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**Volume XII
Issue 48**

13 May 2016

[**POLLUTION FROM DIESEL AND PETROL VEHICLES**]

"The key point is that the issue of environmental pollution is not a simple problem that has a straightforward technical fix. The debate on banning diesel cars or rationing petrol cars is an oversimplified framing of a complex problem. Naturally an over-simplified framing of the problem can only give an over-simplified solution. But these are not sustainable solutions as we can see in Delhi..."

[**RENEWABLE
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COMMENTS.....

Pollution from Diesel and Petrol Vehicles

Lydia Powell, Observer Research Foundation

Motorised transport makes a significant contribution to economic growth, trade and prosperity – all of which we desire directly or indirectly. However there are also undesirable side effects of using motorised transport such as pollution, noise and congestion called negative externalities. Time cost of delays arising out of congestion, healthcare costs caused by air pollution and long terms costs imposed on the society on account of climate change are among these externalities that societies want to control especially when they realise that they have gained the technological and financial capabilities to address them (i.e., when they have achieved a certain level of prosperity). Negative externalities can be minimised but cannot be eliminated as long as the use of motorised transport continues. A radically new technology could either change transportation or eliminate the need for transportation but until then we need to find ways to minimise externalities and more importantly figure out how the cost of minimising negative externalities can be allocated among users and non-users of motorised transport. Who will pay is the question that is at the heart of all environmental debates – from global climate change to local urban pollution. The debate on petrol and diesel vehicles in Delhi is not an exception.

Pollution from Internal Combustion Engines

The internal combustion engine (ICE) operates using fossil fuel derivatives such as petrol diesel, natural gas etc., which produce pollutants when the fuel is burnt in the engine and also through evaporation in other stages of its use. The combustion process results in the emission of volatile organic compounds (VOC) oxides of nitrogen (NO), particulate matter (PM) and carbon monoxide (CO) which come through the tailpipe of the vehicle when it is operating.

Halogen containing gases and hydrocarbons (HC) emitted as evaporative emissions are also vehicle pollutants but are not tail-pipe emissions. VOC can escape into the atmosphere through evaporation. VOC emissions occur when the vehicle is running as petrol is vaporised by the hot engine. Evaporation can continue even when the engine is turned off as the engine remains hot for a long time or due to raising day temperatures and during refuelling at retail stations. Exhaust emissions from vehicles may contain green-house-gases such as carbon-di-oxide (CO₂), methane (CH₄), NO_x and other general pollutants such as CO, sulphur oxides (SO_x) non-methane volatile organic compounds (NMVOC) and PM. Toxic compounds such as benzene, aldehydes and methanol may also be emitted.

ICEs used in vehicles may be broadly classified as engines that use spark ignition (SI) such as petrol engines and engines that use compression ignition (CI) such as diesel engines and jet engines. Petrol engines may be two-stroke as in two wheelers and other small engines or four stroke as in motor cars. In a petrol engine (SI) the fuel is evaporated and mixed with oxidising agent before ignition while in CI engines the fuel is sprayed in the combustion chamber for combustion.

The main pollutants from four stroke gasoline engines are HC, CO and NO_x which are exhaust emissions or evaporative emissions. PM is generally negligible and is produced mainly from oil components brought in the combustion chamber by the piston. SO_x emissions are low but are strictly regulated now. Two-stroke engines emit a large share (20-50%) of their fuel unburnt in their exhaust but also oil is a component of the air-fuel mixture by design. Air pollution from two stroke engines are higher and includes a considerable amount of particulate matter. Two stroke engines with advanced fuel injection, lubrication and combustion systems have much lower emissions.

Direct ignition engines (diesel) are typical for medium and large vehicles. They provide higher power output and better efficiency than SI engines (petrol) but are noisier. Diesel engines may be either supercharged or turbo charged depending on the organisation of air flow and its pressure before spraying the fuel. If controlled well, emissions from turbo charged engines can be lower than other types of diesel engines.

Compared with petrol (SI) engines, heavy duty diesel engines have higher compression ratios and better fuel efficiency which lead to lower CO and HC emissions. Some of the smaller diesel vehicles may also emit less NO_x compared to petrol engines but NO_x emissions from heavy duty diesel vehicles may be higher. PM and HC (some carcinogenic) emissions could be 10 times as much as in petrol vehicles. They may also emit more sulphur on account of higher sulphur permitted in diesel fuel.

Under ideal conditions hydrocarbon fuels should burn to the corresponding oxides and so CO₂ and water should be the most likely pollutants expected from the oxidation of hydrocarbons. However real world conditions are far from ideal. The quantity of air needed to burn 1 gram (g) of petrol completely is 14.7 g and 11 g of this being nitrogen.

Petrol and diesel are mixtures of hydrocarbons. In a perfect engine, oxygen in the air would convert all of the hydrogen to water and all of the carbon into CO₂ and nitrogen (N) will remain unaffected. In reality the combustion results in partial and incomplete conversions. HC emissions result when fuel molecules in the engine do not burn or burn only partially. HC react in the presence of NO_x and sunlight to form ground level ozone a major component of smog. Ozone can irritate eyes, damage lungs and aggravate respiratory problems. This is the most pressing urban air pollution problem. Some HC are also carcinogenic.

Under high temperature and pressure inside an automobile engine, N in the air reacts to form NO_x which can cause acid rain apart from facilitating the formation of ground ozone. CO is the product of incomplete combustion and occurs when carbon in the fuel is partially oxidised to CO₂. CO reduces the flow of oxygen in the bloodstream and is dangerous to persons with heart disease. CO₂ does not directly affect human health but it is a GHG and is seen as the primary villain in causing climate change.

GASOLINE				DIESEL			
Characteristics	BS-III	BS-IV	BS-V/VI	Characteristics	BS-III	BS-IV	BS-V/VI
Sulphur, Total, mg/kg - Max	150	50	10	Sulphur, Total, mg/kg - Max	350	50	10
Aromatics, %vol Max	42	35	35	Flash Point °C - Min	35	35	42
RON	91/95*	No Change		Density @ 15 C	820-845	No Change	
MON	81/85*			Distillation 95%V °C	360		
Olefin %vol	21 / 18*			Cetane Number	51		
Benzene %vol	1 (Max)			Cetane Index	46		
Density @ 15 C	720-775			KV@ 40°C	2.0-4.5		
				PAH, Max %wt	11#		

*Premium Grade #PAH for BS VI shall be 8% wt

Source: Presentation made at 14th Petro India Conference by Ms Vartika Shukla, ED (R&D), Engineers India Ltd.

There are other technical issues related to the use of motor vehicles. Vaclav Smil an eminent energy economist says that despite the dramatic increase in efficiency of cars over the last century modern cars weigh too much

given the dominant pattern of use which is one person for one vehicle. It is the worst weight to pay load ratio for any mechanised means of transportation in human history (that started with horses and other animals). According to Smil 92% of increase in power to weight ratio of engines from Model T (1 watt for 12 grams) to average modern car (1 watt for 1 gram) the mass of vehicles has tripled. This according to Smil limits efficiency. A 70 kg passenger on a bicycle has a pay load to weight ratio of 0.1; a modern bus 5 or less; Model T 7.7; Fiat Palio 15; Toyota Camry 20; Maruti Suzuki (1983) 20, Tesla 30, Hummer 50 and so on. Smil likens this to going after a fly with a steam shovel. But this is unlikely to change. As pointed out in an earlier article on mobility, 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. This has been achieved by moving part of the home and workplace into the motor car. Much of the additional weight of cars are on account of features that add to personal comfort and entertainment which were only found in homes earlier. The optimum outcome would perhaps be achieved when a two wheeler (light weight) which will give lower payload to weight ratios and four stroke engines (better efficiency and lower pollution). But which affluent individual will want to be seen on a motor bike?

The key point is that the issue of environmental pollution is not a simple problem that has a straightforward technical fix. The debate on banning diesel cars or rationing petrol cars is an oversimplified framing of a complex problem. Naturally an over-simplified framing of the problem can only give an over-simplified solution. But these are not sustainable solutions as we can see in Delhi. The society needs to realise that it is part of the problem as it wants growth, prosperity, cars and so on. Only then can it become part of the solution.

*Views are those of the author
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Petrol and Diesel Price Scenario in Delhi

Akhilesh Sati, Observer Research Foundation

Effective May 1, 2016

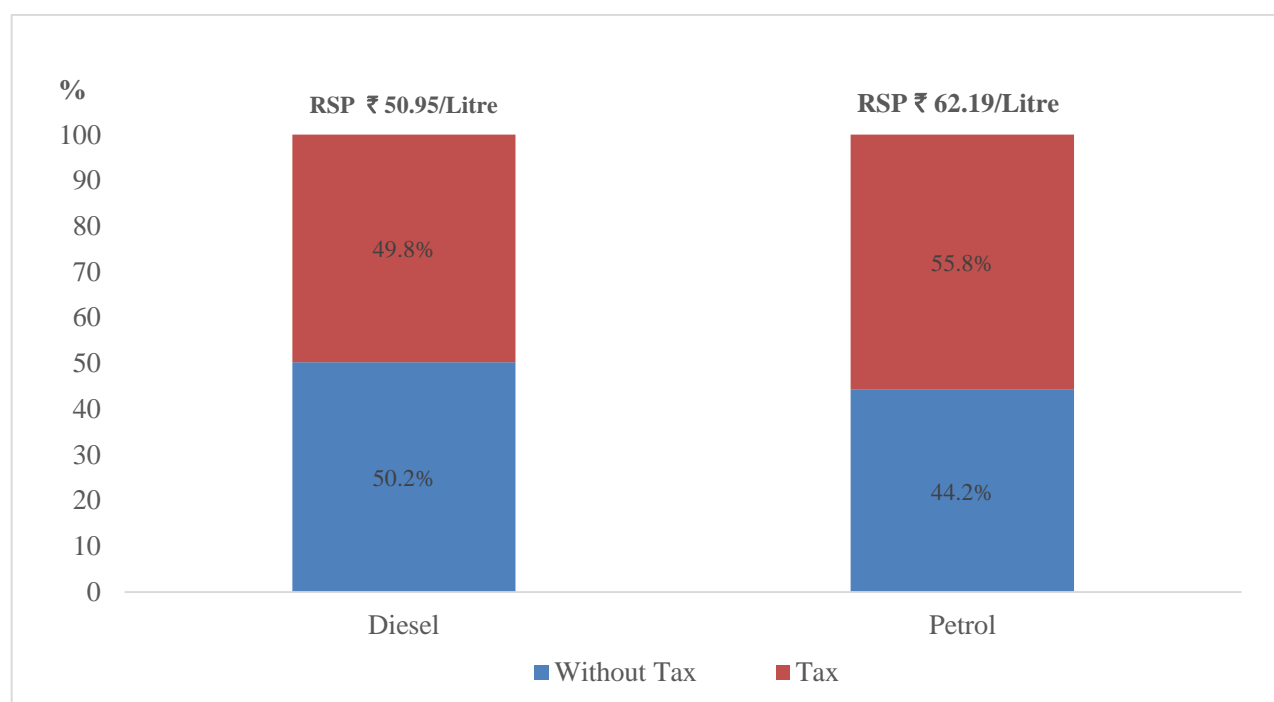
Petroleum Products	CENTRAL EXCISE (₹/Litre)		
	Basic Cenvat Duty	Special Additional Excise Duty	Additional Excise Duty
Petrol	9.48	6.00	6.00
Diesel	11.33	Nil	6.00

Effective May 1, 2016

Petroleum Products	Effective Rates of VAT/Sales Tax at Delhi	Retail Selling Prices at Delhi (₹/Litre)*
Petrol	27%	62.19
Diesel	18.71%	50.95

*IOC prices at Delhi outlets

Retail Selling Prices of Petrol & Diesel at Delhi: Share of Taxes



Source: PPAC & Indian Oil Corporation

NEWS BRIEF

[NATIONAL: OIL & GAS]

Upstream.....

ONGC crude oil output up in FY16

May 9, 2016. Oil and Natural Gas Corp's crude oil production has risen for the second consecutive year in 2015-16 but natural gas output continues to decline. Oil and Natural Gas Corp (ONGC) produced 22.37 million tonnes (mt) of crude oil in the financial year ended March 31, 2016, a notch higher than 22.26 mt in the previous fiscal, the company said. In 2014-15 it had reversed a 7-year declining trend in crude oil production as it brought small and marginal fields in western offshore to production. Output of 22.263 mt of crude oil from April 2014 to March 31, 2015 was higher than 22.247 mt in the previous fiscal. ONGC used to produce more than three-fourth of country's oil needs but that share has slipped down to 60 percent. It had produced 26.05 million tons of crude oil in 2006-07, which dipped to 25.94 mt in the following year. That year its share in nation's oil production of 33.51 mt was 75.7 percent. Its 22.37 mt of output in 2015-16 is 60.5 percent of country's 36.95 mt of production. Oil Ministry has been monitoring its performance on a monthly basis. Output has increased primarily due to about 1 mt of additional production from offshore fields. Natural gas production however continues decline, falling to 21.17 billion cubic meters (bcm) in 2015-16 from 22.02 bcm in the previous fiscal. ONGC, which produced 22.49 bcm of gas in 2008-09, saw output peak to 23.55 bcm in 2012-13 but has since then been falling. Its current output makes up for 65.6 percent of the country's production of 32.25 bcm. (www.business-standard.com)

GSPC in talks with ONGC on selling gas field stake

May 9, 2016. Gujarat State Petroleum Corp (GSPC) said it is in talks with the country's top explorer Oil and Natural Gas Corp (ONGC) on selling a stake in its gas block off the east coast, to revive the challenging deep water field. The block, where the discovery of gas was announced in 2005 by Prime Minister Narendra Modi while leading his home state of Gujarat, was to start commercial production in 2011 but difficulties in drilling 5,000 metres below the seabed pushed back the plan by about five years. GSPC has already invested about \$3.6 billion in exploring and building infrastructure around the block but with little success, and now wants ONGC's help on funds and drilling expertise. GSPC says it now hopes to start commercial production from the Krishna Godavari field later this year, with an initial output of 70-80 million cubic feet a day (mcf). GSPC had managed to extract around 23 mcf since August 2014 from three wells it drilled using conventional drilling methods. GSPC is getting help from BP for a review of its drilling activity without cost, the company said. Global petroleum consultancy firm Gaffiney, Cline and Associates had estimated the block had in-place reserves of 14 trillion cubic feet, with around 7.6 trillion cubic feet recoverable. (in.reuters.com)

Auction of 67 small O&G fields to kick off on May 25

May 9, 2016. India will kick off an auction of 67 small oil and gas (O&G) fields on May 25 that will test the response of investors to recent policy measures such as the revenue-sharing model and gas pricing freedom. The Directorate General of Hydrocarbons (DGH), the technical arm of the oil ministry, has announced that Oil Minister Dharmendra Pradhan will launch the discovered small fields bid round on May 25 in Delhi. Separately, the DGH has sought bids from consultants for promoting the auction at international roadshows meant to showcase fields to potential investors. It has also sought event managers for the roadshows. The auction, the first in about five years in the country, comes after months of delay due to low oil prices, which officials feared may curb interest among potential bidders. Oil prices have dropped about two-thirds in two years, forcing many oil companies to shelve projects and cut jobs. Last year, the government unveiled a new policy for 69 small fields that had remained undeveloped for years due to their limited reserves, high development cost and technological constraints. These fields were owned by Oil and Natural Gas Corp (ONGC) and Oil India Ltd (OIL), before being taken away by the government for auction under the new policy. Two fields in the Northeast will not be part of the auction while the balance have been organised into 46 clusters to make them financially attractive as potential investors can build common infrastructure for these fields, keeping costs low. The auction will test some of the key policy changes introduced by the government in the exploration and development sector such as marketing freedom for gas and revenue-sharing, instead of profit sharing, between the operator and the government. The government is seeking to boost local oil

production that has fallen for the past four years. Prime Minister Narendra Modi wants the industry to cut import dependence to 67 percent by 2022, from about 80 percent at present. (economictimes.indiatimes.com)

Downstream.....

Nagarjuna Oil in talks with Saudi royal family to revive refinery

May 10, 2016. Nagarjuna Oil Corp, which is setting up a refinery in Tamil Nadu, has initiated talks with the royal family of Saudi Arabia for a possible strategic investment as it attempts to complete the project that has been held up for over four years. Talks with the Saudi royal family were initiated earlier and the lenders and the PM's Office, which began monitoring the project a few months back, were informed about the discussions around six weeks ago. Prime Minister Narendra Modi as well as Oil Minister Dharmendra Pradhan recently visited Saudi Arabia and oil was clearly the main item on the agenda. The Nagarjuna Oil refinery, which will have an annual capacity of six million tonnes in the first phase, is nearly 60% complete but has been held up since a cyclone hit Cuddalore in December 2011. The project has received environmental clearance, financial assistance through VAT refunds and has access to port to import crude and ship out refined products. (timesofindia.indiatimes.com)

El Nino strikes India refinery as lack of water shuts crude unit

May 6, 2016. The worst drought in decades is leaving an oil refinery in southern India parched. Mangalore Refinery & Petrochemicals Ltd (MRPL) shut a crude-processing unit at its facility because of a water shortage, according to M. Venkatesh, its refinery director. MRPL is also closing other smaller units, leading to reduced production of fuels including gasoline and diesel, he said. The El Nino phenomenon that's triggered dry weather has left millions of Indians grappling with severe drought, and also affected companies whose facilities need steady supplies to continue operations uninterrupted. After weak rainfall over the past two years, the country's dams have dried up and its 91 major reservoirs are less than one-fifth full. The upcoming monsoon may bring some relief, but a challenge looms from competition for scarce groundwater and surface supplies among farmers, industries and cities. MRPL runs a refinery with processing capacity of 15 million metric tons a year in the southern Indian city of Mangalore. The current shutdown will curb diesel output by 50 percent, gasoline by 30 percent and liquefied petroleum gas by 60 percent, according to Venkatesh. The company may close its other two crude units at the facility if the water scarcity persists, he said. This isn't the first time the plant is being affected by a lack of water supply. MRPL shut its entire refinery in April 2012 and stopped oil-product sales to customers because of a shortage amid declining availability of water in the Nethravathi River in the southern state of Karnataka. (www.bloomberg.com)

Transportation / Trade.....

'Cairn can't export crude till India attains self sufficiency'

May 5, 2016. The government told the Delhi High Court (HC) that Cairn India cannot be permitted to export excess crude from its Rajasthan oil field, till India attains "self sufficiency". The submission was made by the Ministry of Petroleum and Natural Gas which is opposing Cairn's request for permitting them to export crude oil. The court asked the government to show it the copy of the policy under which Cairn was denied permission. The court was hearing the plea of Cairn India, subsidiary of UK-based Vedanta group, seeking directions to the government to permit it to export the excess crude. Earlier, Cairn had contended that a loss of ₹ 1,400 crore has been caused to government as the company was forced to sell its share of crude from its Rajasthan oilfield to private players at prices 20 percent less than global rates. The contention was opposed by the ministry which had told the court that the loss to government as calculated by Cairn was "notional" and the company was incurring no loss either, as it was selling the crude not picked up by PSUs or the government to private domestic players. Cairn said as per the Production Sharing Contract (PSC) it has with the government, it gets 70 percent of crude produced from the well and rest goes to government. Under the PSC, the government or its nominee can pick up the company's share of crude and what is not picked up, could be sold to private players or exported, Cairn said. However, after the crude is sold, government gets 70 percent of the profits, it told the court. It claimed that as a result of selling the excess crude to private domestic companies like Reliance and Essar, at rates lower than international prices, government was losing about ₹ 4.5 crore per day. Cairn had said it had made several representations to Directorate General of Foreign Trade (DGFT) for permission to export the crude, but did not get any response. Prior to this, it had written to the Indian Oil Corp (IOC) to "canalise" export of the crude, but got no response from it as well. IOC is the canalising agent for export of crude. (www.financialexpress.com)

Country's first skill institute opens in Bhubaneswar

May 10, 2016. The hydrocarbon sector would generate one lakh technical jobs over next five years and Odisha needs an institute of international standards to train youths who could cash in on the job opportunities, Oil Minister Dharmendra Pradhan said. Pradhan said the Centre is ready to invest ₹ 500 crore for setting up the permanent campus of Skill Development Institute (SDI) which would be a centre of excellence. The State Government has been requested to provide 100 acres land for this purpose. The Centre has set a target to double the natural gas pipeline up to 30,000 km over next five years. Odisha Chief Minister Naveen Patnaik said less than five percent of the workforce in the country have received any formal skill development training. (www.newindianexpress.com)

ONGC, OIL may not need to share kerosene subsidy

May 10, 2016. State-owned upstream companies Oil and Natural Gas Corp (ONGC) and Oil India Ltd (OIL) may not need to share public sector oil marketing companies' revenue loss on sale of subsidised kerosene for the quarter ended March 31, ONGC said. An exemption from sharing subsidy would be a positive for ONGC and OIL as the companies are grappling with challenging times in the wake of global crude oil price slump. In October-December, too, the two upstream majors had been exempted from sharing subsidy despite the fact that under-recovery on kerosene was over ₹ 12 per ltr in that quarter. According to the government, under-recovery on kerosene for January-March is around ₹ 15 bn, while on cooking gas, it is around ₹ 40 bn. (www.freepressjournal.in)

Petrol prices slashed 32 times, hiked 21 times since 2013: Commerce Minister

May 9, 2016. Prices of petrol were reduced 32 times and increased 21 times while diesel prices were slashed 19 times and raised 28 times since 2013, Commerce Minister Nirmala Sitharaman said. The prices of ATF, petrol and diesel have been made market determined by the government since April, 2001, June 26, 2010 and October 19, 2014 respectively, Sitharaman said. The Minister said since April 1, 2013, petrol prices were decreased 32 times and increased 21 times and diesel prices were decreased 19 times and increased 28 times. Sitharaman said retail selling price (RSP) of petrol and diesel in the country are linked to their respective international prices and oil marketing companies (OMCs) are at present applying Trade Parity Pricing methodology to compute the RSP. The Minister said the effective prices of PDS kerosene and subsidised domestic LPG have not been increased since June 25, 2011. Sitharaman said price of crude oil in the international market fluctuate depending on various factors including demand and supply of crude oil. Similarly, the requirement of crude oil imports for consumption of petro-products and fulfilling the needs of oil refineries is an inter play of several factors like success in new production of crude oil, blending of bio fuels, success in conservation efforts etc. The public sector oil companies import crude oil on term and spot basis as per the prevalent crude import policy, she said. The Minister said the impression that public sector undertaking (PSU) oil companies make profits when the international crude price falls was "really not right" as they could make just 1.34 percent profit after tax in 2013-14 and 1.49 percent in 2014-15. Sitharaman said the PSU oil companies together had suffered around ₹ 29,200 crore loss on petrol in the first nine months of last fiscal due to inventory cost and ₹ 11,400 crore on diesel. (economictimes.indiatimes.com)

India, Iran agree to clear \$6.4 bn in oil payments via European banks: Oil Minister

May 6, 2016. The central banks of India and Iran have reached an arrangement to use European banks to process pending oil payments to Tehran, India's Oil Minister Dharmendra Pradhan said, unlocking \$6.4 billion in stalled funds. Buyers of Iranian oil were prevented from using global banking channels to clear their transactions after sanctions were imposed on Iran in 2011 over its nuclear programme. Indian refiners have been holding 55 percent of its oil payments to Iran after a route to make payments through Turkey's Halkbank was stopped in 2013, although payment of some of those funds was allowed after an initial temporary deal to lift the sanctions. Also because of the previous sanctions, Indian refiners have been depositing 45 percent of their oil payments to Iran in rupees with India's UCO Bank. Tehran has been using the funds, currently about ₹ 130 billion (\$1.95 billion) to import non-sanctioned goods from India. Indian government said during Pradhan's visit to Tehran Iran had asked India to consider clearing the oil payments through Europaisch-Iranische Handelsbank (EIH) of Germany, Central Bank of Italy and Halkbank of Turkey. The government said Indian refiners will remit funds to Iran through state-owned UCO Bank. Reserve Bank of India Governor Raghuram Rajan said India will make payments to Iran in a staggered manner. Despite the sanctions, India continued its engagement with Iran and was among a handful of countries that sourced oil from Tehran. Iran was India's second-biggest oil supplier before the sanctions

hampered its trade relations. The country is set to import at least 400,000 barrels per day of Iranian oil in the year from April 1. (in.reuters.com)

India to gradually move to gas-based economy: Oil Minister

May 6, 2016. India plans to shift to a gas-based economy by boosting domestic production and buying cheap liquefied natural gas (LNG) as the world's third-biggest oil importer seeks to curb its greenhouse emissions, Oil Minister Dharmendra Pradhan said. New Delhi has promised to shave a third off its emissions rate by 2030, partly by boosting the use of cleaner burning fuels. Gas accounts for about 8 percent of India's energy mix, while oil accounts for more than a quarter. India's gas supply deficit is expected to widen from 78 million cubic metres a day (mscmd) this fiscal year to 117 mscmd in 2021-22, according to a government estimate. India recently negotiated better terms for a long-term LNG deal with Qatar and importer Petronet LNG is in talks with Exxon to renegotiate pricing for gas from Australia's Gorgon project. Pradhan visited Saudi Arabia, the United Arab Emirates and Iran to deepen ties with its main oil suppliers. India is also in talks with Abu Dhabi National Oil Co and Saudi Aramco to lease strategic oil storage. Iran has set aside its Farzad B gas field for development by Indian firms, a move that could result in the building of an LNG plant as India consumes or markets its production share, he said. Over two years Asian LNG prices have slumped by three quarters to \$4.65 per million British thermal units (mmBtu). India is building import terminals on its eastern and western coasts and pipelines to boost industrial use of gas. In the fiscal year to March, India's gas production declined by about 4.2 percent, while imports rose around 15 percent. India recently offered better gas pricing to boost domestic output, but its most recent investment in an LNG terminal in Kerala has been underutilised since it lacks pipelines to connect to demand centres after farmer opposition caused land acquisition problems. Pradhan said the government was talking to the states and hoped obstacles to a pipeline connecting Kochi to Mangalore would be resolved after state elections in Kerala. (in.reuters.com)

Domestic gas users in major cities need income proof for subsidy claim

May 6, 2016. Consumers in Tier-I and II cities will have to submit affidavits to their LPG distributors stating that their annual income is below ₹ 10 lakh to continue to receive cooking gas subsidy, according to Oil Minister Dharmendra Pradhan. While over one crore people have given up LPG subsidy over the past year, an extensive government survey in the most affluent areas of metropolitan cities has revealed that only three percent of its residents had done so. In March this year, the government sought to use Income Tax records to identify high income earners and sent them messages informing them that they are no longer eligible for subsidised cooking gas. But that plan was dropped, the minister indicated. Oil Ministry had said that 3 lakh people earning ₹ 10 lakh or more had been identified using Income Tax data. Pradhan said those who had voluntarily given up their LPG subsidy could re-apply for it after a year. He said that the government had decided to "exclude" those earning ₹ 10 lakh or more from the purview of the LPG subsidy. (www.thehindu.com)

Under Ujjwala, BPL families will get LPG stoves at ₹ 990

May 6, 2016. Ujjwala, the Modi government's flagship scheme for empowering BPL (below poverty line) women by providing clean cooking fuel, has halved the cost of LPG stoves to ₹ 990 to ease the burden on poor households. The government said the reduction has been brought about through bulk procurement for the scheme, under which LPG connection would be provided free of cost in the name of women from five crore BPL households over the next three years. The ₹ 8,000 crore scheme was launched by Prime Minister (PM) Narendra Modi at Ballia in UP on May 1. The government aims to cover 1.5 crore BPL households in the ongoing financial year. A sum of ₹ 2,000 crore has been set aside for this purpose in the budget. The magnitude and scale of the bulk procurement has helped develop a safe, BSI certified stove for use by BPL households. Before Ujjwala, the government used the CSR (corporate social responsibility) funds of state-run fuel retailers – Indian Oil, Bharat Petroleum and Hindustan Petroleum – to help poor households switch to LPG. But under that scheme, the retailers would bear only the security deposit for a new connection. The BPL families had to pay ₹ 250 for connecting pipe, installation and consumer booklet. In addition, they had to spend as much as ₹ 2,000 for a stove. Because of the limited funds and coverage, the initiative could benefit only seven lakh BPL households till 2014. Besides, all states did not benefit uniformly due to lack of focus on targeted areas. Ujjwala, in contrast, would focus on states with low LPG penetration. There are 14 states that have lower LPG penetration than the national average of 61%. Ujjwala is also getting a leg-up from the PM's 'Give it Up'. More than one crore households have surrendered LPG subsidy in response to the PM's appeal to economically well-off to leave LPG subsidy. In a back-to-back 'Give it Back' scheme, some 63 lakh poor households have been given the subsidy till now. The scheme

is expected to create jobs through the appointment of 10,000 LPG distributorship and delivery chain. (timesofindia.indiatimes.com)

Low inflation shows oil price benefit passed on: Oil Minister

May 5, 2016. Oil Minister Dharmendra Pradhan has strongly dismissed the perception that the government has failed to pass on the benefits of lower oil prices to Indian consumers. He defended the high taxation on fuels like petrol and diesel as a tool to protect people from a price shock when oil prices start to climb up again. Central and state-level taxes now account for around 60 percent of the final price of petrol and 55 percent of the final price of diesel in the national capital, as per official data. The minister said that the high proportion of taxes on petrol and diesel could be reduced when oil prices rise again. (www.thehindu.com)

Indian firms to hold stakes in Middle-East oilfields & Gulf companies to invest here: Oil Minister

May 4, 2016. Indian energy firms will hold stakes in oil and gas fields in the Middle-East while companies from the Gulf will invest in oil and gas infrastructure, refineries and petrochemicals at home, as commercial ties with the world's biggest oil-exporting region evolve into a strategic relationship, Oil Minister Dharmendra Pradhan said. He said the Gulf countries are enthusiastic about strengthening ties with India and have stopped levying the 'Asian Premium', a controversial practice of charging a higher rate for crude oil sold to Asia, compared with other buyers in more prosperous regions. Pradhan said initiatives to resolve exploration issues along with steps to promote biofuels will reduce India's import dependence by 10% compared with earlier projections. He said the country would meet its target of 5% ethanol blending in petrol for the first time since the measure was introduced. He said Oil and Natural Gas Corp (ONGC) and Gujarat State Petroleum Corp (GSPC) were holding commercial talks to use common facilities in the KG Basin, the region where the two companies, apart from Reliance Industries Ltd (RIL), have discovered gas in challenging fields. The minister said his advice is that companies should follow the best practices of oil majors, which share infrastructure to cut costs even if they compete with each other in the market. Pradhan said India's overhaul of its exploration policy had evoked a positive response globally. He said global majors look at the oil price situation before investing, and tend to cut expenditure when prices fall, unlike state firms like ONGC and Saudi Aramco, which have not cut capex. He said the changes in gas price policy for difficult fields will lead to higher production. He said the government was keen to create an environment that supports investments instead of creating disputes. (economictimes.indiatimes.com)

[NATIONAL: POWER]

Generation.....

Reliance Power bags \$1.3 bn project in Bangladesh

May 4, 2016. Reliance Power has bagged a 750 MW natural gas-based project in Bangladesh, with a potential investment of around \$1.3 billion, touted as the largest for the South Asian country. Reliance Power proposes to install the same equipment that was procured globally for the combined cycle power project at Samalkot in Andhra Pradesh, including those supplied by General Electric. During a visit to Dhaka in June last year, Prime Minister Narendra Modi had assured India's help to Bangladesh in achieving 21,000 MW of power generation capacity by 2021 and asked the Sheikh Hasina government to facilitate the entry of Indian companies in the sector. Reliance Power had signed a Memorandum of Understanding (MoU) with the Bangladesh government then, for developing 3,000 MW of capacity in phases with a potential investment of \$3 billion. The company has one of the largest portfolios of power projects in the private sector in India based on coal, gas, hydro and renewable energy, with an operating portfolio of 5,945 MW. (www.newkerala.com)

₹ 30 bn per annum plan to boost nuclear power sector

May 4, 2016. To increase investment in nuclear power generation, the government is preparing a comprehensive plan spanning over the next 15-20 years with a proposed budgetary allocation of ₹ 3,000 crore per annum. A recent amendment to the Atomic Energy Act 1962 has created a provision enabling Nuclear Power Corporation of India to seek equity participation from other central PSUs for atomic power projects and this will help in infusing additional capital, Minister of State for the Department of Atomic Energy, Jitendra Singh, said. The minister said availability of financial resources, land acquisition, availability of water and supply chain of component and equipment are some major problems faced by the sector. (www.business-standard.com)

India's debt-heavy GMR sells power stake to Malaysian utility

May 9, 2016. Malaysian utility Tenaga Nasional, backed by sovereign wealth fund Khazanah Nasional, will buy a 30 percent stake in the energy unit of indebted Indian infrastructure group GMR for \$300 million in cash, the companies said. The deal comes as most Indian power companies are struggling with softer-than-expected demand and heavy debt brought on by years of aggressive expansion, inviting pressure from lenders to divest assets to repay loans. But the entry of a deep-pocketed foreign player like Tenaga into an economy looking to provide power to its 1.3 billion people, widens the pool of potential buyers for other Indian power companies also looking to sell stakes while expanding operations. GMR Energy, whose investors include Singapore-based Temasek Holdings and a consortium led by India's IDFC Bank, has an operating capacity of around 2,300 MW and a pipeline of around 2,330 MW more projects, mainly coal and gas-fired but also hydro and solar energy. (www.reuters.com)

NTPC may cut supply to BSES discoms

May 5, 2016, As Delhi gears up for one of its hottest summers, the city is facing a potential power crisis. NTPC has issued regulation notices to the two Reliance-backed discoms BSES Yamuna and BSES Rajdhani, that could stop supply of 2,027 MW power to the national capital from May 10. With Delhi's power demand on an upward trend, any reduction in supply could lead to blackouts in the city. This is not the first time that the NTPC has issued regulation notice to the BSES discoms, which supply power to 70% of the national capital, over non-payment of dues. However, the situation has always been averted in the past by the intervention of the Supreme Court. BSES Rajdhani supplies power to south and west Delhi, and BSES Yamuna to east and parts of central Delhi. The power allocated to the BSES discoms, Rajdhani and Yamuna, is 1,349 MW and 678 MW respectively. Delhi's peak demand has already crossed 5,000 MW this season and experts said that a regulation of over 2,000 MW from the state-run power plants could cripple the city. Delhi currently produces 1,000-1,500 MW from its own plants and some like the Bawana are only partially functioning due to gas shortage. NTPC said they had no option but to regulate supply. (economictimes.indiatimes.com)

Outstanding dues of state power discoms rise 16 percent to ₹ 220 bn

May 5, 2016. Outstanding dues of state utilities payable to central generating power stations have increased 16% in the last one year, touching ₹ 22,200 crore. This is despite about 18 states agreeing to join Ujwal Discom Assurance Yojana (UDAY) and eight states issuing bonds of about ₹1 lakh crore recently. UDAY was launched last year for financial and operational turnaround of state-owned power distribution companies. The scheme aims to reduce interest burden, cut cost of power, reduce power losses in distribution sector and improve operational efficiency of utilities. Rajasthan, which had issued the largest quantum of bonds under UDAY at ₹ 37,350 crore, reported only a marginal year-on-year fall of ₹ 81 crore in its dues to central stations at ₹ 1,128 crore as of March end. Outstanding dues of state power discoms rise 16 percent to ₹ 22,000 crore Uttar Pradesh, the second largest bond issuer at about ₹ 24,330 crore, saw its power dues treble to ₹ 2,672 crore from ₹ 841 crore during the same period. Haryana had raised ₹ 17,000 crore through a bond issue, but reported flat outstanding at ₹ 65 crore. Power sector analysts are not raising any red flag yet. An analyst with a large rating firm said state utilities may not have used all the money received from bond issues to pay off dues of central generating stations. (economictimes.indiatimes.com)

Stalled hydro project not to impact 24X7 power supply plans

May 5, 2016. Stalled hydro power projects of 4,341 MW capacity planned to be implemented in the 12th Plan period (2012-17) will not impact governments target of ensuring round the clock electricity supply to all, Power Minister Piyush Goyal said. During first four years of the 12th Plan i.e. during 2012-13 to 2015-16, a capacity of 84,990.7 MW has been achieved from conventional Energy Sources, which is 95.99 percent of the target fixed for the entire Plan period (till March end 2017). Earlier in March, Planning Minister Rao Inderjit Singh had said that the planned hydro power generation capacity addition of 4,371 MW out of a total target of 10,897 MW in the 12th Plan will not be completed. (indiatoday.intoday.in)

Centre aims to cut coal imports

May 4, 2016. In view of increased domestic coal production, the government has decided to reduce coal imports this fiscal, thus saving an amount of ₹ 40,000 crore from last year's target of ₹ 28,000 crore, Coal and Power Minister Piyush Goyal said. None of the thermal power plants in the country has reported any critical stock position. In fact, all plants have

sufficient coal to operate for about 26-27 days, he said. Coal India Ltd (CIL) has targeted the production of 598 million tonnes (mt) this fiscal, Coal Secretary Anil Srivastava said. Goyal said that the power sector may import 48 mt of coal in the ongoing fiscal for plants which need coal from overseas market. Launching Coal India's Contract Labour Payment Management System, Goyal said the data base of contract workers would help monitor their wage and PF payments as well as of the implementation of contract labour laws. (www.newkerala.com)

Policy / Performance.....

BSES asks DERC to help it recover ₹ 160 bn revenue gap

May 9, 2016. Reliance Infra-backed power discom BSES has sought Delhi's power regulator DERC's immediate intervention in recovering its regulatory assets of ₹ 16,000 crore so that the company can overcome funds crunch. In a letter to chairman of Delhi Electricity Regulatory Commission (DERC), the BSES said the total approved and undisputed revenue gap of BSES discoms amounts to over ₹ 16,000 crore as against its total overdues of about ₹ 12,000 crore to various entities including the NTPC. The BSES said the company's revenue gap has increased over the years due to absence of a cost reflective tariff. The discom asked the regulator to provide a "concrete and credible" amortisation plan so that the company can bridge the revenue gap. It also urged the DERC to put in place a cost reflective tariff structure for financial year 2016-17 and allow complete pass through of any variation in power purchase cost by way of an appropriate power purchase adjustment cost. NTPC had said threatened to snap power supply to BSES if they fail to clear the dues of ₹ 1,300 crore. However, following intervention by DERC and Delhi government, NTPC agreed to give some more time to BSES to pay up the amount. BSES has to pay around ₹ 6,000 crore to Delhi government run entity Delhi Transco. The cost of buying power has increased primarily on account of an increase in the input prices of raw material like coal and gas, as per experts. The BSES discoms BSES Yamuna Power Ltd and BSES Rajdhani Power Ltd have been demanding significant hike in tariff, citing rise in power purchase cost. Both the discoms supply power in 70 percent areas in Delhi. (timesofindia.indiatimes.com)

Goyal raps successive TN governments for power crisis

May 9, 2016. Stepping up the attack on the regional parties ahead of the coming Assembly elections, Union Power Minister Piyush Goyal blamed successive governments in Tamil Nadu for the ₹ 73,159 crore losses that the power utility in the State suffered in the last seven years. The AIADMK and DMK were responsible for the crisis in power sector in the State that has a great potential, he said, alleging that Tamil Nadu has seen only corruption for the past three decades. In contrast, the BJP-led Centre has taken efforts that has brought down power cost from ₹ 12-14 per unit at the time of crisis few years ago to ₹ 3.50 per unit at present. He had a meeting with the top brass of the power department last October, which was followed up with several letters stressing the importance of implementing the UDAY scheme. Despite these efforts, the officials here rejected it out of poor understanding of economics, he charged. Rejecting allegations that subsidy for farmers would be scrapped if the scheme was implemented, Goyal said that there was no such clause. On the other hand, once implemented, Tamil Nadu will receive maximum benefit of the allocated ₹ 22,400 crores. Using the savings from LED light scheme, free agricultural pumps will be distributed to farmers across the county, he promised. Criticising the AIADMK for its promise to provide 100 units of free power, he said this would lead to 'no power' in the future. (www.newindianexpress.com)

CIL customers support withdrawal of incentive policy

May 8, 2016. Coal India Ltd (CIL) has received encouraging response from consumers in lifting coal beyond trigger levels after it withdrew performance incentive riders on supply of coal. High grade coal of Eastern Coalfield (Ranigunj) and South Eastern Coalfields has benefitted from this development since the incentive was withdrawn in February. NTPC, WBPCL, DVC and consumers of states like Madhya Pradesh, Rajasthan and others including non-power consumers are taking advantage of the relaxation, CIL said. CIL said the step has evoked good response in pushing high grade coal sale which is priced at around ₹ 3,500 a tonne against low grade coals selling at even ₹ 700 a tonne. High grade coal accounts for 8 percent of Coal India's total production of coal which is around 43 million tonnes. CIL said out of 3.5 million tonnes (mt) of coal was put on offer in April 3.3 mt was booked and now CIL was considering higher allocation from this channel. The reserve price of coal sold to power and non-power through this channel is 10 percent higher than the notified price. (timesofindia.indiatimes.com)

India, Russia discussing cost of Kudankulam Units 5,6

May 5, 2016. India is in discussions with Russia on the costing for construction of Units 5 and 6 of the Kudankulam Nuclear Power Project (KNPP) to be built by Russia's atomic power corporation Rosatom. The Indian government gave in-principle

approval for setting up Units 5 and 6 at Kudankulam in October 2009. An inter-governmental agreement between India and Russia was signed in December 2008 for setting up Units 3 to 6. Start of work on Units 3 and 4 was delayed due to concerns among foreign nuclear plant suppliers about India's nuclear damage liability law. They 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 Indian operator NPCIL against the vendors for compensation in case of an accident. The Indian government last year launched an insurance pool of ₹ 1,500 crore (\$220 million) to be managed by national reinsurer GIC Re. (zeenews.india.com)

Cabinet allows flexible use of domestic coal by power plants

May 4, 2016. Government relaxed norms for utilisation of domestic coal that will help bring down the cost of power generation by 40 to 50 paise per unit and eventually lead to yearly savings of up to ₹ 30,000 crore in the next 4-5 years. The Union Cabinet has given its approval for allowing flexibility in utilisation of domestic coal for reducing the cost of power generation. In case of use of coal in state/ central generating plants, the deciding criteria shall be plant efficiency, coal transportation cost, transmission charges and overall cost of power. In case of use of coal assigned to the state in private generating stations, power through substituted coal shall be procured on bidding basis from amongst the competing private sector plants, where the source of coal, quantity of coal, quantum of power, and delivery point for the receipt of power shall be indicated upfront. This proposal is also in line with the UDAY scheme of Government of India which also envisages liberally allowing of coal swaps from inefficient plants to efficient plants and from plants situated away from coal mines to pit head to minimise cost of coal transportation thus leading to reduction in cost of power. The Central Electricity Authority shall in consultation with all the stakeholders, issue the methodology for implementation of use of coal assigned to the state(s) in their own generating stations, other state generating stations, central generating stations (CGS) and Integrated Procurement Production (IPPs). Similarly, methodologies for use of coal by company owning CGS for use of coal in their own plants or any other efficient plants shall also be issued by Central Electricity Authority. (economictimes.indiatimes.com)

[INTERNATIONAL: OIL & GAS]

Upstream.....

Big oil abandons \$2.5 bn in US arctic drilling rights

May 10, 2016. After plunking down more than \$2.5 billion for drilling rights in U.S. Arctic waters, Royal Dutch Shell Plc, ConocoPhillips and other companies have quietly relinquished claims they once hoped would net the next big oil discovery. The pullout comes as crude oil prices have plummeted to less than half their June 2014 levels, forcing oil companies to cut spending. For Shell and ConocoPhillips, the decision to abandon Arctic acreage was formalized just before a May 1 due date to pay the U.S. government millions of dollars in rent to keep holdings in the Chukchi Sea north of Alaska. The U.S. Arctic is estimated to hold 27 billion barrels of oil and 132 trillion cubic feet of natural gas, but energy companies have struggled to tap resources buried below icy waters at the top of the globe. Shell last year ended a nearly \$8 billion, mishap-marred quest for Arctic crude after disappointing results from a test well in the Chukchi Sea. (www.bloomberg.com)

Canada wildfire knocks out more than 1 mn bpd of crude capacity

May 9, 2016. Oil producers and refiners braced for a prolonged shutdown and possible supply constraints from Canada's vast oil sands region as nearly 1.07 million barrels per day of capacity remained offline with a destructive wildfire continuing into a second week. About half of the nation's oil sands capacity remained shut, as energy firms kept facilities closed as a precaution, forcing at least three major oil companies to warn they will not be able to meet all contracts for Canadian crude. Syncrude Canada Ltd will cut forecast May crude production volumes by some 35 percent. (www.reuters.com)

Occidental Petroleum raises 2016 production growth forecast

May 5, 2016. Occidental Petroleum Corp raised its production forecast for this year, while keeping its \$3 billion spending target unchanged, buoyed by lower operating costs and greater-than-expected production from its assets in the Permian Basin. The company expects oil and gas production to rise 4-6 percent this year, compared with its earlier forecast of 2-4 percent. Occidental said its production from U.S. fields increased by 17,000 barrels of oil equivalent per day (boepd) to 307,000 boepd in the first quarter, with all of that increase attributable to Permian resources spread over west Texas and southeast New Mexico. Production from ongoing operations, including its international business, rose to 590,000 boepd

from 531,000 boepd. Occidental is in the process of reducing exposure to non-core operations in the Middle East and North Africa region, including Bahrain, Iraq and Yemen. The company's total cash operating costs for oil and gas production declined 23 percent in the quarter, but that fall was more than offset by a 26 percent fall in revenue, leading to a bigger-than-expected loss. (www.reuters.com)

Chesapeake to sell some Oklahoma assets to Newfield for \$470 mn

May 5, 2016. Chesapeake Energy Corp, the second-largest U.S. natural gas producer, said it was selling \$470 million in assets in Oklahoma to Newfield Exploration Co as part of a plan to shore up its finances through divestitures. The company, which has more than \$9 billion in debt, said it would sell about 42,000 net acres in Oklahoma's STACK field, with current production of 3,800 barrels of oil equivalent per day. Low natural gas and oil prices have hit the heavily leveraged company, which plans to sell assets worth an additional \$500 million to \$1 billion this year. The company lowered its forecast for 2016 production costs to \$3.40-\$3.60 per barrel of oil equivalent (boe) from \$3.60-\$3.80 per boe. (www.reuters.com)

Guyana's investment appeal gets a boost from Liza oil discovery

May 5, 2016. Guyana's appeal as an oil and gas investment destination has been boosted by the deepwater Liza oil discovery in the Stabroek Block, located around 120 miles offshore, in 2015, Bob Fryklund, chief upstream strategist at consulting firm IHS Energy said. Exxon Mobil Corp.'s affiliate, Esso Exploration and Production Guyana Ltd, encountered more than 295 feet of high-quality oil-bearing sandstone reservoirs when drilling the Liza-1 well last May. The Guyana authorities have estimated that oil reserves at the well to be around 700 million barrels. According to Fryklund, the development of Liza oil resources appears an attractive proposition. IHS Energy estimated that the 700 million barrel-oil project can generate an internal rate of return of 20 percent. Capital expenditure for the project is around \$2.80 a barrel, while the finding and development cost as well as operating expenditure are pegged at \$11.57 a barrel and \$11.62 a barrel, respectively. IHS revealed that first oil in similar projects in West Africa takes around 8 years, while Brazil and the Gulf of Mexico require seven years and five years, respectively. (www.rigzone.com)

Primeline enters into phase 2 exploration of block 33/07 in East China Sea

May 5, 2016. Primeline Energy Holdings Inc disclosed that it has agreed with China National Offshore Oil Corp (CNOOC) that it will enter the next and second phase of exploration commitment under the Petroleum Contract for Block 33/07 in the East China Sea. This decision follows the completion of Primeline's evaluation of the 2015 program which saw a cost effective and smooth drilling operation of two exploration wells - LS23-1-1 and LS30-3-1. Both wells encountered very good sandstone reservoirs as predicted and gas shows, but were not commercial. By entering into phase two, Primeline has agreed to relinquish 25 percent of the contract area under the Petroleum Contract. Block 33/07 surrounds Block 25/34 where the LS36-1 gasfield is located. Any discovery from Block 33/07 can enjoy the benefit of LS 36-1 production facility which has been in production since July 2014. (www.rigzone.com)

SKK Migas extends exploration period for East Kalimantan's Mahakam PSC

May 4, 2016. Australia's Cue Energy Resources Ltd that it has been notified by SKK Migas of the approval of its request for a four year extension to the exploration period of the Mahakam Hilir Production Sharing Contract (PSC) in Kutai Basin, East Kalimantan, Indonesia until May 2020. The 4 year extension includes 2 contingent wells in the first 2 years, which Cue can elect to drill or withdraw from the PSC. While drilling the deeper section, gas was also flared to surface. The well was suspended to allow for future production testing. The results from NS-2 confirmed Cue's geological model of the area and have provided new information regarding the existence of a potential deeper gas play. Results from the exploration activity are being analysed and Cue expects to be able to announce an internal estimate of volumes in the second half of the year. (www.rigzone.com)

Nigeria starts oil production outside of Niger delta

May 4, 2016. A Nigerian firm has said it has started oil production from an offshore field in the commercial city of Lagos, the first output outside the country's oil hub in the Niger delta. Yinka Folaio Petroleum (YFP) is pleased to announce that it has commenced production of crude oil from its Aje field located in block OML 113 offshore Lagos, it said. YFP did not disclose the volume of current output from the field but said the company has capacity to produce 40,000 barrels per day. Oil produced from the Aje field will be stored on the Front Puffin which has production capacity of 40,000 barrels of oil per day and storage capacity of 750,000 barrels, it said. Production began after more than 25 years of exploratory, appraisal and developmental activities in the field, making Lagos -- Nigeria's commercial capital -- an oil-producing state.

Nigeria's oil and gas industry is concentrated in the southern delta states but the region has been dogged by unrest and disruption from militants demanding a fairer share of revenue. (timesofindia.indiatimes.com)

Downstream.....

Bechtel wins contract for new DCU at Assiut refinery in Egypt

May 6, 2016. Assiut Oil Refining Company (ASORC), a subsidiary of Egyptian General Petroleum Corp (EGPC), has signed a license agreement with Bechtel for the process design of a delayed coking unit (DCU) at the 90,000 barrels per day (bbl/d) Assiut refinery in Egypt. The new DCU is part of a wider, US\$1.5 bn worth refinery modernisation project, aimed at boosting oil product production to meet rising demand in Upper Egypt. ASORC is developing a new Naphtha complex with a capacity 0.66 million tonnes per year. In July 2015, ASORC finalised a joint agreement with Technip for the modernization of the refinery in Upper Egypt. (www.enerdata.net)

China firm wins deal to build Cambodia's first oil refinery

May 5, 2016. An engineering unit of China National Petroleum Corp (CNPC) won a \$620 million contract to build an oil refinery in Cambodia. Northeast Refining and Chemical Engineering Company is scheduled to complete building the first phase of the project of 2 million tonnes per year, or about 40,000 barrels per day (bpd) by 2018. This will be Cambodia's first oil refinery and will help cut its reliance on fuel imports. The refinery, located in Cambodia's southwestern Preah Sihanouk province, will be further expanded to 100,000 bpd at a total cost of \$3 billion, Xinhua quoted Hann Khieng, the Cambodian Petrochemical Company said. The plant is jointly owned by CPC and the Chinese firm Sinomach China Perfect Machinery Industry Corp. (af.reuters.com)

America's newest refinery falls victim to oil price slump

May 5, 2016. The owners of a North Dakota refinery that was the first to be built in the United States since the 1970s have curtailed output and may try to sell it, the latest victim of the oil price slump roiling the energy industry. MDU Resources Group Inc and Calumet Specialty Product Partners LP, which jointly own the refinery, said the refinery is running at 75 percent capacity due to high operating costs and slipping demand for diesel, its main product. MDU said it lost \$7.2 million on the refinery, which opened a year ago, during the first quarter. Before the Dickinson refinery's construction, North Dakota had only one refinery and was importing much of its diesel from the U.S. Gulf Coast. To operate the refinery, MDU supplied oil from its own drilling operations, and Calumet, which runs several refineries throughout the United States, helped run it. (www.reuters.com)

Transportation / Trade.....

Chile to begin gas exports to Argentina

May 10, 2016. Chile will begin sending liquefied natural gas to Argentina in significant quantities for the first time, supplier Engie said, as trade relations warm between the two South American neighbours. Engie said it would sell around 85 million cubic meters of natural gas to Argentina in a contract to meet demand during the southern hemisphere's upcoming winter. Argentina used to be an important supplier of gas to Chile. In the mid-2000s, after its own supply faltered, the then-leftist Argentine government triggered a diplomatic crisis when it cut off exports to its neighbour. Engie declined to give more details on the contract, but a source close to Chilean state producer ENAP said around 1.5 million cubic meters of gas a day will be pumped at a price of \$6.90 per million British thermal units. The gas will travel from the port of Mejillones in northern Chile, via Engie-controlled E-CL's pipeline, and across the Atacama desert to Argentina. A second contract, beginning on June 1, will see 3 million cubic meters daily pumped from the central port of Quintero, by Endesa, ENAP and distributor Metrogas, at a cost of \$7.20 per million British thermal units. Bolivia supplies most of Argentina's gas at a cheaper cost than the Chilean imports, but cannot supply enough to meet peak winter demand, Argentina's energy minister Juan Aranguren said. He said that the supply from Chile would replace gas oil purchases, which are more expensive. (www.reuters.com)

Stubborn natural gas supply imperils best US rally in 14 yrs

May 10, 2016. Natural gas futures have soared since March on speculation that supplies are finally falling after a decade of gains. Prices have gained 28 percent from a 17-year low in March, the biggest advance for the period since 2002, as investors including Greenlight Capital's David Einhorn bet the market would put a dent in supply. While money managers

turned bullish on the fuel last month for the first time since 2014, government forecasts show output climbing for the next seven quarters. Explorers including Cabot Oil & Gas Corp. and EQT Corp. outpaced their own production outlooks. Drillers are beating estimates as the price collapse forced them to become leaner, producing more fuel with the fewest rigs since at least the 1980s. Gas output from the Marcellus shale in the U.S. East is pushing stockpiles toward an all-time high. A rebound in crude oil prices threatens to boost supplies of gas extracted as a byproduct. Futures for 2017 have risen even more, surging 37 percent to trade above \$3 per million British thermal units. West Texas Intermediate crude, the U.S. benchmark, has risen 17 percent this year to \$43.44 a barrel. (www.bloomberg.com)

US oil tanker imports to compensate for Canadian disruption

May 10, 2016. Canada's wildfires, which have knocked out some 1.5 million barrels of daily oil production, are expected to drive up tanker imports and freight rates as U.S. consumers seek alternative supplies after a drop in Canadian pipeline supplies. With most Canadian oil sand crude piped to the United States, importers there will need bigger seaborne imports, mostly into the Gulf of Mexico, adding to existing port congestion. Although crude stored in North America could be used to overcome some of the disruption, shipping experts expect tanker imports and freight rates to rise. Average rates this year for a Very Large Crude Carrier carrying 2 million barrels of oil are around \$56,000 per day, according to shipping services firm Clarkson, while average rates for a smaller Suemax, carrying around 1 million barrels, are around \$36,000 per day. Latin American and Middle East producers are seen as the most likely to supply substitute oil. U.S. commercial crude stockpiles have likely risen for five straight weeks to a record of over 543 million barrels, traders said. (www.reuters.com)

Novatek still working on Gydan Peninsula Arctic LNG plan

May 9, 2016. Novatek OAO, Russia's second-largest gas company behind Gazprom, is still working on a feasibility study for developing a new liquefied natural gas export plant on Russia's Gydan Peninsula in the Arctic, Deputy Chairman Mark Gyetvay said. Gyetvay said the industry was currently struggling with overcapacity in the short term and he did not believe any major new LNG projects would be undertaken with oil below \$40 a barrel. Novatek is currently developing a \$27 billion gas production and liquefaction project in the adjacent Yamal peninsula, which is expected to be complete in the second half of 2017. The Yamal project, which has suffered under U.S. economic sanctions, secured \$12 billion in loans from the Export-Import Bank of China and the China Development Bank. It expects to produce 16.5 million tonnes of LNG annually for world markets. (af.reuters.com)

Two-thirds of US gas supply now comes from fracking

May 6, 2016. Hydraulic fracturing, the method used to extract oil and natural gas from shale formations deep underground, has gone from a niche activity to the process responsible for more than two-thirds of U.S. gas supply. Fracking now accounts for 67 percent of marketed gas output, up from less than 7 percent in 2000, according to the U.S. Energy Information Administration. The controversial technique involves pumping water, sand and chemicals into a well to break apart rock and release fuel. (www.bloomberg.com)

CFE selects IEnova to build gas pipeline to Empalme plants

May 6, 2016. Mexico's state-owned power utility, the Federal Electricity Commission (CFE), has selected Gasoducto de Aguaprieta (IEnova) to build a 20 km gas pipeline branch in the state of Sonora. IEnova won the project with a US\$10.8 mn proposal, against Gas Natural del Noroeste (US\$16.5 mn) and Arendal (US\$30.5 mn). The pipeline will connect the Sásabe - Guaymas pipeline and the Guaymas - El Oro pipeline. It will transmit 2.3 billion cubic meters (bcm) per year of gas to the Empalme I and Empalme II gas-fired CCGT project, currently under construction. Commissioning is expected in May 2017. (www.enerdata.net)

LNG buyers dreading 2040 try to renegotiate amid supply glut

May 6, 2016. For LNG buyers, 2040 is beginning to feel even further away. Just a few years ago, faced with limited supply and relentless demand growth, liquefied natural gas buyers were happy to lock in contracts that ran through nearly the middle of the century, often paying prices linked to the cost of oil. Now, as the market moves deeper into oversupply, being tied to a producer for the next two decades is shifting from a blessing to a curse. Less than 15 percent of long-term LNG supply contracts will expire in the next five years, according to data. Meanwhile, new projects in Australia and the U.S. are saturating the world with LNG, depressing spot prices this year in Asia's energy trading hub of Singapore even as oil has risen about 20 percent. That's giving buyers the incentive to try to renegotiate their deals with suppliers, according to analysts at Citigroup Inc and Energy Aspects Ltd. Petronet LNG Ltd. in December renegotiated its deal with Qatar's RasGas Co., resulting in a drop by more than half of the price the Indian importer was paying. China National Petroleum Corp

wants new prices in its deal with Qatar. Cnooc Ltd said the company is negotiating within its existing contract with Royal Dutch Shell Plc's BG Group unit for 8.6 million tons of LNG a year. (www.bloomberg.com)

Libya oil output could fall if Hariga port dispute continues

May 5, 2016. Libya may be forced to cut oil production within days if a stand-off between eastern and western factions that has prevented loadings at the Marsa al-Hariga port continues, the Tripoli-based National Oil Corp (NOC) said. NOC said that remaining storage capacity at the port was limited and filling up fast. The Marsa al-Hariga port said that tanks at Hariga were 7-10 days away from reaching their full capacity. With no tankers loading crude at the port, Libya will be forced to shut in around 120,000 barrels per day (bpd) of production, or the export capacity of the port. OPEC member Libya is already producing less than a quarter of the 1.6 million bpd it produced in 2011. NOC said that negotiations were underway to resolve a dispute between eastern and western factions that has prevented a tanker belonging to trading company Glencore from loading at Hariga. (www.reuters.com)

Poland's PGNiG says may buy five LNG cargoes in June-July

May 5, 2016. Poland's state-run gas firm PGNiG confirmed that it is considering buying five cargoes of liquefied natural gas (LNG) in June and July as spot contracts. The spot supplies would be delivered to a new Baltic Sea LNG terminal, which is due to start commercial operations this summer and is Poland's flagship project to reduce reliance on Russian gas. The spot deliveries will be carried out irrespective of the regular, long-term LNG supply contracts PGNiG has with Qatargas, PGNiG said. PGNiG had tendered to buy five cargoes of LNG. (af.reuters.com)

Egypt to receive first LNG shipment from Rosneft in May

May 5, 2016. Egypt will receive the first of nine agreed shipments of liquefied natural gas (LNG) from Russia's Rosneft this month, the state gas board EGAS said. Last year Egypt and Rosneft signed a Memorandum of Understanding for a slew of petroleum products as well as 24 LNG cargoes. Only nine of the 24 initially agreed cargoes were later inked into a final deal. (af.reuters.com)

Greece says has nine gas transport offers for Greek-Bulgarian pipeline

May 4, 2016. Greece's state natural gas company DEPA has received nine expressions of interest to transport gas within a Greek-Bulgarian natural gas pipeline scheme, it said. Bulgaria and Greece signed a final investment agreement to build a natural gas pipeline, the Interconnector Greece-Bulgaria (IGB). That project and the Trans-Adriatic Pipeline (TAP), another pipeline scheme which will take natural gas from Azerbaijan to Europe, have the potential of turning Greece into an energy hub in southern Europe. Bulgaria's state-owned energy holding company BEH has 50 percent in the joint venture which will build IGB, while Greek state energy firm DEPA and Edison hold 25 percent each. Interested parties had been invited to submit initial interest for transporting 4.3 billion cubic metres of gas per year from Greece to Bulgaria and about 1 billion cubic metres from Bulgaria to Greece, DEPA said. The non-binding process, which was launched in December, ended on April 8, it said. The submission of binding bids will start after Greek and Bulgarian energy authorities provide the necessary guidelines and approvals, DEPA said. After years of delays, the construction of IGB with an initial annual capacity of 3 billion cubic metres per year is expected to start in October 2016. (af.reuters.com)

Policy / Performance.....

Brazil to open subsalt to some non-Petrobras oil operators

May 10, 2016. Brazil plans to publish regulations in coming days to allow companies other than state-run Petrobras to operate some oil production-sharing contracts in the Subsalt Polygon. The rules will only allow non-Petrobras companies to operate Subsalt Polygon blocks if the blocks are sold to unitize oil fields connected to existing areas already leased under concession contracts signed before new production-sharing rules took effect. Under the production-sharing rules, Petroleo Brasileiro SA (Petrobras), is the only company allowed to operate oil and gas exploration and production blocks in the Subsalt Polygon, an offshore area near Rio de Janeiro where some of the world's largest recent discoveries have been made. (www.reuters.com)

Oil market on track to rebalance in second half: Qatar Energy Minister

May 10, 2016. Qatar's Energy Minister and current OPEC President Mohammed al-Sada said that the oil market was on the right track towards rebalancing in the second half of 2016. Sada said world oil supply was declining because of the closure of high-cost production facilities and declining numbers of drilling rigs in operation, which was leading to a fall in

production. OPEC ministers are set to meet on June 2 in Vienna to review the oil market situation. A deal to freeze oil output, designed to lift oil prices, fell apart at a Doha meeting in April between OPEC and non-OPEC producers after Saudi Arabia insisted that Iran take part. Since 2014, Saudi Arabia has led OPEC through a new survival-of-the-fittest strategy aimed at defending market share rather than reducing production to support oil prices. (www.reuters.com)

France studying possible ban on import of US Shale gas: Energy Minister

May 10, 2016. French Energy Minister Segolene Royal said she is investigating legal means to ban the import of shale gas from the United States (US) because France has banned shale gas exploration using hydraulic fracking for environmental reasons. Royal said contracts signed by French gas utility Engie and power utility EDF with a U.S. producer have led to the import of LNG which contained about 40 percent shale gas. (www.reuters.com)

Stable non-OPEC output decline key to oil price recovery: Goldman

May 10, 2016. The key to a sustainable recovery in oil prices will be stable declines in non-OPEC production, top commodities bank Goldman Sachs said. In its base case scenario, Goldman said it expects a sustained deficit in the third quarter of the year, until which oil prices are seen trading around current levels. Crude oil futures were trading around \$44 a barrel after the market shrugged off a cut of 1 million barrels per day (bpd) in Canadian oil production due to a wildfire. In a separate note to clients, the bank said it sees a decline in U.S. oil production by 650,000 bpd this year. In its latest short term outlook, the U.S. Energy Information Administration said in April that crude production was set to fall by 830,000 bpd this year, and drop 560,000 bpd to 8.04 million bpd next year. (uk.finance.yahoo.com)

Chinese team starts hydrocarbon exploration in Nepal's western district

May 9, 2016. A team of Chinese experts launched a study on prospects for minerals, gas and oil at Shreesthan in Dailekh, a western district of Nepal, which, officials claim, holds petroleum products in abundance. It is after a gap of two decades that the Nepal government has allowed Chinese geologists to begin hydrocarbon exploration in the western part of the country in a bid to become self-reliant. Six Chinese experts are involved in the exploration bid, according to the government. The Chinese team will carry out the feasibility study on all 10 petroleum blocks in Nepal sprawled from east to west. The Chinese team will report its findings in about a month on the exploration prospects apart from the amount of petroleum products that could be harnessed in the district. The study comes in the wake of an agreement between Nepal and China during Prime Minister K.P. Sharma Oli's visit to the communist country in March, Minister for Industry Som Prasad Pandey said. Under the agreement, China was also to help in the construction of at least three petroleum reservoirs in Nepal. China will also extend technical and financial help to Nepal in exploration. Nepal began exploring for hydrocarbons some three decade ago and awarded several contracts to international firms. But the attempts were not a success due to lack of political will and adequate budget. (www.ndtv.com)

Saudi Arabia says to maintain stable petroleum policies

May 8, 2016. Saudi Arabia's new energy minister Khalid al-Falih said the world's largest crude exporter was committed to meeting demand for hydrocarbons from its customers and would maintain its petroleum policies. Since 2014, Saudi Arabia has led OPEC through a new survival-of-the-fittest strategy aimed at defending market share rather than reducing production to support oil prices. Falih's comments support analysts' views that no shift in Saudi oil policy is likely as a result of his appointment. (www.reuters.com)

Israel Minister sees solutions to gas impasse, Turkey rift

May 5, 2016. Israel will soon submit to Noble Energy Inc and Delek Group Ltd a proposal meant to unblock stalled development of the Leviathan natural gas field and allow exports to Egypt and Turkey, Energy Minister Yuval Steinitz said. The proposal would be a "softer" version of the government's offer to promise the energy explorers regulatory stability for 10 years, which Israel's highest court struck down in March, Steinitz said. The absence of a regulatory framework has held up the development of Leviathan, Israel's largest gas reserve, discovered in 2010, and hindered production at the smaller Tamar field. It also has blocked export deals and antagonized investors, making it harder for Texas-based Noble and units of Israel's Delek to secure financing at a time when energy prices have tumbled. Steinitz said the gas explorers may end up with a better deal as the government weighed incentives -- including debt guarantees and financial compensation -- for any damages resulting from regulatory changes. Although the drop in crude oil prices has cut into global spending on oil and gas projects, Israel is betting Noble and Delek will move forward with Leviathan because gas prices in Israel and

elsewhere in the region remain relatively high, Steinitz said. A possible breakthrough in Israel's reconciliation talks with Turkey may also open up a large export market, he said. (www.bloomberg.com)

Iran's new oil investment contract to be ready by July

May 5, 2016. Iran's new oil industry investment contract for international oil firms will be ready by July, the Oil Ministry said. Some 135 companies including BP, Total, Italy's Eni and Spain's Repsol attended a conference in Tehran in November to hear about the new Iran Petroleum Contract (IPC) but its launch has been postponed several times. Iran had no plans to hold any conference abroad to introduce the new oil and gas contracts to foreign investors. Foreign companies will be invited in July to bid for the new IPCs, the managing director of the National Iranian Oil Company (NIOC) said. Yet Iran aims to sweeten the terms it offers on oil development contracts to attract foreign investors deterred by years of sanctions. Those sanctions were lifted in January under a deal reached between Iran and six major powers which calls for Tehran to curb its nuclear program. OPEC member Iran now aims to return its oil production to pre-sanctions levels. Iran's output has risen to 3.7 million bpd, the Oil Ministry said. (www.reuters.com)

[INTERNATIONAL: POWER]

Generation.....

Bangladesh clears Reliance's 750 MW LNG-fired power project

May 9, 2016. The Bangladesh government has given its in-principle approval to the first phase of a proposed 3,000 MW LNG-fired power project proposed by Indian independent power producer Reliance Power. Reliance Power will build the first 750 MW power plant in Meghnaghat (Narayanganj district), south-east of Dhaka. The project will source gas from a 2 million tonnes per year floating storage and regasification unit moored at Maheshkhali Island in Cox's Bazar district. The first phase of the plant is expected to be commissioned within 24 months, in 2018-2019. Total investment, in the 3,000 MW power plant and in the LNG import terminal, is estimated at US\$3 bn. (www.enerdata.net)

Decommissioning plan submitted for Shimane-1 nuclear plant

May 9, 2016. Japanese power utility Chugoku Electric has submitted an outline of its decommissioning plan for the 460 MW Shimane-1 nuclear reactor in the Shimane prefecture of Japan. The decommissioning process will be carried out in four phases. Decommissioning works are expected to be completed by March 2046. Shimane-1 is one of the five older reactors to be declared for decommissioning in March 2015, including Kansai Electric's Mihama-1 and 2, Japan Atomic Power Company's Tsuruga and Kyushu Electric's Genkai-1. (www.enerdata.net)

Dynegy to shut down 3 coal power units in Illinois, US

May 5, 2016. Dynegy is set to shut down three uneconomical coal-fueled units at two power plants in Illinois, US. The company has decided to close the coal-fueled units as they failed to recover their basic operating costs at the Midcontinent Independent System Operator's (MISO) recent capacity auction. Dynegy will shut down unit one and three at the Baldwin power station, as well as unit two at the Newton power station. The firm intends to close around 1,835 MW of generating capacity at the coal-fired units of both power plants. The plans are also underway to shut down an additional 500 MW of generating capacity, which is expected to be finalized later this year. Around 2,800 MW of generation capacity is being halted in Illinois, of which 30% of the power generation capacity is from the Southern Illinois. At the starting of this year, the company announced that it will shut down the 465 MW Wood River power station in June. (fossilfuel.energy-business-review.com)

Transmission / Distribution / Trade...

GE to buy power plant unit of Korea's Doosan Engineering

May 10, 2016. General Electric Co (GE) has agreed to buy a unit of South Korea's Doosan Engineering and Construction Co that produces key components of combined-cycle power plants. The \$250 million acquisition, which is subject to approval by regulators and Doosan shareholders, builds on GE's \$13.9 billion purchase of Alstom's energy business last year, Steve Bolze, chief executive of GE's power business, said. While not large in size - the Doosan unit has about \$200 million in annual revenue, compared with \$29 billion for GE's power unit - GE expects Doosan will increase the amount of

equipment it sells with new power plants. It also will help lower costs, increase service revenue and allow GE to use engineering and software to raise plant efficiency, Bolze said. (www.reuters.com)

Nigeria to split power transmission network

May 9, 2016. In West Africa, in hopes to attract private sector investment, the Nigerian federal government seeks to decentralise its power transmission network. The minister of power, works and housing, Babatunde Fashola, had stated that by decentralising the power transmission network, private sector investors would be granted the authority to manage segments of the grid on an agreed commercial framework. Although the idea is still in its proposal phase, Fashola said the initiative was motivated by the country's troubled transmission network. Nigeria considers technical possibilities that support decentralisation of the transmission grid. Fashola stated that government was working to diversify Nigeria's electricity sources to meet its plan for the energy sector. (www.esi-africa.com)

Bahrain to build \$474 mn power transmission line

May 9, 2016. Bahrain is set to launch a major 400 kV electricity transmission line aimed at reducing short circuits and ensuring transfer of electricity from the production plants to load centres across the kingdom. The next few years, Energy Minister Dr Abdulhussain Mirza said, will see three major electricity transfer stations also being built. According to him, the project aims to meet all the needs of development and facilitate the exchange of electric power with the GCC network. Prysmian Group, from Italy, and another company from Japan will be supplying the transmission lines for the project, which is scheduled for completion by the end of next year. Korean company Hyundai is supplying the transformers. (www.tradearabia.com)

Germany to bankroll Bangladesh's power transmission upgrade

May 5, 2016. Germany is providing € 139.5 million in loans and grants to Bangladesh to improve its power transmission system. Bangladesh and KfW Development Bank of Germany signed two agreements in Germany to support the improvement of power transmission. The financing package consists of a concessional loan of € 137.5 million and a grant of € 2 million. It is the single biggest project that is being supported financially by the German government for Bangladesh. The project prioritises the extension of existing and construction of new transmission lines and substations across Bangladesh. The purpose of the project is to contribute to a reliable and efficient supply of electricity in the national grid by improving the 230 kV and 132 kV transmission systems. In the last six years, Bangladesh has doubled its power generation capacity and actual production, but it still faces issues with its transmission lines. (www.thedailystar.net)

Policy / Performance.....

Switzerland plans to delay total electricity market opening

May 9, 2016. The government of Switzerland, Federal Council, has decided to postpone the complete opening of the electricity market (initially expected on 1 January 2018) to an unknown date, that will be determined upon the evolution on bilateral negotiations on an agreement on electricity, progress in the Energy Strategy 2050, market conditions and the planned revision of the law on electricity supply. A consultation was organised between October 2014 and January 2015 and highlighted the necessity to coordinate the market opening with other policies such as the Energy Strategy 2050. The Federal Council will then review the market opening conditions in 2017. (www.enerdata.net)

State regulators reopen case on San Onofre nuclear plant

May 9, 2016. State regulators announced that they have reopened the case involving the premature shutdown of the San Onofre nuclear plant, which closed after a replacement steam generator leaked. The California Public Utilities Commission said it is reevaluating the settlement agreement that left ratepayers on the hook for \$3.3 billion of the cost of closing the plant. The commission is giving parties involved in the case the opportunity to comment on whether the agreement was reasonable given that representatives of the plant's primary owner, Southern California Edison, engaged in secret talks with regulators over the closed nuclear plant. (www.latimes.com)

Australian inquiry backs nuclear power after decades-long aversion

May 9, 2016. An Australian royal commission recommended building a nuclear industry, including a waste dump, in the uranium-rich state of South Australia, propelling the case for overturning long-held opposition to nuclear power. The recommendation drew broad support from the federal government, and will likely be embraced by nuclear proponents to

justify ending decades-long resistance to nuclear energy which has hinged on safety and environmental grounds. Nuclear advocates have targeted sparsely populated South Australia, with one of the world's biggest uranium deposits, as a home for a nuclear power plant and waste dump, and the state's government began an inquiry into the possibility last year. (www.reuters.com)

Saudi Electricity breakup plan reviewed by authorities

May 8, 2016. Saudi Arabia is reviewing its plan to break up Saudi Electricity Co (SEC) into four parts as part of a drive to further privatize the utility. The review, being conducted by consultants and advisors to the government, could result in the original plan being retained or a new restructuring scheme put in place. The review places doubt on a timetable to split the firm by the end of the year into four power generation companies, as announced in February by Abdullah al-Shehri, governor of the Electricity & Co-Generation Regulatory Authority. At the time, he said the process would be open to competition and stakes in the new firms would be offered either to local citizens through offers on the stock market, or to local or international corporate partners. Saudi Arabia has been considering reforms to SEC since at least 2009, but political pressure for such change has increased greatly since oil prices began to plunge in 2014, straining state finances. The country's Vision 2030 plan, announced, unveiled a package of economic and social reforms aimed at ending the kingdom's "addiction" to oil and transforming it into a global investment power. (www.reuters.com)

Indonesia needs thorium-based nuclear power plant: Industry Minister

May 5, 2016. Industry Minister Saleh Husin said that Indonesia would need to develop thorium-based nuclear power plants to supply power to industries. Saleh said that thorium supplies in Bangka Belitung were predicted to reach 170,000 tons. Assuming that 1 ton of thorium can produce 1,000 MW of electricity per year, the thorium supplies will be enough to run 170,000 units of power plants for the next 1,000 years. With US\$3 cents of production cost to generate 1 kilowatt hour of electricity, the thorium-based nuclear power plant is the most efficient power plant in generating power. (en.tempo.co)

[RENEWABLE ENERGY / CLIMATE CHANGE TRENDS]

National.....

Rays Power commissions solar PV project in Telangana

May 10, 2016. Rays Power Infra Pvt Ltd, one of the leading solar energy companies, announced the commissioning of its latest solar photovoltaic project in Telangana. The 11.5 MW project's execution work had commenced in January this year and was commissioned in three months, the company said. Developed for Shining Sun Powers and spread over 46 acres in Mahabubnagar district, it is one of the fastest commissioned projects in the country. It is one of the few projects, which has been commissioned out of the allotted 500 MW under Telangana's solar policy. (www.business-standard.com)

Gamesa setting up a new plant in AP

May 10, 2016. Spanish wind turbine-maker Gamesa is expanding its production capacity in India by setting up a new integrated facility in Andhra Pradesh (AP), Gamesa Renewable Private Ltd chairman and managing director Ramesh Kymal said. The new plant is part of the group's € 100 million (₹ 800 crore) investment plan that includes outlays for setting up sub-stations and other facilities. He said the plant is coming up in the IFFCO Kissan Special Economic Zone at Nellore in Andhra Pradesh. It will first manufacture blades for 2 MW wind mills and later the nacelles, generators and other component assemblies. The plant is expected to start commercial production on August 15 this year, Kymal said. He said there is potential for growth for wind power in states like Andhra Pradesh and Karnataka. Kymal said that with new-generation machines, power could be generated even in areas where wind speed is relatively low. He said the company retained its leadership position in India by installing wind turbines with a total capacity of 1,003 MW. Cumulatively Gamesa has installed 3,000 MW of wind power in India and Sri Lanka (45 MW). In the last fiscal the company had installed wind mills with a total capacity of 1,003 MW and the plant load factor (PLF) of each machine is around 30 percent, Kymal said. According to Kymal, the company's order book position for wind turbines is 750 MW and for solar power projects, it is 150 MW. On the solar power projects, Kymal said the company does not have land bank but has the approvals to set up projects totalling 10,000 MW. (www.newkerala.com)

India has emerged as biggest renewable energy lab in world: Verma

May 10, 2016. US ambassador to India, Richard Verma, said India has emerged as the biggest renewable energy lab in the world and is at the threshold of dynamic growth in the deployment of smart grid technology. Verma, accompanied by other dignitaries, visited Tata Power Delhi Distribution's Smart Grid Lab in Rohini and Tata Power-DDL's grid connected 225 KW Solar Power Plant in the vicinity. (energy.economictimes.indiatimes.com)

Gujarat govt to kick-start solar rooftop project for citizens

May 9, 2016. In an attempt to scale up the present solar power generation in Gujarat, the state government is now all set to launch its much awaited project of grid-connected rooftop solar power units, wherein residential property owners will be encouraged to install this new system. The Solar Rooftop project was initiated by Gujarat Energy Development Agency (GEDA), which is the state nodal agency to promote renewable energy. In the current fiscal of 2016-17, GEDA has set a target of generating 50 MW of electricity by installing such rooftop solar photovoltaic (SPV) units across Gujarat. According to GEDA, the rooftop solar project is for residential consumers only. According to GEDA, the project of installing rooftop solar units would kick start once the identification of residential consumers as well as channel partners gets completed, tentatively within a couple of months. Till now, more than 150 residential property owners have already submitted their applications to GEDA for the installation of such solar units on their rooftops. (timesofindia.indiatimes.com)

At ₹ 600 mn, Nashik Inc goes the solar way

May 9, 2016. In an encouraging trend, more and more industries in Nashik are seen taking to solar power to meet their energy needs - In the past 12-18 months, solar power installation projects with 10 MW capacity have been set up at the cost of around ₹ 60 crore. There is potential of another 150 MW capacity installations worth ₹ 900 crore in the next five years. The projects will also create around 1,500 jobs, according to experts from solar industries.

The current solar power installation in the state is 379 MW and may go up to 15,000 MW by 2021-22, which will fetch investment worth ₹ 90,000 crore and will create 1.50 lakh jobs, claimed solar experts from industries. The current solar power installations across the country are of 5,129 MW capacity, including 1,264 MW in Rajasthan, 1,024 in Gujarat and 378 MW in Maharashtra. The installations in the country are expected to touch 1 lakh MW, which will create 15 lakh jobs and will fetch ₹ 6 lakh crore investment. (timesofindia.indiatimes.com)

ACME wins orders for 200 MW solar power projects in AP, Telangana

May 6, 2016. ACME, renewable energy company, has bagged orders for developing 200 MW solar power projects during separate auctions conducted by Solar Energy Corporation of India (SECI) and NTPC in Andhra Pradesh (AP) and Telangana, respectively. The company will commission the project within 13 months from the date of signing of the power purchase agreement with SECI. This project will generate approximately 7500 mn units during its 25 years tenure and supply power to AP Discom through SECI. ACME aims to commission 960 MW of projects by March 2017. (www.financialexpress.com)

Schneider Electric looking at 30 percent growth

May 6, 2016. The solar division of Schneider Electric India is looking at a 25-30% growth in business this year as demand for solar capacities rise. Schneider Electric sell invertors and other critical components for solar installations. Schneider Electric offers complete solar solution except panel and cables. Till now its equipment are installed in generation capacities that totals to about 700 MW. The government needs to electrify some 11,500 odd villages which is expected to jack up demand for mini and micro grids. Schneider Electric said the current capacity is for 2.5 GW and some 70% is exported. (economictimes.indiatimes.com)

Azure Power starts solar projects of 88 MW across 3 states

May 5, 2016. Azure Power announced commissioning of solar power plants with a total capacity of 88 MW in three states across the country. The projects include a 50 MW plant in Andhra Pradesh, two plants of total capacity of 28 MW in Punjab and a 10 MW plant in Karnataka, the company said. These plants, connected to the respective state grids, are part of Azure Power's 900 plus MW portfolio in 15 states, which includes the country's largest operational solar plant of 100 MW under India's National Solar Mission in Rajasthan, it said. (www.business-standard.com)

Cheap Chinese solar and wind power equipment a threat to Indian missions

May 4, 2016. Domestic solar and wind power players want government's intervention and control over large unregulated influx of Chinese solar and wind power equipment. They feel most of these are manufactured with sub-standard materials and could potentially endanger Indian solar and wind missions. The PHD Chamber of Commerce on behalf of domestic players issued a statement with the intention of forewarning Indian banks against excessive funding of such sub-standard imports. Punjab Energy Development Agency demanded intervention of the centre to check rapid rising Chinese imports of solar and wind panels including various other equipment because their quality is suspect and cannot sustain solar and wind power generation beyond five years. (economictimes.indiatimes.com)

Global.....

Australia on track to meet its 2020 renewable generation target

May 10, 2016. The Clean Energy Regulator of Australia has released the Renewable Energy Target 2015 Administrative Report, highlighting progress toward the Renewable Energy Target (RET), which requires Australia to generate 33 TWh of new renewable generation capacity by 2020, resulting in covering more than 23% of power generation with renewables by 2020. In 2015, 41 renewable plants with a combined capacity of 296 MW were commissioned, raising the total renewable capacity to 13,652 MW. Large-scale renewable sources generated 15.2 TWh of electricity during the year, while 188,902 small scale systems generated 8.9 TWh of renewable electricity. Overall, the capacity of small-scale solar installations rose by 12% in 2015, doubling the 2011 capacity. In addition, 409 MW of new renewable projects were committed in 2015, for a future generation of 1.3 TWh. The Clean Energy Regulator thus considers progress in 2015 adequate under the circumstances and the 2020 target achievable. To reach the target, Australia will have to add around 3,000 MW of renewable capacity in 2016. (www.enerdata.net)

Enel starts building 150 MW solar project in the United States

May 10, 2016. Italian energy group Enel, through its subsidiary Enel Green Power North America (EGPNA), has started building its 150 MW Aurora solar PV power plant in Minnesota (United States). The project will consist of 16 PV plants with a total capacity of 150 MW, which should generate 210 GWh/year and avoid the emissions of 150 ktCO₂ each year. The 16 sites are expected to be commissioned by the end of 2016. Power will be sold under a long-term Power Purchase Agreement with Xcel Energy in Minnesota. Total investment is estimated at US\$290 mn funded by State Street Bank and Trust Company in the amount of US\$140 mn. (www.enerdata.net)

China's total wind power generation to triple by 2030

May 9, 2016. Wind power installed capacity in China will increase from approximately 149 GW in 2015 to over 495 GW by 2030, representing a Compound Annual Growth Rate of 9%, according to research and consulting firm GlobalData. Despite China's wind development achievements to date, the sector faces the key problem of its increasing inability to accommodate the rapid surge in the number of wind turbines in remote areas due to its underdeveloped electrical grid, according to GlobalData. The Chinese government announced that it will put new wind power projects approvals on hold in 2016 in its northern provinces such as Inner Mongolia, Jilin, Heilongjiang, Gansu, Ningxia and Xinjiang, as the country is faced with grid constraints such as wind power output, system load, power source structure, regulation capability, power transmission scale and operation methods. (www.renewableenergyfocus.com)

Exxon, FuelCell seek cheaper way to make power plants clean

May 5, 2016. Exxon Mobil Corp, which has criticized the idea of investing in renewable energy, is working with a clean-energy company to develop technology to fight climate change. The world's biggest non-state oil explorer and FuelCell Energy Inc are collaborating on carbon-capture systems that reduce greenhouse gas emissions from power plants that burn fossil fuels. The effort was announced and dates back to 2011. Power plants are the biggest source of greenhouse gases, and finding affordable ways to make them cleaner is a key goal for the industry. The joint effort is aimed at reducing the cost of cutting emissions from new and existing fossil fuel plants, according to FuelCell Energy. The companies anticipate strong global demand for the technology, though it will still require a few more years of development. The initial work has focused on coal plants. Exxon expects the systems will also work with gas turbines, which are replacing older coal burners because of lower fuel costs and new air pollution standards. FuelCell has been awarded more than \$19 million in U.S. Energy Department funding for the technology. The Danbury, Connecticut-based company makes fuel cell power

plants, which produce electricity from natural gas using a chemical reaction that produces less emissions than burning the fuel. The carbon-capture system routes the exhaust from fossil-fuel burning plants through fuel cells, a process that separates the carbon dioxide and produces electricity that can be sold. The companies expect to have a pilot system in operation within four years. Exxon estimates that a typical 500 MW gas plant using the fuel-cell technology could extract 90 percent of the carbon dioxide while producing 120 MW of electricity. That's in stark contrast to existing carbon-capture technologies, which consume about 50 MW of power to extract and bury the greenhouse gas. (www.bloomberg.com)

SunPower loss bigger than expected as power plant business weighs

May 5, 2016. SunPower Corp, the No. 2 U.S. solar panel maker, reported a bigger-than-expected quarterly loss, largely due to a drop in revenue in its power plant business. Revenue from the company's power plant business decreased 23.5 percent to \$180.8 million in the first quarter ended April 3. Under the power plant business, the company develops a project and also provides related services. The company, majority owned by French energy giant Total SA, said revenue fell 12.7 percent to \$384.9 million in the quarter. (www.reuters.com)

Kidston solar project gets environmental approval from Queensland

May 5, 2016. Queensland Government Department of Environment and Heritage Protection has approved Genex Power's Kidston solar project. Genex Power has received confirmation from the Queensland Government Department of Environment and Heritage Protection that the existing Environmental Authority over the Kidston site does not require any amendment to enable the construction and operation of the 50 MW Kidston Solar PV project. (solar.energy-business-review.com)

Renewable installations steady in UK with costs 10 percent lower

May 5, 2016. Independent renewable-power producers installed the same amount of capacity in 2015 as year earlier at 10 percent of the cost, according to new figures by power utility SmartestEnergy Ltd. A combination of independent developers, businesses, farmers, landowners and waste disposal operators invested about 376 million pounds (\$544 million) in building new clean energy capacity last year, down from about 418 million pounds a year earlier, according to the report. Independent developers accounted for 77 percent of all investment in new renewable energy capacity in the U.K. last year, with traditional electricity suppliers building the rest, the report showed, which uses technology costs from the Department of Energy and Climate Change, assuming costs in the year of project commissioning. These so-called "energy entrepreneurs" now supply 7.6 percent of the U.K.'s power, up from 4.2 percent in 2012, the report found. Despite the drop in investment last year, about 2.4 GW of new capacity was added in 2015, roughly the same as a year earlier, the figures show. The fall in prices may be caused by a surge in new solar generation, which saw capacity grow 83 percent with 696 new projects added. Solar developers rushed to take advantage of the Renewables Obligation Certificate subsidy system, which closed in April, SmartestEnergy said. By contrast, new wind energy capacity grew by just 7 percent, with 263 MW added in 2015 compared to 690 MW a year earlier, the report showed. The slowdown was attributed to tougher conditions for securing planning permission and grid access. (www.bloomberg.com)

Germany considers minimum EU carbon price in energy policy draft

May 4, 2016. Germany is proposing a minimum price on European carbon emissions, according to a draft document outlining the nation's energy and climate policy through 2050. Germany's proposal follows a push by French President Francois Hollande for a carbon-price corridor that would boost the cost of pollution and encourage investment in low-emission technologies. A glut of pollution permits in the European Union's carbon trading system has pushed prices down almost 80 percent since 2008, eroding the penalty for burning coal, the most-polluting fossil fuel. France's proposal for a price corridor that rises over time attracted little attention among representatives of member states in a working group in Brussels. In the European Parliament, the European People's Party, the biggest political group, decided not to raise the issue when it presented its position on emissions market reform. The Parliament and national governments started work last year on the draft law to adjust the carbon market to the EU's climate goals through 2030. The legislative process may last around two years. (www.bloomberg.com)

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

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

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