higher than that in US.

For Further Details:

Union Jack Oil to explore its UK shale potential

Union Jack Oil Plc is an onshore oil and gas exploration company with its prime focus on drilling, development and investment opportunities in United Kingdom(UK) hydrocarbon sector and has been listed on London Stock Exchange AIM market. The company currently possess four licenses in the East Midlands Basins and is still in negotiation with several other established companies to obtain licenses interest in suitable projects. The company is planning to apply for additional acreage in upcoming 14th onshore Licensing rounds which is predicted to occur later this year. The significant developments regarding onshore unconventional UK oil and gas sector have been underway and Union Jack intends to leverage the industry interest by quantifying the unconventional propsectivity in its existing license interest and to acquire further license holding both conventional and unconventional potential

For Further Details:
Mexico’s Pemex to drill test wells in 2014

Mexico’s state owned oil company Pemex has decided to drill just 10 shale test wells which will bring the total number of shale test wells in Mexico to 175 which compares with more than 13,000 permits issued for shale wells in Eagle Ford formation in Southern Texas, where the shale oil production stood at 688,000 barrels per day last year. Whereas, Mexico has yet to start shale oil production on commercial scale.

The technically recoverable shale resources in Mexico stood at 60.2 billion barrels of oil equivalent and country’s perspective shale oil and gas development mostly in Northeastern Mexico will require 60,000 wells for developing shale plays.

For Further Details:
http://in.reuters.com/article/2014/02/27/mexico-shale-idINL1N0LV2Q020140227

IOC seen as Buyer of Stake in Petronas

The Malaysia’s Petronas has decided to sell up to 50% of the Canadian project out of which 12% is needed to be off load while rest has been sold. The company agreed to sell 25% stake in its Canadian shale gas assets to an Indian Company and an Asian Buyer. The Petronas is looking to share some of the cost of supplying LNG from North America to Asia. The Malaysain form has already sold 10% stake in Progress Energy Resources Corp and integrated shale gas development and LNG project to Japan Petroleum Exploration & another 3% to Petroleum Brunei. The Indian State oil & Gas companies are also interested in this regard as they want to expand their portfolios of exploration and producing assets and recently the Malaysian company has finalized to sale 25% equity share to Indian company and establish an LNG buyer.

For Further Details:
http://www.livemint.com/Companies/RN5dOgTnuMxovzreODJBl/Petronas-to-sell-25-in-Canadian-Progress-to-an-Indian-compa.html