



## ***Energy News***

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**Volume XII  
Issue 23**

**20 November  
2015**

## [**SAY NO TO CLEAN COOK STOVES**]

“There are many issues with this supposedly well-meaning but poorly thought through idea of replacing dirty cook stoves with clean cook stoves. First, if saving lives is the goal, one can do far better than distribute cook stoves. Far too many die a quick death on account of poverty, deprivation and related violence. Clean cook stoves are unlikely to make a difference. In fact clean cook stoves may prolong their life of poverty. Second it is very unlikely that impoverished women in India go to bed every night dreaming of a clean cook stove...”

[**RENEWABLE  
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### NATIONAL.....

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### COMMENTS.....

#### Say No to Clean Cook Stoves

*Lydia Powell and Akhilesh Sati, Observer Research Foundation*

**I**ndia Sees Clean Cooking as Climate Action That Saves Lives' is the title of a recent article in the New York Times. The article describes the plight of Indian women trying to cook daily meals using fire wood and goes on to explain how the smoke filled huts affect the health of those who live in these huts. According to the article 'the menace of cook-stove pollution, does not stop in the home. It contains high concentrations of tiny particles compounds many environmental problems as well, from glacial melt to falling crop yields'. Though the author of the story quotes research by Prof Kirk R. Smith, professor of global environmental health at the University of California, Berkeley, that concludes that even if the 2.8 billion people using wood stoves switched to gas, the increase in global emissions would equal just a half-a percent change in the efficiency of the world's automobile fleet. The author picks clean cook stoves, stoves that burn wood more efficiently as the ideal solution (captured in the title of the article). Perhaps the author agreed with the observation of Prof Smith that 'it can be politically incorrect to advocate for gas cooking, since it's not a renewable energy source' and decided to vote for clean cook stoves instead of natural gas or liquid petroleum gas.

The UN too has aligned itself with the idea of clean cook stoves and set up the Global Alliance for Clean Cook-stoves, that aims to 'develop a viable cook-stove market and distribute 43 million cook-stoves worldwide by the end of the year by linking manufacturers and developers with investors and other financial support mechanisms'. India alone has a market ten times this size according to the CEO of the UN alliance for clean cook stoves who thinks that the shift to clean cook stoves will not only transform the lives of those now living in smoke filled huts but also make a contribution to reducing black carbon that is supposedly melting glaciers.

There are many issues with this supposedly well-meaning but poorly thought through idea of replacing dirty cook stoves with clean cook stoves. First, if saving lives is the goal, one can do far better than distribute cook stoves. Far too many die a quick death on account of poverty, deprivation and related violence. Clean cook stoves are unlikely to make a difference. In fact clean cook stoves may prolong their life of poverty. Second it is very unlikely that impoverished women in India go to bed every night dreaming of a clean cook stove. What they in fact may be dreaming of is a gas stove that their urban counterparts use or perhaps an induction stove that they see on television. They may even be dreaming of not cooking at all so that they can go to school or take up a job.

It is well known that the growth in use of modern cooking fuel use in Indian households has been far slower than the growth of electricity in households (Please refer to Data Insight at page no. 7). This defies logic because liquid petroleum gas (LPG) cylinders are decentralised packed forms of energy that can be adopted even in rural areas. It is like solar energy but only better as it will deliver far more energy consistently for unit of investment. Unlike grid based electricity LPG does not require elaborate infrastructure and centralised control. The reason for poor adoption and low penetration of LPG is social not economic. Cooking is a task carried out by women marginalised in the household and in the society. But devices such as television sets and mobile phones that require electricity are primarily consumed and controlled by men. Electricity connections are therefore prioritised over cook stoves.

A recent paper points out that an urban household in India in which the first child is male has a higher chance of opting for an LPG stove compared to a household in which the first born is a girl based on empirical evidence. The rise in the status of a woman who bears a male child (even if temporary) and the interest in the health of the

male child are cited as reasons for adoption of LPG for cooking. One cannot change this social problem with free clean cook stoves.

Those interested in saving lives in India would do better to redirect their attention and more importantly the massive UN funds from clean cook stoves to LPG stoves. LPG will eliminate fuel gathering, reduce cooking time and also eliminate smoke. Those who want to save or improve lives can work with governments to offer an LPG connection to rural women about to be married. This dowry from the government will not only make a small contribution towards enhancing the status of the young woman but perhaps also empower the woman to use her extra free time in productive or educational activities. They should probably begin with the Government of Tamil Nadu as it could be the ultimate 'amma' scheme.

Hypocrisy is entrenched in the debate on climate change but it scales new heights when it says that all climate action is in the interest of the poor. If we scratch narratives of risk including climate risk, we are likely to find raw Malthusian fear of the other. First it was the fear over savage habits of the other that had to be corrected through colonisation. Then it was the fear over people numbers that had to be stopped from growing through 'development'. But for this obsession, the Chinese will not be growing old before they become rich. Now it is their desire for gas stoves or cars that has to be stopped with environmental codes of conduct. This fear will pass when the next fear (robots taking over?) comes along. Leaving the Malthusians to dwell in their fears, the Indian government must quickly package and deliver the LPG dowry to its daughters!

*Views are those of the authors*

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## COMMENTS.....

### **India has no option but to strategise its energy basket dominated by coal**

*Ashish Gupta, Observer Research Foundation*

We highlighted in the last weeks analysis (Are large projections for renewable only cosmetic? ORF Energy News Monitor Volume XII, Issue 22), why coal will remain the dominant choice for developing countries for power generation. Though some countries will curb their coal production other countries will increase their production indicating coal production level will remain the same while countries change their preferences for fuel primarily for economic reasons. But major consumers as well as major coal exporting countries see opportunity in coal as they expect coal to stay as a key fuel for power generation for the foreseeable future.

The recent report "The Case for Coal: India's Energy Trilemma", released by World Coal Association is also of the view that even incorporating cost declines in renewable technologies, coal is expected to remain the most cost-effective option for meeting electricity demand growth in India. The report also mentions that investing USD 1 billion spent on ultra-supercritical coal in India could abate more CO<sub>2</sub> than if the same amount is put in European renewables. These findings are important and give India a reason to follow coal though there are other reasons such as domestic availability for choosing coal.

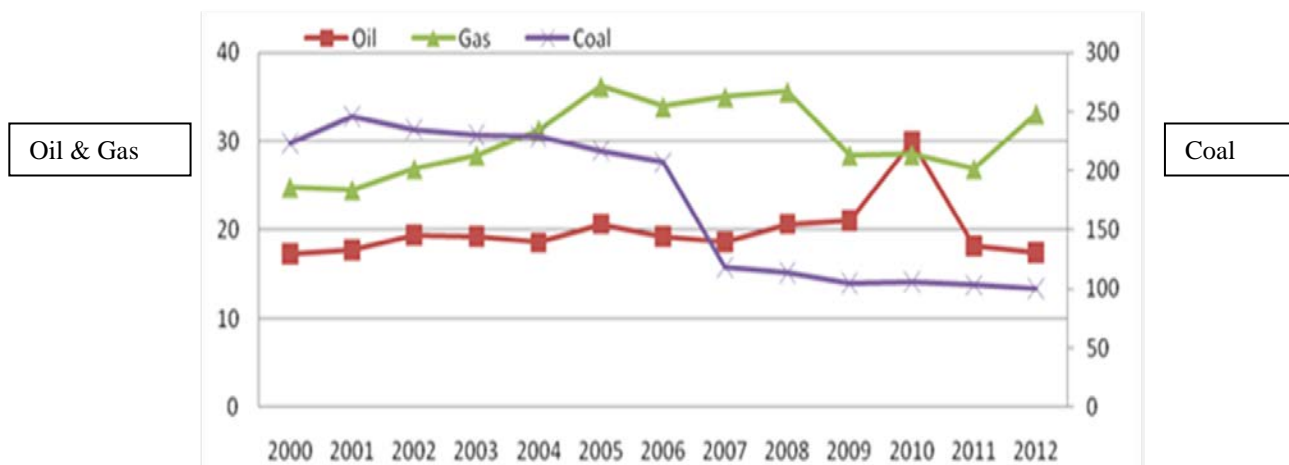
First, India has only 0.3 percent of proven oil reserves of the total whereas gas accounts for only 0.7 percent. Coal is the only source which India has in abundance currently standing at 6.8 percent of the world proved reserves<sup>1</sup>. As per the Ministry of Coal (MoC) statistics based on the result of exploration carried out up to the maximum depth of 1200m, a cumulative total of 301.56 billion tonnes (bt) of geological resources of coal have so far been estimated in the country as on 1.4.2014. Out of this 125 bt comes into the proven category. Though many international institutes are not convinced of this estimation it is the nodal agency for managing coal resources in the country, we have no reason to contest MoC statistics. Another important point which needs to be mentioned here that international estimating agencies keep the coal reserves at the same level despite MoC updating its proven reserves by 2-3 bt every year for eg 121 bt in 2013 revised to 125 bt in 2014.

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<sup>1</sup> BP Statistical Review, 2014

Second, coal wins the case on reserve to production ratio which establish how long reserves will last if the country is producing at current production level.

**Reserve to Production Ratio**



Source: 12<sup>th</sup> Five Year Plan, Planning Commission

It is clear from the above graph that if we continue to produce at the current level, oil reserves will last in less than twenty years whereas gas can run the country for only around twenty five years. But if coal path is pursued at the current level then we do not have to worry about availability for a hundred years. Apart from this coal can be converted into gas and can be utilised as fuel in power plants which is much cleaner than raw coal. Even raw coal can be made cleaner through various clean technologies. Therefore why should India worry about costly resources when it can make economic gains with coal.

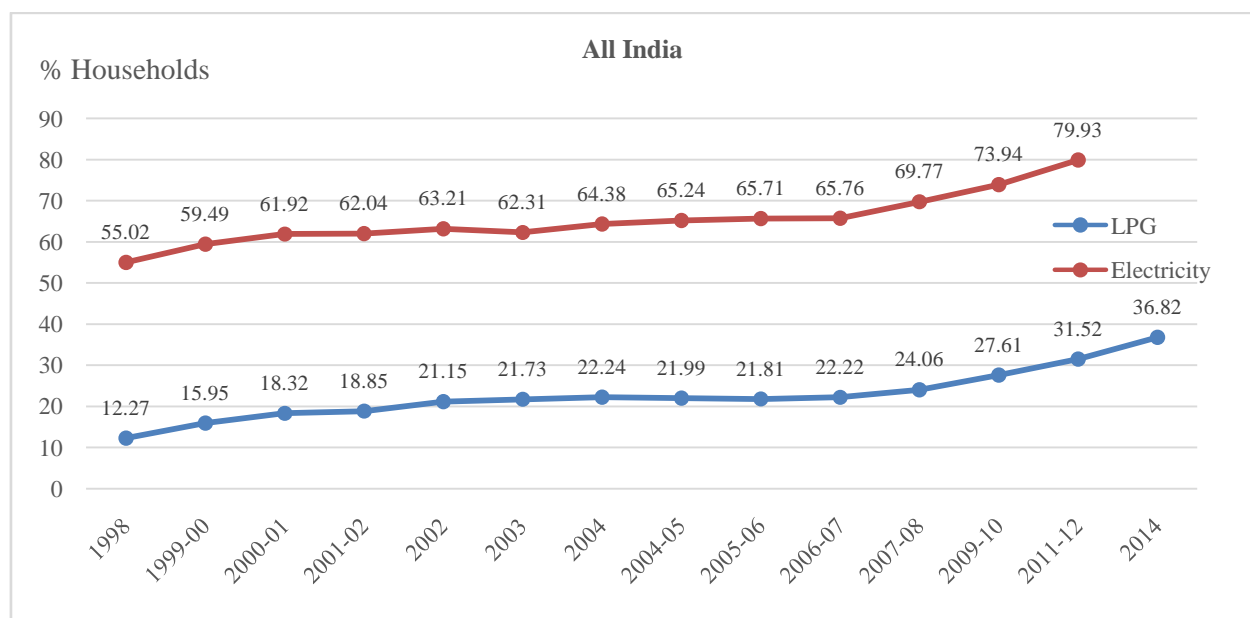
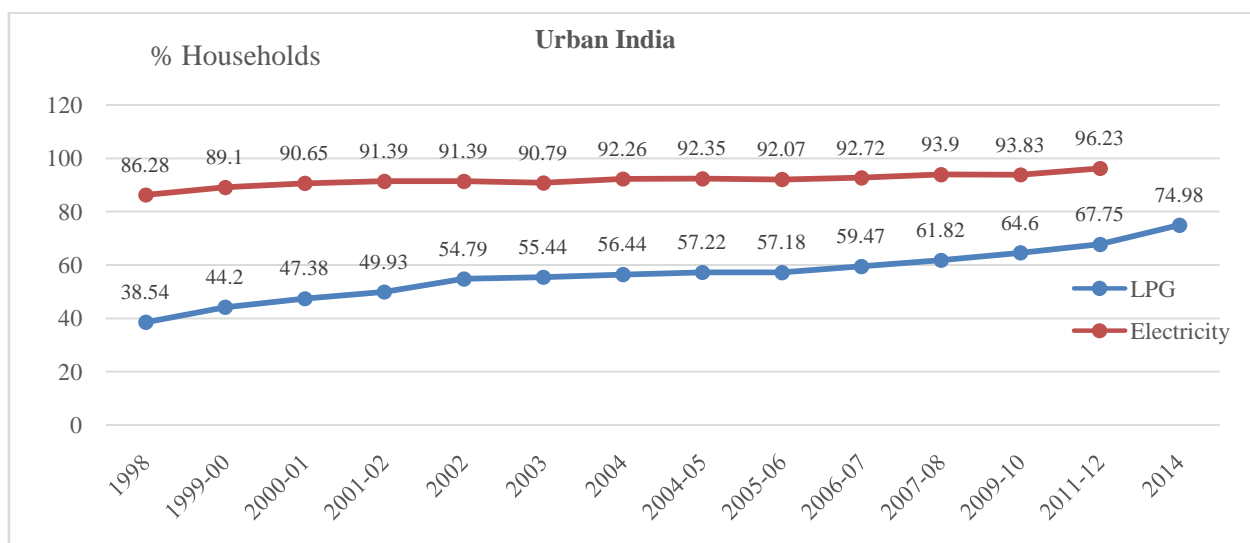
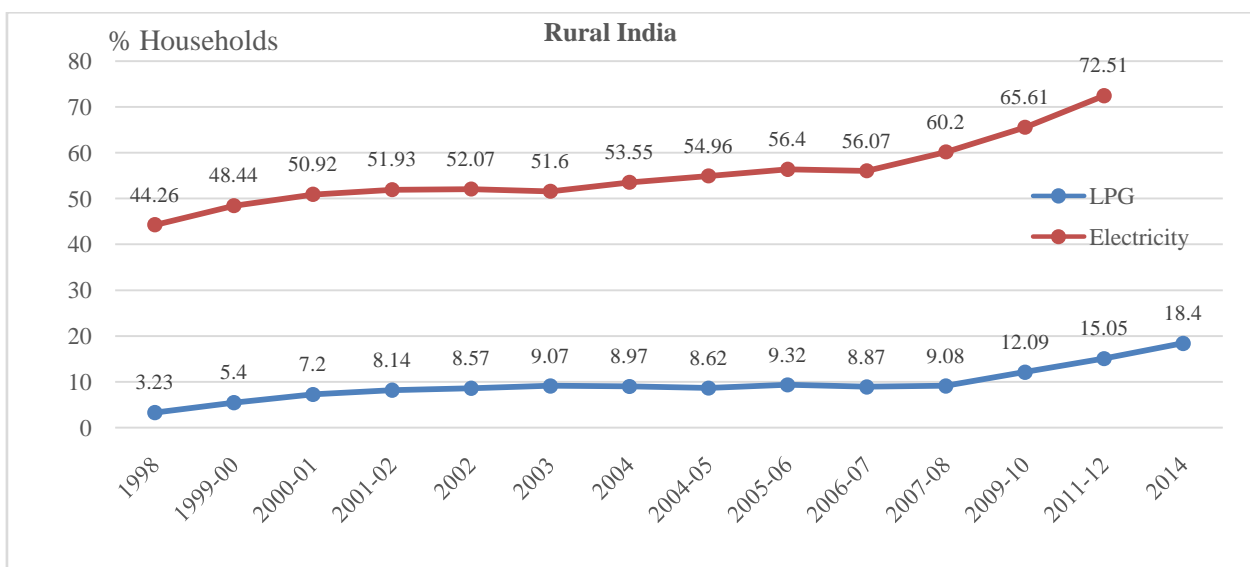
Many analysts have raised concern that even after having abundant coal reserves, coal shortage is a norm in the country. But the problem is institutional because Coal India Ltd (CIL) was not able to fill the gap. But now CIL has shown tremendous improvement in its practices and registered a growth in production of 8.4 percent during April to March, 2015. Even in this fiscal CIL has begun on a strong note with a record production during April at 41.52 million tonnes (mt), 101 percent of target production. Over Burden Removal (OBR), an important performance criteria that improves the mine geometry and exposes the coal seam for future mining making the mines safer to operate, jumped by 27.5 percent during April, 2015 compared to the same month last year. All these improvements suggest that our coal shortage will be reduced in the coming years implying huge savings in foreign reserves. This is another important reason that why India must capitalise on coal.

All this does not mean that India must not follow other cleaner sources. But given the financial burden and other technical hindrances which come with cleaner sources leaving no scope for India but to strategise its energy basket dominated by coal. Cleaner sources could play a supporting role because India needs all sources of energy available to meet its growing energy needs using the best possible technology.

*Views are those of the author  
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## Energy Access: Rural & Urban India

Akhilesh Sati, Observer Research Foundation



Source: Compiled from various rounds of NSSO.



# NEWS BRIEF

## [NATIONAL: OIL & GAS]

### *Upstream.....*

#### **Niko to give stake in gas block to RIL, BP**

**November 13, 2015.** Cash-starved Niko Resources of Canada has decided to quit Reliance Industries' gas discovery block NEC-25, off the Odisha coast, by divesting its 10 percent stake to the existing partners. Reliance Industries Ltd (RIL) is the operator of the block with 60 percent interest while BP Plc of the UK has the remaining 30 percent stake. Niko's 10 percent interest will be split between RIL and BP in proportion to their equity stake. Gas discoveries in North-East Coast block NEC-OSN-97/1 (NEC-25) hold recoverable reserves of 1.032 trillion cubic feet. The Canadian company has been facing cash problems and had even put up for sale its interest in NEC-25 as well as 10 percent stake in RIL's Krishna Godavari basin oil and gas producing block KG-DWN-98/3 or KG-D6. However, it hasn't been able to find a buyer. (pressindianews.com)

#### **Oilex proposes to buyout GSPC in Cambay oil block**

**November 12, 2015.** Australia-based Oilex has offered to buyout Gujarat State Petroleum Corp Ltd (GSPC) in a Cambay oil and gas block after work got stalled due to Gujarat government firms refusal to pay its share of expenses. Oilex, which holds 45 percent interest in the Cambay field in Gujarat, is unable to carry out its committed work of drilling two wells this fiscal after GSPC refused to fund its 55 percent of the USD 38 million budget. The programme, approved by a DGH-headed oversight panel, would help open up the onshore Cambay basin that the US-based EIA estimates to hold a inplace resource of 30 trillion cubic feet of gas and 2.7 billion barrels of oil. Oilex through its initial exploration has established contingent resources of 720 billion cubic feet of gas and 52.8 million barrels of condensate (oil) in the Cambay whose geology is similar to the Marcellus shale formations of the US. GSPCs refusal will not just push back investment but also halt the programme that would have increased domestic gas and oil supply from the onshore Cambay basin, leading to increased royalty for the Gujarat government and directly offshore energy imports. As a way out, Oilex has proposed three plans -- GSPC pays outstanding amount due and agrees to proceed with current work programme. Alternatively, GSPC sells some or all of its interest in the Cambay project to Oilex to allow the project to move forward. Oilex plans to implement proven North American technology to achieve commercial production from the Eocene Formation in the block. (indiatoday.intoday.in)

### *Downstream.....*

#### **MRPL aims to start 100k bpd crude unit**

**November 17, 2015.** Mangalore Refinery and Petrochemicals Ltd (MRPL) expects to operate its 100,000 barrel per day (bpd) crude unit, representing about a third of the plant's overall capacity, at a full rate from November 21. MRPL had shut the crude unit due to a minor fire inside the vacuum heater, the refinery said. MRPL operates a 300,000 bpd coastal refinery in southern state of Karnataka. (www.reuters.com)

#### **BP may have to wait longer for a licence to market jet fuel in India**

**November 17, 2015.** British oil and gas firm BP's hunt for a licence to market jet fuel in India is likely to get longer after a second scrutiny by a government agency found that the company had not made sufficient investment in the country's hydrocarbon sector to be eligible for a permit. This may prompt the oil ministry to reorder the exercise. The oil ministry may again ask its technical arm, the Directorate General of Hydrocarbons (DGH), for a third time this year, to assess whether BP has invested enough in India to be eligible for a licence to market jet fuel, or aviation turbine fuel, in the country. A divergence in views between BP and the government over the value of the company's investment in India has stretched the London-based firm's licence hunt to about three years. BP first applied for a licence in 2013. The application was formally rejected earlier this year, following which the company sought a review. The rejection came after the oil ministry concluded, based on the DGH's assessment, that the company did not meet the conditions necessary for



the licence. The jet fuel marketing rights can be given only to a firm investing or proposing to invest ₹ 2,000 crore in exploration and production, refining, pipelines or terminals in the country. During the review, the DGH again offered a view that BP's investment fell short of ₹ 2,000 crore, the people cited earlier said. This can again become the basis for rejection of BP's application. But following presentations by BP executives, the government is likely to ask the DGH to reassess the company's investments in Indian oil sector yet again. BP's interest in the Indian aviation fuel market is largely driven by a rapidly growing airlines market in the country, which is set to become the third-largest globally in five years, and its long experience of serving international airlines. If it gets a licence, it can immediately start serving its foreign clients served at present by Indian Oil Corporation, BP's local partner, and can help ignite a fierce war for market share. India's fiercely competitive jet fuel business is 95% controlled by three state-run oil marketers - Indian Oil Corporation, Bharat Petroleum Corporation and Hindustan Petroleum Corporation. (economictimes.indiatimes.com)

#### **Paradip plant to be major petrochem feedstock supplier: IOC**

**November 16, 2015.** The upcoming refinery of state-run Indian Oil Corporation (IOC) at Paradip would be a major producer of feedstock for the downstream petrochemicals industry, the company said. The 15-million tonne Paradip refinery will be commissioned very shortly, the company said. According to the company, the plant will house ₹ 3,150 crore polypropylene plant expected to go on stream by 2017. Projects on the anvil by IOC include an ethylene glycol unit, paraxylene (PX)-PTA and a petrocoker gasification plant. The plant would help in the development of downstream units by providing inputs, as a result of which the PSU would gain from value addition. The company said that a downstream expansion to petrochemicals was also planned at the Barauni refinery. (profit.ndtv.com)

#### **IOC to expand Panipat naphtha cracker capacity**

**November 13, 2015.** Indian Oil Corporation (IOC) plans to expand capacity at its naphtha cracker in Panipat to 1.2 million tonnes per year (tpy) by 2019. The expansion would increase capacity of the cracker in northern India from about 850,000 tpy. The expansion of the cracker - which produces petrochemicals such as ethylene and propylene, the building blocks for plastics or polymers - would cost about half a billion dollars. About 90 percent of the polymers that IOC produces is for domestic consumption. But it is unlikely that IOC would be building a brand new naphtha cracker in India in the short-term because of the challenges it faces in obtaining naphtha from one single refinery. The Panipat cracker currently needs over 2 million tonnes of naphtha feedstock a year and takes it naphtha from a few nearby refineries, including IOC's own Mathura and Haldia plants. This will continue after the cracker's expansion. IOC, India's top refiner by capacity, exports an average of 800,000 tonnes of naphtha a year through various ports including Dahej, Chennai and Haldia. Its new 300,000 barrels-per-day (bpd) Paradip refinery will not have any surplus naphtha for sale as it is built to maximise output of gasoline at about 3.5 million tonnes a year (81,000 bpd). India exports about 6 to 7 million tonnes of naphtha a year currently. In total it has more than 200 million tonnes of refining capacity and consumes over 160 million tonnes of oil products. (in.reuters.com)

### **Transportation / Trade.....**

#### **NTPC refuses to buy expensive natural gas from GAIL**

**November 13, 2015.** State-run companies NTPC Ltd and GAIL (India) Ltd are at loggerheads with the former refusing to buy natural gas from the latter, even though the two have a long-term supply contract in place. Based on the existing contract, NTPC is supposed to buy around 2 million metric standard cubic metres per day (mmscmd) of liquefied natural gas (LNG) from GAIL. For the current year, the contract price for this gas was fixed at close to \$11-12 per million metric British thermal units (mmBtu). However, NTPC has failed to pick up any of this contracted gas so far this year, leaving GAIL, which sources the gas from a third party, in a spot. NTPC's reluctance to buy gas from GAIL stems from the widening price difference between the price of contracted LNG and spot prices. Spot LNG prices have fallen by over 50% in the past year to \$6 per mmBtu. NTPC has seven gas-based power plants with a capacity of 4,017.23 MW, which require up to 7mmscmd. NTPC's refusal to buy LNG from GAIL is having a domino effect. GAIL has been forced to defer almost 32% or 1.44 mtpa (5 mmscmd) of the total 4.5 mtpa (16 mmscmd) in LNG it buys from supplier Petronet LNG Ltd. GAIL buys LNG from Petronet LNG which, in turn, sources it from RasGas Co. Ltd in Qatar. Companies locked in long-term contracts have a take-or-pay agreement under which the buyer has to pay a pre-determined penalty even if it does not take delivery of the contracted commodity. (www.livemint.com)

## IOC widens crude oil spot buying platform

**November 12, 2015.** In a significant policy shift, Indian Oil Corporation (IOC) has decided to buy crude oil from Indian traders in the spot market overseas in addition to foreign entities. The state-run firm has also taken some other steps like reducing the bidding time for spot tenders as part of a strategy to clinch more remunerative deals. Of about 66 million tonnes of IOC's refining capacity, just 12%, is fed by domestic crude. As far as imports are concerned, 30% of the sourcing is done via spot-market deals. Currently, the PSU doesn't enter into a spot purchase agreement with Indian entities; even an overseas trading entity, if registered in the name of an Indian national, can't export crude to IOC. (www.financialexpress.com)

## Policy / Performance.....

### O&G block auction policy to be ready by FY16: Oil Minister

**November 17, 2015.** Government expects to finalise the new policy for auction of oil and gas (O&G) blocks during the ongoing financial year, Oil Minister Dharmendra Pradhan said. Oil Ministry had issued a paper on new fiscal and contractual regime for award of hydrocarbon acreages with a view to revive investor interest in oil and gas exploration by simplifying rules. It proposes to free natural gas pricing as well as replace the controversial Production Sharing Contract (PSC) with simpler revenue-sharing regime for all future field auctions in the backdrop of low gas prices not attracting investors in exploration and production sector. Global players like BP and domestic companies including Reliance Industries Ltd (RIL) as well as state-owned ONGC have been seeking pricing freedom as the current rates make new investments unviable. In September, the government had allowed pricing freedom for the gas produced from 69 small and marginal fields it plans to auction shortly. The government is planning to stop providing LPG subsidy to the consumers whose income is above ₹ 10 lakh. On the issue allowing premium pricing on gas produced from difficult deep-water and ultra deep-water blocks, he said oil and finance ministries will take a decision on the issue after achieving consensus. (www.business-standard.com)

### India plans to free natural gas prices under new auction rules

**November 16, 2015.** India plans to free prices of locally extracted natural gas and allow producers marketing autonomy as part of new rules for auctioning exploration blocks. The government also proposes to introduce a revenue-sharing model with operators, replacing the current profit-sharing mechanism, according to the oil ministry. The plan includes a uniform licensing policy that will allow operators to explore all forms of oil and gas resources, including coal-bed methane, shale gas and oil, tight gas and gas hydrates. The government's initiative follows petitions from gas producers that the current tariff is too low to support exploration and production costs. State control on fuel pricing has prompted oil majors such as Exxon Mobil Corp., Chevron Corp. and Royal Dutch Shell Plc to stay away from India's exploration-block auctions, which started in 1999. BP Plc, Europe's second-biggest oil company, is the only overseas company with any significant presence in India's exploration sector. Prime Minister Narendra Modi has made energy security a priority for India, which imports the bulk of its oil and gas. The government announced open-market rates for gas extracted from 69 small fields slated for auction by next month, Oil Minister Dharmendra Pradhan said. India will also move to an open acreage licensing policy, allowing companies to submit bids for areas of their choice. The new rules, which have been sent to the explorers for their opinion by the end of this month, are aimed at "ease of doing business." (www.bloomberg.com)

### Petrol price hiked by 36 paise a litre, diesel by 87 paise

**November 15, 2015.** State-run Indian Oil Corporation (IOC) announced a hike in the price of petrol by 36 paise a litre and of diesel by 87 paise at Delhi, effective midnight. With this hike, petrol in Delhi will now cost ₹ 61.06/litre, while diesel will come at ₹ 46.80/litre. The petrol and diesel rates shall experience a corresponding increase in other states, the announcement said. The oil marketer said the price of petrol per litre will be ₹ 61.06 in Delhi, ₹ 66.39 in Kolkata, ₹ 68.13 in Mumbai and ₹ 61.38 in Chennai. Diesel will cost ₹ 46.80 a litre in Delhi, ₹ 50.29 in Kolkata, ₹ 54.04 in Mumbai and ₹ 48.00 in Chennai. In the previous round, petrol and diesel prices were not increased following government's decision to hike excise duty by ₹ 1.60 per litre and 40 paise a litre respectively as state-owned oil companies decided to absorb the raise for the time being. In the last review, oil companies had cut petrol prices by 50 paise but left diesel unchanged. (timesofindia.indiatimes.com)

### Centre again appeals to affluent consumers to give up LPG subsidy

**November 14, 2015.** The central government yet again appealed to affluent LPG consumers to give up subsidy, and said there was a need to think of an income bracket on the issue. Petroleum and Natural Gas Minister Dharmendra Pradhan said the government has saved ₹ 15,000 crore by terminating 30 million duplicate LPG connections. Pradhan said recently Finance Minister Arun Jaitley asked him whether it was time to limit LPG subsidies to some income bracket. The minister said there was an urgent need to step up activities with particular emphasis on the downstream in the eastern region of the country which had potential in the oil and gas sector. ([www.newkerala.com](http://www.newkerala.com))

### In Qatar, Oil Minister talks about bringing Energy Justice, ending Energy Poverty in India

**November 11, 2015.** Oil Minister Dharmendra Pradhan visited Doha, Qatar on November 9-10, 2015 to attend the 6<sup>th</sup> Asian Ministerial Energy Roundtable, organized by Governments of Qatar and Thailand in association with the International Energy Forum, the government said. Dharmendra Pradhan addressed the roundtable on the theme "Oil markets: a new normal or just another cycle, and what it means for Asia". The Roundtable was attended by Energy Ministers and high-level delegations from twenty Asian countries and Heads of six international organizations. In his address the Minister laid emphasis on the need for Oil suppliers to make earnest efforts for a Responsible & Reasonable Pricing, which should be sustainable so that "Energy Poverty" gives way to "Energy Justice" in countries like India. He asked for greater transparency and balance in the Oil market to ensure that fiscal positions of countries like India are not unduly stretched due to rising prices. He advocated that to achieve a more stable oil market large buyers and large sellers of oil need to develop mutual investment linkages. As per experts, despite lower prices, demand for import of Oil is expected to slow down in the future. It is believed that the United States may become self-sufficient with respect to energy in net terms by 2021. ([energy.economictimes.indiatimes.com](http://energy.economictimes.indiatimes.com))

## [NATIONAL: POWER]

### Generation.....

### Bangladesh keen to invest in Meghalaya power projects

**November 17, 2015.** Bangladesh has evinced interest for investment in power projects of Meghalaya to boost bilateral ties. Federation of Bangladesh Chambers of Commerce & Industries (FCCI) Chairman Abdul Matlub Ahmad said the neighbouring country's offer is in the form of a joint venture with Meghalaya government in developing cascading hydel power projects. The formal proposal will follow within 90 days. Ahmad met Meghalaya Chief Minister Mukul Sangma where the details of the project were discussed at length. Ahmad said the delegation and the Chief Minister met officials of the World Bank where they sought the latter's assistance in dredging of rivers in Bangladesh to boost bilateral and transit trades of the two countries. ([timesofindia.indiatimes.com](http://timesofindia.indiatimes.com))

### CIL to appoint consultant for ₹ 100 bn power plant in Odisha

**November 17, 2015.** Going ahead with its plan to set up a ₹ 10,000 crore power plant in Odisha, state-run miner Coal India Ltd (CIL) in this fiscal will appoint a consultant who would provide help in setting up the project. CIL-arm Mahanadi Coalfields Ltd (MCL) will set up the 1,600 MW super critical thermal power plant in Sundargarh district of Odisha. The 2×800 MW plant at the mouth of a coal field in the Mahanadi basin will mark the coal producer's foray into the power sector. The company is looking at setting up power plants at mines from where evacuation of coal in the absence of road and rail transport infrastructure is difficult. The land for the plant has been identified and the process for obtaining coal linkages is underway. CIL has set production target of 550 million tonnes (mt) for 2015-16 and MCL's share will be 150 mt. MCL had earlier said it wished to set up a 2×800 MW pit-head super critical thermal power plant in the vicinity of the Basundhara-Garjanbahal coal mines with a joint venture partner. ([www.financialexpress.com](http://www.financialexpress.com))

### About 30 percent of NPCIL's generation capacity in south India not functioning

**November 12, 2015.** Nuclear Power Corporation of India Ltd's (NPCIL) 1,660 MW, or 28.71 percent, capacity in south India out of its total generation capacity of 5,780 MW is not functioning, as per data gleaned from Power System Operation Corporation Ltd (POSOCO). Out of that, three units with a total generation capacity of 660 MW are expected

to restart on November 14, POSOCO said. Out of the three units, two belong to Madras Atomic Power Station (MAPS) and one to Kaiga Atomic Power Station (KAPS). All the three units are of 220 MW capacity and are not functioning since November 9. The two units of MAPS stopped generation due to tripping of evacuation lines, while turbine problem stopped the Kaiga unit. On the other hand, the 1,000 MW unit at Kudankulam shutdown in June this year for annual maintenance is expected to restart on November 19, POSOCO said. (www.business-standard.com)

### Gujarat mulls upgrading old power plants

**November 11, 2015.** The Gujarat government is consolidating its power plants running on conventional technologies. The government is planning to either upgrade plants with sub-critical technology or replace these with new super-critical technology. According to state government, the move, though at a planning stage, is being made to not only reduce the cost of power generation but also enhance capacity utilisation of some of the old units at the power plants. The plan to upgrade or replace technologies comes in the wake of the recent setting up of super-critical technology at a coal-based thermal power plant at Wanakbori in Kheda district by the Gujarat government. While the plant has a power generation capacity of 1,470 MW in sub-critical technology, an additional 800 MW capacity is being set up under super-critical technology at a project cost of ₹ 4,465 crore by the state government. The Wanakbori plant has seven generation units, some of which are as old as 30 years. Super-critical power generation technology consumes 25 percent less coal than sub-critical plants and brings down the cost of production from ₹ 3 a unit to ₹ 2.40 a unit. The government is considering setting up a new super-critical power unit at Dhuvaran in Anand district. The plant has an installed capacity of 220 MW. According to Gujarat State Electricity Corporation Limited (GSECL), the state has generation capacity of about 24,000 MW, while demand is 10,000-13,000 MW, depending on the season. Of this, consumption among industries remains at 5,000-5,500 MW. However, consumption by the agriculture sector varies from 2,500-3,000 MW during the normal season to 4,000-4,500 MW during the sowing season. On the other hand, residential consumption stands at 3,000-3,200 MW during the summer season and 2,000 MW during other seasons. Also, of the total 24,000 MW, Gujarat produces 19,000 MW through conventional source of energy, wherein 10,000 MW is generated by the government and 9,000 MW by private players. The state has renewable power generation capacity of about 5,000 MW, of which nearly 20 percent is generated by the government and the rest by private entities. Some of the old plants are still in good condition. The Gandhinagar, Sikka and Ukai thermal power plants, for instance, are under the government scanner for upgradation. (www.business-standard.com)

### Transmission / Distribution / Trade...

### Bidding for 2 UMPPs to start next month

**November 17, 2015.** The government will call bids for two domestic coal-based ultra-mega power projects (UMPPs) next month and another two by March next year, according to power secretary PK Pujari. According to Pujari, the proposed policy for coal supply to power plants is likely to be sent to Cabinet for approval within 15 days. He said state governments will be given more time to give consumers the option of selecting their power suppliers. The power secretary said that the government is looking at initiating power transmission reforms. The signing of agreements with state governments and their power distribution utilities under the Ujjwal Discom Assurance Yojna is likely to start in two-three weeks, Pujari said. (economictimes.indiatimes.com)

### Reliance Infra to sell 49 percent in Mumbai power business to Canadian fund

**November 16, 2015.** Reliance Infrastructure has signed a pact to sell 49% stake in its Mumbai electricity business to the Public Sector Pension Investment Board of Canada, the company said. This will be a first of its kind deal with a foreign fund investing in a power distribution business. The deal comes at a time when the government of India has initiated its ambitious plan to restructure state run power distribution companies to erase their losses. Reliance Infrastructure did not disclose the deal consideration.

As per the contract, the Mumbai power generation, transmission and distribution of Reliance Infra would be hived off into a subsidiary where the company will continue to hold 51%. Reliance Infrastructure's Mumbai Power business (known as Reliance Energy) distributes power to nearly 3 million residential, industrial and commercial consumers in the suburbs of Mumbai, covering an area of 400 sq km, and catering to a peak demand of over 1,800 MW. (economictimes.indiatimes.com)

**BMC approves Tata power plant at Ghatkopar**

**November 16, 2015.** The Brihanmumbai Municipal Corporation has given its nod to M/s Tata Power to construct a 400 kilovolt (kv) power receiving station at Ghatkopar (east). The Tata Power has started commissioning of a power transmission infrastructure project considering that Mumbai is likely to face a shortage of 1948 kv power by 2015. The project has been approved by the state transmission utility, Maharashtra Electricity Regulatory Commission and the state government and is likely to be completed within 36 to 42 months. As part of this, a 400 kv gas insulated switchgear and control building is need to be constructed at Ghatkopar. (dc.asianage.com)

**MPCB makes coal wash, beneficiation mandatory for coal companies**

**November 16, 2015.** In a big move towards environment conservation, the Maharashtra Pollution Control Board (MPCB) has made coal wash and beneficiation mandatory for coal mining projects. It will help in controlling high level of pollution at coal mines and also thermal power stations. Also, the thermal power stations especially of Maharashtra State Power Generation Company Limited (Mahagenco) will benefit to a great extent as washed and beneficiated coal increase power generation and also save conveyance cost. The MPCB's consent appraisal committee headed by additional chief secretary, environment department, Malini Shankar took the decision in the meeting held on November 3. The committee has framed a new bank guarantee regime policy for mining and coal washery. Total 18 aspects have been finalized under the new policy for controlling water, air, non-hazardous waste, hazardous waste, operation and maintenance pollution. Also time bound programme has been planned for compliance of each concept with bank guarantees.

The coal mining companies will have to comply with all these 18 concepts in stipulated time period or else face action. One concept is related to much awaited norm of coal washeries at coal mining areas' end. The policy is totally aims at Vidarbha as all coal mining projects are situated in this region. As per policy, the coal mining companies will have to establish coal washeries at mines within six months that too with adequate capacity. As against compliance of the condition, the companies will have to submit bank guarantee of ₹ 25 lakh. Though not cleared by the committee in minutes of the meeting, the condition will be applied to new coal mining projects and existing ones as well. A subsidiary of Coal India Limited (CIL) — Western Coalfields Limited (WCL) operates 53 coal mines in Vidarbha and produces around 30 million tonne coal in a fiscal. Karnataka Government operates one coal mining project near Bhadravati in Chandrapur district. All the coal mining companies will have to establish coal washeries at their mining projects. The coal produced by WCL is mostly of grade-E and comprise around or over 40% ash. The thermal power stations have no option to transport coal with such high ash content from coal mines causing huge financial loss in conveyance. Besides, high ash content in coal damages equipments at power plants. Fly ash is generated in high quantity at power plants with utilization of high ash content coal. It also affects power generation as high ash content coal comprise of less usual heat value (UHV). Taking serious cognisance of all these issues especially air and water pollution, the Ministry of Environment and Forests (MoEF) had made it mandatory for thermal power stations to utilize coal with ash content of or less than 34% only in 2005. Mahagenco assigned the task to five coal washeries for coal wash and beneficiation but failed to get desired results. Following corruption in large scale, the Mahagenco terminated agreements with coal washeries in 2011-12. Coal with high ash content is supplied by WCL and consumed by power plants flouting all norms for last four years. In 2008, the CIL for the first time came up with a plan to set up 28 coal washeries at its subsidiaries of which one is proposed in WCL near Ghugus in Yavatmal district. The project remained on paper for last seven years. (timesofindia.indiatimes.com)

**India, Australia complete formalities for civil nuclear pact**

**November 15, 2015.** India and Australia announced completion of all the formalities for their bilateral civil nuclear agreement, paving way for the pact to come into force. The announcement was made after a meeting of Prime Minister Narendra Modi and his Australian counterpart Malcolm Turnbull in Antalya on the sidelines of the G20 Summit. Australia had signed a civil nuclear agreement with India in September last year to supply it uranium for meeting Indian energy needs. Australia has got 40 percent of the world's uranium and the deal is important for both the countries. (www.ndtv.com)

### Delhi govt trying to revive Bawana power plant

**November 14, 2015.** The Delhi government's attempts to revive the under-utilised gas-based power plant in Bawana seem to be bearing no results. Recently, the government had sought commitment from the three distribution companies in the capital to buy power from the 1,500 MW plant. The Arvind Kejriwal-led government has been mulling over a number of alternatives to increase production of the Bawana power plant. The government is planning to seek more gas from GAIL (India) Limited so that the plant could at least produce up to 500 MW of electricity. But before sealing the deal with GAIL, the Power department had to obtain consent from the discoms, which include BSES Rajdhani, BSES Yamuna and Tata Power, which did not happen. The discoms were asked to buy power from the plant at ₹ 3.72 per unit (variable cost), which was in addition to the fixed cost.

To make the plan work, Delhi Power Minister Satyendra Jain had also written to the Centre seeking allocation of gas to the power plant. But, despite several reminders, a positive response is quite unlikely as almost all gas-based power plants across the country are facing a similar shortage. The Delhi government, however, is not losing hope as it believes global price of gas is set to come down in the near future. The Bawana plant at present produces only 20 percent, or even less, of its total capacity. It was supposed to be commissioned before the 2010 Commonwealth Games, which was delayed as the plant was not ready. Delhi Power Minister Satyendra Jain had also written to the Centre seeking allocation of gas to the power plant. But, despite several reminders, a positive response is quite unlikely as almost all gas-based power plants across the country are facing a similar shortage. ([www.thehindu.com](http://www.thehindu.com))

### No power cut in Odisha till December 31: Govt

**November 12, 2015.** In a major respite for people in Odisha, the government announced there will be no power cut in the state till December 31. Energy Minister Pranab Prakash Das said the department would decide its next course of action after holding a meeting in the first week of January 2016.

Earlier, the government had stopped load-shedding at night during the festive season beginning October 11. However, it had resorted to power cut during the day during that period. The peak hour demand was 3,750-3,800 MW, and the state was generating the required power from thermal and hydro power plants in the state. In its bid to supply electricity to people, the state-owned Grid Corporation of Odisha Limited had urged 24 captive power generators to increase their production. ([www.thestatesman.com](http://www.thestatesman.com))

### CIL invites global firms to set up washery

**November 12, 2015.** In a bid to provide quality coal to its customers, including power plants, state-owned Coal India Ltd (CIL) has invited bids from international companies to set up a coal washery in Jharkhand. The government had earlier said that challenge is not quantity but quality of the fossil fuel. The washery would be set up under build-operate-maintain (BOT) model. Coal washing is a process of separation mainly based on difference in specific gravity of coal and associated impurities like shale, sand and stones etc, so that we get relatively pure marketable coal without changing its physical properties. Bid documents will be available to the prospective bidders from November 10, to January 1, Central Coalfields Ltd (CCL) said. Terming quality determination of fossil fuels to be a challenge, the government had earlier said from January onwards it plans to supply crushed coal to consumers, including power plants. ([www.thestatesman.com](http://www.thestatesman.com))

### Govt likely to allow private power firms double capacity at existing plants

**November 11, 2015.** The government is likely to allow private power companies to double generation capacity at their existing plants, a move aimed at reducing the time required to boost electricity supplies and lowering the cost of production. Currently, private power producers can expand capacity at their plants by up to 50%. Power and Coal Minister Piyush Goyal said the government is considering altering the national tariff policy to enable 100% expansion at existing plants.

A decision on the policy is expected to be made over the next six months. Industry experts hailed the move, saying it would help reduce cost and thereby electricity tariffs. Most private power firms with big land banks, including Reliance Power, Tata Power and JSW Energy, could benefit from this. The government said a policy for permitting public sector units to expand existing power plants for optimum utilisation of the current infrastructure and allowing them to set up projects based on coal washery rejects on cost-plus basis was being prepared. ([energy.economictimes.indiatimes.com](http://energy.economictimes.indiatimes.com))



## [INTERNATIONAL: OIL & GAS]

### Upstream.....

#### **Suncor cuts 2016 oil sands production due to major maintenance**

**November 17, 2015.** Canada's largest oil and gas producer Suncor Energy Inc said 2016 capital spending will increase by around 15 percent from this year but production will drop slightly as a result of major turnarounds on oil sands facilities. Total production is expected to average 525,000 to 565,000 barrels of oil equivalent per day (boepd), with the midpoint down 5 percent from the 2015 average of 550,000 to 595,000 boepd. Suncor said the reduced production had nothing to do with low global oil prices, which have pushed the price of Canadian heavy crude to around \$27 a barrel this month. Canada holds the world's third-largest crude reserves and is the biggest exporter of crude to the United States, but Alberta's oil sands carry some of the highest operating costs globally because of energy-intensive production methods. At current prices, some oil sands producers are struggling to cover the cost of production, blending and transportation but are reluctant to curb output given the billions of dollars already sunk into projects. Projected 2016 spending is still below the C\$7.2 billion-C\$7.8 billion Suncor originally planned for 2015. (www.reuters.com)

#### **BG and CNOOC plan to invest US\$1.2 bn in Australian gas production**

**November 17, 2015.** BG Group's subsidiary QGC, China National Offshore Oil Corporation (CNOOC) and Tokyo Gas plan to invest A\$1.7 bn (US\$1.2 bn) over the next two years in the development of gas tenements west of Wandoan (Queensland, Australia) to support gas production for the 8.5 million tonnes per year Queensland Curtis LNG liquefaction plant on Curtis Island, near Gladstone. QGC has a 73.75% stake in the Charlie gas development, which involves the construction of 300-400 wells, a large field compression station and associated pipelines and facilities which will feed into existing gas processing and water infrastructure at Woleebee Creek. (www.enerdata.net)

#### **Rockhopper achieves first gas from Civita field in Italy**

**November 16, 2015.** Junior oil and gas firm Rockhopper Exploration reported that it has achieved first production into the Italian gas network from its Civita gas field, located onshore in the Abruzzo region of Italy. The Civita field is located within the Aglavizza production concession and is operated by Rockhopper, which has a 100-percent interest. The field will be commissioned at a rate of 442,000 cubic feet of gas per day before increasing to a stabilized flow rate of approximately 884,000 cubic feet per day (160 barrels of oil equivalent per day) by the end of the month. Rockhopper said that, when combined with its share of production from Eni's offshore Guendalina gas field, it expects its net production from Italy during 2016 to average more than 3.5 million cubic feet of gas per day (700 boepd). The firm expects revenue from Guendalina and Civita net to the company of \$9 million in 2016 at current gas prices. (www.rigzone.com)

#### **QGC, partners invest \$1.2 bn to boost gas output in Australia's QCLNG project**

**November 16, 2015.** QGC Pty Limited, along with joint venture partners China National Offshore Oil Corporation and Tokyo Gas, reported a two-year, \$1.2 billion (AUD 1.7 billion) development of its natural gas tenements west of Wandoan to support gas production for the Queensland Curtis liquefied natural gas (QCLNG) project in Australia. The investment, which follows receipt of Commonwealth and State Government environmental approvals, has been approved by QGC's parent company BG Group and the joint venture partners. BG Group's share of the investment is within the Group's previously disclosed capital expenditure program. QGC has a 73.75 percent interest in the relevant natural gas tenements. The QCLNG plant has delivered 62 cargoes since first LNG production in December 2014. (www.rigzone.com)

#### **Statoil tops \$969 mn of bids pledged for Canada offshore**

**November 13, 2015.** Statoil ASA was the most active bidder for exploration licenses off Canada's Atlantic Coast awarded as some of the world's largest producers committed to spend about C\$1.29 billion (\$969 million) for the prospect of long-term growth. The Norwegian company and its partners successfully bid for six blocks off Newfoundland and Labrador and Statoil picked up two on its own, off Nova Scotia. Chevron Corp., Exxon Mobil Corp., BP Plc, BG Group Plc and Cnooc Ltd.'s Nexen subsidiary were part of winning bids to drill off Newfoundland. Licenses to seven of 11 blocks on offer were sold in the province's first-ever scheduled auction. Nova Scotia received bids for two of nine blocks offered. The producers are pledging future drilling even as they shelve near-term projects to weather a crude price slump



that has extended 16 months. The Atlantic Canadian provinces have been seeking to spur investment to bolster government revenues during the downturn. Newfoundland released a study that said the area being licensed for exploration contains a resource potential of 12 billion barrels of oil and 113 trillion cubic feet of gas, in place. (www.bloomberg.com)

#### **US shale oil output will be less resilient than gas**

**November 12, 2015.** U.S. natural gas production hit a new record in August, despite the deepening slump in gas prices and a fall in the number of rigs targeting gas formations. The failure of gas production to respond to lower prices and a falling rig count has left many analysts wondering if it heralds the same problem in the oil market - worsening oversupply. The number of rigs drilling for oil has plunged almost two-thirds over the last 12 months, but crude production is unchanged since October 2014 and down by less than 5 percent compared with its peak in April. Like shale gas producers, shale oil drillers have managed to raise output while cutting costs by concentrating on the best-known and most productive formations and areas. The United States produced 2.5 trillion cubic feet of gas in August, up 7 percent compared with the same month in 2014, according to the U.S. Energy Information Administration (EIA). Production continued to increase even though spot prices were down by almost 30 percent and the number of rigs drilling specifically for gas fell by nearly 38 percent over the previous 12 months. The number of rigs drilling for gas has dropped by more than 85 percent, from more than 1500 in October 2008 to less than 200 in October 2015, according to oilfield services company Baker Hughes. But over almost the same period gas output has grown by 766 billion cubic feet per month, or nearly 45 percent, according to the EIA. (www.reuters.com)

#### **Colombia oil output seen slumping below target as wells drop**

**November 11, 2015.** Colombia's oil production is set to fall below 1 million barrels a day next year as exploration collapses and major fields age, the country's oil association said. Producers drilled 19 exploratory wells during the first nine months of 2015, down from 80 in the same period last year, the association said. The decline threatens a government target of 1 million barrels a day through 2022 as it seeks to maintain royalty payments. Producers in Colombia including state-controlled Ecopetrol SA and Pacific Exploration & Production Corp. have cut exploratory spending this year amid the slump in global oil prices. The potential implications of reduced exploratory activity in Colombia are significant, given the Andean nation's reserve life of 6.4 years at the end of 2014. A series of government measures this year has helped companies overcome the initial impact of the fall in oil prices, although more will be needed if Colombia is to attract continued foreign investment, according to the association. (www.bloomberg.com)

#### **Downstream.....**

#### **Iran in talks to invest in refineries abroad post-sanctions**

**November 17, 2015.** Iran has started negotiations to buy shares in oil refineries in Europe, Latin America and Asia, the oil ministry said. The National Iranian Oil Refining and Distribution Company said that Tehran was in talks to buy a stake in India's Essar Oil, although India's second-largest private refiner denied this. In July, Rosneft signed a preliminary deal to acquire up to 49 percent of Essar. India is Iran's second-largest customer after China. Iran's oil production has fallen to 2.7 million barrels per day (bpd), down by one million bpd since the start of 2012, depriving Tehran of billions of dollars in revenue. The OPEC member aims to raise oil output by 500,000 bpd as soon as sanctions are lifted in early 2016 and by one million bpd from March. (in.reuters.com)

#### **Japanese refiners agree to merge as fuel consumption shrinks**

**November 12, 2015.** Idemitsu Kosan Co. signed a non-binding agreement to merge with Showa Shell Sekiyu K.K., almost four months after buying a third of its rival Japanese refining company. Idemitsu and Showa Shell, which have a combined market capitalization of about \$5.8 billion, expect to complete a deal between October 2016 and April 2017, the companies said. Oil demand in Japan has been declining as the nation's population shrinks and as a shift to more energy-efficient cars prompts refiners to lower output. The government, a backer of industry consolidation, has asked for cuts in processing capacity as the U.S. boosts exports and China floods Asian markets with its surplus supply. TonenGeneral Sekiyu K.K. agreed in December to link its Chiba refinery with Cosmo Oil Co.'s neighbouring plant to increase production efficiency. And Cosmo Oil has held talks with companies on possible partnerships for its Sakai and Yokkaichi refineries, President Keizo Morikawa told reporters in May. (www.bloomberg.com)

### **China boosts oil processing as teapot refiners expand role**

**November 11, 2015.** China's crude processing climbed to the highest since August, boosted by independent refiners that increased output after getting new oil-import quotas. Refineries in the world's second-largest oil consumer processed 44.25 million metric tons of crude last month, or about 10.46 million barrels a day, according to data released by the Beijing-based National Bureau of Statistics. That's up 0.9 percent, on a daily basis, from September. Chinese state refiners may also be processing more oil to reduce swelling stockpiles. The nation's commercial crude inventories increased to about 34.3 million tons at the end of September, the most since January. (www.bloomberg.com)

### **Transportation / Trade.....**

### **America's gas supplies suddenly gained 7 billion cubic feet**

**November 17, 2015.** A U.S. government report showed America's natural gas stockpiles had swelled by 49 billion cubic feet to reach a record. It was in line with what analysts had forecast. The Energy Information Administration (EIA) revised the figures to reflect an even bigger gain of 54 billion cubic feet to a record of 3.985 trillion. That's 7 billion more than the total reported. The agency said it was the result of a change in the way it reports inventory data. (www.bloomberg.com)

### **Aramco Trading Company expands operations into Singapore**

**November 17, 2015.** Aramco Trading Company, a subsidiary of oil giant Saudi Aramco, has started a Singapore office to market oil products, joining a growing number of companies setting up shop in the city-state. The office is working to win new business for the parent company from Asia. The firm has been trading higher volumes in derivatives markets from late last year as Saudi Arabia flipped from a net diesel importer to an exporter of the fuel with the start up of two mega refineries in the country. It is also exploring new markets to sell its excess diesel while it steps up exports to Europe. The company has about 15 to 20 traders in Dhahran currently dealing oil products including naphtha, diesel, jet fuel, gasoline, fuel oil, sulphur and petroleum coke. (af.reuters.com)

### **Turkey's Botas said in talks for \$2 bn Tanap gas line loans**

**November 12, 2015.** Turkish state pipeline company Botas is in talks with the European Investment Bank and the World Bank to borrow more than \$2 billion to help finance a pipeline that will carry gas from the Caspian to Turkey and Europe. Botas, which operates a local and international network of crude and gas pipelines in Turkey, will use the loan to finance its share of the construction of the 1,850-kilometer Tanap pipeline, planned to start pumping an annual 6 billion cubic meters (bcm) of gas to Turkey from mid-2018. Tanap will supply Europe with 10 bcm of gas annually from 2020 through the Trans Adriatic Pipeline project linking Turkey to Italy via Greece. It's 58 percent owned by State Oil Company of Azerbaijan, while Botas holds 30 percent and BP Plc 12 percent. (www.bloomberg.com)

### **Turkmenistan to start TAPI gas pipeline construction in December 2015**

**November 12, 2015.** Turkmenistan has signed a decree for implementation of the "Program of Development of Oil and Gas Industry of Turkmenistan until 2030", which, among other things, orders to start laying the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline's section that is to run through Turkmenistan. Construction of the 33 billion cubic meters (bcm) per year gas pipeline, by state-owned companies Turkmengaz and Turkmennebitgazgurlushyk, is to start on 13 December 2015 while all the TAPI related facilities are expected to be commissioned in December 2018. The pipeline will run 200 km through the Turkmen territory from Galkynysh, the largest gas field in Turkmenistan, then another 735 km in Afghanistan passing through the cities of Herat and Kandahar, and finally 800 km across Pakistan to reach the India-Pakistan border. The total costs of the 1,735 km long gas pipeline project's is estimated at up to US\$10 bn. (www.enerdata.net)

### **TransCanada to build \$500 mn Tuxpan Tula natural gas pipeline in Mexico**

**November 12, 2015.** North American energy company TransCanada has received a contract to build, own and operate the Tuxpan-Tula Pipeline in Mexico with an investment of \$500 mn. Planned to be commissioned in the fourth quarter of 2017, the pipeline runs from Tuxpan in the state of Veracruz and extends through the states of Puebla and Hidalgo. The 36-inch 250km-long pipeline is supported by a 25-year natural gas transportation service contract with the Mexico's state owned power company Comisión Federal de Electricidad (CFE). As per the deal, the pipeline will deliver 886 million cubic feet a day of natural gas to CFE's combined-cycle power generating facilities located in Puebla and Hidalgo. Besides serving new power generation facilities, the pipeline will deliver natural gas to the central and western regions of

### **Ophir Energy expects Fortuna LNG project investment decision by mid-2016**

**November 11, 2015.** Oil and gas explorer Ophir Energy expects to finalise sales agreements and make a final investment decision on its Fortuna floating liquefied natural gas (FLNG) project by mid-2016. Ophir's chief operating officer Bill Higgs said the firm is in talks with six or seven buyers representing a mixture of end users, oil majors and traders, and expects heads of agreements will be signed by the end of the month. Heads of agreements are preliminary contracts that can be confirmed when full approvals are received and a final investment decision (FID) made on a project. The Equatorial Guinea-based FLNG development is one of a number of LNG projects planned when prices were higher. LNG prices have more than halved since the start of last year on a glut of supply. Higgs said that he expected smaller projects such as Fortuna were more likely to gain a FID than larger projects given the challenging market conditions. The project is expected to produce 2.2 million tonnes of LNG per year, with first gas slated for 2019. Higgs said that the duration of the initial sales contracts was likely to be for between seven and 12 years. (af.reuters.com)

### **Korea Gas Corp offloads excess LNG supply on to France's EDF**

**November 11, 2015.** Korea Gas Corp has agreed with the trading arm of France's EDF to funnel excess liquefied natural gas (LNG) supply into Europe and beyond, the French company said. Caught out by sinking domestic demand, Kogas, which until recently was the world's leading LNG buyer, and its Asian peers are manoeuvring to offload billion-dollar supply commitments signed when demand was peaking early this decade. Much of the new LNG comes from the United States and Australia. Kogas will hand over up to 4 million tonnes of LNG to the trading arm, known as EDFT, over eight years from 2017, it said. French utility EDF's new LNG import terminal at Dunkirk is scheduled to come online later this year, providing one access route for the Korean firm's volumes into Europe. (af.reuters.com)

## **Policy / Performance.....**

### **BP's drilling plan offshore Australia turned back by regulator**

**November 17, 2015.** BP Plc will need to revise its plan to explore for oil in an untapped frontier off the coast of southern Australia before regulators will approve its drilling program estimated to cost more than A\$1 billion (\$710 million). BP is seeking to drill in the Great Australian Bight, a remote region the company has described as "pretty much the last big unexplored basin in the whole world." BP has faced opposition from environmental groups worried about the potential for an accident more than five years after the Gulf of Mexico oil spill. BP will get a "reasonable opportunity" to modify the plan, according to the offshore oil regulator, which said it carried out a "thorough and rigorous assessment." The company said in May that it plans to start drilling in October 2016. The Bight is a "hostile" place to work, according to BP. (www.bloomberg.com)

### **Lithuania opens door to LNG re-exports**

**November 17, 2015.** Lithuania's parliament approved amendments which will allow the Baltic state to re-sell liquefied natural gas (LNG) on the international markets, the energy ministry said. The current laws require the country's regulated energy and heat producers to buy at least 540 million cubic metres (mcm) from a floating LNG terminal in Klaipeda on the Lithuanian coast to ensure it remains operational. But gas demand has been falling due to increased use of biomass for heating and warmer weather, leaving the energy companies with surplus gas. Lithuanian LNG importer Litgas asked the government to change the rules to allow the sale of surplus gas on the local gas exchange GET Baltic or on the international spot markets. Litgas has a five-year contract with Norway's Statoil to buy 540 mcm annually and this also allows re-sale of cargoes destined for Klaipeda, the company said. (af.reuters.com)

### **Iran won't seek OPEC's permission before boosting oil exports**

**November 17, 2015.** Iran won't negotiate with Organization of Petroleum Exporting Countries (OPEC) or seek the group's permission before boosting oil exports by a planned 500,000 barrels a day once sanctions are removed from the nation's economy. The Persian Gulf state is unconcerned about the impact this additional supply may have on crude prices, which already reflect the expected increase in Iranian shipments, Oil Minister Bijan Namdar Zanganeh said. The fifth-largest producer in the OPEC will inform the group after it increases exports, he said. Iran's oil exports fell to an average 1.4 million barrels a day last year from 2.6 million in 2011, U.S. Energy Information Administration data show. The country seeks to raise production by 500,000 barrels a day as soon as sanctions are lifted and by 1 million barrels a

day by the end of the current Iranian year on March 20 or "soon after," Zanganeh said. All phases of the South Pars natural gas field except for one, the 14<sup>th</sup> phase, will be open by the time President Hassan Rouhani's presidential term ends in June 2017, Zanganeh said. Iran has the world's biggest gas reserves, according to BP Plc data. (www.bloomberg.com)

#### **Indonesia expects study on Abadi LNG project to complete by year-end**

**November 16, 2015.** Indonesia's Ministry of Energy and Mineral Resources (MEMR) expected an independent assessment on the development plan for the Abadi liquefied natural gas (LNG) project in the Masela Production Sharing Contract (PSC) in the Arafura Sea, eastern Indonesia to be completed by the end of this year as any delays would hurt gas supplies in the country. Poten and Partners, appointed as consultant following a tender for the \$380,000 (IDR 3.8 billion) assessment project, has been given the deadline to finish the study by December, MEMR Director for Upstream Oil and Gas Djoko Siswanto said. (www.rigzone.com)

#### **Cuomo rejects port Ambrose gas project near New York City**

**November 13, 2015.** Governor Andrew Cuomo will veto a liquefied natural gas project off Long Island that would have brought gas to the New York City region during periods of high demand. The Port Ambrose project involved creating a deep-water docking station 19 miles (31 kilometers) into the Atlantic Ocean, and an underwater pipeline that would pump about 400 million cubic feet of natural gas per vessel a day into the existing Transco Lower New York Bay Lateral pipeline. (www.bloomberg.com)

#### **Oil prices to recover to \$80 in 2020: IEA**

**November 11, 2015.** The Organization of Petroleum Exporting Countries (OPEC)'s share of the global oil market will expand from 2020 as prices recover to \$80 and supply outside the group stagnates following spending cuts, according to the International Energy Agency (IEA). OPEC's decision last year to defend its market share rather than cut production to support prices has curbed growth of rival supplies such as US shale oil. While the resulting 40 percent slump in crude prices has "sharply" reduced the group's revenues, the strategy will eventually prove beneficial for members that are able to increase output, the IEA said. The global oil and gas industry will need to keep spending \$630 billion on exploration and production each year just to maintain output at current levels as aging fields decline, the agency said. Investment will be cut by 20 percent this year and will drop further in 2016, the first two-year decline in spending since the 1980s, the IEA said. Reductions to industry spending will result in non-OPEC crude supply levelling off at about 55 million barrels a day before 2020. That's 1.3 million higher than this year, less than a third of the total growth of 5 million from 2010 to 2015. By 2040, OPEC could account for almost half of global oil production, or 49.2 million barrels a day. Over-reliance on a small number of producers would trigger concerns about the security of energy supply, particularly for Asia, the IEA said. (www.business-standard.com)

#### **Iran signs second gas deal with Iraq**

**November 11, 2015.** Iran has signed a new contract with Iraq to export natural gas to the country's southern port city of Basra. Based on the contract, Iran will pipe a daily of 20-25 million cubic meters per day (mcm/d) of gas for Basra for a period of six years. The supply – that will increase to 45-60 mcm/d in a later stage – will be used to feed the main power plant of the city. Exports will start with an initial supply of 7 mcm/d for three years and will then increase to the target volume. (www.presstv.ir)

## **[INTERNATIONAL: POWER]**

### **Generation.....**

#### **Mudajaya's Indonesian power plant starts operating**

**November 12, 2015.** Mudajaya Group Bhd's 46%-owned associate, PT Harmoni Energy Indonesia (PT HEI), has achieved commercial operation date for its 2 x 7 MW coal-fired steam power plant in Desa Baruta Analalaki, southeast Sulawesi, Indonesia on Oct 29. The 2 x 7 MW coal-fired steam power plant is developed on a build-operate-own concept subsequent to PT HEI entering into a power purchase agreement for a period of 25 years from the commercial operation date with PT PLN (Persero) Wilayah Sulawesi Selatan, Sulawesi Tenggara Dan Sulawesi Barat (PLN) in July 2011. Mudajaya Group said the successful commissioning and commercial operations of the coal-fired steam power plant mark a milestone for the group's foray into the power sector in Indonesia. (www.theedgemarkets.com)

**Abengoa to build power transmission lines and substation in Chile**

**November 17, 2015.** Spanish renewables developer Abengoa has received contracts, worth more than \$180 mn, to provide engineering and construction services for two new power transmission lines, a substation and extension of an existing power line in Chile. Under the contract with the country's National Energy Commission (CNE), Abengoa will provide the engineering and construction work for the 150 km line designed to connect the IX and X regions in Chile. Under the second project, Abengoa will be responsible for the engineering and construction of a substation in the VI region in Chile. Construction work on the substation is planned to be completed within two years. The third project is intended to increase the capacity of a power transmission line between Cardones and Diego de Almagro. Tendered by Transelec and promoted by the National Energy Commission, the extension work is planned to be completed in 27 months. Additionally, the fourth project involves construction and installation of a 20km power line for Minera Centinela in the II region in northern Chile. The power line project, which is scheduled to be completed in eight months, is expected to create up to 120 jobs. In Latin America, Abengoa has constructed more than 25,000 km of power lines and several substations. (utilitiesnetwork.energy-business-review.com)

**Equinix signs power purchase agreements for data centers in North America**

**November 16, 2015.** Data center company Equinix has signed an agreement with affiliates of NextEra Energy Resources and Invenergy, to purchase wind energy in Oklahoma and Texas, respectively. Under the term of the power purchase agreements, Equinix will buy 225 MW of wind power, bringing its total renewable energy use in North America to 100% by the end of 2016. Electricity generated from the two projects, which are scheduled to be fully commissioned by the end of 2016, will be used to power Equinix data centers throughout North America. As per the deal with NexEra Energy Resources affiliate, Equinix will purchase wind energy from the 125 MW Rush Springs Renewable Generation Facility located in Grady and Stephens Counties, Oklahoma. (utilitiesretail.energy-business-review.com)

**EIB lends US\$72 mn to NEPCO for power transmission projects**

**November 12, 2015.** The European Investment Bank (EIB) agreed to provide a US\$72 mn (JOD51 mn) loan to National Electric Power Company (NEPCO), the transmission system operator of Jordan. The EIB's loan will finance the NEPCO Green Corridor project to strengthen the country's high-voltage electricity transmission backbone, enabling new facilities generating large amounts of renewable energy to be connected to the network, and electricity to be transmitted from the central/southern desert areas to Amman, where generation is fossil-fuel based. The US\$72 mn will be used to construct a new electricity substation located north of the city of Ma'an; to build new transmission lines; and to modify existing substations to accommodate these new lines. The project is scheduled to be implemented over the period 2015-2018. (www.enerdata.net)

*Policy / Performance.....*

**French deputies approve price cut for electricity-intensive industries**

**November 17, 2015.** As part of the 2016 finance law, French deputies have approved a proposed cut in electricity tariffs for electricity-intensive industries such as chemicals, pulp and paper or steel and metals, which will affect 150 industrial sites. These sites will benefit from an 8% reduction in electricity prices (based on an average €37/MWh price on the wholesale market), or a total €93 mn reduction (around €3/MWh). Industrial companies already benefit from reductions on electricity transportation tariffs and from tariff improvements for sites agreeing to defer their electricity consumption. (www.enerdata.net)

**Hungary plans to start expansion of Soviet-built nuclear power plant in 2018**

**November 17, 2015.** The Hungarian official Attila Aszodi in charge of expanding the country's only nuclear power plant says the construction of two new reactors should start in 2018. Attila Aszodi said the new reactors are expected to begin supplying electricity in 2025 and 2026. The expansion of the Soviet-built plant in the city of Paks will be completed by Russia's state-owned Rosatom and is being financed mostly with a Russian loan of € 10 billion (\$10.7 billion). Aszodi said the five reactors in Paks currently provide 36 percent of Hungary's electricity supply but have to be shut down between 2032 and 2037. On their own, the new reactors would boost the plant's output by nearly 20 percent. (www.foxnews.com)



### High-energy coal to help Australia miners steam ahead in Asia

**November 12, 2015.** As debate swirls around the future of coal, Australian miners are counting on the higher energy content of the coal they dig and proximity to growing Asian markets to give them an edge over rivals and defy a global push towards cleaner energy. With around \$35 billion in projects in the pipeline, the world's No.2 exporter of thermal coal is relying on Asian markets using the cheapest source of power even as they try to contain soaring emissions and choking pollution. That growth in coal demand comes despite climate change taking center stage internationally ahead of U.N. environmental talks that kick off in Paris this month, with governments coming under pressure to do more to cut carbon emissions. Australia's export coal typically has an energy content of 6,100 kilocalories per kilogram, compared with 5,130 kcal/kg from top global thermal coal exporter Indonesia, making it the best quality coal located near Asia's growing markets. That is particularly appealing for Asian buyers looking to feed newer, less-polluting coal-fired power stations. The International Energy Agency expects India to overtake China as the world's biggest coal importer in the next five years, projecting Indian coal demand will nearly triple to 1.3 billion tonnes a year between 2013 and 2040. It sees Southeast Asian coal demand more than tripling to 446 million tonnes during that period. The Philippines wants to increase the use of cleaner fuels but accepts that rejecting cheap coal is not an option as its economy develops, illustrating how Southeast Asia relies on the fuel. Australia's new prime minister, Malcolm Turnbull, has rejected calls to ban new coal mines, saying it would be better for the environment if developing nations that rely on coal for power-generation use Australian exports rather than dirtier alternatives. Australia's overall thermal coal exports are forecast to rise 11 percent to 223 million tonnes between 2014 and 2020, according to the country's Department of Industry. (www.reuters.com)

### Clinton proposes \$30 bn plan to help coal-producing areas

**November 12, 2015.** U.S. Democratic presidential candidate Hillary Clinton proposed a \$30 billion plan to help displaced workers in coal-producing areas find new jobs and continue receiving health benefits as the country shifts to using renewable energy and more natural gas. Clinton's suite of proposals, which also includes expanding broadband Internet access and establishing a fund that would award competitive grants to small businesses, begins to detail her pledge to protect and build on President Barack Obama's Clean Power Plan, which Republicans have criticized as a "war on coal" that will devastate producing regions. Clinton has said repeatedly she will not forget the coal workers who "kept the lights on" and drove economic growth. (uk.reuters.com)

### China plans power trading exchanges to free up electricity prices

**November 12, 2015.** China is planning to set up two regional power trading exchanges as part of efforts to free up electricity prices, now set by the government. China's top economic planning agency, the National Development and Reform Commission (NDRC), is currently in talks with power firms and the country's two state grid firms to set up the two exchanges in Beijing and Guangzhou. China aims to break the power sales monopoly held by the two state grid firms, the State Grid Corporation of China and the Southern Grid Corporation. It has already launched pilot reform programmes in seven provinces that allow generators to reach sales agreements directly with consumers. The Southern Grid manages power transmission and distribution in five southern regions. The State Grid is responsible for the rest of the country. NDRC said the government was drawing up further plans to free up the power market in pilot regions, which include the hydropower-rich southwestern provinces of Yunnan and Guizhou as well as Inner Mongolia and Ningxia in the coal-producing northwest. China's power industry is in the doldrums as a result of waning industrial growth. Power output has fallen 0.1 percent in the first 10 months of the year, according to the National Bureau of Statistics. With demand weak and new capacity still coming on line, power supplies were expected to remain in surplus for the next two to three years, the China Electricity Council said in a report. (in.reuters.com)

### Mexico's nuclear ambitions get a boost from senator's proposal

**November 11, 2015.** A Mexican senator is preparing legislation that would pave the way for expansion of the nation's only nuclear power plant as part of its drive toward developing more clean energy. The bill is meant to encourage additional investment in the nuclear sector, beginning with the Laguna Verde plant in the state of Veracruz in eastern Mexico, said author Jose Luis Lavalle, a senator in the National Action Party. Laguna Verde has two working reactors, but was designed for four with a capacity to generate 1,510 MW of electricity, according to the Comision Federal de Electricidad, or CFE. The nuclear effort follows Mexico's move to build up its oil and natural gas industry by inviting investment from foreign companies. The government set a mandate in 2012 to get 35 percent of the country's energy from non-fossil fuel sources by 2024, up from 21 percent now. (www.bloomberg.com)

# [RENEWABLE ENERGY / CLIMATE CHANGE TRENDS]

*National.....*

## NTPC takes big strides in renewable energy

**November 17, 2015.** NTPC Ltd figures among the world's top 10 coal-based power generators but in less than two years it will have an impressive portfolio of 1,000 MW of green energy, too. It is already one of the top green power generators among the conventional power companies in the country, and soon enough will turn out to be a classic case of a "polluting" company becoming "cleaner". In NTPC's case, the company has only 800 MW of Kol Dam project in Himachal Pradesh. Only small hydro projects with combined capacity of 8 MW are being planned. Hydro projects below 25 MW are counted in the renewable energy portfolio of companies. NTPC Vidyut Vyapar Nigam Ltd (NVTNL) performs a crucial function in the sale of solar power in the country. It bundles such power bought at a current average rate of about ₹ 10.5 a unit (kilowatt per hour) with coal-based power resulting in a bundled tariff of about ₹ 4.5 a unit. Through this mechanism devised in 2010, it is currently bundling some 723 MW of solar power. NTPC, on its own, will also be bundling 500 MW from 10 projects to be set up at Ghani Solar Park in Andhra Pradesh under the National Solar Mission. The average tariff for 500 MW will be ₹ 4.63 per unit of electricity. NTPC has the government approval to use cheap power of ₹ 1 per unit from its Singrauli coal plant in Uttar Pradesh with solar power. Under NTPC's business plan, about 1,000 MW capacity addition will be based on renewable resources by 2017. NTPC has already commissioned 110 MW solar photo voltaic projects and another 15 MW solar PV and 8 MW Singrauli small hydro projects are under implementation. The company wants to have 28 percent of installed capacity coming from non-fossil sources by 2032 from less than one percent now. Still, renewable portfolio, in general, will not be a challenge to coal-based generation. (www.business-standard.com)

## Need new approaches to manage climate change risks: President

**November 17, 2015.** President Pranab Mukherjee stressed the need to preserve natural resources and advocated new approaches to manage the risks of climate change and loss of bio-diversity. About 120 million hectares of land in the country was in various stages of degradation, he said. The president pointed out that agriculture, being the mainstay of Indian economy, had always been accorded top priority in policy formation as the country needed to feed its growing population. (www.newkerala.com)

## Trina Solar to set up ₹ 28 bn solar plant in Andhra Pradesh

**November 17, 2015.** Trina Solar, a Chinese solar power equipment manufacturer, signed a Memorandum of Understanding (MoU) with the Andhra Pradesh government to set up a plant with an investment of ₹ 2,800 crore. The plant will come up at Atchutapuram in Visakhapatnam district. Andhra Pradesh Chief Minister N. Chandrababu Naidu said this will give a huge fillip to the energy-efficient practices promoted by the state government and create employment opportunities for 3,500 people. Trina Solar is one the world's leading companies that specialises in the manufacture of crystalline silicon photovoltaic modules and system integration. It also develops and produces ingots, wafers, solar cells and solar modules. (www.greentechlead.com)

## Solar sector seen adding 3.6 GW in 2016

**November 17, 2015.** The country is expected to sustain the momentum in solar capacity addition and 2016 is forecast to see a significant increase in new capacity when compared with 2015 on the back of favourable policy support and continuing action at the ground level. Annual solar installations are forecast at 3.64 GW for 2016 when compared with the expected addition of 2.15 GW in 2015, according to Mercom Capital, a global clean energy communications and consulting firm. NTPC and Solar Energy Corporation of India are expected to put about 5,500 MW worth of projects up for auction over the next several months. While Indian government's "UDAY" (Ujwal DISCOM Assurance Yojana), focused on the financial turnaround of power distribution companies, would address one of the biggest obstacles in the Indian power sector, interest rates for solar projects are beginning to fall after the RBI rate cuts with rates in the 11-12 percent range compared to 13-14 percent a year ago. Meanwhile, 21 states have so far agreed to set up a total of 27 solar parks with a combined capacity of 18,418 MW, as part of the Union government scheme, according to the Mercom report. (www.thehindu.com)



### **Solar power to revitalise the Indian energy sector: KPMG**

**November 17, 2015.** Solar is expected to contribute substantially to India's energy source by 2025, with the market penetration of solar power likely to be 5.7 percent (54 GW) by 2020 and 12.5 percent (166 GW) by 2025, according to KPMG's report, titled 'The rising sun: Disruption on the horizon'. With India aiming to reduce emission intensity of its GDP by 33 to 35 percent by 2030 from 2005 levels, solar power, states the report, is likely to contribute 4 percent towards this target. The report was released by Piyush Goyal, Minister of State for Power, Coal, and New and Renewable Energy, and Dharmendra Pradhan, Minister of State for Petroleum and Natural Gas, at ENRich 2015, KPMG India's annual energy conclave. The disruptive force of solar power is expected to start being felt from 2017 and is likely to accelerate post 2020. In some states which are promoting solar (and also wind power) aggressively, conventional coal generators could see their plant load factors (PLFs) fall by as much as 10-15 percent by 2020, as solar replaces coal-fired generation in the daytime hours. This effect may speed up post 2020 with the annual addition of large amounts of solar (estimated to exceed by 20 GW per year by 2022-23). KPMG report highlights that the price for solar power has seen a decline; today, in India, solar prices are within 15 percent of the coal power prices on a levelised basis and, it is expected that by 2020, solar power prices would be approximately 10 percent lower than coal power prices. At present, the solar rooftop power is already competitive compared to grid power for many consumers and, as per the report, if combined with storage, it could be cheaper than grid power after 2022 for a large section of the consumers. This could lead to a considerable shift to rooftop power. A 'solar house' that is self-sufficient in energy terms could be a reality within the coming decade. (www.business-standard.com)

### **India needs innovative ideas to make bio-diesel: Railway Minister**

**November 17, 2015.** India needs to emanate innovative ideas to manufacture bio-diesel by efficiently utilising waste resources, besides judiciously using water and other crucial resources, Railway Minister Suresh Prabhu said. Prabhu said the railways has initiated many steps to reduce its carbon footprint and was aggressively moving towards using renewable energy resources in its establishments apart from initiating massive water conservation efforts. Oil Minister Dharmendra Pradhan said the government was working to further expand the scope of bio-fuel and the bio-energy market in India. He said his ministry has introduced minimum support price for ethanol, which at present is at the level of ₹ 48.50-49.50, to promote its commercial viability. (www.business-standard.com)

### **PM Modi for \$100 bn a year green climate fund by 2020**

**November 16, 2015.** Pledging to quadruple India's renewable power capacity to 175 GW by 2022 and cut fossil fuel subsidies, Prime Minister (PM) Narendra Modi asked world's top economies to ensure reaching the target of \$100 billion a year green climate fund by 2020. He also pushed ahead his proposal for forming an alliance of solar-rich countries at the upcoming Climate Summit in Paris and said G20 countries must build support systems focused on nations with maximum growth potential. In his lead intervention at G20 Working Lunch on Development and Climate Change, he offered seven points for consideration which include shift from 'carbon credit' to 'green credit' and increase in share of traffic on public transport in cities by 30 percent by 2030. Clean energy and environment friendly infrastructure, he said, will address both development and climate change. The industrialised nations had earlier committed to long term financing support in form of a green climate fund worth \$100 billion a year to support concrete mitigation actions by the developing countries. (newstodaynet.com)

### **Inox Wind commissions Madhya Pradesh unit**

**November 16, 2015.** Inox Wind said it is commissioning a 800 MW facility at its manufacturing unit in Madhya Pradesh to double production capacity to 1,600 MW. The unit will have an annual production capacity of 400 rotor blade sets and eventually also have an annual capacity of 400 nacelles and hubs, 300 towers and will double Inox Wind's production capacity to 1,600 MW, the wind energy solutions provider said. (profit.ndtv.com)

### **Tata Power to hive off renewable assets into TPREL**

**November 16, 2015.** Tata Power Company will hive off its renewable energy assets into its subsidiary, Tata Power Renewable Energy (TPREL), as part of its restructuring plan which will focus on 'clean and renewable' energy, according to the company. The company's board recently approved the restructuring plan which involved the carving out of 500 MW of renewable assets of the company to TPREL and its subsidiaries. TPREL will have a total installed capacity of 720 MW with an additional 250 MW under construction. The proposed restructuring will lead the renewables assets in the

books of the company to be transferred to TPREL through a slump sale. The assets include 376.5 MW of wind assets in Gujarat, Maharashtra and Tamil Nadu, 3 MW solar asset in Mulshi and 120 MW waste heat recovery based power plants at Haldia, West Bengal. Tata Power Company's consolidated electricity generation rose 6.5% year-on-year to 11,663 million units in the second quarter of 2015-16. The company has a consolidated installed gross generation capacity of 8,669 MW in India, of which 1,383 MW comes from 'clean and green' energy sources. (www.legalera.in)

### Kolkata in vortex of climate refugee crisis

**November 13, 2015.** More than 50% people living in Kolkata and its suburbs — a staggering count of 12 million — will be flooded out of their homes if the upcoming climate summit in Paris fails to evolve an action plan to limit global warming to 2 degrees Celsius, says a worldwide survey. This will put Kolkata at the heart of one of the biggest climate refugee challenges as inundation of Bangladesh will force millions across the border. This terrifying scenario may happen as early as 200 years from now. What's worse, even if the world pledges to limit global warming to 2 degrees Celsius, 24% of people living in Kolkata and its suburbs — some 5.6 million — will still be driven homeless. The 195-nation UN climate summit will be held in Paris between November 30 and December 11. This study is a wake-up call for the world. The report — 'Mapping Choices, Carbon, Climate and Rising Seas Our Global Legacy' — was published by recently Climate Central, a non-profit organization that analyzes and reports on climate science. The study by Benjamin H Strauss, Scott Kulp and Anders Levermann says carbon emission causing 4 degrees Celsius warming could trigger enough sea level rise to submerge areas that are home to 470-760 million people globally. As many as 12 million people in Kolkata will lose their homes in case of 4 degrees warming. Even a 2-degree rise will drive 5.6 million homeless. The study is based on 2010 population estimates, which puts the head count in Kolkata and its suburbs at 23 million. Earlier, studies had predicted that while low-lying areas along the Hooghly will be vulnerable to tidal upsurge, exposed areas near Maidan and south Kolkata will be hit hard by cyclones. Kolkata is going to be one of the worst affected, but neighbouring Howrah and Haldia will be nearly obliterated. As many as 96% of the population of Haldia and 60% in Howrah might lose their homes in the 4 degrees scenario. Among the other Indian cities, Mumbai is likely to be hit hard with the study predicting 10.8 million climate refugees. Environmental scientist Asish Ghosh recalled a study they had done with WWF-India on the impact of climate change in different wards of Kolkata. According to Ghosh's study, the 150 large industrial plants lined up along the banks of the Hooghly near Kolkata account for 30% of the total industrial effluent pumped into the river. Among all the nations, China will suffer the worst in case of a 4-degree rise since 145 million people today live on land that will be inundated. India and Bangladesh come next with 55 million and 48 million people under threat. Among the other Indian cities that will be hit are Kakinada and Machilipatnam in Andhra Pradesh, Odisha's Puri, Tamil Nadu's Chennai and Kerala's Cochin. (timesofindia.indiatimes.com)

### Environment Minister launches website on climate change

**November 12, 2015.** Environment Minister Prakash Javadekar launched a website for the purpose of putting up India's stands and efforts till a key global environment summit in Paris later this month. The website -- [www.justclimateaction.org](http://www.justclimateaction.org) -- brings most of its content in the form of videos that can be shared on personal social media channels. The website includes our Intended Nationally Determined Contributions (INDCs), the appreciation received from the world over and comments on our INDCs, he said. The world leaders would gather in Paris for the 21<sup>st</sup> meeting of Conference of Parties (COP21) on climate change from November 30 to December 11 to negotiate an agreement, applicable to all countries, with an aim of keeping global warming below 2 degrees Celsius. (www.newkerala.com)

### Gamesa commissions 9 MW solar project in Tamil Nadu

**November 11, 2015.** Gamesa, a global renewable energy company, commissioned its maiden solar project in India. The 9 MW turnkey solar project was commissioned in Vedachandur, near Madurai, Tamil Nadu. In July 2015, Gamesa, announced its entry into the solar market by offering EPC solutions for MW Scale, Roof-Top projects and Rural/Micro-Grid Projects besides continuing to expand its Inverter Solutions. (timesofindia.indiatimes.com)

*Global.....*

### Japan plans to sign emissions-offset agreement with Thailand

**November 17, 2015.** Japan plans to sign an agreement with Thailand as part of a program to offset its emissions in exchange for clean-energy and energy-saving technologies. The two countries plan to hold a signing ceremony in Tokyo,

according to a document provided by the Ministry of the Environment. Japan has so far signed such an agreement with 15 other countries since 2013. Mongolia was the first country to sign up for the program, followed by Bangladesh and Ethiopia. ([www.bloomberg.com](http://www.bloomberg.com))

### **Global climate deal would increase green-bond issuance: IFC**

**November 17, 2015.** A global deal to reduce greenhouse-house gas emissions at talks beginning this month in Paris would boost issuance of so-called green bonds linked to projects that combat climate change, according to the World Bank Group's International Finance Corp (IFC). The IFC is issuing a \$500-million, three-year green bond in London. The sale brings to \$4.4 billion the amount of green bonds the institution has issued over the last five years, according to the IFC. Bonds labeled "green" generally channel their proceeds into renewable energy resources and other technologies that help the environment. In the IFC's case, projects funded with the proceeds must combat climate change by reducing greenhouse-gas emissions, removing greenhouse gases from the atmosphere or improving resilience against climate-change risks. The COP21 climate summit is due to begin Nov. 30, when leaders from around the world will meet in Paris to attempt what a 2009 summit in Copenhagen failed to do: reach a global agreement with binding targets on how to cut fossil-fuel use. Countries have already submitted so-called Intended Nationally Determined Contributions, pledging the scope of emissions cuts. ([www.bloomberg.com](http://www.bloomberg.com))

### **Renmatix to develop its first commercial biorefinery next year**

**November 17, 2015.** Renmatix Inc., a U.S. maker of technology for cellulosic biomaterials, will develop its first commercial biorefinery next year. The refinery will be commissioned by one of the company's undisclosed partners and will be in the Americas, Europe or Asia. It will produce between 100,000 tons to 300,000 tons of sugars annually. Renmatix's technology uses high-pressure steam to break wood chips and other biomass into sugars that can be made into materials such as bioplastics and biofuels. Inedible crops are more difficult to refine than their edible counterparts such as corn and sugar cane because they have tougher fibers. Biomaterials seek to replace petrochemicals. Investment for the sector has dried up as the price of oil has fallen, sliding to less than \$1.5 billion in 2015 from a peak of \$2.5 billion in 2012. ([www.bloomberg.com](http://www.bloomberg.com))

### **Switzerland will cut feed-in tariffs for solar PV plants in 2016**

**November 17, 2015.** The Swiss Federal Office of Energy (SFOE) has decided to revise the RPC ("Rétribution à prix coûtant") system for solar PV projects in 2016. The retribution rate for PV power plants will be cut twice in 2016, on 1<sup>st</sup> April and 1<sup>st</sup> October, reducing by 7% to 14% compared to 2015 levels. There will be no change for operators having chosen the single-payment option ("rétribution unique") until March 2017. In April 2015, 2,541 solar PV plants totalling 100 MW were admitted to the RPC scheme, and several thousands of small size PV projects were granted the single-payment option. ([www.enerdata.net](http://www.enerdata.net))

### **Brazil approves 53 wind and solar projects in reserve auction**

**November 17, 2015.** Brazil has approved 53 renewable power projects in the power reserve auction (Leilão de Energia de Reserva) 2015, with a combined capacity of 1,477 MW, representing a total investment of R\$6.8 bn (US\$1.8 bn) in the next three years. A total of 33 solar PV projects with a combined capacity of 929 MW were approved, including nine projects in Minas Gerais (270 MW), six projects in Bahia (169 MW) and 5 projects in Rio Grande do Norte (140 MW). Twenty wind power projects were approved, representing 548 MW, mainly in Bahia (eighteen projects or 493 MW). ([www.enerdata.net](http://www.enerdata.net))

### **German probe found indications of elevated diesel pollution**

**November 11, 2015.** Germany has found signs of elevated pollutants in diesel cars in initial results of tests performed in the wake of the Volkswagen AG cheating scandal. The Federal Motor Transport Authority, or KBA, is in talks with carmakers about "partly elevated levels of nitrogen oxides" found in raw data on some of the 50 cars being examined, the regulator said. The authority didn't release the make or model names of the cars that had elevated pollution levels. The testing included the VW nameplate as well as the carmaker's Porsche and Audi units. BMW, Mercedes and General Motors Co.'s Opel were also among the two dozen brands tested. German authorities are about two-thirds finished with the review they started in late September, when the Volkswagen scandal prompted a deeper look at real-world diesel emissions. Volkswagen admitted to rigging the engines of about 11 million cars with software that could cheat regulations by turning on full pollution controls only in testing labs, not on the road. The scandal has since spread to

include carbon-dioxide emissions in another 800,000 vehicles, including one type of gasoline engine. Other major automakers, including BMW AG and Daimler AG, have said they didn't manipulate emissions tests. BMW isn't among the companies in talks with the KBA over this probe and therefore doesn't expect any negative findings, a company spokesman said by phone. ([www.bloomberg.com](http://www.bloomberg.com))

### **Statoil sets tougher 2020 CO<sub>2</sub> goal to curb rising emissions**

**November 11, 2015.** Norway's Statoil set a new goal to improve the efficiency of its oil and gas operations by 2020 to help restrict the company's rising carbon dioxide emissions. Statoil increased its goal for averting emissions through tougher efficiency measures by 50 percent to a cumulative 1.2 million tonnes from 2008-2020 from an existing target of 800,000. Statoil said it was revising up the figure because it was already close to achieving its 800,000 tonne target by measures such as reduced flaring. Statoil's 2014 sustainability report says the company's overall emissions of carbon dioxide rose to 15.3 million tonnes in 2014 from 15.1 million in 2013, driven by rising production, and from 13.1 million in 2009. The company says about 85 percent of emissions are in Europe. Statoil also said it paid 3.4 billion Norwegian crowns (\$395.80 million) in carbon dioxide taxes in Norway in 2014 and 0.7 billion crowns in other environmental taxes, including costs of traded carbon quotas. ([af.reuters.com](http://af.reuters.com))

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***Registered with the Registrar of News Paper for India under No. DELENG / 2004 / 13485***

*Published on behalf of Observer Research Foundation, 20 Rouse Avenue, New Delhi-110 002.*

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