

GREEN HYDROGEN CERTIFICATION SCHEME OF INDIA (GHCI)



- It was launched by the **Ministry of New and Renewable Energy (MNRE)**, Government of India, under the **National Green Hydrogen Mission**, aiming to **establish India as a global hub for green hydrogen** production and export.
- The scheme emphasizes **accuracy in emissions data**, **strict monitoring**, and **international compatibility**, aiming to boost investor confidence and support the growth of a credible green hydrogen market in India.

Features of GHCI:

- **Hydrogen** can be officially recognized as “green” only if its **non-biogenic greenhouse gas emissions do not exceed 2 kg of CO₂ equivalent (CO₂e)/kg of hydrogen**, averaged over 12 months, **under the**
- The scheme **outlines a comprehensive certification process for producers** to verify that the hydrogen is produced using renewable energy and that the greenhouse gas emissions do not exceed 2 kg of CO₂ equivalent (CO₂e)/kg of hydrogen.
- This threshold is measured across the production stages within a defined system boundary.
- The certification framework includes **clear definitions, objectives, roles of stakeholders, eligible production pathways** (electrolysis and biomass conversion) and **emissions quantification methods**.
- **Producers must appoint Accredited Carbon Verification (ACV) agencies**, recognized by the Bureau of Energy Efficiency, for independent verification.

WHAT IS THE ORANGE ECONOMY?



At the World Audio Visual Entertainment Summit (WAVES) Summit in Mumbai, the PM spotlighted India's booming orange economy—powered by content, creativity and culture.

- The Orange Economy, also known as the 'creative economy,' is a concept that includes **sectors related to creativity and cultural industries**.
- According to the United Nations Economic Network, the creative economy is an evolving idea that focuses on the **contribution and potential of creative assets to drive economic growth** and development.
- This economy **integrates economic, cultural and social aspects, interacting with technology, intellectual property and tourism objectives**.
- It consists of **knowledge-based economic activities** with a development dimension, featuring cross-cutting linkages at macro and micro levels to the overall economy.
- These are industries **based on individual creativity, skill and talent**, with the potential to create jobs, wealth and cultural value.
- Industries within this economy **include advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, research and development, software, computer games, electronic publishing, and TV/radio**.
- Popularised by Colombian economists Felipe Buitrago and Iván Duque, the term "orange" symbolises **creativity and cultural identity**.
- According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the Orange Economy accounts for **3% of global gross domestic product (GDP)** and 30 million jobs worldwide.
- Inspired by ideas, it's known for **constant innovation, singular products** (not mass production) and **digitized processes**.

CROSS & CLIMB ROHTAK

Institute of Research Based Learning & Competition

Current Affairs - 02 May 2025

RISHIKESH-KARNAPRAYAG TUNNEL T-8



Tunnel 8 (T-8) is set to become India's longest rail transportation tunnel at 14.57 km, surpassing the current longest T-50 (12.77 km) on the Udhampur-Srinagar-Baramulla Railway Link.

- T-8 is a twin tunnel situated on the Devprayag–Janasu stretch of the 125-km Rishikesh–Karnaprayag Broad Gauge Rail Link Project, in the state of Uttarakhand.
- The project is being implemented by Rail Vikas Nigam Limited (RVNL), a Navratna PSU under the Ministry of Railways, and executed by Larsen & Toubro (L&T).
- Over 83% of the 125-km alignment—about 104 km—comprises tunnels, making it one of the most underground-intensive rail projects in India.
- The rail line will connect Rishikesh to Karnaprayag, cutting travel time from 7 hours to just 2 hours, enhancing connectivity across five districts: Dehradun, Tehri Garhwal, Pauri Garhwal, Rudraprayag and Chamoli.

Engineering and Technological Highlights

- Tunnel Boring Machines (TBMs) were used for the first time in Himalayan rail projects to excavate 4 km of T-8. These 2200-tonne machines were imported from Germany, transported via 17 shipments and assembled on site.
- The diameter of the TBM used for T-8 was 1 metres, larger than the 6-metre TBMs used in the Delhi Metro.
- The New Austrian Tunnelling Method (NATM) was used to excavate the remaining 4.11 km of the tunnel, especially in non-uniform geological zones.
- Three advanced technologies were deployed for safety and precision:
 - Tunnel Seismic Prediction (TSP) to detect geological faults.
 - Torque Box for multidirectional boring capability.
 - Void Measurement to detect and fill gaps behind tunnel linings.

PREVENTION OF MONEY LAUNDERING ACT (PMLA)

- The **Prevention of Money Laundering Act (PMLA), 2002** was enacted in **January 2003** to combat **money laundering** and confiscate **proceeds of crime**.
- **Section 3** defines money laundering as any attempt to **project criminal proceeds** as **untainted assets**.
- The **main objectives** of the Act are:
 - To **prevent and control money laundering**,
 - To **attach and confiscate assets** derived from crime,
 - To **address related economic offences** in India.
- PMLA has undergone major amendments in **2009** and **2012** to expand its scope and enforcement powers.
- As of **2024-25**, the ED has **initiated 775 new investigations** under the PMLA and **filed 333 prosecution complaints**, demonstrating increased legal action against money laundering.

Enforcement Directorate (ED) Role

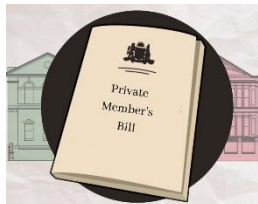
- **ED is the chief enforcement agency** under PMLA, empowered to **investigate, attach property, and file prosecution complaints**.
 - The Act mandates **record maintenance and client identity verification** by banks, **financial institutions and intermediaries**.
 - Key institutions include:
 - **Adjudicating Authority** (for attachment confirmation),
 - **Appellate Tribunal**, and
 - **Special Courts** (designated sessions courts for PMLA trials).
 - The Act allows **international cooperation** through treaties and MoUs with foreign governments.
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PRIVATE MEMBER'S BILL (PMB)



- A Private Member's Bill (PMB) is a legislative proposal introduced by any Member of Parliament (MP) who is not a Minister, whether elected or nominated.
- The drafting responsibility of a PMB lies entirely with the MP concerned, not with any Ministry.
- For introducing a PMB in Parliament, a notice period of one month is required under parliamentary rules.
- PMBs often reflect the ideological stance, personal convictions, or public interest concerns of the MP, especially those in the Opposition.

Time Allocation for PMBs in Parliament

- In the Lok Sabha, the last two-and-a-half hours of business on every Friday are earmarked for the introduction and discussion of PMBs.
- In the Rajya Sabha, PMBs are taken up every alternate Friday for two-and-a-half hours.

Historical Record and Trends

- Since Independence, only 14 PMBs have ever been passed and received Presidential assent, with the last one becoming law in 1970.
- In the 17th Lok Sabha (2019–2024), 729 PMBs were introduced in the Lok Sabha and 705 in the Rajya Sabha. Yet, only 2 PMBs were discussed in Lok Sabha, and 14 in the Rajya Sabha.
- In the 18th Lok Sabha, as of the 2024 Budget Session, only 20 MPs introduced PMBs, and not a single one was discussed due to disruptions and prioritisation of other business.

UKRAINE'S CRITICAL MINERALS



The U.S. and Ukraine signed a strategic minerals deal granting preferential U.S. access to Ukrainian mineral projects and establishing a joint investment fund for Ukraine's reconstruction.

- **Rare Earth Elements (REEs)** are a group of **17 chemically similar metals** essential for making **permanent magnets** used in **electric vehicles (EVs)**, **smartphones**, **missile systems** and **wind turbines**.
- The **S. Geological Survey (USGS)** lists **50 minerals** as “critical”, including **lithium, nickel, cobalt and rare earths**, due to their vital role in **defence, aerospace, green energy** and **electronics**.
- These minerals have **no commercially viable substitutes**, making their supply chain **strategically important**.

Ukraine's Mineral Wealth

- Ukraine has **22 of the 34 minerals** classified as **critical by the European Union (EU)**.
- Major critical minerals in Ukraine include:
 - **Rare earth elements** such as **lanthanum, cerium, neodymium, erbium, yttrium, and scandium**.
 - **Lithium, nickel, manganese, beryllium, gallium, zirconium, graphite, apatite, fluorite and titanium**.
- **Graphite reserves** in Ukraine account for approximately **20% of global resources**, crucial for **EV batteries** and **nuclear reactors**.
- **Lithium reserves** are estimated at **500,000 metric tonnes**, one of the largest in Europe. Key lithium areas include the **central, eastern and southeastern regions**.
- **Titanium** is concentrated in the **northwestern and central regions** and is used in the **aerospace and defence**

SEBI WARNS INVESTORS AGAINST OPINION TRADING PLATFORMS

- Opinion trading platforms allow users to place bets or trade on the outcome of yes/no propositions related to real-world events.
- The payout is determined by whether the predicted event occurs.
- These platforms often mimic investment platforms by using financial terms like “profits,” “stop loss,” and “trading.”
- **Imitating Investment Platforms**
 - To appear legitimate or investment-oriented, some of these platforms use language typically associated with securities trading, which may mislead users into believing they are making genuine investments rather than bets.
- **Key Players in India**
 - Prominent Indian companies in this space include:
 - **Probo** (Gurugram-based): Offers prediction markets across diverse topics like sports, elections, and cryptocurrency.
 - **MPL Opinio**: Focuses solely on cricket-related predictions.

How Opinion Trading Platforms Operate

- **Betting on Real-Life Events**
 - These platforms let users earn money by predicting the outcomes of real-world events such as sports matches, elections, weather changes, or crypto trends.
 - Users place bets on “yes” or “no” type questions.
 - For instance, users may be asked: “Will political party X win the election by a margin of N?”
 - If their answer is correct, they win money; if incorrect, they lose their stake.
- **Varied Themes and Topics**
 - Popular themes include:
 - Outcomes of cricket and other sports matches
 - Individual athlete performances (e.g., runs scored or goals made)

- Financial predictions like whether Bitcoin will reach a specific value

SEBI's Key Concerns on Opinion Trading Platforms

- **Outside SEBI's Regulatory Scope**
 - SEBI clarified that opinion trading platforms generally fall outside its jurisdiction, as the activities conducted do not involve trading in recognized securities.
 - Therefore, these platforms are not regulated or registered with SEBI.
- **Unrecognized and Illegal Trading**
 - If any opinion traded on these platforms qualifies as a security, such trading becomes illegal since these platforms are not authorized stock exchanges.
 - SEBI emphasized that no investor protection mechanisms will apply in such cases.
- **Risk of Regulatory Action**
 - SEBI warned that these platforms could face legal consequences for violations.
 - It also directed recognized stock exchanges to act against any such infractions.
- **Global Regulatory Landscape**
 - Countries like the US, UK, and Australia regulate opinion trading platforms.
 - In the US, Kalshi operates under CFTC (Commodity Futures Trading Commission) oversight.
 - However, platforms like Polymarket have faced legal issues for not being registered with regulators, indicating the complexities involved.
- **India's Regulatory Vacuum**
 - India's IT Ministry has proposed amendments to regulate online gaming, potentially covering platforms like Probo.
 - However, these rules lack enforceability at present, leaving a significant legal gap in the oversight of opinion trading platforms.

PALAMU TIGER RESERVE



- It is located in the western part of the **Chotanagpur plateau** and is spread over two districts, viz, Latehar and Garhwa in **Jharkhand**.
- The reserve forms a **part of the Betla National Park**.
- This tiger reserve has a total area of 1,014 sq.km. with a core area of 414 sq.km. and a buffer area of 600 sq.km.
- It is **one of the first 9 tiger reserves** created in the country at the inception of 'Project Tiger'.
- It is the **first reserve in the world** in which a **tiger census** was carried out as a **pugmark count**, as early as 1932 under the supervision of J.W. Nicholson.
- The terrain is undulating with valleys, hills and plains.
- Three **rivers** namely **North Koyal, Auranga and Burha** flow through the valleys.
- The area is drought prone with **Burha being the only perennial river**.
- The **geological formation** consists of **gneiss** and includes **granite and limestone**.
- The area is very **rich in minerals** like **Bauxite and Coal**.

Flora:

- The vegetation in Palamau region comprises **moist deciduous and dry deciduous** forests to include **Sal and bamboo** as the major components.
- The western part of the Reserve is composed of dry deciduous forests and the other part shows characters of moist mixed deciduous nature.
- The entire area has a **good distribution of bamboo thatches**.
- The herbarium recently prepared by the Tiger Reserve authorities records a good number of **medicinal plants**.

Fauna: Some keystone and principal species found in the reserve include **Tiger, Asiatic Elephant, Leopard, Grey wolf, Wild dog, Gaur, Sloth bear** and **four horned antelope**.