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Current Affairs - 23 November 2024

SOLAR ENERGY CORPORATION OF INDIA (SECI) LTD



- It is the leading Central Public Sector Undertaking (CPSU) dedicated to the development and expansion of Renewable Energy (RE) capacity in India.
 - It was established to facilitate the implementation of the National Solar Mission.
 - It is under the administrative control of the Ministry of New and Renewable Energy (MNRE).
 - It was incorporated in 2011 as a not-for-profit company (Sec. 25 of Companies Act, 1956) and converted to a commercial company in 2015 (Sec. 3 of the Companies Act, 2013).
- Vision: To build 'Green India' through harnessing abundant solar radiation and to achieve energy security for the country.
- It is the only CPSU dedicated to the renewable energy sector.
 - SECI serves as an implementing agency for the development of Solar, Wind and Hybrid Projects as part of fulfilling the country's Nationally Determined Contributions (NDCs).
 - In addition, SECI has ventured into solar project development on a turnkey basis for several PSUs/Government departments.
 - The company also has a power trading license and is active in this domain through trading of solar power from projects set up under the schemes being implemented by it.
 - Its model involves procuring energy from developers selected through competitive bidding and selling it to electricity distribution companies (DISCOMs) under long-term Power Purchase Agreements (PPAs) and Power Sale Agreements (PSAs).
 - It has been accorded the status of Miniratna Category-I CPSU.
 - It now oversees a massive 65.3 GW of awarded generation capacity.
 - Out of this, more than 60%—over 40 GW—is solar energy. The remaining capacity includes 16.3 GW of wind energy and about 9 GW of hybrid energy projects.



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WHAT IS NANO UREA?



- It is a nanotechnology-based revolutionary agri-input that provides nitrogen to plants.
- It is developed and patented by the Indian Farmers Fertiliser Cooperative Limited (IFFCO).
- IFFCO Nano Urea is the only nano fertilizer approved by the Government of India and included in the Fertilizer Control Order (FCO).

Features:

- Compared to conventional urea prill, Nano Urea has a desirable particle size of about 20-50 nm, and more surface area (10,000 times over 1 mm urea prill), and number of particles (55,000 nitrogen particles over 1 mm urea prill).
- It contains 4.0 % total nitrogen (w/v).

Benefits:

- It is produced by an energy-efficient, environment-friendly production process with less carbon footprints.
- It is more efficient in terms of nutrient uptake and releases nitrogen more slowly.
- It reduces the amount of nitrogen lost to the atmosphere as greenhouse gases.
- It is expected to improve crop productivity, soil health, and nutritional quality of produce and address the "imbalanced and excessive use" of conventional fertilizer.

WAVES OTT PLATFORM



- Waves is a digital platform developed by Prasar Bharati.
- It aims to cater to India's growing demand for streaming services, as stated by the broadcaster in its official release.



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- It offers a wide range of content, including live TV, video on demand, games, radio streaming, and e-commerce options via the ONDC network. Its offerings include:
 - On-demand content: Movies, shows, ebooks, and historical visuals
 - Live events: Religious programmes, cricket tournaments, and other big events
 - Games: Suitable for all age groups
 - Online Shopping options
 - Currently, the app provides access to around 65 live channels, including private broadcasters.

What is an over-the-top (OTT) platform?

- It refers to any streaming service that delivers content through wireless internet. OTT bypasses traditional forms of media consumption, such as cable or set-top boxes.
 - Key features of OTT platforms include on-demand access, flexible subscription models, cross-device availability, and personalized content recommendations.
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CHHATTISGARH'S NEW TIGER RESERVE

Indian government has notified the 56th Tiger Reserve of the country in Chhattisgarh. Guru Ghasidas - Tamor Pingla Tiger Reserve of Chhattisgarh is going to be the 3rd largest in the country.

Tiger Reserves

- A National Park or Wildlife Sanctuary that is considered significant for protecting tigers can be additionally designated as a Tiger Reserve.
- A Tiger Reserve consists of:
 - a 'Core' or 'Critical Tiger Habitat', which is to be managed as an inviolate area, and
 - a 'Buffer' or Peripheral area, which may be accorded a lesser degree of habitat protection.



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- **Background**

- Project Tiger was launched by the Govt in 1973 to save the endangered species of tiger in the country. As part of this project, the tiger reserves of India were set up.
- These reserves are administrated by the **National Tiger Conservation Authority (NTCA)**.

Guru Ghasidas - Tamor Pingla Tiger Reserve

- It is the **fourth tiger reserve in Chhattisgarh** after **Achanakmar, Indravati, and Udanti - Sitanadi**.
- With an area of 2,829 sq km, it is the third largest tiger reserve in India.

- **Geographical location**

- The reserve is spread across **four districts in northern Chhattisgarh's Sarguja region**: Manendragarh-Chirmiri-Bharatpur (MCB), Korea, Surajpur, and Balrampur.
- It is located in the northern part of the state, bordering Madhya Pradesh and Jharkhand.



- It **falls between two other tiger reserves**: Bandhavgarh in Madhya Pradesh and Palamau in Jharkhand.

- **Connectivity**

- Situated between Bandhavgarh (Madhya Pradesh) and Palamau (Jharkhand) Tiger Reserves, with proximity to Sanjay Dubri Tiger Reserve (Madhya Pradesh), forming the largest contiguous habitat for tigers.

- **Wildlife found in the region:**

- Includes tigers, elephants, sloth bears, vultures, peacocks, wolves, leopards, otters, chitals, jackals, nilgai, bison, hyenas, langurs, cobras, etc.

- **Flora**

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- The reserve is also rich in flora, with sal, saja, dhavda, and kusum providing the bulk of the tree cover.
 - **Significance**
 - Guru Ghasidas National Park was the last known habitat of the Asiatic cheetah in the country.
 - Turning Guru Ghasidas into a Tiger Reserve is important because it connects Jharkhand and Madhya Pradesh and provides a corridor for tigers to move between the Bandhavgarh and Palamau Tiger Reserves.
 - The state's tiger population fell from 46 in 2014 to 17 in 2022, the last official tiger status report by the NTCA, released in 2023, revealed.
 - Hence, this new Tiger Reserve will help in Tiger conservation in the state.
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STRATEGIC NECESSITY TO ENHANCE DOMESTIC COKING COAL PRODUCTION IN INDIA

What is Coking Coal?

- Also known as metallurgical coal, it is a **naturally occurring sedimentary rock found within the earth's crust**.
- A type of **bituminous** coal, it typically contains **more carbon, less ash, and less moisture** than thermal coal, which is used for electricity generation.
- It is a **vital raw material for steel production** (constituting 42% of steel costs), making it **indispensable for infrastructure and industrial growth**.

Application in steel production:

- **Coke/ metallurgical coke**, which is created through the high-temperature carbonisation of coking coal, plays a crucial role in steelmaking.
- Coke is used in blast furnaces to produce pig iron, serving as both a **reducing agent for iron ore and structural support for the furnace charge**.

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- **The largest producers of coking coal in the world:** China (676 million tons in 2022-62%), Australia (169 million tons in 2022-15%), Russia (96 million tons in 2022-9%), USA (55 million tons-5%), and Canada (34 million tons-3%).
- **Case of India:**
 - Despite India's vast reserves, **reliance on imports remains at a staggering 85%**.
 - **For example**, India's coking coal imports for the first six months of the current fiscal (April – Sept) were at a six-year-high at 29.6 million tonnes (mt) with shipments from Russia witnessing a substantial rise of over 200% during this period.

Current Challenges in Domestic Production of Coking Coal:

- **Inefficiency in coal washeries:**
 - Public Sector Undertaking (PSU) washeries operate at less than 32% capacity, with washed coal yields of only 35–36%.
 - In contrast, private washeries achieve over 75% capacity utilisation and higher yields, showcasing the need for improved efficiency in PSU washeries.
- **High import dependency:** Integrated Steel Plants (ISPs) imported 58 MT of coking coal at an enormous cost of ₹1.5 lakh crore in FY 2023-24, despite significant domestic reserves.

Key Recommendations from the NITI Aayog Report:

- **Recognising coking coal as a critical mineral:**
 - This will align India with global practices such as in the European Union, which recognises coking coal as critical.
 - Designating it as critical can **justify policy support to boost domestic production** and ensure security for India's steel sector.
- **Leveraging domestic reserves:**
 - India holds 5.13 billion tonnes of prime coking coal and 16.5 billion tonnes of medium-quality reserves.



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- These resources should be fully utilised, considering the country's Net Zero 2070 commitments and economic needs.
 - **Policy and structural changes:**
 - **Amending the Coal Bearing Areas (CBA) Act, 1957:** To ensure that Special Purpose Vehicles (SPVs) under public-private partnership (PPP) arrangements retain operational rights, even after majority ownership shifts to the private sector.
 - **Facilitating byproduct sales:** The Ministry of Coal must enable joint ventures to sell byproducts (middling and tailings) from washeries, benefitting steel plants with lower coking coal expenses.
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CICADAS



Recently, for the first time in more than 200 years, two specific broods of the 13- and 17-year cicadas have emerged together in North America.

- Cicadas are hemipteran insects known for their loud, complex and species-specific acoustic signals or songs.
- The generic diversity of cicadas in India and Bangladesh ranks the highest in the world, followed by China.

Habitat: Most cicadas are canopy dwellers and are found in natural forests with large trees.

Types: Scientists divide the over 3,000 cicada species into two groups: annual and periodical.

- Annual cicadas: They emerge from the ground at different times each summer.
 - They're usually dark with greenish markings.



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- These insects avoid predators by camouflaging themselves in the trees and flying from hungry birds and moles.
- Periodical cicadas: Only seven species of cicadas are in the periodical cicadas.
 - These bugs all emerge from the ground at the same time(Summer).
 - These groups appear after a dormant period of either 13 or 17 years.
- Ecological Significance: They prune mature trees, aerate the soil, and once they die, their bodies serve as an important source of nitrogen for growing trees.

TRISHNA WILDLIFE SANCTUARY



Tripura Forest Department officials recently detained an autorickshaw driver near Trishna Wildlife Sanctuary for alleged involvement in a deer poaching racket.

- It is situated in South Tripura District.
- Occupying an area of 197.7 sq. km., it was established in 1988.

Vegetation: Three types of forests are found in the Sanctuary: Tropical Semi Evergreen Forest, Moist Mixed Deciduous Forest, and Savanna woodland.

- Apart from the forest, the sanctuary has a number of perennial water rivulets, waterbodies, and grasslands.

Flora:

- The sanctuary is dotted with 230 tree species, 400 herbs, 110 shrubs, and 150 climbers.
- Medicinal plants can also be seen here. Some of the prominent medicinal plant species are Kurcha, Tulsi, Vasak, Sarpaganda, Rudraksha, Bel, etc.
- One species of Bamboo *Oxytenanthera nigrociliata*, locally known as Kaillai, is common here, leaves of which are liked by Gaur.



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Fauna:

- The great attraction of this sanctuary is a sizable population of Gaur or Indian Bison.
 - It is also the home to highly endangered only ape species of the Indian subcontinent i.e, the Hoolock Gibbon, and primates like Capped Langur and Golden Langur.
 - Other animals include Leopards, Wild cats, Pheasants, Lalmukh Bandars, Wild Boars, etc.
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