

## HYDROCARBONS NEWSLETTER

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### Ask Varun and Avni

Avni: Varun there is lot of discussion about Shale gas. Can you tell me about that?

Varun: Shale gas is defined as natural gas from shale formations. The shale acts as both the source and the reservoir for the natural gas. They are rich in organic material (0.5% to 25%), and are usually mature petroleum source rocks in the thermogenic gas window, where high heat and pressure have converted petroleum to natural gas. They are sufficiently brittle and rigid enough to maintain open fractures.

Avni: That's new thing for me, ok can you also tell me what exactly is CNG?

Varun: Compressed Natural Gas (CNG) is a fossil fuel substitute for gasoline (petrol), diesel, or propane/LPG. CNG is made by compressing natural gas (which is mainly composed of methane [CH<sub>4</sub>]), to less than 1% of the volume it occupies at standard atmospheric pressure.

Avni: I think these concepts are more than what we normally know. Can you elaborate on LPG?

Varun: Liquefied petroleum gas (also called LPG, GPL, LP Gas, or autogas) is a flammable mixture of hydrocarbon gases used as a fuel in heating appliances and vehicles, and increasingly replacing chlorofluorocarbons as an aerosol propellant and a refrigerant to reduce damage to the ozone layer. Varieties of LPG bought and sold

include mixes that are primarily propane, mixes that are primarily butane, and - most common - mixes including both propane C<sub>3</sub>H<sub>8</sub> and butane C<sub>4</sub>H<sub>10</sub>

Avni: Then what is Natural Gas?

Varun: Natural gas is a gas consisting primarily of methane. It is found associated with other fossil fuels, in coal beds, as methane clathrates, and is created by methanogenic organisms in marshes, bogs, and landfills. Natural gas is often informally referred to as simply gas, especially when compared to other energy sources such as oil or coal.

Avni: Ok, I have also heard about PNG. What is that?

Varun: PNG means natural gas transported through pipelines for consumption by any consumer in domestic, commercial or industrial segments.

(Ask Varun and Avni on Hydrocarbons)

### **Shale: A home remedy for India's gas problem**

The government is gearing up with policy guidelines for shale gas exploitation and auction shale gas blocks within the next two years, even as various E&P players are moving ahead with their pilot projects. ONGC has tied up with Schlumberger for a pilot project in Damodar valley at a capital cost of Rs 128 crore. Similarly, Oil India has initiated a project in Assam, while Reliance Industries is active in Cambay basin.

However, the project timelines are not short. ONGC, which has been researching shale gas in India since 2006, is expected to spend the next two years gathering geological data in its Damodar valley field, followed by drilling and resource estimation by 2013. In 2014 the company will be able to assess the feasibility and consider production from this pilot project.

<http://economictimes.indiatimes.com/news/news-by-industry/energy/oil-gas/Shale-A-home-remedy-for-Indias-gas-problem/articleshow/6140666.cms>

### New exploration licensing policy (Nelp)

The government's plan to move to open acreage licensing policy (OALP), following the success of Nelp, is a desirable and welcome move. Typically, such a system works better for countries with scarce hydrocarbon resources. Moreover, most easy oil in India has been discovered.

Today, about 33% of Indian sedimentary basins remain unexplored or poorly explored. The undiscovered hydrocarbon reserves are believed to be in difficult terrain such as frontier onland areas and ultra-deep water areas.

Under these circumstances, it makes sense to give the companies flexibility to choose their exploration area by offering them access to data for blocks round the year. Under OALP, there will be no deadlines for bidding and investors can bid aggressively to corner as many blocks as possible. And, more importantly, each E&P company can take a call on when and where to invest according its comfort level and resource availability.

<http://economictimes.indiatimes.com/ET-Debate/articleshow/6137147.cms>

### Cut taxes on petrol, diesel

In a move to check the price spiral, finance minister Pranab Mukherjee is believed to have urged states to cut taxes on petroleum products, like petrol and diesel. Sources said that the FM's suggestion to the chief ministers came at National Development Council meeting, in

response to their contention that the Centre was collecting a lot of revenue from the petroleum sector. Mukherjee, however, told them that the states were the bigger beneficiaries.

<http://timesofindia.indiatimes.com/india/Cut-taxes-on-petrol-diesel-FM-to-states/articleshow/6211806.cms>

### Shale gas auction in august 2011

The country is looking to launch the first-ever auction of shale gas areas in August 2011. The identification of the gas producing areas will be done by early next year. This will be followed by carving out suitable blocks. This will be the second unconventional natural gas source in India after coal bed methane. Several basins — Cambay (in Gujarat), Assam-Arakan (in the North-East) and Gondwana (in central India) are known to hold shale gas resources. Hydrocarbon found in the form of shale gas has over the past few years transformed the energy scenario for the world's biggest energy consumer, the US. Indian energy companies have shown interest in developing this resource. While RIL recently acquired a 40 per cent stake in Atlas Energy's Marcellus Shale acreage in the US, the Y K Modi-promoted Great Eastern Energy Corporation Ltd is keen to take part in the shale business.

<http://www.business-standard.com/india/news/india-plans-to-launch-shale-gas-auction-in-august-2011/402505/>

### Vietnam supports India's bid for BP gas assets

India won Vietnam's support on Thursday for its bid for crisis-hit BP Plc's energy assets in the South Asian country, as Hanoi stressed BP must give priority to its partners in the stake sale. While OVL along with State-owned Oil India Ltd may takeover BP stake in the gas fields, gas utility GAIL India was interested in the British energy giant's stake in the pipeline. GAIL and refiner Indian Oil Corp (IOC) can together manage the power plants. The gas fields in Block 06.1 were discovered in 1998 and were put on production in January 2003. The field produced an average of 12 mmscmd in 2009 and with additional

compressors being put, the output will rise to 15 mmscmd.

<http://www.thehindu.com/business/article528471.ece>

### ONGC Said to Plan \$5 Billion Spending to Boost Gas Output 60%

India's biggest energy explorer, plans to spend \$5 billion to develop nine offshore natural gas discoveries that will boost the company's output by almost 60 percent in the next six years. The state-run explorer produced 61.6 million cubic meters a day of gas from its fields in India in the year ended March 30, according to data on the oil ministry's website. ONGC plans to produce gas from the discoveries for 10 years

<http://www.bloomberg.com/news/2010-07-26/ongc-said-to-plan-5-billion-spending-to-boost-gas-output-60-in-six-years.html>

### ONGC, OIL likely to foot cooking fuel subsidy bill

The two government-owned oil producers, Oil and Natural Gas Corp (ONGC) and Oil India (OIL), will continue to share the petroleum-related under-recoveries even after petrol and diesel prices are fully freed up.

[http://www.dnaindia.com/money/report\\_ongc-oil-likely-to-foot-cooking-fuel-subsidy-bill\\_1414586](http://www.dnaindia.com/money/report_ongc-oil-likely-to-foot-cooking-fuel-subsidy-bill_1414586)

### KG basin block may hold about 3 trillion cubic feet of gas reserves

Oil and Natural Gas Corporation has told oil regulator DGH that its KG basin block may hold about 3 trillion cubic feet of gas reserves from which it plans to produce 25-30 million unit a day by 2016. ONGC submitted a proposal for declaring nine gas discoveries in the northern area of block KG-DWN-98/2 commercially viable. ONGC has 65 per cent interest in KG-DWN-98/2 block while Cairn India has 10 per cent. Petrobras of Brazil holds 15 per cent and Statoil the remaining 10 per cent. Petrobras and Statoil have, however, decided to exit the block.

<http://www.business-standard.com/india/news/ongc-submits-viability-report9-gas-blocks-to-dgh/101934/on>

### Crude production up 6.8%

The country's crude oil production rose 6.8 per cent in June on higher output from Rajasthan fields operated by Cairn India. The nation's 19 public and private sector refineries at 13.5 million tonnes turned 2.9 per cent more crude oil into products. While State-owned Indian Oil Corp (IOC) reported a throughout growth of 3.4 per cent at 9.37 million tonnes, Reliance Industries saw a modest 1.6 per cent expansion to 2.9 million tonnes.

<http://www.thehindu.com/business/markets/article538376.ece>

### Gas supplies set for boost

The availability of natural gas in the country will receive a significant boost in the next two years and is expected to go up by nearly 30 per cent by 2012-13. This would mean increased supplies of domestic gas to the power and fertiliser sectors, and reduced dependence for the country on costlier liquefied natural gas (LNG) from abroad.

<http://www.hindustantimes.com/Gas-supplies-set-for-boost/Article1-579072.aspx>

International prices	
	PRICE
PETROLEUM (\$/bbl)	
Nymex Crude Future	77.42
Dated Brent Spot	75.69
NATURAL GAS (\$/MMBtu)	
Nymex Henry Hub Future	4.72
Henry Hub Spot	4.71

Source- Bloomberg (28<sup>th</sup> july,2010)

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