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TECHNOLOGY

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Modi: 14, 500 schools to be upgraded as PM SHRI

EXPRESS NEWS SERVICE
NEW DELHI, SEPTEMBER 5

PRIME MINISTER Narendra Modi on Monday announced that 14,500 schools across the country will be upgraded under a new centrally-sponsored scheme – PM SHRI (PM Schools for Rising India) – to showcase all components of the National Education Policy (NEP) 2020.

Union Education Minister Dharmendra Pradhan had first announced the plan in June during a conference with the states and Union Territories in Gujarat. The PM, who also interacted

with teachers who won the National Awards during the day said these schools will “encapsulate the full spirit of NEP”.

Under the scheme, schools identified include those run by the Centre, states, UTs and local bodies. These schools will showcase all components of the National Education Policy 2020 and act as exemplar schools and also offer mentorship to other schools in their vicinity,” the government said in a statement.

The NEP provisions include a major focus on achieving learning outcomes in every grade rather than clearing exams.

Context: On the occasion of teachers’ day Prime Minister announced that 14,500 schools across the country will be upgraded under a new centrally sponsored scheme PM-SHRI (PM Schools for Rising India) to showcase all components of the National Education Policy-2020.

PM SHRI

- PM SHRI stands for PM Schools for Rising India and these are being established as a role model for providing high-quality education in an equitable, inclusive and joyful school environment.
- The schools will be home to students from diverse backgrounds and will cater to multilingual needs, and different academic abilities of children.
- The new schools being established as PM Shri Schools and the old ones being updated, will be equipped with modern infrastructure and will adopt transformational pedagogy which will focus on holistic method of imparting education.
- These schools will focus on discovery-oriented, learning-centric way of teaching.
- On the infrastructure side, PM Shri Schools will be fitted with latest technology, smart classrooms, sports and more.

HDFC Bank, Precision Biometric to test applications under RBI's sandbox scheme

New Delhi: HDFC Bank and Precision Biometric India have been selected by the Reserve Bank for testing their 'on tap' retail payments applications under the regulatory sandbox scheme, the central bank said on Monday.

Regulatory sandbox (RS) refers to live testing of new products or services in a controlled/test regulatory environment for which regulators

may permit certain relaxations for the limited purpose of the testing. The regulatory sandbox allows the regulator, innovators, financial service providers and customers to conduct field tests to collect evidence on the benefits and risks of new products and systems.

The RBI announced the opening of the 'On Tap' application facility for the theme 'Retail

Regulatory sandbox refers to live testing of new products or services in a controlled/test regulatory environment

Payments' under the regulatory sandbox in October last year.

The product 'Offline Retail Payments' by HDFC Bank (in partnership with Crunchfish AB) provides the capability for customers and merchants to pay and receive payments in offline mode, the RBI said in a release.

Precision Biometric India has come out with 'InnaIT Key Solution for Banking'. It offers a solution to enable biometric tokens. PTI

Context: HDFC Bank and Precision Biometric India have been selected by the Reserve Bank for testing their 'on tap' retail payments applications under the regulatory sandbox scheme.

Regulatory sandbox scheme

- Regulatory Sandbox is a framework that allows live, time-bound testing of innovations, overseen by a regulator.
- It is in a contained space, where incumbents and challengers experiment with designs lying on the edge of or are outside the existing regulatory framework.
- This framework can be adopted by any sector's regulator.
- The idea of sandboxing comes from the information technology sector, where new products are tested, while database is isolated from critical system resources and the product has not necessarily gone live.
- However, regulatory sandboxes test products that are already live.
- The three main financial regulators in India - Reserve Bank of India, Securities Exchange Board of India and Insurance Regulatory and Development Authority of India - have an RS framework. While SEBI's and IRDAI's are still at a nascent stage, RBI's framework has progressed to its fourth stage.



FM defends windfall tax on crude, oil product exports

PTI

feedback@livemint.com

MUMBAI



Finance minister Nirmala Sitharaman,

PTI

Finance minister Nirmala Sitharaman on Monday defended the windfall tax on domestically produced crude oil and additional tax on exports of refined petroleum products, saying the levy has been imposed in full consultation with the industry.

The government has imposed a windfall tax on domestically produced crude and additional tax on refined products like petrol, diesel and aviation fuel on 1 July.

"Let me tell you frankly that I didn't expect such a question from a potential investor. I had clearly stated that on the day this decision was made that India wants to be a refining hub, India wants to encourage investments in refineries, and India wants to... ensure that profitability is not taxed with the intention to earn revenue for the government," Sitharaman told a summit organized by Elara Capital here.

"So the belief that windfall tax is ad hoc is slightly unfair. Because the price and the tax-

running dry, the government had introduced a windfall tax on oil exports and domestically produced oil and gas to rein in what Sitharaman had described as "phenomenal profits" made by some oil refiners by exporting fuel at the expense of domestic supplies.

The move was expected to garner an additional tax of ₹66,000 crore this fiscal, though the amount would vary depending on the price of crude and export prices of refined products.

From July, the tax on per litre of petrol and ATF export was ₹6 each and on diesel it was ₹13. Additionally, a ₹23,250 per tonne tax was levied on crude oil produced domestically.

Accordingly, when crude prices fell later in July, the government reduced the tax rates.

At the fourth fortnightly review on 31 August, the government raised the windfall tax on diesel exports to ₹13.50 a litre from ₹7 and that on aviation turbine fuel (ATF) to ₹9 from ₹2 from 1 September.

Alongside, the tax on domestically produced crude was hiked to ₹13,300 per tonne from ₹13,000.

tion rate decided are arrived at after full consultation with the industry. We've come up with these parameters based on cracks margins that the industry has given to us," she said. The minister added that she had clearly said everything would be done in consultation with the industry and it is doing that every 15 days.

The government is not interested in ad hocism when it comes to taxation in the oil and gas sector, she added.

From 1 July, as the oil prices were on a song and many private sector fuel stations were

WINDFALL TAX

(Syllabus: GS Paper 3 - Economy)

Context: Finance minister defended the windfall tax on domestically produced crude oil and additional tax on exports of refined petroleum products, saying the levy has been imposed in full consultation with the industry.

Windfall Tax

- **A higher tax rate on sudden big profits** levied on a particular company or industry.
- **Aim/Objective:** increasing local supplies and boosting its revenues.
- A windfall tax is a higher tax rate levied by governments against certain industries when economic conditions allow those industries to experience above-average profits.
- So when any industry, in this case-oil and gas- benefits from an event or a one-off external situation (the Russia-Ukraine war) that they were not responsible for and make sudden profits, these profits are taxed separately, over and above the normal taxes that these companies pay to the governments.

Benefits

Boosts government revenues

Provide public services and other benefits to the citizens

Windfall gains can repay interest-bearing consumer

Invest the windfall proceeds in gold deposits

OPEC, partners okay small production cut

The move follows a bitter energy dispute between Russia and the West

Bloomberg
feedback@livemint.com

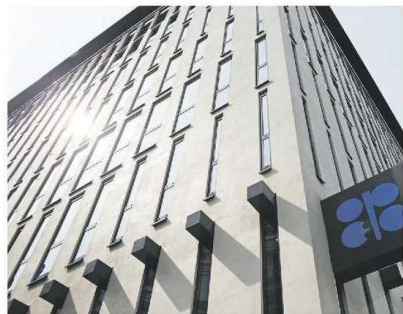
Oil surged at the start of the week as OPEC+ decided to cut output in October and Europe's energy crisis deepened.

West Texas Intermediate crude advanced toward \$90 a barrel. The Organization of Petroleum Exporting Countries (OPEC) and allies including Russia plan to trim production by 100,000 barrels a day next month. The move effectively reverses a symbolic output hike of the same volume in September that was made in response to lobbying from US President Joe Biden.

"Last month's adjustment provided a nod to the demands of the consumers, this monthly adjustment is a small nod to the concerns of the producers," said Emily Ashford, an analyst at Standard Chartered. "The continuation of the monthly format is allowing OPEC+ to make small but reactive adjustments to market conditions."

Crude fell sharply last week and generally has trended lower since June as the risk of a global economic slowdown hits markets. Last week, Russian energy giant Gazprom PJSC said gas flows along a key pipeline to Germany would not resume, just after G-7 ministers had endorsed a US-led initiative to cap the price of Russian oil.

The latest surge in European natural gas futures, which posted the biggest



OPEC+ to trim production by 100,000 barrels a day. REUTERS

intraday jump since March, may be a double-edged sword for oil. While costlier gas can fan additional demand for crude-based fuels, the rally also threatens to plunge the region into a deep recession, denting overall consumption.

Oil's advance came even as a Bloomberg gauge of the greenback rallied to an all-time high amid a broad shift away from risky assets, including equities, as investors assessed the fallout from Europe's worsening energy crunch. Usually a stronger dollar is a headwind for commodities such as crude.

Ahead of the OPEC+ session—which falls on a US holiday that may thin trading—most market watchers said they expected no change to supply at this point despite the warn-

ing from Riyadh. JPMorgan Chase & Co. said output quotas would be rolled into October as summer surpluses would turn into deficits.

The latest move by OPEC+ takes output back to August levels. In its final communique after Monday's online conference, the cartel also high-

lighted that it would be willing to call another ministerial meeting at any time to address further market developments. Its next talks will be on 5 October.

The decision could come as a worrying development for consuming nations as they grapple the inflationary squeeze from crude at \$95 a barrel and the prospect of a winter energy crunch. Markets are on track to tighten as the European Union sanctions Russian

crude over its invasion of Ukraine.

Although the cut is "insignificant in volume terms, it is rather intended to send the signal that OPEC+ is back into a price-watch mode," said Bill Farren-Price, head of macro oil and gas research at Enverus. The group may think this move "will be enough to deter any short-sellers."

Brent crude was 3.6% higher at \$96.40 a barrel as of 1:48 p.m. in London.

While traders had mostly expected that OPEC and its allies would hold steady, the coalition's leading producer had indicated a possible pivot. Saudi energy minister Prince Abdulaziz bin Salman said a couple of weeks ago that the OPEC+ alliance—which has just finished restoring the output halted during the 2020 pandemic—was now considering cuts as a way to stabilize excessive volatility in markets.

Crude futures had lost 20% in the past three months on fears of a global economic slowdown, imperiling the revenue windfall being enjoyed this year by the Saudis and their partners. China, the biggest oil importer, has exhibited signs of an "alarming" economic slowdown, with apparent consumption sinking 9.7% in July to a two-year low amid weaker business activity and harsh covid-19 curbs.

The fresh cut suggests "there is a desire to defend oil prices to stay above the level of \$90 a barrel," said Giovanni Staunovo, a commodity analyst at UBS Group AG.

OPEC AND OPEC + (Syllabus: GS Paper 3 - Economy)

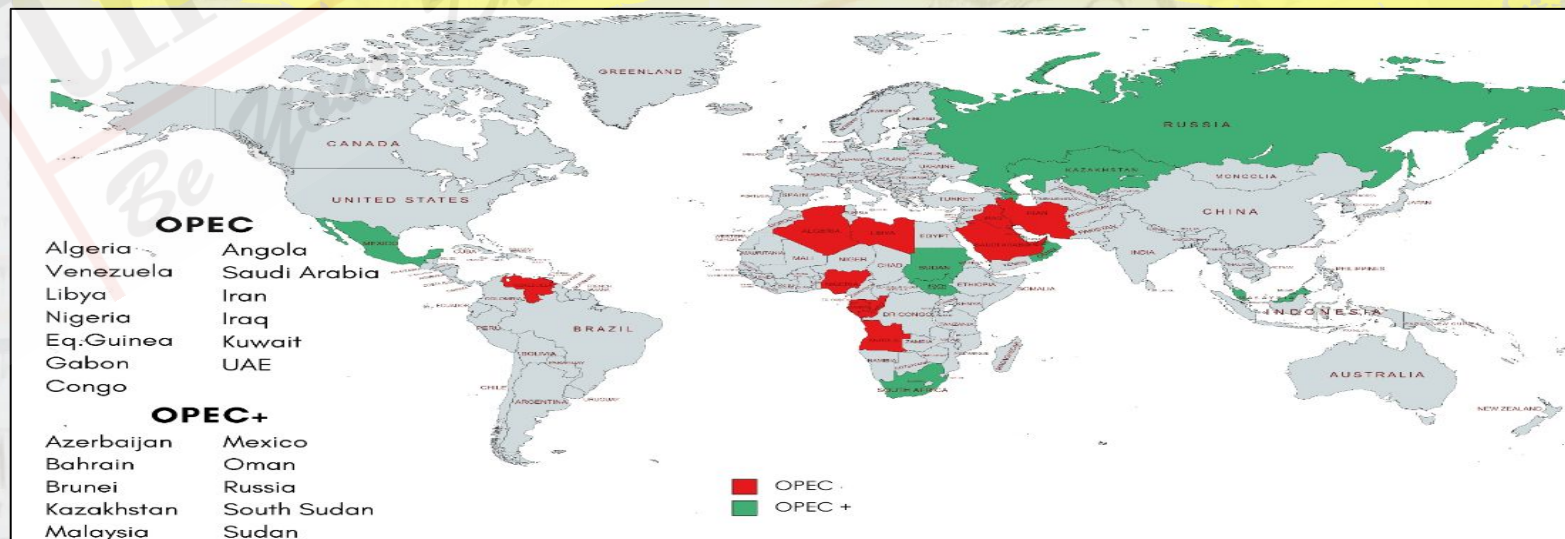
Context: Oil surged at the start of the week as OPEC+ decided to cut output in October and Europe's energy crisis deepened.

Organization of the Petroleum Exporting Countries

- **Permanent and intergovernmental organization:** Created at the Baghdad Conference in September 1960.
- **Founding member:** Iran, Iraq, Kuwait, Saudi Arabia and Venezuela.
- **OPEC Secretariat:** Located in Vienna.
- **Objective:** To coordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers.

OPEC Plus

- **Non-OPEC countries** which export crude oil are termed as OPEC plus countries.
- **Aim/objective:** to manage the supply of oil in an effort to set the price of oil in the world market, in order to avoid fluctuations that might affect the economies of both producing and purchasing countries.
- **Headquarter:** Vienna, Austria
- **Membership:** membership is open to any country that is a substantial exporter of oil. India is not a member.



Preventive detentions rose in 2021

Number of people in custody or detained at the end of year highest since 2017

ABHINAV LAKSHMAN
NEW DELHI

Preventive detentions in 2021 saw a rise by over 23.7% compared with the year before, with over 1.1 lakh people being placed under preventive detention, according to statistics released by the National Crime Records Bureau (NCRB) last month.

Of these, 483 were detentions under the National Security Act, of which almost half (241) were either in custody or still detained as of 2021-end. Over 24,500 people placed under preventive detention were either in custody or still detained as of 2021-end – the highest since 2017 when the NCRB started recording this data.

In 2017, the NCRB's *Crime in India* report found that 67,084 persons had been detained as a preventive measure that year. Of these, 48,815 were released between one and six months of their detention and 18,269 were either in custody or still in preventive detention as of the end of the year.

The number of persons

Behind bars | A look at the number of preventive detentions under the National Security Act over the past five years

DETENTIONS RELEASED



placed under detention has been increasing since 2017 – to over 98,700 in 2018 and over 1.06 lakh in 2019 – before dipping to 89,405 in 2020. Data pertaining to 2021 showed that 1,10,683 persons were placed under preventive detention last year, of which 24,525 were either in custody or still detained as of the end of the year and the rest were let go within one to six months.

While the number of persons placed under preventive detention has seen an increase in 2021, the NCRB

data showed that the number of people arrested in such a manner under the National Security Act had dipped significantly compared with the year before.

Preventive detentions under the NSA increased to 741 in 2020. This number dropped to 483 in 2021.

Use of provision

Among other laws under which the NCRB has recorded data on preventive detentions are the Goonda Act (State and Central) (29,306), Prevention of Illicit Traffic in

Narcotic Drugs and Psychotropic Substances Act, 1988 (1,331), and a category classified as “Other Detention Acts”, under which most of the detentions were registered (79,514). Since 2017, the highest number of persons to be placed under preventive detention has consistently been under the “Other Detention Acts” category.

Shwetank Sailakwal, advocate-on-record, who has researched preventive detention laws and procedures in India, pointed out that several laws such as the Unlawful Activities (Prevention) Act and Maharashtra Control of Organised Crime Act also provide for making preventive detentions.

According to Section 151 of the Code of Criminal Procedure, the police are empowered to make preventive arrests if they believe they must do so to prevent the commission of “any cognisable offence”. This detention can be extended beyond 24 hours if required “under any other provisions of this Code or of any other law”.

PREVENTIVE DETENTION

(Syllabus: GS Paper 2 - Polity & Governance)

Context: Preventive detentions in 2021 saw a rise by over 23.7% compared with the year before, with over 1.1 lakh people being placed under preventive detention, according to statistics released by the National Crime Records Bureau (NCRB) last month.

Preventive detention

- Under Section 151 of The Criminal Procedure Code, 1973 (CrPC) preventive detention is action taken on grounds of suspicion that some wrong actions may be done by the person concerned.
- A police officer can arrest an individual without orders from a Magistrate and without any warrant if he gets any information that such an individual can commit any offense.
- Article 22 of the Indian Constitution provides protection against arrest and detention in certain cases.

Difference between preventive detention and an arrest

- An ‘arrest’ is done when a person is charged with a crime. An arrested person is produced before a magistrate within the next 24 hours.
- In case of preventive detention, a person is detained as he/she is simply restricted from doing something that might deteriorate the law and order situation.

Services PMI flags rebound in August

Business sentiment in India recovers to best level since May 2018, S&P Global's sectoral survey shows

VIKAS DHOOT
NEW DELHI

The services sector rebounded in August from a four-month low in July and created the most jobs in 14 years as input cost pressures eased to the slowest pace in 11 months, as per S&P Global India Services Purchasing Managers' Index (PMI), which expanded to 57.2 last month, from July's 55.5.

While overall new orders increased for services firms sharply from July, transport, information and communication reported a faster spurt in new business as well as output, with finance and insurance outperforming all other sub-sectors.

August's higher growth accompanied by decelerating input costs, lifted sentiment among services firms sur-



Adding jobs: Private sector jobs expanded the most in more than 14 years driven by the service economy. ■ K. MURALI KUMAR

veyed by S&P Global, as they revised upwards their forecasts for output levels a year from now, taking overall optimism to the highest level seen since May 2018.

In July, the PMI survey had indicated that only 5% of companies expected output

growth in the year ahead, compared with 9% in June, when the index had hit an 11-year high of 59.2.

While consumer services faced the highest input cost inflation, transport, information and communication services recorded the fastest

rise in selling prices, said Ms. Pollyanna De Lima, economics associate director at S&P Global Market Intelligence.

"With demand showing considerable resilience, service providers maintained a degree of pricing power and lifted selling prices amid the transfer of cost increases to customers," she noted, adding that the rate at which service providers passed on higher charges to customers was broadly similar to July.

Compelled to increase prices to protect their margins from cost pressures, firms lifted selling prices with some signalling that their price revisions were backed by 'accommodative demand conditions', with buyers willing to pay more.

Outstanding business volumes rose at the fastest pace

in 18 months in August, taking the sequence of accumulation to eight months.

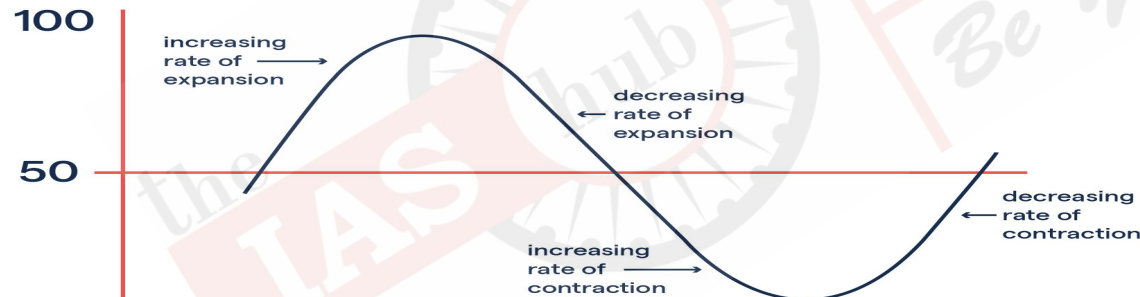
Composite index climbs
With the manufacturing PMI reflecting strong growth in new orders and output, the Composite PMI Output Index rose to 58.2 from 56.6. The rate of inflation faced by manufacturing and services firms combined, hit a 19-month low.

"New work intakes increased at quicker rates in the manufacturing and service sectors, leading to the fastest upturn at the composite level for nine months. Indian private sector jobs expanded to the greatest extent in over 14 years... driven by a substantial acceleration in growth across the service economy," S&P Global said.

Context: The services sector rebounded in August from a four-month low in July and created the most jobs in 14 years as input cost pressures eased to the slowest pace in 11 months, as per S&P Global India Services Purchasing Managers' Index (PMI).

Purchasing Managers' Index (PMI)

- PMI or a Purchasing Managers' Index (PMI) is an indicator of business activity - both in the manufacturing and services sectors.
- It is a survey-based measures that asks the respondents about changes in their perception of some key business variables from the month before.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.
- The PMI is derived from a series of qualitative questions.
- A figure above 50 denotes expansion in business activity. Anything below 50 denotes contraction.
- Higher the difference from this mid-point greater the expansion or contraction.
- The rate of expansion can also be judged by comparing the PMI with that of the previous month data.
- If the figure is higher than the previous month's then the economy is expanding at a faster rate.
- If it is lower than the previous month then it is growing at a lower rate.



APPOINTMENT OF ELECTION COMMISSIONERS

(Syllabus: GS Paper 2 - Polity & Governance)

SC seeks govt response on collegium to appoint ECs

New Delhi: The Supreme Court on Monday sought the Centre's response to a PIL seeking guidelines for a mechanism to select election commissioners to honour the constitutional mandate to make the EC independent in letter and spirit.

Appearing for an NGO, Association for Democratic Reforms, advocate Prashant Bhushan told the apex court that the poll officials are appointed solely by the Centre and, of late, there has been strong criticism of EC's impartiality, reports **Dhananjay Mahapatra**. He said similar to the manner in which the court has ensured independence of tribunals by creating search-cum-selection committees headed by a sitting SC judge, the independence of EC could be ensured by creating a collegium.

Context: The Supreme Court sought the Union government's response to a PIL requesting the court to frame guidelines for a mechanism to select election commissioners to honour the constitutional mandate to make the EC independent in letter and spirit.

Appointment of Election Commissioners

- The Chief Election Commissioner and the Election Commissioner are appointed by the President of India.
- Each of them holds their offices for a period of 6 years or up to the age of 65 years, whichever comes first.
- They receive the same perks and pay as Supreme Court Judges.
- The only way a Chief Election Commissioner can be removed from office is upon an order of the President supported by the Parliament.
- The Election Commissioner or Regional Commissioner can only be removed from office by the Chief Election Commissioner.
- Clause (2) of Article 324 provides that the Election Commission shall consist of the Chief Election Commissioner and such number of other Election Commissioners, if any, as the President may from time to time fix.
- Until Parliament makes any law in that behalf, the Chief Election Commissioner and other Election Commissioners are appointed by the President.
- When any other Election Commissioner is so appointed, the Chief Election Commissioner; shall act as the Chairman of the Election Commission.



भारत निर्वाचन आयोग
ELECTION COMMISSION OF INDIA

FOUNDED ON 25th JANUARY, 1950



Election Commission of India is a Permanent Autonomous Constitutional Body.

It holds the Powers and Responsibility of superintendence, direction and control of the entire Election process.



Election Commission is the sole authority for scheduling the elections to Lok Sabha, Rajya Sabha and Offices of President & Vice President.

Election Commission is not just a regulatory but also an Electoral Management body.



Election Commission of India is also responsible for the deployment of necessary Police and Paramilitary Forces during elections.

Election Commission also has the right to engage requisite Government Officials during election time.



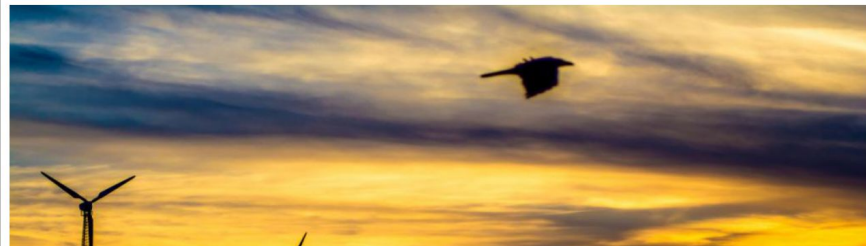
The Present Commission is a three-member body:
Sh. O. P. Rawat, Chief Election Commissioner,
Sh. Sunil Arora & Sh. Ashok Lavasa,
Election Commissioners.

India's wind energy sector struggles despite SECI's oversubscribed bids

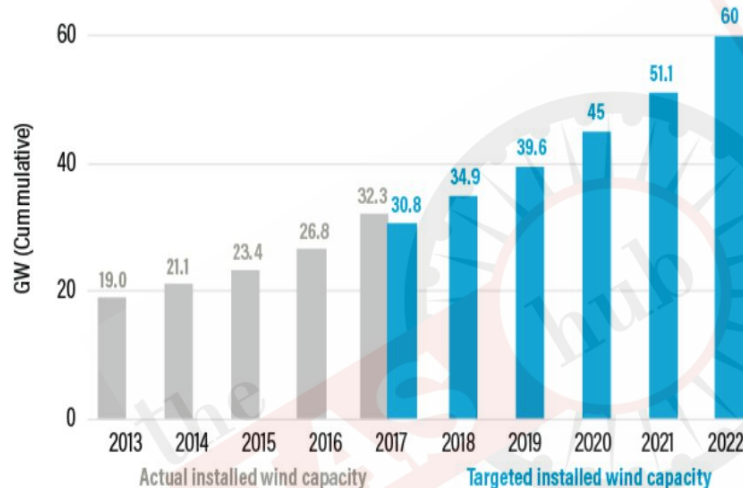
Surge in commodity prices, supply chain disruptions, increase in tax rates, legacy challenges key reasons

By Binith Das

Published: Monday 05 September 2022



India's Year-on-Year Targets to Reach 60 GW Wind Goal



Source: India's Ministry of New and Renewable Energy (MNRE)

Note: All years in the chart are fiscal years: 1 April-31 March



WORLD RESOURCES INSTITUTE

Context: India's green energy transition story hinges on wind. India aims to install 140 gigawatts of wind power capacity over the next decade, of which approximately 100 GW have not yet been installed.

Status of Wind Energy in India

- The total installed wind power capacity was 40 GW as of 30 November 2021, making it the world's fourth largest installed wind power capacity.
- Between 2010 and 2020, the compound annual growth rate for wind generation was 11.39 percent, and for installed capacity, it was 8.78 percent.
- India's 7,600 km of coastline can generate 127 GW of offshore wind energy. (according to the Ministry of New and Renewable Energy (MNRE))
- At a 100 metre hub height, the total wind energy potential, according to the National Institute of Wind Energy (NIWE), is 302 GW.
- Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, and Tamil Nadu account for more than 95 percent of commercially exploitable resources.
- The Ministry of New and Renewable Energy (MNRE) of the Union has set a goal of installing 5 GW of offshore wind by 2022 and 30 GW by 2030.

WIND DEVELOPMENT IN INDIA

3rd Largest Energy Consumer

Challenges

- Rising DISCOMs Dues
- Land Acquisition
- Undersubscription
- Access to Grid

Potential 302 GW (100m)
695 GW (120m)

Current Status 39GW (March 2021)
Covid-19 65%↓ (Q3 2020)

Target 2022 60GW
2030 140GW

Image credit Matthias Bockel from Pixabay

Overall Coal Production Increases by 8.27% to 58.33 Million Ton in August, 2022

Coal Despatch Touches 63.43 Million Ton

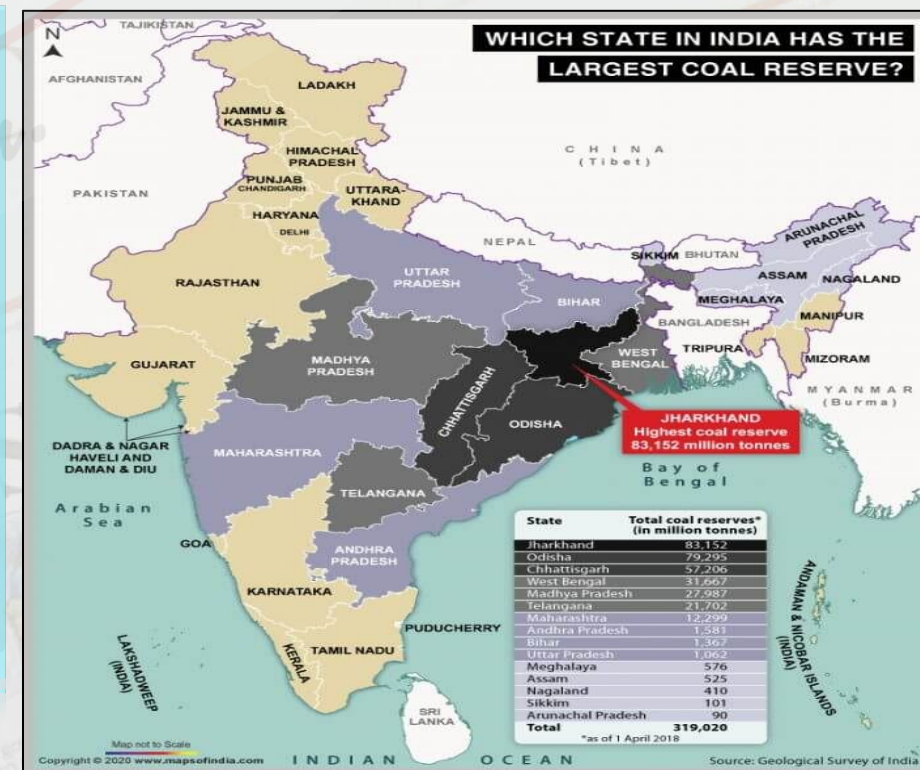
TwentyFive Mines Production Goes Beyond 100 Per Cent

India's overall coal production

- India's overall coal production increased by 8.27% to 58.33 Million Ton (MT) from 53.88 MT during August, 2022 as compared to Aug 2021.
- During Aug 2022, Coal India Ltd (CIL) and captive mines/ others registered a growth of 8.49 and 27.06% by producing 46.22 MT and 8.02 MT respectively.
- However, SCCL registered a negative growth of 17.49% during the month.
- Of the top 37 coal producing mines in the country, 25 mines produced more than 100 % while the production level of five mines stood between 80 and 100 percent.

Status of coal sector in India

- It currently accounts for 55% to 70 % of India's total energy consumption (CSO 2013)
- About 75% of the total coal produced in India is used for power generation
- India is the second largest coal importer, despite having the world's fourth largest coal reserves and being the second largest producer
- India has 4th largest reserves of coal and holds about 286 billion of world's some 850 billion of proven reserves.

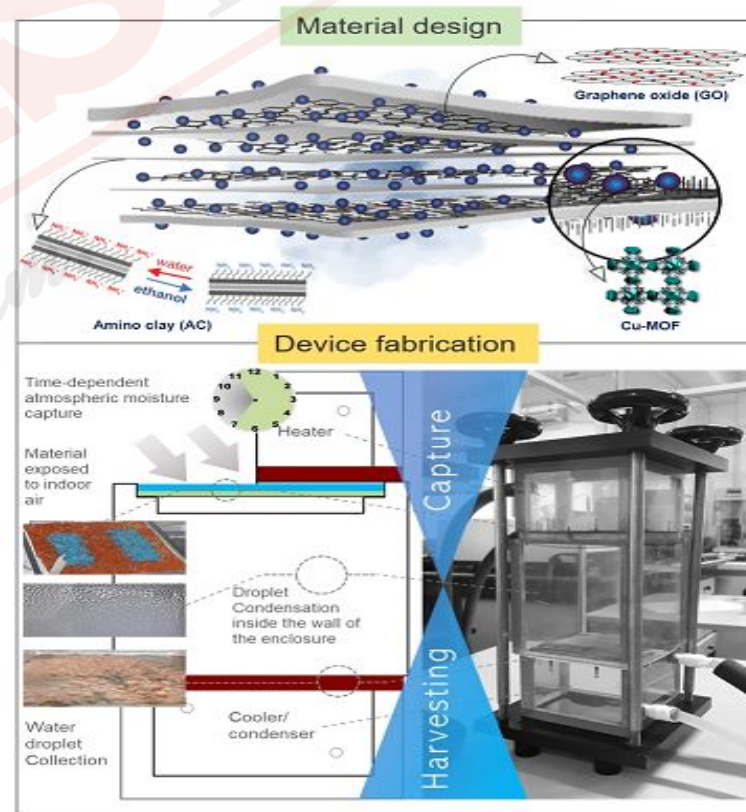


New device that can extract water from air developed for all geographical locations

A new device that can extract water from air can be used for indoor water harvesting from the atmosphere.

Indoor Atmospheric Water Harvester (IAWH)

- The prototype was named Indoor Atmospheric Water Harvester (IAWH), which employed a kind of material called Metal-Organic Framework (MOF) nano-composites.
- It consists of empty pores for adsorbing water molecules exactly like a sponge.
- The technology relies on a copper-based material connected through organic linkers.
- It has a design involving a linker-and-node set producing a cage-like framework.
- Such material has been further modified through two-dimensional templates (graphene oxide/GO and aminopropyl-functionalized magnesium phyllosilicate/AC) to provide additional openings for water molecules and improve hydrothermal resilience.
- It is postulated that the water molecules initially enter the pore that acts as a 'seed water' to attract the next water molecules leading to high-water storage capacity under extremely humid conditions.
- Experiments reveal the water harvesting performance of 0.431 gg⁻¹ (gram of water harvested per gram of material) of water at 90% relative humidity with a maximum value of 0.445 gg⁻¹ indoor (40-65%) water collection per day.



The schematic of material preparation and prototype developed by JNCASR team.

THANK YOU!



t.me/theiashub



[/mkyadav](https://www.youtube.com/channel/UCmkyadav)



www.theiashub.com/daily-quiz



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