



## ***Energy News***

### **[GOOD]**

If marketing defines Coal India's performance its future will be bright!

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Weak remittances from the Gulf illustrates the inevitable link between energy and the global economy!

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### **[UGLY]**

Opposing pipelines on farmlands will get votes but it will block access to clean and efficient energy!

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**ANALYSIS /  
ISSUES**

**DATA  
INSIGHT**

**Volume XII  
Issue 45**

**22 April 2016**

### **[FLY ASH FROM COAL COMBUSTION: INEVITABLE BUT USEFUL]**

“As the demand for energy grows further, production of fly ash is inevitable since India has no alternative but to use its relatively vast resource of high ash coal - washed or otherwise. Therefore it is essential to find potential areas where fly ash can be utilised in a sustainable manner to minimize its negative impact...”

**[RENEWABLE  
ENERGY /  
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- Delhi HC seeks govt's reply on Cairn's plea against tax demand
- Weaker remittances will dampen benefits of lower oil: Moody's
- India's 2015-16 fuel demand rises at fastest pace in at least 15 yrs

## [NATIONAL: POWER]

### Generation.....

- Hindustan Power commissions first phase of 2.5 GW Anuppur plant in MP
- Coal panel recommends bridge linkage for NTPC plant

### Transmission / Distribution / Trade.....

- 'Marketing of coal to define Coal India's performance in future'
- India expects to stop coal imports in 2018-2019

- Gujarat extends power supply to farmers by 6 hours

### Policy / Performance.....

- Forum of Power Utilities proposed by Electricity Regulatory Commissions of states and the centre
- NPCIL to get nuclear liability policy soon
- Govt lets NTPC dispose of fly ash in mine void for 1 more year
- Adani mine in Australia gets traditional land owner approval
- Himachal Pradesh govt gave benefit of ₹ 2 bn to Jaypee Power: CAG

## [INTERNATIONAL: OIL & GAS]

### Upstream.....

- Oil production starts at ExxonMobil Julia
- Russia's Gazprom Neft to delay Novoportovskoye oilfield launch
- Norway's oil firms, unions seek opening of Arctic islands to exploration
- 'Eni to invest \$22.5 bn in Africa in next 4 yrs'

### Downstream.....

- China's Sinopec Beihai LNG terminal starts commercial operations
- Saudi's Yasref secures \$4.7 bn loan
- Kuwait refineries cut back on second day of oil strike
- Total European refining margin drops again in Q1

### Transportation / Trade.....

- New York to get rare tanker of Indian diesel after prices jump
- Shell says theft from its Nigerian oil pipeline network fell in 2015
- Chevron signs up Australia's Alinta to buy gas from Wheatstone
- BP to supply LNG to Indonesia's PLN to 2033 under new contract
- Borusan Mannesmann sees US pipeline demand rising in late 2016

### Policy / Performance.....

- Iran sees oil output rising to pre-sanctions level by June
- Europe's seven oil majors to post 22 percent drop in profit: Fitch
- Oman offers to bridge Saudi-Iran gap in oil output talks
- Russia says door not closed for oil output freeze

## [INTERNATIONAL: POWER]

### Generation.....

- France's Engie looks to sell Polish coal-fired power plant
- CGNPC expands power operations to Malaysia

- Iran's power generation capacity projected to rise 7 percent by March 2017
- EDF said at odds with French state on plan to finance Hinkley

## **Transmission / Distribution / Trade.....**

- China State Grid awarded tender for power transmission in Brazil

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

- Nigeria needs to invest \$900 bn in its energy sector in 30 yrs
- World's biggest wealth fund excludes 52 coal-related groups
- Kazakhstan to complete modernization of large hydro power plant by late 2017
- Bangladesh set to pursue coal-power push despite opposition

- Eurus Energy set to commence construction of 41.6 MW wind farm in Japan
- Canada's Environment Minister pitches national carbon price before Saskatchewan visit
- Norway planning to end renewable subsidy scheme by 2021
- Hillary cites effort in getting India, China commit to GHG cut
- Gas power rules in boost to UK efforts to cut emissions
- Teslas may be making Hong Kong's pollution worse
- Europe's new cars were 3 percent cleaner as pollution rules tighten
- EU lawmaker proposes changes to free carbon permits allocation
- RWE reviving gas plant shows fuel has place among renewables
- Yale's big endowment sells less than \$10 mn in fossil fuels

# **[RENEWABLE ENERGY / CLIMATE CHANGE TRENDS]**

## **NATIONAL.....**

- Gamesa bags 40 MW order from ReNew Power
- Suzlon acquires 5 solar companies to implement projects
- India surpasses solar energy target for 2015-16 more than one and a half times
- India adds 3 GW solar capacity in FY16, beats 2 GW target
- NTPC, IIT Kanpur sign pact for R&D in renewables
- Panasonic plans 10 MW energy storage system in Haryana
- Inox Wind bags 2 orders of 50 MW capacity each in MP, Gujarat
- Telangana ranks 7<sup>th</sup> in solar power generation
- Canara Bank gets first loan from BRICS for renewable energy
- Rays Power bags 10 MW solar project in Karnataka
- Orange Renewable signs PPA with SECI to develop a 100 MW solar power project in Maharashtra
- SunEdison to sell minority stake in Indian solar projects to Fortum
- Six companies win NTPC solar projects in Karnataka

## **GLOBAL.....**

- Engie signs renewable energy and LNG agreements with Egypt
- Australia state bans underground coal gas drilling
- Italian company to build 50 MW solar power plant on Iran's Qeshm island
- South Africa's Eskom gets \$180 mn NDB loan for renewable energy

### COMMENTS.....

## Fly Ash from Coal Combustion: Inevitable but Useful

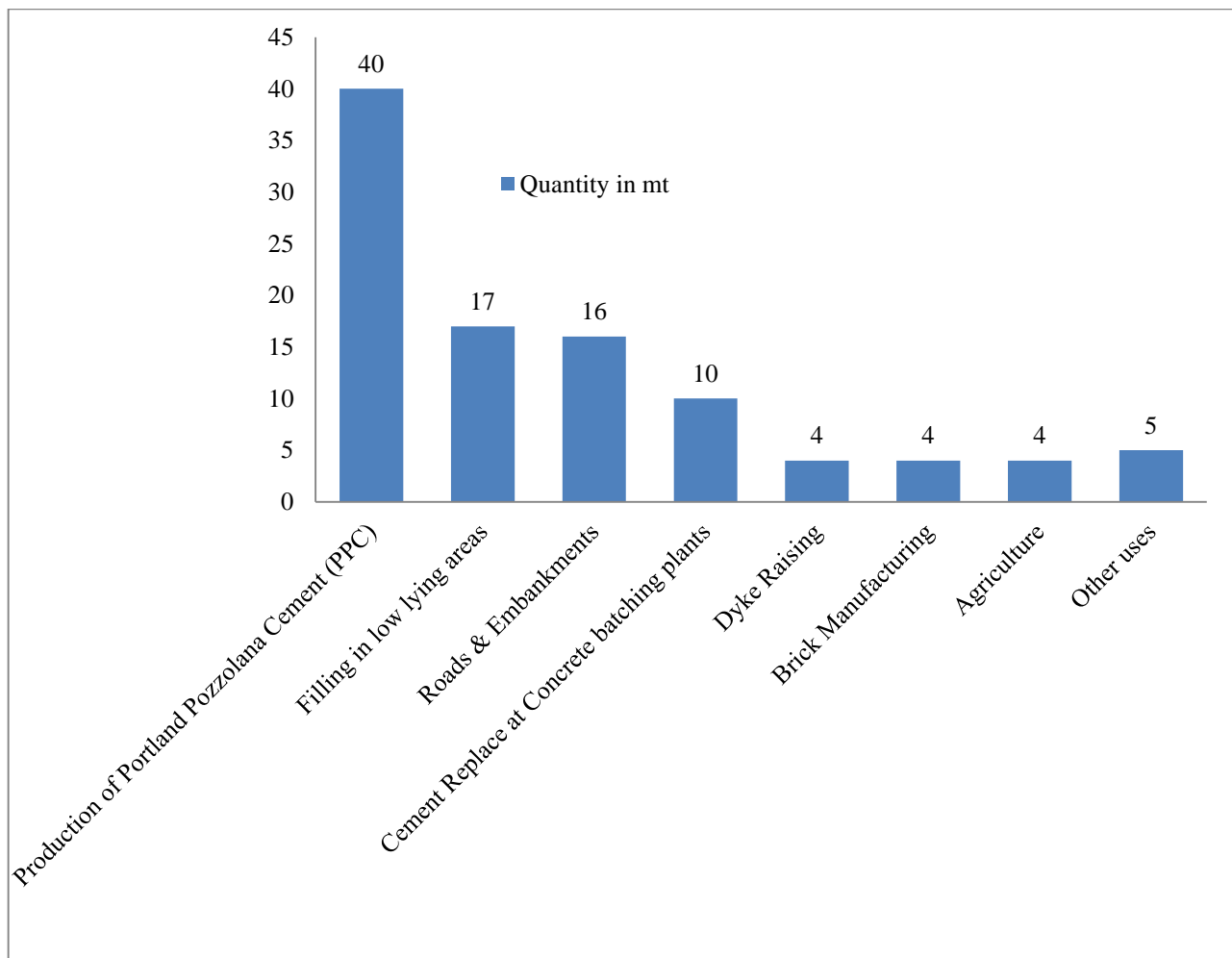
*Ashish Gupta, Observer Research Foundation*

Thermal Power stations using pulverized coal or lignite as fuel generate large quantities of ash as a by-product. These power plants form the major source of fly ash in the country. It is expected that by the end of 12<sup>th</sup> Five Year Plan, the generation of fly ash to reach 300 million tons (mt) per year and the volume of fly ash is likely to continue to grow at the same pace at least for next two to three decades. The disposal of such a large quantity of fly ash is indeed a challenge. The disposal of fly ash poses numerous ecological and environmental problems.

Fortunately, fly ash which was once considered as a waste material is a resource material in civil engineering and material science. In addition fly ash can be gainfully used for various other applications. The government via Gazette Notification of 16<sup>th</sup> November, 2009 has made it mandatory that in all types of construction works within 100 km radius of thermal power plant fly ash bricks (fly ash content - 25% min) should be used. Unfortunately this notification is not enforced. If enforced pond ash at thermal power plants can be effectively utilised.

In 2012 around 100 million tonnes (mt) of fly ash was being utilised out of 200 mt generated as per Ministry of Science and Technology. The utilisation of fly ash in various sectors is given below:

**Utilisation of Fly Ash**



Source: Fly Ash Utilisation Unit – Department of Science & Technology

Though utilization has increased to nearly 50% in absolute terms a very large quantity of fly ash still remains unutilized. As the demand for energy grows further, production of fly ash is inevitable since India has no alternative but to use its relatively vast resource of high ash coal - washed or otherwise. Therefore it is essential to find potential areas where fly ash can be utilised in a sustainable manner to minimize its negative impact. These are given below:

#### Cement

Globally, the cement industry accounts for nearly 6.5% of CO<sub>2</sub> emissions.<sup>1</sup> Use of fly-ash would reduce clinker consumption and bring down emission of greenhouse gases in the atmosphere. The utilization of fly ash would also help in reducing the production cost and provide technically superior products to consumers at more competitive rates. Apart from this production capacity of the manufacturing units may increase to meet the increasing demand of cement. In addition use of fly ash in cement production could save approximately 8 to 10 percent of power use<sup>2</sup>.

#### Limestone Conservation

Given the limited reserves of limestone in the country and given the increasing demand of cement, it is essential that cement grade lime-stone is conserved by using fly ash.

#### Controlled Low Strength Material (CLSM)

CLSM is a low strength material which is widely used in USA, Canada and other countries as back fill material in utility trenches and filling abandoned underground structures. Unfortunately, in India even the utility trenches are backfilled by soil which normally settles down under load resulting in uneven road shoulders. It poses serious traffic hazard. The use of CLSM on large scale will help in increasing the use of fly ash and to create more durable and safe road infrastructure.

#### Part replacement of sand with fly ash

Given the shortage of good quality sand and environment concerns on its extracting from rivers, fly ash offers a viable alternative to the extent that grading remains within the provisions of IS 383: 1970, Code of practice for coarse and fine aggregates for concrete<sup>3</sup>.

#### Mine Filling

Large quantities of fly ash can be utilised if used as mine fills. This single application of fly ash has the potential to utilise about 1/4th of total fly ash generation<sup>4</sup>. It will also enhance coal recovery from the mines.

#### Fly ash in Building Materials

Since fly ash is a Pozzolanic material containing silica in good proportion. It has tremendous potential to be used as an alternative material for building construction for eg. ready-mixed fly ash concrete, precast fly ash concrete units, clay fly ash bricks etc.

#### Agriculture

The Indian fly ash is alkaline and as such improves soil quality. In fact, fly ash consists of all elements present in soil except organic carbon and nitrogen. As per a study conducted by Maharashtra State Electricity Board considering all factors like soil quality, doses of chemical fertilizers, cyclic sowing of different food grains etc., it is found that with dose of 10 mt fly ash per hectare and just 50 percent dose of chemical fertilizers (as annually required) there is increase of 20% yield in terms of grain and fodder<sup>5</sup>.

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<sup>1</sup> A. K. Jain, Paper on "Status of availability, utilisation and potential of fly ash use in construction"

<sup>2</sup> Fly ash utilisation and generation, NTPC

<sup>3</sup> A. K. Jain, Paper on "Status of availability, utilisation and potential of fly ash use in construction"

<sup>4</sup> Use of Fly Ash in Mine Filling- [cbri enviwww.cbrienvi.nic.in/mine\\_filling.htm](http://cbrienviwww.cbrienvi.nic.in/mine_filling.htm)

<sup>5</sup> Ash Utilization-ntpc [ntpc.co.in/index.php?option=com\\_content&id=18&Itemid](http://ntpc.co.in/index.php?option=com_content&id=18&Itemid)

Indeed, fly ash has become an important material for various industrial and construction applications such as manufacturing of bricks, cement, asbestos-cement products and road/embankments. However, cement and concrete alone would not be able to utilise increased volumes of fly ash in future and therefore utilisation of the same in new avenues is an absolute necessity.

*Views are those of the author*

*Author can be contacted at [ashishgupta@orfonline.org](mailto:ashishgupta@orfonline.org)*

## COMMENTS.....

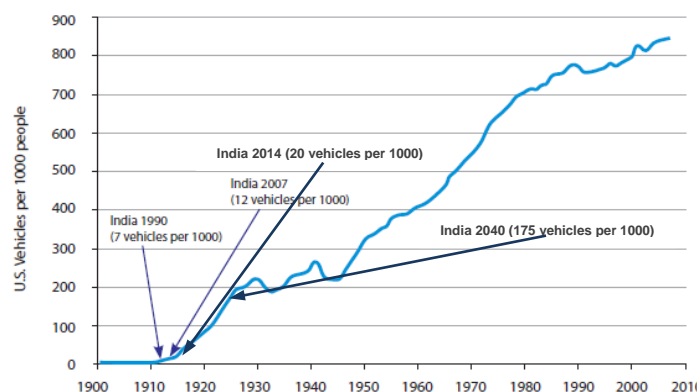
### Rationing Personal Mobility in Delhi: Will it Constrain Access? (Part II)

*Lydia Powell and Akhilesh Sati, Observer Research Foundation*

#### Personal Mobility as a product of Emulative and Positional Consumption

In the decade after the Second World War, the advantage of motorized transport user over the pedestrian in the industrialized world was his speed in operating in an environment primarily designed to the pace of the pedestrian. By the 1970s the relative advantage of the motorized transport user over the pedestrian shifted to his distance advantage in an environment designed for the automobile. In that environment the absolute advantage of motorized transport declined as activities spaced themselves in keeping with the dominant capabilities of motorized transport. However, the relative advantage of motorised transport over the pedestrian has remained. The anger over the rationing of the use of personal motorised mobility in Delhi from the car owning sections of the population arises from the compromise on this relative advantage and not from any constraint in access to opportunities or entertainment.

#### Ownership of Light Duty Vehicles in USA and India



Source: Oak Ridge National Laboratory, US (<http://cta.ornl.gov/>)

Inequality emphasized by consumption that does not necessarily meet a need but merely expresses a desire to be respected on the basis of the level and type of material consumption. In 1899, Thorstein Veblen said that life had become 'above all a battle for respect and avoidance of invidious consumption' and that 'everyday life was but an unrelenting demonstration of the ability to pay'. This is truer today than it was in Veblen's time. Working class families in India now spend more than they can afford on a car that makes them look wealthier than they are, lest they are seen as losers by others, most of all by their own children. This according to Veblen 'the necessity of emulative over-consumption spurring each other into traps of ever greater over consumption'. This trickles down the social order and transforms whole societies into massive over-consuming systems that erode the carrying capacity of the natural world. 'Conspicuous consumption' a term coined by Veblen, is also driven by the desire to acquire what the British economist Fred Hirsch called 'positional goods' which by definition, reduce in value if everyone has them. A bigger or imported private car is the new 'positional good' in India and in urban cities it is seen as obligatory for the irrational reason that everyone in a certain social class has atleast a less expensive version. The other 'positional good' that is relevant in this

context is location of housing. In an unequal country such as India where social inequalities are stark, no one is really free to choose where they live. The rich look for exclusive locations just to ensure that they do not live in undesirable locations such as those near slums where the poor live or colonies where wage earners live. This often necessarily means moving out into satellite townships far away from the central business district. This is also true of companies which want their office location to signal 'class' or 'exclusivity'. When offices move into suburban exclusive locations, low paid workers are pushed into using personal transportation merely to remain employed as public transport is often poor or non-existent.

The process of suburbanisation and the consequent mobility is counter-productive as far as energy and environment are concerned because cities such as Delhi, by definition arise to minimise transport costs for goods, people and ideas and evolution away from cities is sub-optimal. Locational patterns within cities are in fact a function of transportation technologies. In fact the urbanization of poverty has been found to be the result of better access to public transportation according to an empirical study of data from American cities such as New York and Washington. Studies have also established that contrary to theory that the housing market sorts the poor, it was low cost public transportation such as subway systems that sorts the poor by attracting them to certain locations that sustain low incomes. This is true even in Mumbai's Dharavi, believed to be Asia's largest 'slum' which is sandwiched between the city's two main railway lines and surrounded by six stations making it a public transport hub for the poor. The irony in these observations is that public transport usage strongly predicts poverty and explains the connection between poverty and proximity (to the central city) to a large extent. The transition from 'poor' to 'rich' status occurs when the transition from 'public transportation' to 'cars' occurs. Generous housing subsidies for the poor in old American cities played a role in attracting the poor to the inner city. On the contrary, studies have found that in many European cities the poor live in suburbs because of high fuel taxes and generous subsidization of public transport which make American style suburbs are unattractive to European middle classes. These studies imply that public transportation is an important policy instrument which can influence locational decisions of the poor and that artificially created political boundaries can induce the poor to crowd into cities. These results cannot be directly applied to India because the lives of a large section of the poor in urban areas is integrated into the lives of the rich as well as the middle classes as their live-in maids, cooks, cleaners, gardeners and drivers. With no policy on housing or public transportation, the urban poor in India continue to rely on walking, by-cycling or public transportation where available.

The notion of increased mobility through greater car ownership also presents hidden problems. These stem from the often disregarded fact that a large proportion of the population are and will remain without personal motorized transport such as cars as they may not be able to afford to drive them or they may be house-maids who are the car-less members of car owning households. So a significant proportion of the population in Delhi and other cities in India are comparatively immobile; they are the 'transport poor', an under privileged section of a society living amidst the myth of complete mobility. This section is also made up of such groups as the old, the young and the disabled, who require their immobility minimized rather than a general policy of maximized mobility. It is of course a well-known fact that as car ownership increases and the numbers using public transport decrease, services are often cut back and fares raised to meet operating deficits. The transport poor must maintain this declining standard of service by their fares. They are of course the group least likely to break this vicious cycle. So the distinctions between the classes have become more blurred in the context of spatial mobility. The major reason for this is that car ownership is now a more socially extensive phenomenon. The ownership of a car, the consequent increase in spatial mobility is merely a reflection of increasing consumption standards. Many of the plans for our cities, in fact, attempt to maximize mobility and adapt a physical structure which is for the most part unsuited to the car. Of course society is becoming more mobile, that is the ability and freedom to move from place to place is increasing, but the emphasis on mobility and especially on the privately-owned means of travelling tends to lead to the neglect of other vital issues

such as access to opportunities. The growth of car registrations in India is a warning that growth in demand for energy and resultant emissions will be extremely difficult to influence with behavioural change in the short term. Energy demand from urban transport in Delhi alone is expected to increase three-fold over the next decade and on a similar scale in other large cities in India.

### **Rationing of Personal Mobility is not a Compromise on Access**

The development problematic has been about geographic inequalities in wealth and quality of life from the very beginning. While spatial economic inequalities are an economic reality, the question is whether Government intervention or market forces should be allowed to reshape geography so that inequalities are reduced and economic efficiency is maximized. The experience from old American cities which have attracted the poor into the central business districts and the experience of European cities which have pushed the poor into suburbs show that government interventions in the form of the provision of public transport, subsidized housing, low or high tax on gasoline (America and Europe) could potentially influence locational decisions but do not change the circumstances of the poor.

The rationing of personal mobility in Delhi is unlikely to have an impact on access to opportunities or entertainment (or even on pollution) as a number of alternative options to mobility are available. However the exercise in rationing is an experiment in the ability of the Delhi government to shape individual behaviour. As of now the resistance to shaping behaviour is coming from the rich who are dismissing the move as populist. This is not a departure from typical behaviour of the rich. The poor seem to like the idea that the government is not afraid to take on the rich but they appear to be indifferent to whether or not the number of cars on the road decrease in Delhi or whether it reduces pollution. They remain more concerned by mundane day to day concerns over employment, income and availability of vital resources such as water. The only ones that are enthusiastic about the move are the ecological warriors of Delhi who believe that they can and must change the world and prime time anchors of television channels who like arguments more than they like answers.

**Concluded**

*Views are those of the authors*

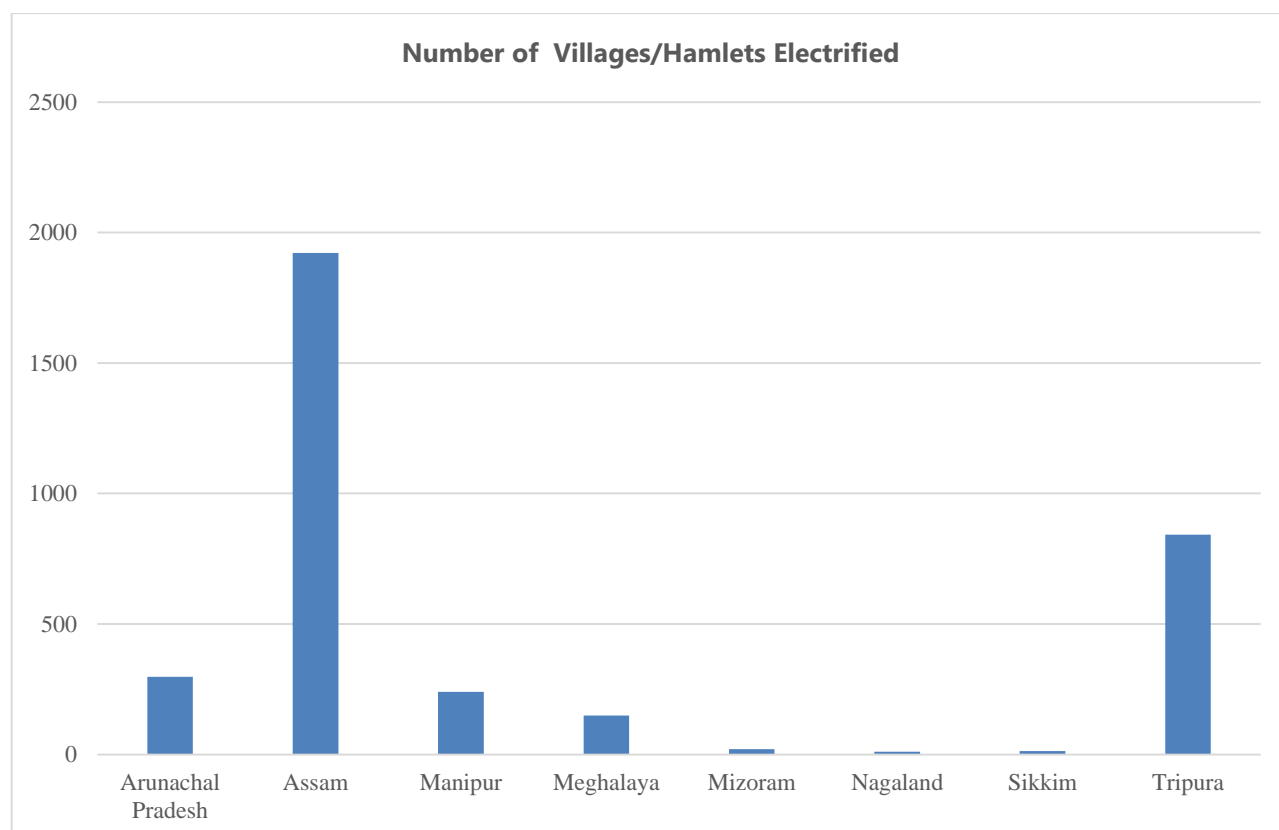
*Authors can be contacted at [lydia@orfonline.org](mailto:lydia@orfonline.org), [akhileshs@orfonline.org](mailto:akhileshs@orfonline.org)*



## Remote Village Electrification in North Eastern India

*Akhilesh Sati, Observer Research Foundation*

State	Nos. of Remote Villages/Hamlets Electrified	Projects under implementation in Villages/Hamlets
Arunachal Pradesh	297	0
Assam	1922	96
Manipur	240	0
Meghalaya	149	0
Mizoram	20	0
Nagaland	11	0
Sikkim	13	0
Tripura	842	23
<b>Total</b>	<b>3494</b>	<b>119</b>



Source: Ministry of New and Renewable Energy

# NEWS BRIEF

## [NATIONAL: OIL & GAS]

### *Upstream.....*

#### **RIL, BG to hand over some Indian drilling assets to ONGC**

**April 13, 2016.** A joint venture led by Reliance Industries Ltd (RIL) and BG Group has agreed to hand drilling infrastructure from an abandoned gas field to ONGC Ltd, their junior partner, helping the state-run group develop a large gas reserve nearby. Reliance, BG and ONGC signed an agreement in New Delhi - providing respite in a months-long battle between the partners over the cost of closing the Tapti field off India's west coast. ONGC plans to invest around ₹ 100 billion (\$1.50 billion) to develop its key Daman field, which is next to Tapti. This deal will help the group keep a lid on costs. (www.reuters.com)

### *Downstream.....*

#### **HPCL plans \$3.8 bn refinery investment to lift capacity by two-thirds**

**April 19, 2016.** Hindustan Petroleum Corp Ltd (HPCL) plans to invest around \$3.8 billion to ramp up its refining capacity by two-thirds this decade, as the country's oil demand soars and to meet cleaner fuel standards, the company said. Fuel demand in India - the world's third-biggest oil consumer - is rising at its fastest clip in more than a decade, buoyed by Prime Minister Narendra Modi's manufacturing push and as an expanding middle class buys more cars. HPCL aims to raise its capacity to process about 500,000 barrels per day (bpd) of crude by investing around ₹ 250 billion (\$3.76 billion), refineries head, B. K. Namdeo, said. HPCL aims to boost the capacity of its Mumbai refinery to 190,000 bpd by July 2019 from 130,000 bpd, while the Vizag refinery in India's south will ramp up to 300,000 bpd from 166,000 bpd by July 2020, he said. Alongside the expansion, HPCL will also revamp its gasoline and diesel production units to meet rules on producing cleaner fuels from 2020. Namdeo said HPCL, which traditionally relies on Middle Eastern crude, had for the first time signed a term contract with Nigeria's national oil company, NNPC, to buy 32,000 bpd of oil this fiscal year ending March 31. Since HPCL does not process all the grades offered by NNPC, it has entered into a swap agreement with trader Vitol, he said, without specifying the terms. HPCL was considering using Iranian oil to replace some of the Basra crude it buys under an optional contract with Iraq's oil marketing firm, SOMO, and Total, he said. HPCL has an annual deal to buy 65,000 bpd of Basra from SOMO and about 25,000 bpd of Basra and UAE's Murban oil from Total with an option to raise the quantities. HPCL has renewed its contract to buy 50,000 bpd from Saudi Arabia and 20,000 bpd from Abu Dhabi National Oil Co (ADNOC), he said. (in.reuters.com)

#### **IOC inks MoU with BPC**

**April 18, 2016.** Indian Oil Corp (IOC) has inked an MoU (Memorandum of Understanding) with Bangladesh Petroleum Corp (BPC) to examine the possibility of jointly working on setting up a LPG (liquefied petroleum gas) import terminal at Chittagong port and other downstream infrastructure in that country. According to oil ministry, the MoU was signed in the presence of oil minister Dharmendra Pradhan who is on a three-day visit to Bangladesh with a view to lending an impetus to bilateral energy ties initiated during PM Narendra Modi's June 2015 Dhaka visit. The minister's discussions with Bangladesh authorities focused on laying a Chittagong-Tripura pipeline through that country for supplying part of the imported LPG to India's northeast region and supplying diesel from Numaligarh Refinery to Parbatipur in Bangladesh. Bangladesh is also signing up Indian engineering consultancy firm Engineers India Ltd as consultants for expansion of the Eastern Refinery. Bangladesh was also updated on the seismic survey being carried out by ONGC Videsh Ltd in offshore blocks allotted by Dhaka. (timesofindia.indiatimes.com)

#### **RIL to shut Jamnagar crude unit in May for maintenance**

**April 18, 2016.** Reliance Industries Ltd (RIL), operator of the world's biggest refining complex, plans to shut a crude unit from May 1 for three weeks of maintenance, it said. The crude distillation unit (CDU) is part of its export-focused plant that has a capacity to process a total of about 580,000 barrels per day (bpd) of crude oil, the company said. Still, the closure could boost margins for refined products such as diesel and gasoline. Reliance's two plants at Jamnagar in Gujarat state in

western Indian have an installed capacity to process about 1.2 million bpd of oil. The refinery complex has four crude units at two plants, with each refinery having two equal-sized CDUs. (in.reuters.com)

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

### **GAIL plans to use drones to secure gas pipelines**

**April 17, 2016.** GAIL (India) Ltd, the country's biggest gas transporter, will deploy drones on a pilot basis on its main trunk pipeline as part of higher safety measures it is implementing to secure its vast network. In the aftermath of the June 2014 accident at its pipeline in Andhra Pradesh that killed at least 18 people, the state-owned firm has taken a number of initiatives to raise safety standards including replacing old pipelines and using advanced technology. The company has already tendered for drones and the response has been encouraging. The drones will be used to patrol the pipeline to detect physical abnormal activity like encroachment or intrusion. GAIL has also started using satellite surveillance to monitor its 13,000 kms of gas pipeline network. A government probe into the June 2014 accident had highlighted safety lapses at the firm and prompted sector regulator PNGRB (Petroleum and Natural Gas Regulatory Board) to slap a penalty. GAIL said drones will be used to detect encroachments around pipelines as they are a big safety hazard. In the pilot project, a drone will fly over the pipeline, capturing pictures and other data using smart technology. The data will be analysed to detect any potential hazard. If successful, drones will be used on other key pipelines. GAIL, at present, uses foot patrolling to spot encroachments and seeks local administration's help in getting them cleared. GAIL did a pilot project on satellite monitoring on its 610 km Dahej-Vijaipur pipeline. (profit.ndtv.com)

### **Saudi, India discuss oil market situation, boost cooperation**

**April 14, 2016.** Saudi Arabia's deputy oil minister Prince Abdulaziz Bin Salman discussed the situation in oil markets and further cooperation with India's Oil Minister Dharmendra Pradhan. Saudi Arabia was the biggest oil supplier to India in February. India is one of the countries in which state oil giant Saudi Aramco is looking at in terms of downstream investments. The International Energy Agency (IEA) said India could replace China as the main engine of global demand growth, estimating its demand growth at 300,000 barrels per day (bpd) – the strongest ever volume increase. (in.reuters.com)

### **Tamil Nadu CM opposes gas pipelines in farmlands**

**April 13, 2016.** Tamil Nadu Chief Minister (CM) J. Jayalithaa pledged to ensure that the gas pipelines of GAIL (India) Ltd were not laid over farmlands. Jayalithaa said she would tell the central government that GAIL should not erect the gas pipelines through farmlands in the state. She said GAIL had undertaken a project to lay 310 km of pipeline in land belonging to farmers in seven districts in the state. Jayalithaa said her government ordered that the pipes should be laid along highways and GAIL must take out the pipes already laid and hand over the affected land to the farmers. But the Supreme Court ruled that state governments had no powers to issue such an order. Jayalithaa also said that if her party was re-elected to power in the May assembly elections, she would implement prohibition in phases. (www.newkerala.com)

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

### **Haryana may become kerosene-free by next year**

**April 18, 2016.** Haryana will become kerosene-free in the next year, Chief Minister Manohar Lal Khattar said. Khattar said that every household in the State would be provided cooking gas cylinders so that they do not have to use kerosene. Khattar said that it was his fifth visit to the district after his party came to power over an year ago. Khattar said that the Kotla Lake was being re-developed at a cost of ₹ 17 crore, and that on completion of the first phase. (www.thehindu.com)

### **Delhi HC seeks govt's reply on Cairn's plea against tax demand**

**April 18, 2016.** The Delhi High Court (HC) sought government's response on a plea challenging ₹ 20,495 crore tax demand slapped on Cairn India by the Income Tax Department for allegedly failing to pay taxes on gains made by its former parent firm in a share transfer transaction eight years ago. Cairn has sought quashing of the IT department's demand order saying the proceedings were initiated after a lapse of over six years from the end of the 2006-07 financial year. It said the courts have held that such proceedings should be initiated within a reasonable period of four years. The tax notice came after Cairn Energy, the Indian company's former promoter, was slapped with a ₹ 10,247 crore tax demand for an alleged ₹ 24,500 crore worth of capital gains it made in 2006 while transferring all its India assets to a new company, Cairn India, and getting

it listed on the stock exchange. Last year in a regulatory filing, Cairn India had said the demand comprised of ₹ 10,248 crore in tax and the remainder ₹ 10,247 crore in interest payout. (profit.ndtv.com)

### **Weaker remittances will dampen benefits of lower oil: Moody's**

**April 13, 2016.** Lower remittances from Gulf nations, which have been hit hard by the slump in oil prices, will cut the benefits of cheaper oil imports for several Asia Pacific countries including India, Moody's Investors Service said. Moody's in a report analyzes the potential credit implications of weaker remittances from their citizens working abroad for six Asian countries -- Bangladesh, India, Pakistan, the Philippines, Sri Lanka and Vietnam. For these six economies, remittances are equivalent to 3 to 10% of GDP, and between 22 and 188% of foreign reserves. India gets 52.1% of its remittances from the Gulf nations while the exposure of Pakistan to the region is the highest at 61.2% of remittances. Bangladesh gets 54.8% of its remittances from Gulf while Sri Lanka gets 50.9%. Moody's said the 25% drop in oil prices since the start of 2015 is large, and it expected that future declines in remittances will be much lower than that in percentage terms. It estimated that it would take a 10 to 30% fall in remittances to outweigh a 50% drop in net oil imports for most countries. While the beneficial effects of a lower oil bill on current accounts have already fed through, most of the negative impact from remittance inflows may be yet to come, it said. (www.business-standard.com)

### **India's 2015-16 fuel demand rises at fastest pace in at least 15 yrs**

**April 13, 2016.** India's fuel demand surged to its highest level in at least 15 years in the fiscal year ended March, driven by growing appetite for gasoline-guzzling vehicles and a boost in mining and manufacturing activity. Fuel consumption, a proxy for oil demand, rose 10.9 percent to 183.5 million tonnes between April 2015 and March 2016, data from the Petroleum Planning and Analysis Cell (PPAC) of the oil ministry showed. Consumption of gasoline or petrol rose 14.5 percent to 21.8 million tonnes, its highest level in at least 15 years as Indian passenger vehicle sales grew at their fastest pace in five years in the last fiscal. Demand for gasoil, or diesel, grew at its fastest pace in four years, rising 7.5 percent to 74.6 million tonnes. Global carmakers are launching new compact sedans and hatchbacks in India at competitive prices and higher vehicle sales are expected to help push India ahead of China as the energy demand growth leader.

Separately, India's thrust on mining to curb costly imports, plan to double coal output by 2020 and a renewed manufacturing push under Prime Minister Narendra Modi's flagship 'Make In India' drive helped boost consumption of diesel, which makes up about 40 percent of refined fuels used in India. Scantly rainfall in Asia's third-largest economy also buoyed diesel demand, although India's weather office predicts above average rains in the four-month monsoon season that begins in June. Parts of the country are currently facing scarcity of water which has raised the demand for diesel-fired gensets to run tube wells for agriculture. India, currently the world's third-largest oil consumer, will have more than doubled its current oil use to 10 million barrels per day (bpd) by 2040, according to the International Energy Agency (IEA), about on par with China's consumption last year. Demand for cooking gas rose 8.6 percent as the government wants to replace use of heavily subsidised kerosene with the cleaner fuel, while naphtha consumption was 20.9 percent higher in the last fiscal. (economictimes.indiatimes.com)

## **[NATIONAL: POWER]**

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

### **Hindustan Power commissions first phase of 2.5 GW Anuppur plant in MP**

**April 14, 2016.** Hindustan Power Projects Ltd commissioned the first phase of 1,200 MW of its flagship 2,520 MW Anuppur thermal power project in Madhya Pradesh (MP). The project, commissioned on 30<sup>th</sup> March 2016 at a cost of ₹ 8,000 crores, is one of the first thermal plants in the country that is operating at 100 percent availability for last 5 months, said the company in a statement. The company has Power Purchase Agreement (PPA) with Madhya Pradesh and Uttar Pradesh for 35 percent and 361 MW, respectively. Coal for the project is secured through a fuel supply agreement with South Eastern Coalfields Ltd. The total capacity of the flagship thermal plant is 2520 MW to be developed in two phases of 1,200 MW (2 x 600 MW) and 1,320 MW (2 x 660 MW). (www.business-standard.com)

### **Coal panel recommends bridge linkage for NTPC plant**

**April 13, 2016.** The standing linkage (long-term) committee on coal under Ministry of Coal (MoC) has recommended grant of bridge linkage to NTPC's 1,600 MW super thermal power plant proposed at Darlipalli in Odisha's Sundargarh district.

NTPC is at an advanced stage of commissioning the power station that is estimated to cost ₹ 12,000 crore. Coal India Ltd (CIL) would offer the bridge linkage for a period of three years. Though NTPC has won the Dulanga coal block linked to the Darlipalli project, production from the block would begin only in 2019-20 as per the Coal Mines Development and Production Agreement. The power plant, however, is expected to be commissioned in February 2018. Hence, in 2006, NTPC had requested for grant of long-term coal linkage for the Darlipalli super thermal power station. NTPC is also setting up a medical college and hospital at a cost of ₹ 417 crore linked to the Darlipalli project.. NTPC hopes to commence mining from this coal block after obtaining all the clearances. Presently, NTPC has an installed capacity of 3,720 MW in the eastern region II. Odisha has a share of 1,576 MW from NTPC power stations located within and outside the state. Power plants under Eastern Region II include Talcher Thermal Power Station (460 MW), Talcher Super Thermal Power Station- Kaniha (3000 MW), 10 Mw solar power plant at Kaniha and one unit of 250 MW at Bongaigaon (Assam). (www.business-standard.com)

## **Transmission / Distribution / Trade...**

### **'Marketing of coal to define Coal India's performance in future'**

**April 19, 2016.** Asserting that marketing of coal will be a decisive factor in defining Coal India's performance in future, its CMD S Bhattacharya has asked its employees to switch over to competitive marketing with alacrity. Highlighting the immediate business challenges that the company needs to tackle, the CMD further said the cost reduction in Coal India's operations is of crucial importance which will have a telling mark on sustaining and increasing the bottomline. He further said the quantity of coal supply has to be increased with full quality assurance. With a staggering production of 536.50 million tonnes and coal offtake of 532.32 million tonnes, both the performance parameters registered growth in excess of 42 million tonnes in absolute terms over last year. (economictimes.indiatimes.com)

### **India expects to stop coal imports in 2018-2019**

**April 18, 2016.** The Union Ministry of Coal and Power of India expects to completely stop thermal coal imports in two to three years, thanks to higher domestic production, which could result in annual savings of ₹ 40,000 crore (\$6 bn). In the last fiscal year 2015-16 (April 2015-March 2016), Coal India Ltd (CIL) reached a record coal production, which helped the country cut its coal import bill by ₹ 28,000 crore (\$4.2 bn). CIL produced a record of 536 million tonnes of coal (+8.5% year-on-year), and almost reached its 550 million tonnes target. The group accounted for over 80% of domestic coal production in 2015. The government is committed to ramping up CIL's production to 1 giga tonnes by 2019. India also aims to improve gas supply, to secure supply for nearly 24,000 MW of power projects, and the Ministry is working towards achieving 20,000 MW of solar capacity target by 2017. (www.enerdata.net)

### **Gujarat extends power supply to farmers by 6 hours**

**April 13, 2016.** In a preemptive measure to avoid fodder shortage, Gujarat government announced extension of power supply to farmers by six hours in two districts of Anand and Kheda. Hoping to boost fodder farming, the state government extended power supply from eight hours a day to 14 hours a day to farmers in the two districts. According to the state government, compared to other districts, both Anand and Kheda districts have sufficient water availability which could boost fodder farming. Gujarat government has taken this decision in order to avoid shortage of fodder for cattle in the coming days. The government also urged farmers of Kheda and Anand districts to take saw fodder and take benefits of extended power supply. (www.business-standard.com)

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

### **Forum of Power Utilities proposed by Electricity Regulatory Commissions of states and the centre**

**April 19, 2016.** A forum of Power Distribution Utilities has been proposed at a recent meeting of Forum of Regulators. The Forum of Regulators is a body of Electricity Regulatory Commissions of states and the centre. It is likely to provide the initial help for forming the Forum of Power Utilities. All distribution utilities - both private and state-owned would be its members. The proposed forum is expected to function as a platform for sharing best practices in the power sector, exchange experiences on technology up-gradation processes, help efficiency improvement, offer solutions for operational issues, facilitate interaction with academia and research institutions and develop standards and benchmarks. According to minutes of a meeting of Forum of Regulators held, post unbundling there are around 60 distribution companies in the country, however, most of them remains state owned except in few pockets like Mumbai, Delhi, Ahmedabad, Surat and Kolkata. Cumulative losses of all state-owned discoms stood around ₹ 3,80,000 crore with an aggregate debt of ₹ 4,83,000

crore on March 15, 2015. Average loss per annum has been between ₹ 60,000 crore and ₹ 70,000 crore with 90% of the losses in Rajasthan, Uttar Pradesh, Tamil Nadu, Haryana, Madhya Pradesh, Andhra Pradesh and Jharkhand. Further, losses in Rajasthan, Uttar Pradesh and Tamil Nadu alone are estimated between ₹ 15,000 crore and ₹ 16,000 crore per state per annum. Reasons for such dismal performance by the distribution utilities include, high aggregate transmission and commercial losses (more than 30%), more than 50% gap in supply cost and revenue realization, poor financial and operational management of the discoms, poor distribution network infrastructure, lack of metering and poor maintenance leading to breakdowns and poor reliability of service etc. Despite several schemes initiated by the government, including UDAY, the distribution sector continues to saddle with huge financial losses and therefore considered to be financially unviable. However, in absence of a structured forum or association of distribution utilities, the issues collectively faced by the distribution utilities are not represented appropriately before the central and state governments and regulatory authorities. The proposal for formation of the association being in its nascent stage, the Forum of Regulators was requested to facilitate hand holding of the Association till it starts functioning on its own to achieve its goals. (economictimes.indiatimes.com)

#### **NPCIL to get nuclear liability policy soon**

**April 18, 2016.** India's atomic power company, Nuclear Power Corp of India Ltd (NPCIL) is confident of getting the public liability insurance policy in 10-15 days time. Once the policy is received, then the company can go ahead in full steam to start its project in Haryana. The policy would be on reinstatement basis - that is the coverage will be reinstated to the original level on payment of same premium after a claimable nuclear accident. The proposed policy would cover the liability towards public as a consequence of any nuclear accident in the plants covered under the policy and also the right of recourse of NPCIL against equipment suppliers. The insurance coverage will be for all the NPCIL's plants - like a floater cover. When a nuclear accident happens and the ₹ 1,500 crore cover is exhausted, then there will not be any insurance cover for subsequent accidents that might occur during that policy year. The central government had announced in June 2015 the setting up of the ₹ 1,500 crore India Nuclear Insurance Pool to be managed by national reinsurer GIC Re. The GIC Re, four government-owned general insurers and also some private general insurers, have provided the capacity to insure the risks of up to around ₹ 1,000 crore, with the balance ₹ 500 crore being obtained from the British Nuclear Insurance Pool. The losses or profits in the pool would be shared by the insurers in the ratio of their agreed risk capacity. Foreign nuclear plant suppliers were reluctant to sell to India, citing the provisions of the Civil Liability for Nuclear Damage Act (CLND), 2010 that provides the right of recourse by NPCIL against the vendors under certain circumstances for compensation in case of an accident. The insurance pool was formed as a risk transfer mode for the suppliers and also NPCIL. All the 21 operating nuclear power plants in India owned and operated by NPCIL are expected to come under the public liability insurance cover. (energy.economictimes.indiatimes.com)

#### **Govt lets NTPC dispose of fly ash in mine void for 1 more year**

**April 18, 2016.** The Union Environment Ministry has allowed the state-owned power generator NTPC for one more year to continue to dispose of fly ash generated from its Talcher plant in Odisha in a mine void. It was in 2013 that NTPC was given permission to backfill fly ash in mine void on a pilot basis subject to various studies on its impact. Later, it was extended for one more year till March 2016. NTPC and the National Environmental Engineering Research Institute (NEERI) were asked to conduct additional studies on the impact of backfilling of fly ash in mine voids. NTPC has been allowed to backfill fly ash generated from its Talcher plant located in Odisha in a mine void of south Bolonda open cast mine (OPC) of Mahanadi Coalfields Ltd. However, NTPC has been directed to submit a report studying the impact of disposal of fly ash in abandoned mines in the next six months. NEERI has been asked to monitor and review regularly the continuing study to ensure objective analysis of impact, which will form the basis for grant of further permission. (energy.economictimes.indiatimes.com)

#### **Adani mine in Australia gets traditional land owner approval**

**April 16, 2016.** Adani said its 21.7 billion dollar coal mine project in Australia has finally received authorisation by traditional land owners, which the Indian mining giant termed was a "clear mandate" that the community supports the venture, which is the world's largest. The company said that decision was indication that the traditional owners - the Birriah, Juru and Jangga traditional owners - were determined to work with Adani in building sustainable and ongoing partnerships that see the benefits of these projects are shared by all in the broader community. It said that the decision reflected a commitment to work with Adani to ensure that the W&J (Wangan and Jagalingou) people benefit from the jobs and



economic opportunities that will flow from the construction and operation of the mine at Carmichael - just as communities such as Clermont, Charters Towers, Townsville, Mackay, Rockhampton and Bowen will enjoy the benefits of Adani's mine, rail and port projects from proceeding. W&J representative group said it has filed an interlocutory application in the Federal Court of Australia challenging the leases granted to the controversy-hit venture in Queensland's Galilee Basin. (www.business-standard.com)

#### **Himachal Pradesh govt gave benefit of ₹ 2 bn to Jaypee Power: CAG**

**April 13, 2016.** The Jaypee Power Company which executed the 1000 MW Karchham-Wangtoo hydropower project in Kinnaur district has come under scanner of CAG which has pulled up the Himachal government for allegedly giving benefit of ₹ 209.28 crore to the company. The CAG report revealed that the Karchham-Wangtoo hydel project was allotted to Jaiprakash Industries Limited with installed capacity of 900 MW through MoU route in August 1993 and the CEA while according techno-economic clearance to the project in March 2003, enhanced capacity of 1000 MW. The estimated cost of the project, slated to Commissioned in 2011 was ₹ 6903 crore. However, the CEA detected in 2011 that the turbine of each generating unit procured by the promoter were designed for 300 MW, implying that the actual capacity was increased to 1200 MW which was 20 percent more. The state government constituted a Technical Committee (TC) to investigate the specific deviations in the project which confirmed in June 2013. But even after detection by the CEA and confirmation of grave deviations, the company got approval for the same from the state government in 2015 while the department did not levy any charges for capacity addition charges, additional free power royalty for the period of 2011-15. Further against ₹ 103 crore under Local Area Development Fund, the government realised only ₹ 32.00 crore. (zeenews.india.com)

## **[INTERNATIONAL: OIL & GAS]**

### **Upstream.....**

#### **Oil production starts at ExxonMobil Julia**

**April 19, 2016.** Oil and gas super major ExxonMobil has announced that production has started, and first oil has been achieved, from its offshore Julia field. The Julia field is located offshore New Orleans, in the deepwater Gulf of Mexico, with the reservoir itself located at a depth of 30,000 feet below the surface. Exxon claim that first oil has been achieved under budget and ahead of schedule, and that Julia's second well will be brought on stream. The Julia development is located approximately 412 km southwest of New Orleans in water depths of more than 7,000 feet. The Maersk Viking drillship is currently drilling a third well in the Julia field, which is expected to come online in early 2017. Production results will assist in the evaluation of additional wells included in the initial development phase, which has a design capacity of 34,000 barrels per day of oil. Discovered in 2007, the Julia field comprises five leases in the ultra-deepwater Walker Ridge area of the Gulf of Mexico. (www.offshorepost.com)

#### **Russia's Gazprom Neft to delay Novoportovskoye oilfield launch**

**April 19, 2016.** Russian oil producer Gazprom Neft will delay the start of commercial production at its key Novoportovskoye oilfield by around six months. Commercial production would start no earlier than September due to technological problems. Russia's fourth-largest oil producer had planned to launch production at the field this spring and the project is seen as crucial to the company hitting its target of 100 million tonnes, or 2 million barrels per day, of oil by 2020. Output would be less than the 2.5 million tonnes of oil the company had planned to produce this year. Gazprom Neft, a subsidiary of gas producer Gazprom, said work aimed at the field's launch is in the final stages. The company has put the field's oil reserves at more than 250 million tonnes of oil and gas condensate as well as more than 320 billion cubic metres of natural gas. (af.reuters.com)

#### **Norway's oil firms, unions seek opening of Arctic islands to exploration**

**April 18, 2016.** Oil firms and trade unions in Norway made a joint call for the opening of a pristine Arctic archipelago to oil exploration as soon as possible to counter an expected decline in offshore production. Oil exploration off the Lofoten islands has been suspended for the life of the current minority government since it relies on the support of two small parties, one of whose preconditions was that no oil firm can explore there. But trade unions and energy firms, including the largest operator of platform off Norway Statoil, are keen to reopen the debate ahead of the next parliamentary

elections in September 2017 to keep up existing production levels. The seas off the Lofoten could contain up to 1.3 billion barrels of oil equivalent, according to a 2010 report by the Norwegian Petroleum Directorate. ([www.rigzone.com](http://www.rigzone.com))

#### **'Eni to invest \$22.5 bn in Africa in next 4 yrs'**

**April 15, 2016.** Italy's Eni plans to invest about 20 billion euros (\$22.5 billion) in Africa over the next four, mostly in oil and gas, the company's Chief Executive Officer Claudio Descalzi said. Descalzi said Eni, which is involved in projects in 15 African countries, will also help boost and diversify the continent's energy mix through investments in renewables. Eni has made major gas discoveries especially in Mozambique and recently in Egypt that have increased its reserves, with more than 12 billion barrels of discoveries in the last 7 years, mostly in Africa. Descalzi said despite these discoveries, abundant energy potential and Africa's steady economic growth, access to energy on the continent remained poor. Africa's energy mix has remained unchanged over the past 10 years and is unsustainable, with biomass for cooking still the main source, Descalzi said. Descalzi also said that the company was focused on starting production at its giant offshore Zohr gas field in Egypt by end-2017, which once started, will give Egypt 100 percent energy security. ([af.reuters.com](http://af.reuters.com))

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

#### **China's Sinopec Beihai LNG terminal starts commercial operations**

**April 19, 2016.** Sinopec Corp said that a receiving terminal of liquefied natural gas (LNG) has started commercial operations in Beihai, a city in the country's southwestern region of Guangxi. The new LNG terminal, with a capacity of 3.0 million tonnes, received its first LNG cargo from Australia, the company said. ([www.downstreamtoday.com](http://www.downstreamtoday.com))

#### **Saudi's Yasref secures \$4.7 bn loan**

**April 18, 2016.** Yanbu Aramco Sinopec Refining (Yasref) has secured \$4.7 bn syndicated loan to refinance an existing shareholders' credit facility. The loan has been secured from a syndicate of 26 local, regional and international financial institutions. Yasref is a joint venture company formed between Saudi Aramco and China Petroleum & Chemical (Sinopec) in January 2014 to focus on driving downstream growth across the hydrocarbon chain. Saudi Aramco has 62.5% stake in the joint venture, while Sinopec owns 37.5% interest. Primarily, the loan will be used to refinance shareholders' funds used for the construction of the 400,000 barrel per day refinery that is located next to the Red Sea. The credit facilities include a US dollar denominated 7-year term facility signed with 17 regional and international financial institutions for an aggregate amount of \$3.1 bn. It also includes Saudi Arabian riyal denominated 7-year term facility totaling \$1.6 bn signed with nine participating local financial institutions. Designed to produce over 13.5 million gallons per day of ultra-clean transportation fuels and other high-value refined products, the Yasref refinery has reached its full production capacity in July 2015. ([refiningandpetrochemicals.energy-business-review.com](http://refiningandpetrochemicals.energy-business-review.com))

#### **Kuwait refineries cut back on second day of oil strike**

**April 17, 2016.** Kuwait's three oil refineries were operating at reduced rates on the second day of an open-ended labor strike. Kuwait National Petroleum Co. is processing about 510,000 to 520,000 barrels of oil a day, the state-oil company said. All three refineries are operating, he said. They have a combined capacity of about 900,000 barrels a day. Kuwait's crude production dropped to 1.1 million barrels a day, Kuwait Oil Co. (KOC) said. Kuwait Petroleum Corp. (KPC), the parent company for KOC and other operating units, will provide fuel to the local market and can meet demand from international customers for exports, it said. Kuwait is among Middle Eastern oil producers that are cutting spending and benefits to plug holes that the oil-price drop of nearly 30 percent in the past year has punched in government budgets. Prices have fallen as rising output from the Organization of Petroleum Exporting Countries (OPEC) and other suppliers has created a global glut. Kuwait produced 2.81 million barrels a day last month, making it OPEC's fourth-largest member, while worldwide supply exceeded demand by 1.6 million barrels in the first quarter, according to the International Energy Agency. The Kuwaiti government asked KPC to find workers to keep the operations running and told authorities to take legal action against anyone causing a suspension of activities at Kuwait's vital facilities. ([www.bloomberg.com](http://www.bloomberg.com))

#### **Total European refining margin drops again in Q1**

**April 15, 2016.** French oil and gas company Total said that its refining margins in Europe had fallen to \$35.1 per tonne in the first quarter (Q1) of the year. Europe's biggest refiner still reported a European refining margins indicator (ERMI) of \$38.1 per tonne in the fourth quarter of 2015. ([af.reuters.com](http://af.reuters.com))



### New York to get rare tanker of Indian diesel after prices jump

**April 19, 2016.** The U.S. will receive a rare shipment of diesel from India after prices in New York jumped last week, making it a more attractive destination than Europe. The tanker Minerva Pisces will deliver as much as 800,000 barrels of diesel to New York Harbor around April 27 after being diverted from Europe, according to shipping fixtures and tanker tracking data. It's the first diesel cargo from India to reach the U.S. East Coast since February 2015. The tanker loaded in northwest India in early March before arriving at Gibraltar Bay Anchorage, the data show. The U.S. typically exports more diesel than it imports, with most cargoes arriving in New York during the winter, when home heating needs drive up demand. But diesel futures in New York swung to a premium of \$6.93 a ton versus European gasoil contracts, the highest in 11 weeks, Energy Aspects Ltd said. (www.bloomberg.com)

### Shell says theft from its Nigerian oil pipeline network fell in 2015

**April 18, 2016.** Theft of crude oil from the pipeline network of Shell's Nigerian subsidiary fell to 25,000 barrels per day (bpd) in 2015, the company said, roughly 32 percent less than the previous year. The number of sabotage-related spills on the SPDC network also declined to 93 in 2015, compared with 139 the previous year, Shell said. It attributed the decrease to divestments in the Niger Delta and increased surveillance and security by the Nigerian government, but said theft and sabotage were still responsible for around 85 percent of spills from SPDC operations. President Muhammadu Buhari has said theft siphons as much as 250,000 bpd of crude of its roughly 2 million bpd of production and promised to crack down on groups responsible for pipeline attacks. Still, the issue has continued to plague the country. Shell currently has a force majeure in place on Forcados crude oil exports following an attack on a subsea pipeline in February, while Italian oil major ENI reportedly declared force majeure on Brass River exports. (uk.reuters.com)

### Chevron signs up Australia's Alinta to buy gas from Wheatstone

**April 18, 2016.** Chevron has agreed to sell 20 petajoules a year of gas from its Wheatstone project to Alinta Energy in Western Australia starting in 2020, securing a customer for more than a quarter of the domestic gas output from Wheatstone. The contract, lined up at a tough time for producers looking to seal long-term deals amid a gas supply glut, is for seven years, Chevron said. The \$29 billion Wheatstone project is due to start producing liquefied natural gas (LNG) for export in 2017 and start supplying the Western Australian domestic market from 2018. At full tilt, the project will have a capacity of 8.9 million tonnes a year of LNG and 200 terajoules a day of domestic gas, with the gas being marketed separately by each of the project partners. Chevron already supplies about 10 percent of the Western Australian market with gas from its share of the competing North West Shelf project. (www.reuters.com)

### BP to supply LNG to Indonesia's PLN to 2033 under new contract

**April 15, 2016.** BP will supply Indonesian power utility Perusahaan Listrik Negara (PLN) with liquefied natural gas (LNG) up to 2033, under a contract it signed. Under the contract, BP will supply PLN with 20 LNG cargoes per year from its Tangguh project in West Papua province from 2017 to 2019, and 44 cargoes per year from 2020 to 2033. The contract with PLN means all of the cargoes from BP's Tangguh Train 3 project are committed to buyers, Indonesia's upstream oil and gas regulator said. A final investment decision on the project is expected in June. (uk.reuters.com)

### Borusan Mannesmann sees US pipeline demand rising in late 2016

**April 14, 2016.** Borusan Mannesmann Boru Sanayi & Ticaret AS, a Turkish producer of oil and gas pipelines, expects demand to pick up in the U.S. toward the end of the year as shale producers replace aging equipment. Borusan Mannesmann's plant in Houston will produce 100,000 metric tons of pipes in 2016, up from about 70,000 tons last year, Istanbul-based parent Borusan Holding AS, said. While U.S. shale-oil production is expected to fall this year and next, higher crude prices will drive a return to growth in 2018, the International Energy Agency said earlier this year, predicting that West Texas will be one of the most productive areas. Demand for rigs and pipelines will rise as the equipment used during the shale boom nears the end of its operating life, according to Borusan. (www.bloomberg.com)

### Iran sees oil output rising to pre-sanctions level by June

**April 19, 2016.** Iran's oil production will reach pre-sanctions levels within two months, Deputy Oil Minister Rokneddin Javadi said. Talks between Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to freeze

production broke down when Saudi Arabia insisted that all members of the exporter group, including Iran, and non-OPEC producers should join in the deal. Iran is concerned by oversupply and low oil prices but is ramping up its own production and reclaiming market share after the lifting of Western sanctions in January and has said it would not change its stance until output reaches pre-sanctions levels. The next meeting of the OPEC in Vienna on June 2 could see Iran willing to join any renewed effort for supply restraint. The country has boosted its crude exports to about 1.75 million barrels per day (bpd) so far in April, according to an industry source and shipping data, up from average March exports of about 1.6 million bpd. Javadi said that output had already surpassed 3.5 million bpd and exports would reach 2 million bpd in the coming month. (www.reuters.com)

#### Europe's seven oil majors to post 22 percent drop in profit: Fitch

**April 19, 2016.** European oil majors will report a combined 22 percent decline in earnings this year as lower profit from refining compounds the impact of the rout in crude prices, according to Fitch Ratings. That will result in a "significant deterioration in credit metrics" for some of the seven biggest oil producers and follows a 34 percent drop in profit last year, Fitch said. The decline in earnings is "severe, but not disastrous," given the plunge in crude, it said. The slump since the middle of 2014 has crimped earnings and forced oil companies to cut costs, defer projects and dismiss employees to protect their balance sheets. While Fitch downgraded Royal Dutch Shell Plc in February after its acquisition of BG Group Plc and cut Eni SpA's rating this month, following a worse-than-expected performance in refining and gas, the ratings company said it will look beyond this year's earnings before taking further action. The ratings company said the outlook for Shell, Total SA, OMV AG and Repsol SA remained negative. BP Plc is scheduled to announce first-quarter earnings on April 26, with Total SA reporting the following day. Eni will report on April 29 and Shell on May 4. (www.bloomberg.com)

#### Oman offers to bridge Saudi-Iran gap in oil output talks

**April 18, 2016.** Oman, the biggest non-OPEC oil exporter in the Persian Gulf, offered to narrow differences between Saudi Arabia and Iran that scuttled a planned crude output freeze. Futures fell as much as 6.8 percent in New York, the biggest intraday drop since Feb. 1, after 16 countries failed at a meeting in Doha to limit their production in an effort to reduce a global glut. The outcome of the summit was disappointing but not a surprise because Iran wasn't involved in the talks and Saudi Arabia insisted on Iran's inclusion in the freeze, Oman's Oil and Gas Minister Mohammed Al Rumhy said. Producers should still work on reaching a deal, Rumhy said, offering to facilitate discussions. One suggestion to advance the talks that wasn't considered at the Doha meeting is to set the cap based on maximum production, he said. Producers should try to get consensus on a freeze by the time OPEC meets in June, Rumhy said. (www.bloomberg.com)

#### Russia says door not closed for oil output freeze

**April 17, 2016.** Russia's Oil Minister Alexander Novak said the country was not closing the door on a global deal to freeze output levels although he was disappointed that no decision had been taken. A deal to freeze oil output by Organization of Petroleum Exporting Countries (OPEC) and non-OPEC producers including Russia fell apart after Saudi Arabia, during talks in the Qatari capital, demanded Iran join in despite calls on Riyadh to save the agreement and help prop up crude prices. Novak said he had traveled to Doha expected all sides to sign the deal instead of debating it. He said the deal fell apart because Saudi Arabia had demanded Iran join in and that this was "unreasonable" since Iran was absent from the talks. When asked whether Russia would freeze output levels, he said the government was not meant to regulate the output of private producers. (www.reuters.com)

## [INTERNATIONAL: POWER]

### Generation.....

#### France's Engie looks to sell Polish coal-fired power plant

**April 19, 2016.** French energy company Engie wants to sell its Polaniec coal-fired power plant, the company said. Engie had put its assets in Poland up for sale, including the 1800 MW coal-fuelled power plant in the south-eastern town of Polaniec, for € 500 million (\$567 million). Engie had decided at the end of January to invite potential investors to express their interest in the Polaniec power plant assets as part of a strategic review of the firm's holdings. Engie plans some € 10 billion worth of asset sales by 2018, including fossil-fuel fired power generating plants, as it refocuses on gas networks, renewables and energy services. Polaniec constitutes around 5.5 percent of power capacities installed in Poland and is the

fifth electricity producer in the country. Engie's French rival EDF also launched the sale of its Polish assets. Coal-fuelled power generation in Poland is mostly loss-making due to high CO<sub>2</sub> emission costs and ageing infrastructure that requires constant investment. (www.reuters.com)

#### **CGNPC expands power operations to Malaysia**

**April 18, 2016.** Chinese nuclear giant China General Nuclear Power Corp (CGNPC) plans to develop its activities in south-east Asia, setting up headquarters in Malaysia for further expansion in the region. In November 2015, the group acquired Edra Global Energy, a Malaysian company accounting for around 14% of total generation capacity in Malaysia, and became the second largest independent power producer in Malaysia. CGNPC plans to develop gas-fired power projects in Malacca and a solar power project in eastern Malaysia. Through Edra, the group has a portfolio of 13 renewable energy projects in Malaysia, Egypt, Pakistan, the United Arab Emirates and Bangladesh, with a total overseas installed capacity of 8.85 GW. (www.enerdata.net)

#### **Iran's power generation capacity projected to rise 7 percent by March 2017**

**April 17, 2016.** Iran's Ministry of Energy plans to increase the capacity of domestic power plants by 5,324 MW, equaling 7 percent, by the end of the current Iranian calendar year 1395 (March 20, 2017). The Islamic Republic ranked 14<sup>th</sup> across the globe regarding the 74,095 MW capacity of its power plants in the previous Iranian calendar year 1394 (March 2015-March 2016), and is on the track to expand its cooperation with foreign countries in this regard. Deputy Energy Minister Alireza Da'emi announced that Tehran and Rome signed an MoU on construction of 500 MW of renewable energy power plants in Iran. The planned projects will be completed in the next five years by the Italian investing companies. (www.tehrantimes.com)

#### **EDF said at odds with French state on plan to finance Hinkley**

**April 15, 2016.** Electricite de France SA (EDF) and the French government are at odds over a financial deal that would allow the state-owned utility to give the final go-ahead next month to a 18 billion pound (\$25.5 billion) nuclear plant in the U.K. EDF labor unions have been calling for the company to delay its project to build two atomic reactors with a Chinese partner at Hinkley Point in the U.K., saying it's too risky at a time when falling power prices undermine earnings. To secure the project, the U.K. government has guaranteed that EDF will earn at least 92.50 pounds a megawatt-hour over a period of 35 years at Hinkley Point, saying it will create 25,000 jobs and help meet a pledge to trim carbon dioxide emissions. (www.bloomberg.com)

### **Transmission / Distribution / Trade...**

#### **China State Grid awarded tender for power transmission in Brazil**

**April 18, 2016.** State Grid Brazil Holding S/A of China has been awarded the tender for the concession of two power transmission lines near the city of Paranatinga in the state of Mato Grosso, which will represent an investment in infrastructure in Brazil of about US\$2 billion. The two lines were auctioned off for US\$95.6 million and US\$17.5 million, respectively. The auction held by the National Electric Energy Agency was part of a batch of 24 new power transmission projects, of which only 14 had expressions of interest. The two 30-year concessions are for power transmission from power plants under construction that should become operational within 36 to 60 months. (www.macauhub.com.mo)

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

#### **Nigeria needs to invest \$900 bn in its energy sector in 30 yrs**

**April 18, 2016.** Nigeria estimates that it will need around US\$900 bn to develop its energy sector over the next 30 years and US\$10 bn will be required in the next few years to reinstate power infrastructures. Nigeria currently has a peak electricity demand of around 13,000 MW but available capacity is much lower, prompting 90% of industrial consumers and even smaller consumers to provide their own power at huge costs. (www.enerdata.net)

#### **World's biggest wealth fund excludes 52 coal-related groups**

**April 15, 2016.** Norway's sovereign wealth fund, the world's biggest, has excluded 52 coal-related companies in line with new ethical guidelines barring it from investing in such groups, Norway's central bank said. The move was seen as a sign of the growing influence investors wield in the fight against climate change. In June 2015, the Scandinavian country's parliament agreed to pull the fund out of mining or energy groups which derive more than 30% of their sales or activities

from the coal business. The new directive went into effect on 1 February. The fund, fuelled by Norway's state oil revenues and currently worth around 7.11 trillion kroner (\$864 bn), has banned 52 companies, most of them US and Chinese, including China Coal Energy, AES, and Peabody Energy, the biggest US coal producer which filed for bankruptcy. The list of 52 companies also includes several Indian companies, such as Reliance Power and Tata Power, three Japanese groups and several European companies. The world's three biggest coalmakers – Anglo American, BHP Billiton and Glencore – are not affected by the new rules because their other mining activities are so massive that their coal businesses represent less than 30% of their overall revenues. The fund's investment policy is run according to strict ethical rules, with a focus on sustainable economic, environmental and social development. ([www.theguardian.com](http://www.theguardian.com))

#### **Kazakhstan to complete modernization of large hydro power plant by late 2017**

**April 15, 2016.** Kazakhstan will complete the modernization of Shardara hydro power plant by late 2017, Samruk-Kazyna National Welfare Fund said. The project for the modernization of the plant is being implemented by the Samruk-Energy company which is a part of the Samruk-Kazyna group of companies and plays a key role in supplying electricity to southern Kazakhstan. Modernization of all four hydraulic units of the Shardara hydro power plant will make it possible to increase its installed capacity by 26 percent and improve the productivity and operation safety. Despite the ongoing modernization work, the Shardara plant continues its operation. It produced 465.3 million kilowatt hours of electricity in 2015. ([en.trend.az](http://en.trend.az))

#### **Bangladesh set to pursue coal-power push despite opposition**

**April 14, 2016.** The government of Bangladesh has indicated it is unlikely to abandon its push to build more coal-fired power plants despite growing opposition among local people and environmentalists. At least four people died and many were injured at Banshkhali in Chittagong earlier this month, when police opened fire at violent protests against the construction of a 1,320 MW coal plant in the southeastern coastal area. The government said that work at the \$2.4 billion power plant would be suspended for 15 days, while it carries out an assessment of the plant's environmental impact, led by Bangladeshi and foreign scientists. Dhaka plans to set up 25 coal-fired power plants by 2022, to generate 23,692 MW, in order to meet rising electricity demand. Of the total, 16 will be built by the public sector and nine by the private sector. Environmentalists say the risks those fossil fuel plants could pose to nature and the livelihoods of local people are not being properly investigated. Monowar Islam, secretary of the government's power division, said Bangladesh is a power-hungry country that needs huge amounts of electricity to develop. It is highly dependent on natural gas reserves that are dwindling, he said. Currently only 2 percent of Bangladesh's power is generated using coal. Islam said the advanced technology now used in coal-fired plants would curb the environmental risks cited by opponents. India has previously tried to set up coal-fired power plants in Tamil Nadu, Madhya Pradesh and Orissa, which would have used the same technology, but was forced to cancel those projects amid environmental protests. The government did not explore alternative sites for the Rampal plant even though environmentalists and local people have waged a long-running campaign against the possible damage it could cause to the low-lying Sundarbans, a world heritage site. UNESCO officials recently visited the Sundarbans to assess the possible impact of the power plant on the flora and fauna of the mangrove forests. ([www.reuters.com](http://www.reuters.com))

## **[RENEWABLE ENERGY / CLIMATE CHANGE TRENDS]**

### **National.....**

#### **Gamesa bags 40 MW order from ReNew Power**

**April 19, 2016.** Wind turbine manufacturer Gamesa India has bagged a contract from ReNew Power for the supply of 20 custom-made G97 turbines of 2 MW each for a project in Karnataka. According to the contract, Gamesa will develop the entire infrastructure needed to operate the project, including supply, erection and commissioning of 20 units of wind turbines, which are custom designed for tapping low wind sites in the country. Gamesa has also entered into a long-term operations and maintenance agreement to ensure smooth functioning of the wind farm. The project will be commissioned by September this year. Gamesa has already commissioned over 140 MW of wind projects for ReNew Power across Maharashtra and Karnataka and this order will be the fourth order from ReNew Power. ([www.thehindubusinessline.com](http://www.thehindubusinessline.com))

#### **Suzlon acquires 5 solar companies to implement projects**

**April 19 2016.** Suzlon Energy has acquired five small solar companies to implement various renewable energy projects across the country. It has acquired Gale Solarfarms, Tornado Solarfarms, Abha Solarfarms, Aalok Solarfarms and Shreyas

Solarfarms to implement various renewable energy projects across the country, including the recently won solar projects in Maharashtra of 70 MW, Company said. These companies, which have been acquired at face value, do not have any operations or assets currently and have been acquired primarily to be used as SPVs for the proposed solar project, it said. (news.webindia123.com)

### **India surpasses solar energy target for 2015-16 more than one and a half times**

**April 19, 2016.** India surpassed its solar energy target for 2015-16 more than one and a half times, commissioning 3,018 MW during the year against the 2,000 MW it had set itself. Latest figures shared by the Ministry of New and Renewable Energy show that Tamil Nadu added the most capacity in 2015-16 at 887.19 MW, followed by Andhra Pradesh (433.24 MW) and Telangana (351.56 MW). At the end of 2015-16, the country had solar capacity of 6,753.38 MW. Rajasthan, which has the best solar radiation among states, remains No. 1 in overall installed capacity at 1,264.35 MW. (energy.economictimes.indiatimes.com)

### **India adds 3 GW solar capacity in FY16, beats 2 GW target**

**April 19, 2016.** India added close to 3,019 MW of grid-connected solar power generation capacity in 2015-16, which is well above its target of 2,000 MW for the fiscal. India's total solar power generation capacity touched 6,763 MW as on March 31, 2016, according to the latest update on progress on clean energy initiatives. The tendering of over 21,000 MW of solar power generation capacity has already been completed during the last fiscal, with the aim of about 20,000 MW of installed production capacity from this renewable source by this fiscal end. Similarly, India added 3,300 MW of wind power generation capacity last fiscal as against the targetted 2,400 MW, jacking up the total wind power capacity to 26,744 MW as on March 31. Small hydro projects (up to 25 MW) added 219 MW last fiscal against the target of 250 MW. The total capacity of such projects in the country stood at 4,274 MW as of March-end. As for biogas projects, India was on target as it added 400 MW in 2015-16, taking the total capacity to 4,831 MW as on March 31. However, no progress has been recorded on waste to power projects as India did not add any capacity in this segment against the target of 10 MW. The total installed capacity in the segment reads 115 MW. Against the targetted capacity addition of 5,060 MW from clean sources, India added 6,937 MW last fiscal, raising the total grid-connected clean energy capacity to 42,728 MW as on March 31. (timesofindia.indiatimes.com)

### **NTPC, IIT Kanpur sign pact for R&D in renewables**

**April 19, 2016.** NTPC has signed a pact with IIT Kanpur for research and development in the areas such as renewables, automation and power system engineering. Joint R&D projects will also be taken up for developing new technologies, process and product in the field of optimisation and efficiency improvements, among others, by the two organisations, it said. NTPC had added 2,255 MW capacity in 2015-16 fiscal, taking its total electricity generation capability to 46,653 MW. The company has set a target of adding 11,900 MW capacity during the current Plan period ending in 2016-17. NTPC aims to build generation capacity of 128 GW by 2032, with a lot more emphasis on renewable energy. (economictimes.indiatimes.com)

### **Panasonic plans 10 MW energy storage system in Haryana**

**April 18, 2016.** Panasonic India and AES India announced an agreement to construct a 10 MW energy storage system in Jhajjar, Haryana. The energy storage system will come up in Panasonic's Technopark manufacturing facility and is a large scale battery-based energy storage project. The storage will provide daily reliability and back-up to the manufacturing facility, while demonstrating grid stability and renewable integration services in the region. The project combines Panasonic's capabilities as a lithium-ion batter supplier and AES' platform. The global energy storage market has entered a new growth phase and Navigant Research projects that more than 11 GW of energy storage capacity will be installed annually by 2020 in 22 countries. AES claims its designs for energy storage solutions can be used for both utility scale and behind-the-meter applications and allows for configurations from 100 KW to over 1,000 MW. (www.thehindubusinessline.com)

### **Inox Wind bags 2 orders of 50 MW capacity each in MP, Gujarat**

**April 18, 2016.** Inox Wind Ltd bagged two orders for a cumulative capacity of 100 MW from one of the country's leading renewable energy independent power producers. Once commissioned, the projects will provide power to 50,000 households, curtail 0.15 million tonnes of carbon dioxide emissions annually and further consolidate Inox Wind's leading



position in the two states, it said. As part of the turnkey projects, the company will provide end-to-end solutions from development, construction to commissioning and providing long-term operations and maintenance services. Further, the work involves supply and installation of 25 units of the firm's 100 metre rotor diameter wind turbine generator for the Gujarat project and 25 units of the company's 113 metre rotor diameter wind turbine generator for the project in Madhya Pradesh (MP). The 113 metre rotor diameter wind turbine generator is the newest variant of the company's market leading 2 MW platform and has been tested to have one of the highest generation performance per kilowatt of all wind turbine generator variants available in India. ([www.business-standard.com](http://www.business-standard.com))

#### **Telangana ranks 7<sup>th</sup> in solar power generation**

**April 17, 2016.** Telangana State has achieved seventh position in solar power generation next only to Andhra Pradesh. The State was at seventh place in the country in terms of power production to the tune of 343 MWs by January 2016. During the month of March, 450 MWs of power was connected to the grid. With speedy increase in the generation capacity, the government has fixed a target of 960 MWs of power by this year end and directed the new and renewable energy development corporation to take steps in this regard. The solar power generation before the formation of Telangana was around 61 MWs and the government generated power was just 1 MW and private sector contributed to 60 MWs. With decrease in the rainfall and also the power generation from Hydel power generating stations, the government concentrated on the solar and wind power generation resulting in power generation on a large scale during the last two years. The corporation said that they have completed the competitive bidding of the 2,000 MW solar power project taken up during November 2013 and the project works have been started and it is aimed to be completed by 2016-17. All the states collectively crossed 5,000 MWs of solar power and Telangana stood seventh in this, which is a positive sign for the state to attain surplus power, said the official. During the year 2014-15, the country's solar power capacity was 3,744 MWs and during the current financial year till January 14, additional 1,386 MWs of power was added taking the total capacity to 5,123 MWs. Rajasthan tops the list in the solar power production with 1,264 MWs, Gujarat second with 1,024 MWs, Madhya Pradesh third with 679 MWs, Tamil Nadu fourth with 419 MWs, Maharashtra fifth with 379 MWs. ([www.thehansindia.com](http://www.thehansindia.com))

#### **Canara Bank gets first loan from BRICS for renewable energy**

**April 17, 2016.** The New Development Bank (NDB) of BRICS countries has handed out \$250 million to India's Canara Bank for renewable energy projects as part of its first set of loans amounting to more than \$800 million. The financial assistance of \$811 has been given to Brazil, China, South Africa and India. Along with Russia, all four countries are founding members of the bank. The money, to be disbursed in a staggered manner, will be used to support renewable energy projects with a capacity of 2,370 MW in the four countries. These projects will lead to reduction in greenhouse gas emissions by nearly 4 million tonnes a year, the NDB said. The clean energy generated by the projects in India is expected to reduce greenhouse gas emissions by around 815,000 tonnes. NDB said by disbursing the first loans, the bank has met the timeline drawn up by member countries. ([www.nagalandpost.com](http://www.nagalandpost.com))

#### **Rays Power bags 10 MW solar project in Karnataka**

**April 15, 2016.** Rays Power Experts said it has bagged a 10 MW project of Karnataka Renewable Energy Development Ltd (KREDL) under states solar scheme. The project will be set up employing Poly Crystalline Technology at Chikkabalapura district of the state at a tariff of ₹ 5 per unit under power purchase agreement, the company said. ([indiatoday.intoday.in](http://indiatoday.intoday.in))

#### **Orange Renewable signs PPA with SECI to develop a 100 MW solar power project in Maharashtra**

**April 15, 2016.** Orange Renewable, a subsidiary of Singapore based AT Holdings Pte Ltd, has signed Power Purchase Agreement (PPA) with Solar Energy Corp of India Ltd (SECI) for development of 100 MW solar power project in Maharashtra under JNNSM Phase- II, Batch - III Scheme. SECI has been designated as the nodal agency of GOI for implementation of MNRE schemes for developing grid connected solar power capacity. MNRE has revised the cumulative targets under National Solar Mission from 20 GW to 100 GW by 2021-22 which has given a big boost to the Indian Solar sector and has made India the preferred destination for investors. Orange Renewable has won this contract through a competitive bidding process followed by online live reverse auction conducted by SECI on TCIL platform. In the reverse auction process only 8 bidders were able to bag the projects where Orange Renewable emerged as one of the largest capacity off taker in this bidding. Total tendered capacity was 450 MW and the projects fall under a Non-Solar Park Scheme. Orange Renewable

will receive an average power tariff of ₹ 4.43 per kilowatt-hour for the next 25 years from commercial operation date of this project which is scheduled in 2017. (www.newkerala.com)

#### **SunEdison to sell minority stake in Indian solar projects to Fortum**

**April 14, 2016.** SunEdison Inc., the heavily indebted renewable energy asset manager, is in negotiations regarding the sale of its minority stake in Indian solar projects to Finland's Fortum. The company took the negotiation process as it seeks to fund the proposed Indian plants amid fears about its US finances. Finland-controlled utility, Fortum, disclosed its plans of investing €200 million to €400 million in Indian solar plants and looks to developing new projects. According to Reuters, the utility has shown interest in buying stakes in SunEdison's Indian projects, including the proposed 500 MW project in Andhra Pradesh. SunEdison has been in discussions with Indian billionaire Gautam Adani's fast-expanding Adani Group and was successful in drawing an initial interest from the billionaire. However, a source close to Adani Group disclosed that the low price target for the Andhra project would not attract investment from Indian firms. The company has developed and financed approximately 600 MW of solar energy projects in India, and plans to build another 1,700 MW projects in the next year. (www.bidnesstc.com)

#### **Six companies win NTPC solar projects in Karnataka**

**April 13, 2016.** Six companies won bids to set up solar power projects of 500 MW capacity at a solar park in Karnataka. They quoted tariffs in the range of ₹ 4.78-4.80 per unit in an auction held, National Thermal Power Corp (NTPC) said. Four firms won bids for setting up 100 MW units each at a tariff of ₹ 4.79 a unit and two 50 MW capacity units were auctioned at a tariff of ₹ 4.78 and ₹ 4.80 respectively for the power projects to be built at the NTPC solar park at Pavagada in Tumkur district, Karnataka. This, however, is above the tariff of ₹ 4.34 a unit at which Fortum Oyj of Finland had won a 70 MW plant in NTPC's solar park at Jodhpur in Rajasthan in January. In auction, Fortum won 100 MW capacity at ₹ 4.79 per unit for 25 years, the company said. NTPC, which is in the process of setting up 1,000 MW renewable power by 2017, already has commissioned 110 MW of solar power capacity. It is in the process of setting up another 15 MW solar and 8 MW small hydro power capacity. Fortum India said solar power has always been a focus area for Fortum in India. RattanIndia arm Yarrow Infrastructure Ltd quoted the lowest price of ₹ 4.78 per unit and bagged a 50 MW project. (www.livemint.com)

**Global.....**

#### **Engie signs renewable energy and LNG agreements with Egypt**

**April 18, 2016.** French energy company Engie said it has signed agreements on developing renewable energies and importing liquefied natural gas (LNG) with various Egyptian companies during a visit by French President Francois Hollande in Cairo. The company said that it signed a cooperation agreement for further development of renewable energy with Egypt's National Renewable Energy Association and the Egyptian Electricity Transport Company. (af.reuters.com)

#### **Australia state bans underground coal gas drilling**

**April 18, 2016.** Australia's Queensland state banned underground coal gasification, a controversial process used to convert coal into gas. Unlike fracking, which involves pumping fluid into coal seams to cause fractures, the method by which unearthed coal, known as underground coal gasification, or UCG, takes place entirely below the surface, raising concerns over water contamination and greenhouse gas emissions. The ban on UCG was initiated by the state's mines minister, Anthony Lynham, who said he will introduce legislation by the end of the year to make it law. Carbon Energy Ltd, a company that said it had spent A\$150 million (\$115.23 million) over eight years developing UCG technology to use in the state, was considering a response to the ban. Carbon Energy, whose stock dropped nearly 8 percent to less than 2 Australian cents, said it had passed every environmental and scientific test put before it over the past eight years. Singapore-listed Linc Energy was charged in Queensland with causing serious environmental harm following an investigation into a gas leak at one of its UCG pilot plants, after four employees fell ill with suspected gas poisoning. (www.reuters.com)

#### **Italian company to build 50 MW solar power plant on Iran's Qeshm island**

**April 18, 2016.** The Italian company of Carlo Maresca S.p.A. is to build a 50 MW solar power plant on the southern Iranian island of Qeshm due to its signed agreement with the Qeshm Free Zone Organization. Underlining the new round of bilateral economic relations between Iran and Italy, The Qeshm Free Zone Organization said that that the government seeks to improve the southern island via expanding macro-economic activities there and reinforcing its infrastructure

including construction of the intended solar power plant. Maresca, for his part, vowed that his company will complete this project in eight months. (www.tehrantimes.com)

#### **South Africa's Eskom gets \$180 mn NDB loan for renewable energy**

**April 18, 2016.** The New Development Bank (NDB) said South African power utility Eskom would get \$180 million in assistance for renewable energy projects, part of a package of \$811 million in green energy loans it approved. The bank said the Eskom projects would involve transmission lines to carry 670 MW of generation and 500 MW worth of renewable energy projects involving independent power producers. (af.reuters.com)

#### **Eurus Energy set to commence construction of 41.6 MW wind farm in Japan**

**April 18, 2016.** Eurus Energy Group will soon start construction of Eurus Higashiyurihara 41.6 MW wind farm in Yurihonjo City, Akita Prefecture. This plant will be consist of 13 Siemens wind turbines, each rated at 3.2 MW, near Higashiyurihara region of Yurihonjo City, Akita Prefecture. The group is already operating four other wind farm in Akita Prefecture, and this project will be its fifth one. The start of the commercial operation of the plant is planned for April, 2018. This project is expected to generate a total amount of electric power equal to the power consumption by approximately 26,000 general households. The CO<sub>2</sub> reduction effect of the project is estimated to be about 51,000 tons a year. (wind.energy-business-review.com)

#### **Canada's Environment Minister pitches national carbon price before Saskatchewan visit**

**April 16, 2016.** Canada's Environment Minister Catherine McKenna is taking her push for a national carbon price to the region most vocal in its opposition to the policy. McKenna will soon visit oil-producing Saskatchewan to study its flagship Boundary Dam carbon capture-and-storage project. The prairie province's premier opposes federal calls for a national carbon price -- either in the form of a tax or as a cap-and-trade program. The environment minister isn't, however, saying whether she'd try to impose a mandatory price over the objections of any holdouts. McKenna twice declined to say what she'll do if the province -- home to mining giants Potash Corp. of Saskatchewan and Cameco Corp., as well as significant agricultural and oil production -- doesn't come on board. Canada's provinces and particularly its northern territories, where thinly populated remote communities often rely on diesel fuel for power, all have different needs when it comes to cutting emissions, McKenna said. Ontario, Quebec, British Columbia and Alberta -- the four most populous provinces -- have already adopted, or are about to adopt, some kind of carbon price. (www.bloomberg.com)

#### **Norway planning to end renewable subsidy scheme by 2021**

**April 15, 2016.** Norway is planning to end its green energy subsidy scheme by 2021 and aims to increase competition in building power lines to other countries, the government said. Norway launched a common renewable energy support scheme with Sweden in 2012, so called "el-certificates", aiming to increase electricity output from such sources as wind, hydropower and biomass by 28.4 terawatt-hours (TWh) per year by 2020. The increase in subsidised renewable energy in the Nordic countries, however, pushed electricity prices to 15-year lows in 2015, hurting producers, such as Norway's Statkraft or Sweden's Vattenfall. Norway produced 15 TWh of electricity more than it consumed in 2015, while the total surplus in the four Nordic countries stood at 16 TWh. Norway, which generates about 95 percent of electricity from hydropower, has lagged its Nordic neighbours Sweden and Denmark in wind power developments, despite its windy coastal areas. At the end of 2015, there were 25 wind farms in Norway with a total installed capacity of 873 MW and normal annual output of 2.5 TWh compared with total electricity production of 143.4 TWh. Norway's state owned energy group Statkraft decided in February to build a 1,000 MW wind power capacity by 2020, the biggest onshore wind power complex in Europe, which would boost annual output by some 3.4 TWh. (af.reuters.com)

#### **Hillary cites effort in getting India, China commit to GHG cut**

**April 15, 2016.** US Democratic presidential front-runner Hillary Clinton cited her efforts to get India and China committed to cutting greenhouse gas (GHG) emissions during a heated debate with rival Bernie Sanders as the two clashed aggressively over economic growth and energy security. Clinton and Sanders, meeting for the debate in Brooklyn just days before the crucial presidential primary in New York on April 19, minced no words as they attacked each other over their stand on gun control, Clinton's handling of the Libyan crisis and their readiness for assuming the presidency. When asked about energy security and environment, Clinton alluded to efforts made by her as Secretary of State to help find solutions for the global environmental crisis. She continued to "work on that throughout the four years" as Secretary of State, and



was "very proud" when Obama and America led the way to the climate agreement reached in Paris with 195 nations on board. (www.business-standard.com)

### **Gas power rules in boost to UK efforts to cut emissions**

**April 14, 2016.** Energy company executives regularly tout natural gas as a "bridge fuel" to a zero-emissions future as power plants burning the fuel produce half the greenhouse gases of coal and can quickly be started and stopped to supplement intermittent renewable generation. The fuel now regularly accounts for more than half of electricity generation for the first time since 2011 after a glut of gas pushes down U.K. prices to their lowest in about six years and utilities closed coal plants. (www.bloomberg.com)

### **Teslas may be making Hong Kong's pollution worse**

**April 14, 2016.** Electric vehicles in Hong Kong may indirectly be the cause of almost 20 percent more carbon dioxide emissions than gasoline-fueled motors, undermining the city's efforts to get 'green' cars on the road, according to Sanford C. Bernstein. Hong Kong has more than 4,000 registered electric vehicles, including Tesla Motors Inc.'s Model S, which Bernstein used in its analysis, and Nissan Motor Co.'s Leaf. Over a 150,000 kilometer lifetime, a Model S in Hong Kong may result in the release of 4.4 metric tons of carbon dioxide more than a BMW AG 320i, after accounting for the carbon intensity of the city's power generation and the production of the car battery, as well as crude oil extraction, transportation and refining. Tesla's own analysis estimates the Model S in Hong Kong produces about half the CO<sub>2</sub> per kilometer than an equivalent gas-powered car, the company said. The government of Hong Kong has passed up as much as HK\$1.5 billion in revenue because of these incentives. Hong Kong generated about 53 percent of its power from coal as of 2012, compared with about 22 percent each for nuclear and natural gas, according to its Environmental Protection Department. In mainland China, coal accounts for more than 60 percent of primary energy. (www.bloomberg.com)

### **Europe's new cars were 3 percent cleaner as pollution rules tighten**

**April 14, 2016.** New cars sold in the European Union (EU) were 3 percent cleaner in 2015 than the year before as restrictions on pollution forced manufacturers to make more efficient engines, data from the 28-nation bloc's environment agency showed. The average carbon dioxide output of the 13.7 million cars put on the road fell to 119.6 grams per kilometer driven from 123.4 gm/km the previous year, the Copenhagen-based European Environment Agency in Copenhagen said. The reading is 8 percent below the target of 130 grams set by the European Commission for all new passenger vehicles in the bloc. The Netherlands and Denmark had the cleanest cars. The least efficient cars were sold in Estonia and Latvia. Diesel cars were the most popular in the EU, accounting for 52 percent of sales. Sales of plug-in hybrids and electric vehicles rose and were strongest in the Denmark and the Netherlands, reaching 8 percent to 12 percent of sales in those two markets respectively. Across the bloc, electric cars account for just 1.3 percent of all new cars sold. About 57,000 pure battery-electric vehicles were registered last year, up 50 percent from the year before. France, Germany and the U.K. led that market. Car emissions have fallen steadily since the EU target was adopted in 2012 and are cited by automakers as evidence that they're moving to protect the environment. In Germany, the region's biggest economy, Chancellor Angela Merkel is struggling to devise effective policy to cut transport emissions, which account for about 18 percent of Germany's annual greenhouse gas output, more than the 12 percent average across the EU. A plan to put one million electric cars on the road by 2020 resulted in just 155,000 vehicles by last year, 85 percent short of target. (www.bloomberg.com)

### **EU lawmaker proposes changes to free carbon permits allocation**

**April 14, 2016.** The European Union (EU) should change its rules on handing out permits to emit carbon dioxide after 2020 to better protect businesses at risk of relocating to regions without pollution curbs, according to a proposal by European Parliament member Fredrick Federley. Federley, the lead lawmaker on EU carbon-market reform in the Parliament's industry committee, seeks to modify a draft law by the European Commission through introducing varying levels of free permit allocation to companies. The commission said in July 2015 that companies in the emissions market should continue buying most of the allowances at government sales and best-performing businesses in sectors prone to the relocation, also known as carbon leakage, should keep getting a bigger share of permits for free. In the 2015-2019 period, the EU carbon-leakage list includes more than 170 industries from manufacturers of steel, lime and cement to producers of dietetic food. The EU emissions trading system, Europe's flagship policy tool to reduce greenhouse gases blamed for climate change, imposes decreasing pollution caps on around 12,000 installations owned by manufacturers and utilities. The bloc's 28 national governments and the EU Parliament started work last year on the commission's proposal

to adjust the cap-and-trade program to tougher 2030 emission-reduction targets. The EU will deepen its carbon-cut goal to at least 40 percent in 2030 from 20 percent in 2020 compared with 1990 levels, EU leaders agreed in 2014. The political deal needs to be translated into law, which requires qualified majority support from member states and majority backing from the EU Parliament to enter into force. The 2015 draft law by the EU regulatory arm inadequately protects companies most prone to carbon leakage, which face a risk of not getting 100 percent of permits for free, according to Federley. That's because of the so-called correction factor, which the commission is entitled to apply across industries to ensure that the total number of free allowances requested by governments doesn't exceed the maximum allowed under EU law. (www.bloomberg.com)

#### **RWE reviving gas plant shows fuel has place among renewables**

**April 14, 2016.** While Europe's vision of the future may be one where all power is generated using renewable energy, for now natural gas has its place. RWE AG, Germany's biggest electricity producer, plans in October to restart part of its mothballed Moerdijk-2 gas-fired plant in the Netherlands as fuel prices near a record low make previously unprofitable units viable. The plant previously restarted to help demand during winter, according to the company. RWE has only committed to keeping the 426 MW Moerdijk-2 plant online until January 2018. (www.bloomberg.com)

#### **Yale's big endowment sells less than \$10 mn in fossil fuels**

**April 13, 2016.** Managers of Yale University's \$25.6 billion endowment sold less than \$10 million in investments in fossil-fuel companies that were "inconsistent with our principles" of a sustainable environment, according to David Swensen, the fund's chief. Fossil-fuel divestment has been a popular issue in recent years among college students, who have protested at campuses around the country. Divest Harvard held a sit-in at the offices of Harvard Management Co. in Boston, demanding to speak with the university about a recent investment in a private equity fund set up to buy struggling oil and gas companies, the student-led group said. Yale had asked its managers to assess the greenhouse gas footprint of prospective investments, the direct costs of the consequences of climate change on expected returns, and the costs of policies aimed at reducing greenhouse gas emissions on expected returns. (www.bloomberg.com)

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**Publisher:** Baljit Kapoor

**Contact:** Vinod Kumar Tomar

ORF Centre for Resources Management,

20 Rouse Avenue, New Delhi - 110 002,

Phone +91.11.4352 0020, Extn 2120,

Fax: +91.11.4352 0003,

E-mail: vinodtomar@orfonline.org

**Editorial Adviser:** Lydia Powell

**Editor:** Akhilesh Sati

**Content Development:**

Ashish Gupta,

Dinesh Kumar Madhrey

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