

Testwale Current Affairs PDF

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1. Ministry of Coal Initiates India's First Underground Coal Gasification Pilot Project in Jharkhand (June 27, 2024)

The Ministry of Coal has initiated India's first pilot project for Underground Coal Gasification (UCG) in Jharkhand.

An Overview of the News

- The project aims to revolutionize the coal industry by converting in-situ coal into valuable gases like methane, hydrogen, carbon monoxide, and carbon dioxide.

Objectives

- Transform economically unviable coal resources through advanced gasification technologies.
- Produce synthetic natural gas, chemical feedstocks, fertilizers, and industrial products from converted gases.

Project Details

- Location: **Kasta coal block, Jamtara District, Jharkhand.**
- Led by Eastern Coalfields Limited (ECL) in collaboration with CMPDI Ranchi and Ergo Exergy Technologies Inc. (EETI) from Canada.
- Two-year project divided into two phases: feasibility study and pilot-scale gasification.

Phases

- Phase 1 (Started June 22, 2024): Conducting borehole drilling and core testing to prepare a Technical Feasibility Report.
- Phase 2: Implementation of coal gasification at a pilot scale.

Benefits

- Enhances energy security and promotes sustainable development.
- Demonstrates efficient utilization of India's coal reserves, contributing to energy self-reliance.
- Showcases innovative coal gasification technologies tailored to Indian geo-mining conditions.

Strategic Importance

- Aligned with the Ministry of Coal's policy framework for UCG in coal and lignite-bearing areas.

Supported by the CIL R&D Board to foster R&D and innovation in the coal sector.

Future Outlook

- Expected to set new standards in coal resource utilization and pave the way for similar projects in India.
- Aims to establish India as a leader in adopting advanced coal gasification technologies.

2. Himachal Pradesh to prepare green hydrogen policy (May 26, 2023)

Himachal-Pradesh-to-prepare-green-hydrogen-policy

Himachal Pradesh Chief Minister **Sukhwinder Singh Sukhu** announced on 20 May 2023 that it will formulate a '**Green Hydrogen**' policy to promote the use of green hydrogen and establish the state as a leading center for its production.

An Overview of the News:

- State Chief Minister Sukhu said in a statement that the state's abundant renewable energy resources, including ample sunlight, water and wind, make the state an ideal location for generating green hydrogen.
- This initiative of the state will not only contribute to the global fight against climate change but will also make the state a leader in sustainable development.

An agreement with OIL:

- The state government has signed an MoU with **Oil India Limited (OIL)** for the production of **green hydrogen**.
- OIL has shown interest in setting up a plant in the state that will produce green hydrogen for ethanol production.
- As per the initiative of the state government, this alternative fuel can be used as a replacement for petrol.

Himachal Pradesh:

- Capital : **Shimla**
- Governor: **Shiv Pratap Shukla**
- Chief Minister: **Sukhwinder Singh Sukhu**
- Seat in Lok Sabha: **4**
- Seat in Rajya Sabha: **3**
- Seat in the Legislative Assembly: **68**

3. Coal Ministry Action Plan 2023 -24 : Targets 1012 Million Tonne Coal Production (May 4, 2023)

The **Ministry of Coal** has prepared an **action plan for the financial year 2023-24** with the aim of making Atmanirbhar Bharat by increasing **production, efficiency, sustainability, new technologies etc. in the coal sector**.

Action Plan for the FY 2023-24**Coal Analytics**

- **Coal Production** - The total coal production target of 1012 MT for FY 2023-24.
- **Outsourcing of Mines**- Various steps to increase coal production and efficiency like Mining Developers cum Operators (MDO).
- **Coking Coal Strategy** - Ministry of Coal has formulated a coking coal strategy to enhance coking coal availability in the country to reduce imports.
- **Quality of Coal** - Various measures to achieve the objective of supply of quality coal to all consumers.

Private Investment

- **CAPEX and Asset Monetization** -The overall projected target of Assets Monetization plan for FY 2023-24 is Rs 50,118.61 Crores.
- **Commercial Mining** - During FY 2022-23, the Ministry signed agreements for a total of 23 coal mines having cumulative PRC of 33.224 MTPA.

Infrastructure Projects

- **PM Gatishakti National Master Plan** - Ministry of Coal is closely monitoring the new railway line projects that are critical for coal evacuation.
- **Coal Evacuation**- FMC & Railway Lines - Ministry of Coal has adopted a Coal Logistics Policy/Plan for effective and environmentally friendly transport of coal.

Safety in Mines

- The Ministry of Coal reaffirms its commitment to the best safety standards and utmost priority to the safety in Coal Mines.
- **Scientific closure of Mines** - To restore the ecological balance in the mined-out areas, mine closure activities will begin this year.

Technology Push to Coal

- **Technology roadmap in the Coal sector** - Ministry is going to circulate the Monitoring framework for coal companies towards Implementation of Technology Roadmap.
- **Coal to Chemical** - Various initiatives like Coal to Hydrogen, Coal & Lignite gasification, CBM/CMM etc.
- **Diversification of Coal India Limited (CIL)** - Coal India Limited is being diversified for sustainable future business operations like New Business Areas (Aluminium, Power, Solar wafer, Solar Power & Renewable) etc.

Sustainability in the coal sector

- The Ministry of Coal envisages promoting a sustainable development model in which coal production goes hand in hand with measures for environment protection, resource conservation, care for society and protection of forests and biodiversity.

4. PM Modi to launch key green energy initiatives at India Energy Week (Feb. 4, 2023)

PM Modi to launch key green energy initiatives at India Energy Week

Key **energy initiatives** will be unveiled by PM Modi during **India Energy Week** which will be held in **Bengaluru** from February 6 to 8.

An overview of the news

- It will witness the participation of over **600 exhibitors** from across the globe, over **34 ministers** and **several CEOs** from top energy companies.
- He will dedicate the **HAL helicopter factory at Tumakuru** to the nation and also lay the foundation stone for various development initiatives.
- **China, America, Russia, Brazil** and many other countries will participate in this important event.
- This is the **first time** that India is hosting such an event with a record number of CEOs from top energy companies.
- According to the **International Energy Agency (IEA)**, India will account for **25 percent of global energy demand by 2040.**

Blending of ethanol in fuel

- An important initiative to be launched during the India Energy Week will be to increase **blending of ethanol in the fuel.**
- PM Modi is expected to launch the **E20 initiative** at the upcoming event.
- Under the E20 programme, India aims to increase the percentage of blending of ethanol in fuel to **20 per cent by 2025**, as against the earlier target of **2030.**
- In the initial phase, the program will cover **13 states and 100 petrol pumps.**
- India has saved **Rs 40 lakh crore** on fuel by blending **10% ethanol** and farmers have got economic benefits for producing ethanol.
- This initiative has environmental and economic benefits.
- Ethanol blending will play an important role in reducing fuel imports and help the country move towards clean energy.

India Energy Week 2023

- It is expected to feature more than **30 energy Ministers, 50 CEOs and 10000+ delegates**.
- This will provide a unique opportunity to showcase India as an engine of global economic growth and a driver of global consumption.
- It will provide an unprecedented opportunity for regional, international leaders and CEOs to come together for strategic policy making and technical knowledge sharing.
- During the 19 strategic conference sessions, a wide spectrum of issues covering the entire energy sector will be discussed.
- It covers themes such as Energy Security, pathways for decarbonization, Resilient Energy Supply Chains, Emerging Fuels such as Biofuel and Hydrogen, Investments in Upstream and Midstream Sector etc.

5. Union Government approves the National Green Hydrogen Mission (Jan. 4, 2023)

Union Government approves the National Green Hydrogen Mission

The Union Cabinet headed by the Prime Minister **Narendra Modi** on 4 January 2023 approved the National Green Hydrogen Policy which aims to make India a Global Hub for the production, utilisation and export of [Green Hydrogen](#) and its derivatives.

Green Hydrogen refers to the breaking down of the water molecule into hydrogen and oxygen using renewable sources of energy.

Outlay for the Scheme

The initial outlay for the Mission is **Rs.19, 744 crore**, including an outlay of Rs.17, 490 crore for the **Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)**, Rs.1, 466 crore for pilot projects, Rs.400 crore for Research and Development, and Rs. 388 crore towards other Mission components.

Main Objective of the National Green Hydrogen Mission

- The aim of the National Hydrogen Mission is to enable India to meet its climate change target of **net zero carbon emission by 2070** and make India a production and export hub of hydrogen fuel.
- Achieve the capacity to produce **5 million tonnes** of green hydrogen per year by 2030
- Capacity addition of **125 GW of renewable energy by 2030**.
- Reduction in carbon dioxide emission of nearly 50 Million Metric Tonne per annum by 2030.
- Reduction in fossil fuel imports worth Rs 1 lakh crore by 2030.
- To attract investment over Rs.8 lakh crore in the sector.
- Target of creation of over 6 lakh jobs in the sector by 2030.

6. India Energy Week 2023 to be held in Bengaluru (Dec. 17, 2022)

India Energy Week 2023 to be held in Bengaluru

India Energy Week 2023 (IEW 2023), being organised during India's G20 Presidency, will be held in **Bengaluru between February 6 and 8, 2023.**

Important facts

- **Hardeep S Puri**, Minister of Petroleum and Natural Gas & Housing and Urban Affairs, inaugurated the **curtain raiser**.
- **Basavaraj Bommai**, Chief Minister of Karnataka was the Chief Guest for the occasion.
- The Curtain Raiser marks the beginning of number of preparatory events being hosted in the run up to the India Energy Week 2023.
- Major events include "**Dancing Charged Electric Vehicles**" on 23rd December 2022 at New Delhi's Kartavya Path, "**Car Rally of Sustainable Fuel Vehicles**" from New Delhi to Manesar on 8th January 2023.

India Energy Week 2023

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7. India and France adopts a joint roadmap on Hydrogen partnership (Oct. 18, 2022)

The visiting French Minister of State for Development, Francophonie and International Partnerships **Chrysoula Zacharopoulou** and Union Power and New & Renewable Energy Minister **R K Singh** adopted the "Indo-French Roadmap on the Development of [Green Hydrogen](#)" on 18 October 2022, in a meeting in **New Delhi**.

The French embassy said the roadmap aims at bringing the French and Indian hydrogen ecosystems together in order to establish a reliable and sustainable value chain for decarbonised hydrogen.

Prime Minister Narendra Modi and the French President Emmanuel Macron in a meeting on 4 May, gave a clear mandate to foster bilateral cooperation on hydrogen. This agreement is a step in that direction.

8. India to produce 5 million tonnes of green hydrogen by 2030 (Feb. 18, 2022)

The Union Power Ministry has notified its **green hydrogen/green ammonia policy** on 17 February 2022. It puts into reality **the National Hydrogen Mission** announced by the Prime Minister in the 15 August 2021 speech.

The aim of the National Hydrogen Mission is to meet its climate change target of net zero carbon emission by **2070** and make India a production and export hub of hydrogen fuel.

The main highlights of the green hydrogen/green ammonia policy:

- The policy has set a target to produce **5 million tonnes of green hydrogen by 2030.**
- **Separate manufacturing zones** will be set up for manufacturing of green hydrogen /green ammonia.
- The government would allow free power transmission to renewable energy units set up by green-hydrogen producers and power banking facilities for 30 days.
- There will be charges for inter-state transmission for a period of 25 years if the manufacture of green hydrogen and green ammonia is started before 30th June 2025.

In order to deal with the challenge of **global warming and climate change** countries around the world are promoting hydrogen as an alternative fuel. In India many companies have projects to produce green hydrogen.

- Indian Oil Corporation plans to build the country's **first green-hydrogen plant** at its Mathura refinery.
- NTPC will set up the country's **first green hydrogen microgrid project** at its Simhadri plant in Andhra Pradesh.

Concept clearing

Green Hydrogen, Brown Hydrogen, Blue Hydrogen:

Hydrogen is the first and the smallest element in the periodic table.

Depending upon the production method the colour of the hydrogen can be Green, Brown, Blue or Grey.

Green Hydrogen

It refers to the breaking down of the water molecule into hydrogen and oxygen using renewable sources of energy. Renewable source of energy means which can be used again and

again like solar power, hydel, wind energy etc. It contains no carbon which is responsible for global warming.

Grey Hydrogen

Grey hydrogen is created from natural gas, or methane, using steam methane reformation. It produces Hydrogen and Carbon dioxide which is released in the atmosphere.

Blue Hydrogen

Blue hydrogen is produced mainly from natural gas, using a process called steam reforming, which brings together natural gas and heated water in the form of steam. It produces hydrogen and carbon dioxide.

Black and Brown Hydrogen

When black coal or lignite (brown coal) is used in the hydrogen-making process it is called as black or brown coal.