Enviro Monitor
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Climate change

RUN-UP TO PARIS

Major targets announced by India. The country's Intended Nationally Determined Contribution (INDC) unveils its climate action plan for 2030, with some ambitious goals. As per the INDC, India would be chasing a non-fossil target of about 320 GW by 2030. While the document talks about a number of programmes, three main quantifiable targets emerge distinctly for the target year 2030.

✓ Reducing emission intensity of GDP by 33-35% from 2005 levels
✓ Increasing non-fossil electricity generating systems to reach 40% of the commutative installed capacity
✓ Creating additional carbon sinks of 2.5 to 3 billion tonnes of CO_2 equivalent through additional forest and tree cover.

In addition to these, the document also talks about the focus on adaptation efforts in sectors (geographic and socio-economic) which are more vulnerable to climate change, especially agriculture and water.

India to launch alliance of 'sunshine nations' in Paris. Seeking to present a group of sunshine countries as a block to get a better deal in the rising renewable energy market, India will launch an "alliance of solar-rich countries" in Paris on November 30 when India's Prime Minister visits the French capital along with other top world leaders to attend inaugurals of the crucial climate summit.

It is expected that as many as 107 sunshine countries from across the globe will join the alliance - the concept of which was conceived by India to present these nations as an effective group to get finance and technological support from investors for solar energy market.

Global emission reduction pledges fall short of keeping global warming in check. The emission reduction pledges of 119 countries under the Paris agreement will not be enough to keep the global temperature rise within two degree Celsius by the end of the century over the pre-industrial era, the UN Framework Convention on Climate Change (UNFCCC) concluded in a recent assessment.

$13.5 trillion required to meet global climate pledges. The International Energy Agency (IEA) has said that the full implementation of climate pledges across the world will require a $13.5-trillion investment from the energy sector between 2015 and 2030. In the World Energy Outlook special report titled Energy and Climate Change, the IEA states that the investment will need to be in energy efficiency and low-carbon technologies. The investment translates to an annual average of $840 billion. The total investment required will be almost 40 per cent of the total energy sector investment, according to the IEA.

India's per-capita emissions were 1.6 tonnes in 2014, or about 10% of the level in the United States and 25% of the level in China.

India primary energy demand by fuel type and related CO2 emissions in the INDC Scenario

HAILSTORM DAMAGE		
Year	Area (ha)	Intensity
2005	110	Mild
2006	170	Mild
2007	220	Moderate to severe
2008	400	Moderate to severe
2009	650	Moderate to severe

Source. IEA. 2015

Other developments in the run-up to Paris….
→ Paris climate deal will not include global carbon price, says UN climate chief
→Paris climate pledges 'will slow energy emissions': IEA
→150 countries pledge to curb carbon emissions
→China to raise penalties in new carbon market rules
→Prominent Australians ask world leaders to consider ban on new coalmines
→UK Environment Agency divests in landmark move to help meet 2C limit
→France launches global drive for climate deal

More

RIL joins hands with 9 oil and gas firms for climate pact. Reliance Industries, along with nine of the world's largest oil and gas companies, declared their collective support for an effective climate change agreement, to be reached at the 21st session of the United Nations Conference of Parties to the UN Framework on Climate Change (COP21).

The 10 companies together provide almost a fifth of all oil and gas production and supply nearly 10 per cent of the world's energy. In their milestone declaration, the CEOs of the 10 companies that currently make up the Oil and Gas Climate Initiative – BG Group, BP, Eni, Pemex, Reliance Industries, Repsol, Saudi Aramco, Shell, Statoil and Total – all confirmed that they recognize the general ambition to limit global average temperature rise to 2 degrees centigrade, and that the existing trend of the world's net global greenhouse gas emissions is not consistent with this ambition.

Climate change threat for tea estate. Increasing incidences of pest outbreaks, prolonged periods of drought, change in the pattern of rain distribution, and rising number of hailstorms are harbingers of climate change for the already struggling tea industry sector. Climate change will definitely have a great impact on tea ecosystems and affect photosynthesis and crop productivity. However, the effect will be different for each region, says the paper *Climate Change and its Impact on Tea Plantations* by Dr B Radhakrishnan, Director, Tea Research Foundation under the United Planters' Association of South India. The paper said that analysis of data on the impact of weather change on the Nilgiri tea plantations showed no change in the quantum of rain received. However, its distribution pattern had changed. The increase in temperature over the plantation area had risen 0.5 °Celsius; the number of dry days had shown an increase and frost and hailstorm damage to standing crop was seen in more places, the paper said.

Clean Technica, 12 October 2015 | The Hindu, 12 October 2015 | The Hindu Business Line, 16 October 2015 | The Hindu Business Line, 21 October 2015 | The Times of India, 30 October 2015 | Business Standard, 31 October 2015 | IEA, 2015

Air quality

Delhi: Commuters exposed to high pollution levels, cyclists are worst hit. A recent study by IIT has found that the on-road concentrations of PM 2.5 were between 10 to 40 per cent higher for different modes of transport, in comparison to the ambient air quality levels. According to the findings, the on-road PM 2.5 concentrations exceeded the ambient measures by an average of 40 per cent while walking, 10 per cent when the subject was cycling, 30 per cent for motorized two wheelers, like bikes and scooters, 30 per cent for open-windowed cars, 30 per cent for auto rickshaws, 20 per cent for air-conditioned as well as open-window buses and 30 per cent for underground metro stations.

The study is published in the international journal Atmospheric Environment.

Delhi suffers from a toxic blend, says UK study. According to another study published in Atmospheric Environment, Delhi city suffers from a "toxic blend of geography, growth, poor energy sources and unfavourable weather that boosts its dangerously high levels of air pollution". The study also recommends all-round solutions instead of just focusing on vehicular pollution. The team researched

how Delhi's landscape, weather, energy consumption culture, and growing urban population combines to elevate concentrations of air pollutants, including ultra-fine particles, the most harmful to human health. As a landlocked megacity Delhi has limited avenues for flushing polluted air out of the city.

Delhi: Air quality getting worse by the year. Data released recently by System of Air Quality and Weather Forecasting Research (SAFAR) under the Ministry of Earth Sciences shows the air quality in September has steadily worsened since 2011. SAFAR's data also shows that every year air pollution levels in October climb higher than in September as the temperature starts falling. The monthly PM 2.5 (fine, respirable pollution particles) average for September rose 63% from 54 micrograms per cubic metre in 2011 to 88 micrograms per cubic metre in 2015. The major sources of air pollution in Delhi are transport, industries, biomass burning and dust. Transport is the biggest contributor, SAFAR's research shows.

A new mobile app launched in London uses sensors to monitor air quality to tell users when to stay indoors to avoid dangerous pollution levels. The app uses hourly data from sensors around London to monitor levels of nitrogen dioxide and carbon monoxide.
The *Plume Air Report app*, which was first launched in France, maps out pollution levels across the city, and forecasts whether it is due to rise or fall imminently. It is now available in over 150 cities including London and New York.

SC imposes green levy on trucks entering Delhi. Commercial vehicles entering Delhi would have to pay an environment compensatory charge, the Supreme Court ordered. The bench headed by Chief Justice H L Dattu ruled all commercial vehicles not bound for the capital yet passing through it would pay the fee. The bench justified the charge, saying it was necessary to equalize the difference in cost in travelling on alternative routes. The National Green Tribunal had issued a similar order earlier this month. Heavy trucks would have to pay Rs 1300 and light commercial vehicles Rs 700, in addition to the toll tax for entering the city.

Haryana factories install air-pollution control devices. As part of Haryana government's efforts to control air and water pollution in the state, 222 industrial units in Haryana have installed effluent treatment plants and 370 units have installed air-pollution control devices during the past one year. Monitoring devices for the purpose have been installed by 35 industries. Besides, two suppliers of online monitoring devices are displaying monitoring data through cloud servers. The state's pollution control board is currently receiving data of 19 industries at its head office.

Pollution scanner on brick kilns. Brick kilns cannot operate in the vicinity of human habitation and fruit orchards and the two units should be at least a kilometre apart to check the pollution caused by them, says the proposed standards for the brick kilns drawn by the Ministry of Environment and Forests (MoEF). According to the MoEF proposal, brick kilns should be located at a minimum distance of 0.8 km from villages and fruit

There are 140,000 brick kiln units in the country that produce 240-260 billion bricks annually. India is the world's second largest brick producer after China.

orchards. State boards may make siting criteria stringent considering the proximity to habitation, population density, water bodies and sensitive receptors among others. While majority of brick kilns in the country at present are established in a cluster, the standards clearly set one km minimum distance from existing fixed chimney kiln to avoid clustering of kilns in an area. There are standards for height and emission standards to be met by good fuel charging and operating practices.

Environment ministry deploys officers to assess, review polluted clusters. The environment ministry has announced the deployment of 20 joint secretary and joint secretary-level officials to periodically assess and review critically polluted industrial clusters to ensure proper implementation of action plans to tackle pollution. The officers will also note deficiencies in the implementation of action plans in critically polluted areas and submit reports to CPCB and state pollution control boards.

Business Standard, 13 October 2016 | The Times of India, 13 October 2015 | NDTV, 20 October 2015 | The New Indian Express, 22 October 2015 | The Times of India, 24 October 2015 | Indian Express, 25 October 2015 | | Mint, 27 October 2015 | Indian Express, 31 October 2015 | The Times of India, 1 November 2015

Water resources

Government promotes hydroponic for growing fodder amid water scarcity. With increasing water scarcity due to frequent droughts and declining land availability for farming, government agencies are promoting hydroponic for growing fodder. Grown without soil and using minimal water and land, farmers are also turning to this technique as the fodder produced through hydroponics is more nutritional than the regular fodder. Under the hydroponic system, seeds of maize, wheat and bajra are grown in trays stacked using a structure of bamboo or iron for 8 to 10 days. Each tray is watered using foggers every three hours, a method that reduces the water requirement of each tray to just 200-250 ml. The technique helps grow green fodder without soil in even very small pieces of land.

Himalaya mountains face water scarcity from climate change. The Himalaya mountains are taking a major hit from climate change, a new study shows. Researchers from Baylor University discovered that climate change along with an increase in agricultural land use and human population growth is reducing the availability of water sources in the Himalaya Mountain basins. To study the problem, researchers used a sophisticated modeling tool called the Soil and Water Assessment Tool that allowed them close examination of land use, soil types, topography and meteorology of the area, according to Baylor University's news release.
The study was recently published in the Journal of Hydrology.

Uttarakhand: Water Resources Ministry approves various schemes. Union Ministry of Water Resources, River Development and Ganga Rejuvenation has approved various schemes sent to it by Government of Uttarakhand. A new ghat will be constructed in Haridwar at Chandighat. A consortium of engineers from central PSUs will be formed for strengthening the embankments of Mandakini and Saraswati rivers and construction of ghats at Kedarnath. The consortium will prepare the DPR in

consultations with the experts from Nehru Institute of Mountaineering, Uttarkashi. The sewage treatment plants at Muni ki reti and Jagjeetpura in Rishikesh will be set up by central PSUs.

Kerala: Water policy recommends phasing out of public taps. The water policy released by Kochi Corporation urges the promotion of individual water connections and phasing out around 5000 public taps in due course. The policy finds that these taps for which the Corporation pays about Rs 7000 to be a drain on its coffers as they have been illegally used for washing vehicles and bathing domestic animals. A centralized monitoring system developed using state-of-the-art information technology applications has been

The formation of 'Blue Brigade,' a specialized team to assist the Kerala Water Authority to attend leakages in the distribution pipes, has been recommended.

proposed to attend to complaints on the distribution network. The policy, drawn up by the SCMS Water Institute, recommends the formation of Kochi Water Information System to serve as a central repository for any water related data about the Corporation.

The Hindu, 4 October 2015 | The Economic Times, 16 October 2015 | Nature World News, 23 October 2015 | Business Standard, 29 October 2015

Waste management

In non-metro cities, 60% houses empty waste into open drains. Over 60% of houses in mid-size cities such as Moradabad, Gorakhpur, Kolhapur, Bilaspur and Kharagpur with less than one million population discharge waste water to the open drains, indicating how the government has a mammoth task in achieving complete sanitation even in urban areas. Nearly one-fourth of 416 such non-metropolitan cities have less than 20% households that have waste water outlets connected to the closed drainage system. According to a report on the status of demographic, economic, social, housing and basic infrastructure prepared by National Institute of Urban Affairs, a research organization of urban development ministry, more than half of the households in 327 such cities discharge waste water to the open drains.

Large-scale open burning of garbage damaging Taj. One of the major threats to the Taj Mahal — a high level of particulate matter responsible for masking the white marble sheen — is being released into air on account of large scale burning of municipal solid waste in the city. A joint study by the University of Minnesota and Georgia Institute of Technology to find a pattern in open burning of garbage within Indian cities has revealed that 2-3% of garbage is burnt every day in Delhi, while at 24% it is almost 12 times more in Agra.

According to the findings of the study, the total municipal solid waste being burnt in Delhi on a daily basis is estimated to be about 190-246 tonne per day out of total 8390 tonne generated. In Agra, it is 223 tonne per day out of 923 tonne. The study has been published in the journal Environmental Science and Technology.

Delhi: 26 waste-to-energy plants planned. 26 waste-to-energy plants, one for each Assembly constituency in its jurisdiction, are being planned by the North Delhi Municipal Corporation in an attempt to tackle garbage in a decentralized way. The 26 plants will use 70 to 100 metric tonnes of trash per day, were in the pipeline.

Karnataka draft notification issued on plastic ban. The Forest, Ecology and Environment Department has issued a draft notification prohibiting the production, transportation, sale and usage of plastic carry bags, buntings, plates, plastic cups and plastic sheets, irrespective of their thickness. The notification stipulates that no person including shopkeepers, vendors, wholesalers, retailers, traders, hawkers or salesmen shall use plastic carry bags, banners, buntings, flexes, plastic flags, plastic plates, plastic cups and plastic sheets used in functions for serving food items, irrespective of thickness.

Bengaluru: Garbage piles up on streets as landfills go dysfunctional. Uncleared garbage is piling up in several parts of the city as the Bruhat Bengaluru Mahanagara Palike struggles to dump and process waste at various landfill sites. Garbage has not been cleared in such places as Ulsoor, Banashankari and Yarab Nagar for a fortnight now as people living close to various landfill sites on the City's outskirts resist the dumping of waste there.

The Times of India, 12 October 2015 | The Hindu, 24 October 2015 | Deccan Herald, 28 October 2015 | The Times of India, 28 October 2015 | Deccan Herald, 30 October 2015

Forests & biodiversity

Centre plans public-private participation to revive country's degraded forests. The Centre plans to revive 2.5 crore hectares of degraded forests through public-private participation (PPP) to meet its climate change plan target of reducing carbon emissions by about 35 per cent by 2030. This was stated by Union Minister for Environment Mr Prakash Javadekar.

Corporates now allowed to help develop forests near protected areas. Private companies can now take up nature conservancy projects to boost ecotourism on private land surrounding tiger reserves and wildlife sanctuaries under corporate social responsibility (CSR). With this, Maharashtra has become the first state in the country to announce such a policy. One of the basic aims is to bring 33% of the geographical area under forest cover as per the National Forest Policy 1988. As per the policy, at least 5% of the forest cover should be under protected areas (PAs), whereas, with 6 national parks, 48 sanctuaries and 4 conservation reserves, which constitute an area of 10,068.42 sq km, the PA area comes to 3.27%.

The new policy allows companies to grow forest on private lands by way of natural regeneration and meadow development by paying compensation to land owners for not doing farming.

Green India Mission plans approved for four states. National Mission for a Green India, under the Ministry of Environment and Forests, has approved annual plans for Kerala, Mizoram, Manipur and Jharkhand. Its National Executive Council, which met recently, approved the Perspective Plans and Annual Plan of Operations for these states.

[National Mission for a Green India](#), one of eight Missions outlined under the National Action Plan on Climate Change, acknowledges the influence forests have on environmental amelioration through climate change mitigation, food security, water

The Mission hinges on decentralized participatory approach involving grass root level organizations and community in planning, decision making, implementation and monitoring.

security, biodiversity conservation and livelihood security of forest-dependent communities.

Only 25 per cent of original habitats have survived in East Himalayas. The latest regional species discovery report [Hidden Himalayas: Asia's Wonderland](#), a World Wildlife Fund's (WWF) Living Himalayas initiative, while celebrating the discovery of 200 new species between 2009 and 2014, has also expressed concern over depletion of original habitats due to industrial growth, mining and climate change. Only 25 per cent of the original habitats in the eastern Himalayas remain intact and hundreds of species in the region face threat to their existence from unbridled developmental activities and climate change, according to the study. The report underscores the dire threats facing the vibrant ecosystems across a region spanning Bhutan, north-east India, Nepal, north Myanmar and the southern parts of Tibet.
The Times of India, 11 October 2015 | Business Standard, 13 October 2015 | Indian Express, 25 October 2015 |The Times of India, 26 October 2015

Mining

GPS mapping to avoid unscientific sand extraction. The Goa State Expert Appraisal Committee (GSEAC) has directed the District Collectors – North and South – to survey and map the sand extraction lease boundaries through Global Positioning System (GPS), to avoid unwarranted and unscientific extraction. While banning sand mining within 25 metres of buffer zones, GSEAC has granted prior environmental clearance for a period of five years for extraction of sand in 26 identified clusters. GSEAC has opined voluntary moratorium on worked-out-mining leases for a desire period in consultation with the Directorate of Mines and Geology.

Meghalaya may be exempted from central mining laws. The Union Ministry of Coal has, in principal, agreed to exempt the operation of the Coal Mine Nationalization Act, 1973, under para 12A (b) of the Sixth Schedule to the Constitution subject to its approval by the Union Ministry of Home Affairs. Para 12A (b) of the Sixth Schedule to the Constitution has the provision for the President of India to issue a notification to exempt central mining laws in the autonomous areas of Meghalaya in the context of the ban on coal mining in the State by the NGT.

Odisha plans to revive bauxite mining project in Niyamgiri Hills. Odisha is planning to revive Vedanta Resources' bauxite mining project on top of the Niyamgiri Hills, a forested area that the local Dongria Kondh tribe considers sacred. Vedanta Resources has planned to mine the Niyamgiri Hill range, which is believed to be the home of deity Niyam Rajawhich, who is worshipped by the tribe. The company

formed a joint venture with the state-owned Odisha Mining Corporation to develop the Niyamgiri mine, under a memorandum of understanding. Niyamgiri Hills contains 72 million tonnes of bauxite, which the firm intended to mine to feed its alumina refinery plant at Lanjigarh, Odisha.

Organizations like Niyamgiri Surakshya Samity, Lok Sangram Manch and All India Kisan Mazdoor Sabha have decided to restart organizing people's movement against attempt of Odisha government to revive proposal of bauxite mining in Niyamgiri hill range.

Himachal Pradesh: Panel for scientific mining set up. After notifying its mining policy to curb illegal mining, state government has now for the first time constituted a state mineral advisory committee headed by industries minister. Committee would ensure planned and scientific mining and would also give suggestions to government for better management of mining areas. Himachal Pradesh minor minerals concession) and minerals (prevention of illegal mining, transportation and storage) rules, 2015 were notified in March 2015.

KSPCB launches software to speed up environmental clearances. In a bid to become business-friendly state, the Karnataka State Pollution Control Board (KSPCB) has launched Online Consent Management — Extended Green Node software that is set to make the process of applying for environmental clearance digitized. The facility is applicable to green (environment-friendly) and orange (medium emission) category of industries that can apply for consent online. Red category of industries that are heavily polluting will be able to apply online for environment clearance after January 2016. The mechanism, once fully digitized will not only speed up environmental clearances but also help the board officials conduct inspection and monitor the pollution levels of the industries that have already obtained consent to set up.

The Times of India, 14 October 2015 | Herald, 15 October 2015 | The Economic Times, 19 October 2015 | Business Standard, 26 October 2015 | The Times of India, 26 October 2015 | Mining Technology, 28 October 2015 | The Shillong Times, 30 October 2015 | The Hindu, 2 November 2015