

NEWS TODAY

Centre issues Scheme Guidelines for Funding of Testing Facilities under NGHM

Ministry of New & Renewable Energy (MNRE) has issued guidelines for Scheme on “Funding of testing facilities, infrastructure, and institutional support for development of Standards and Regulatory framework” under NGHM.

- It aims to ensure safe and secure operation of equipment and instruments used in Green Hydrogen (GH₂) value chain.

Key highlights of Scheme

➤ Objective:

- ⊕ Bridge gap in existing testing infrastructures for various components of GH₂ Value Chain.
- ⊕ Establish new and upgrade existing testing facilities to achieve self-sufficiency in testing & certification of GH₂.

- Timeline for setting up of new testing & certification facilities: 18 months from date of sanction by MNRE.

- ⊕ 12 months for upgradation of existing facilities.
- ⊕ However, MNRE can retract sanction/cancel/short-close projects in consultation with Steering Committee in case Executing Agency/project(s) face delays or fail to comply with objectives of scheme.

- Access of testing facilities (set-up or upgraded): Open to all potential users and shall not be a captive unit of any one or a group of organizations.

- Implementing agency: National Institute of Solar Energy, under MNRE.

- Budgetary outlay: Rs. 200 Crores till 2025-26.

- Funding pattern (by MNRE): Upto 100% (Government entities) and Upto 70 % (Non-Government entities).

National Green Hydrogen Mission (NGHM)

- Launched in 2023 till 2029-30 by MNRE to achieve GH₂ production capacity of 5 MMT (Million Metric Tonnes) by 2030.
- Its objective is to make India a leading producer and supplier of GH₂, and reduce dependence on fossil fuel imports by over Rs. 1 lakh crore by 2030.
- GH₂ is produced using electrolysis of water with electricity generated by renewable energy.

Kazakhstan (Astana) hosts 24th Summit of Shanghai Cooperation Organisation (SCO)

Key outcomes of summit

- Belarus becomes 10th Member to join SCO.
- Adopted Astana Declaration, Cooperation Program to Counter Terrorism, Separatism, and Extremism for 2025-2027, Anti-Drug Strategy for 2024-2029, SCO Development Strategy until 2035.
 - ⊕ Under Astana Declaration, member states underscored SCO's role in bolstering global peace, and shaping a new democratic and economic order.
- Approved Economic Development Strategy's Action Plan until 2030 and strategies for energy cooperation till 2030.
- SCO member states endorsed the Initiative 'On World Unity for a Just Peace, Harmony and Development' (proposed by Kazakhstan), which aims to create multipolar world order with central coordinating role of UN.

Importance of SCO for India

- Resources: Help India in pursuing Connect Central Asia policy and access mineral resources (Uranium reserves in Kazakhstan).
- Counter-terrorism: SCO's Regional Anti-Terrorist Structure (RATS) provides access to key information and intelligence on movements of terrorists and drug-trafficking.
- Energy Security: Region is home to 4% of world's natural gas reserves and approximately 3% of oil reserves. SCO could also facilitate TAPI pipeline.

Challenges for India in SCO

- Continued perception of SCO being an anti-west forum in Western nations.
- Conflict among member nations e.g. India-Pakistan.
- Limited engagement with observer states, dialogue partners and other regional and international organizations.

Shanghai Cooperation Organisation (HQ: Beijing, China)

- Genesis: It is a permanent intergovernmental international organisation founded in Shanghai in 2001 by Kazakhstan, China, Kyrgyz Republic, Russia, Tajikistan, and Uzbekistan.
- Current Members: India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan and Belarus. While Afghanistan and Mongolia have observer status.
- Official language: Russian and Chinese.
- Goal: Strengthening mutual trust, friendship and neighbourly relations among member states; Promoting effective cooperation in political, trade, economic, scientific, technical, and cultural spheres etc.

ISRO keen to be a part of Global Planetary Defense Efforts

At an international workshop on Asteroid Day 2024, ISRO Chairperson said that ISRO is looking to study **asteroid Apophis** when it is **32,000 km away from Earth in 2029** to prepare for planetary defense efforts.

About Asteroid Apophis

- **Discovered in 2004**, it is a **near-Earth object (NEO)** and was identified as one of the most hazardous asteroids that could impact Earth.
 - ⊕ There are billions of comets and asteroids in our solar system. The vast majority never approach Earth. When a **comet or asteroid's orbit brings it close to Earth, it is classified NEO.**
- However, a radar observation campaign in March 2021, combined with precise orbit analysis, allowed astronomers to conclude that there is **no risk of Apophis impacting our planet for at least a century.**

Planetary Defense

- It refers to **efforts and strategies aimed at protecting Earth from potential impacts by NEOs** such as asteroids and comets.
 - ⊕ It involves **multiple strategies** including detection, tracking, impact assessment, deflection, etc.
- **Need of Planetary Defense: If NEOs path intersects with that of Earth's orbit**, then depending on their size, speed, angle and impact region, could threaten billions of lives on impact and in the ensuing tsunamis, earthquakes and fires.

Global Planetary Defense Efforts

- **NASA's Double Asteroid Redirection Test (DART):** First-ever mission dedicated to investigate and demonstrate one method of asteroid deflection by changing an asteroid's motion in space through kinetic impact.
 - ⊕ DART impacted the moonlet Dimorphos, of the asteroid **Didymos.**
- **OSIRIS-APophis EXplorer (OSIRIS-APEX):** After successfully completing its mission to gather a sample of asteroid Benu, NASA's OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, and Security – Regolith Explorer) was sent to study Apophis and renamed OSIRIS-APEX.
- **International Asteroid Warning Network:** Established in 2013 to create an international group of organizations involved in detecting, tracking, and characterizing NEOs.
- **NEO Coordination Centre by European Space Agency:** Central access point to an entire network of European NEO data sources and information providers.

National policy on Farmer Producer Organisations (FPOs) proposed by Ministry of Agriculture and Farmers Welfare

Key highlights of National Policy on FPOs

- **Aim:** To scientifically and systematically **consolidate existing FPOs**, and **establish 50,000 FPOs**. Policy will directly benefit 2.50 crore farmers.
- **Guiding Principles:**
 - ⊕ **Assessment of all schemes:** To promote FPOs, including 2021 Central sector scheme 'Formation and promotion of 10,000 FPOs'.
 - ⊕ **End-to-end Value Chain:** To boost farmers' income through a comprehensive value chain approach, from production to marketing.
 - ⊕ **Emulating AMUL model:** To develop FPOs on **3 tier AMUL model (Village Dairy Cooperative, District Milk Cooperative Union, State Cooperative Milk Federation)** which emphasize collective business goals, capacity building, and professional management.
- **FPO eligibility:**
 - ⊕ **Minimum 300 members** in areas other than North East/hilly/UTs (100 in North East/hilly/UTs).
 - ⊕ Registered as **legal entity either under Companies Act 2013 or under any law relating to Cooperative Society** for time being in force.
 - ⊕ Must **register with FPO Registry Portal**, maintained by Central Government.
- **Central Nodal Department (CND):** Department of Agriculture and Farmers' Welfare (DA&FW).
- **Role of CND:**
 - ⊕ **Allocate funds for FPO development** through convergence of central government schemes.
 - ⊕ **Making institutional loan available to FPOs at cheaper interest rate.**
- **Central Nodal Agency:** Small Farmers' Agribusiness Consortium, New Delhi (under DA&FW).

About FPOs

- FPOs are formed for the **purpose of leveraging collectives through economies of scale in production** and marketing of agricultural and allied sector.
 - ⊕ Currently, **5000 FPOs have been registered on Open Network for Digital Commerce portal** for selling the produce online.
- Its objective is to **ensure better income for the producers** and enable farmer-producers and agrarian communities to enhance productivity through efficient, cost-effective and sustainable resource use.

Strategic planting of 'energy' crops could mitigate biodiversity loss: Study

Study titled '**Balancing bioenergy expansion and restoration: Global shifts in biodiversity intactness**' emphasised that prioritising degraded or abandoned agricultural land for energy crops offers greater benefit.

About Bioenergy Crops

- Refer to plants specifically grown for the purpose of producing biomass that can be converted into energy. It includes energy grasses, oilseeds, and lignocellulosic crops.
- Classified into three development stages:
 - ⊕ **First Generation:** Energy conversion technologies exist like sugar crops, starch, and oil crops, etc.
 - ⊕ **Second Generation:** Energy conversion technologies are under development. Involves switching from food to non-food lignocelluloses like polysaccharides cellulose, etc.
 - ⊕ **Third Generation:** Involves future technologies such as genetically modified crops, etc.
- **Challenges in Bioenergy crop production:** Land use conflicts, food security (conversion of agricultural land for bioenergy), transporting wet biomass from the plantation to the production site becomes energetically unfavorable and costly, etc.

Key findings of the Study

- The study used biodiversity data to calculate **Biodiversity Intactness Index (BII)** in different land-use.
 - ⊕ BII compares the **average abundance of native terrestrial species** in a region with their abundances before pronounced human impacts.
- Planting energy crops in places with high natural vegetation and high BII would substantially reduce BII.

India's initiatives for Bio-Energy

National Bioenergy Programme (By Union Ministry of New and Renewable Energy)

- Comprises 3 sub-schemes:
 - ⊕ **Waste to Energy Programme:** Programme on Energy from Urban, Industrial, and Agricultural Wastes /Residues.
 - ⊕ **Biomass Programme:** Scheme to Support Manufacturing of Briquettes & Pellets and Promotion of Biomass (non-bagasse) based cogeneration in Industries.
 - ⊕ **Biogas Programme:** For setting up of biogas plants.

DPIIT finalizing a model to launch a Producer Price Index

Department for Promotion of Industry and Internal Trade (DPIIT) is close to finalizing a model to launch a **Producer Price Index (PPI)** in India that may eventually replace the **Wholesale Price Index (WPI)** in line with most G20 economies & international standards.

- Previously, Government had set up a **Working Group headed by B.N Goldar** to suggest methodology and framework for introduction of PPI in India.

About PPI

- It measures the **average change in the price a producer receives** for his goods/services sold in the domestic market/ exports.
- **Two types:**
 - ⊕ **Output PPI:** When goods/ services leave the place of production
 - ⊕ **Input PPI:** When goods/ services enter the production process.

Need to replace WPI

- WPI has inbuilt bias due to **double/ multiple counting of same product.**
- WPI doesn't include exports and imports.
- WPI also excludes the service sector (about 55% of GDP).

Key Recommendations of the Working group

- **Develop an experimental PPI:** With the Base Year 2011-12 and include export and import prices of major items in the PPI basket during the experimental phase.
- **Experimental series may have two separate sets of indices** - with and without services.
- **Switching over from WPI to PPI** should be undertaken after the PPI series stabilizes.

Wholesale Price Index (WPI)

- WPI measures changes in the prices of goods sold and traded in bulk by wholesale businesses to other businesses.
- Published by: **Office of Economic Adviser, Ministry of Commerce and Industry.**
- **Base Year:** 2011-12.

Also in News



Securities Appellate Tribunal (SAT)

Chief Justice of India has advocated for **more SAT benches** in view of rapid growth in market and increased volume of financial transactions.

About SAT

- **Statutory body** under SEBI Act, 1992.
- **Location:** Only one bench in Mumbai.
- **Nodal Ministry:** Ministry of Finance.
- **Jurisdiction:** Whole of India
- **Composition:** Presiding Officer, and Judicial Member and Technical Member
- **Tenure:** Five years and eligible for reappointment for maximum five years (upto age of seventy years).
- **Functions:** Hears and disposes of appeals against orders passed by
 - ⊕ SEBI or an adjudicating officer under SEBI Act; Insurance Regulatory Development Authority of India; Pension Fund Regulatory and Development Authority.



3D Hologram Technolog

Japan has issued **new yen banknotes packed with 3D hologram technology to fight counterfeiting.**

- Holograms' **intricate patterns and properties** make them difficult to duplicate completely, which deters counterfeiters.
- Also easily recognized by trained individuals, **facilitating quick identification of genuine products.**

About Hologram Technology

- It is a **photographic pattern that gives a three-dimensional image** when illuminated by coherent light.
- Holograms show **different images and colors** depending on the angle at which they are viewed.
- Formation of Holograph involves **principles of interference and diffraction.**
- **Applications:** Medical imaging, weather forecasting, security holograms on credit cards etc.



Australia-India Strategic Research Fund (AISRF)

Union Minister of State for Science and Technology unveiled the results of 15th round of AISRF.

About AISRF

- Established in 2006, it is a platform for **bilateral collaboration in science**, jointly managed and funded by **India and Australia**.
- **Objectives:**
 - ⊕ Support Australia-India **research collaboration in advanced Science and Technology (S&T)** to strengthen **strategic alliances and foster innovation**.
 - ⊕ Facilitate India's and Australia's **access to global S&T system**.
- It is funding projects across various disciplines, including **artificial intelligence and machine learning, biotechnology, urban mining and electronic waste recycling**.



Exchange Traded Fund (ETF)

SEBI has amended regulations to allow equity-oriented Exchange Traded Funds (ETFs) and Index Funds to invest more in the listed securities of their sponsors' group companies.

About ETFs

- ETFs are **marketable securities that track an index, a commodity, bonds, or a basket of assets like an Index Fund**.
 - ⊕ **Index fund** is a fund which **tracks the performance of an underlying index, like the Nifty or the Sensex**.
- It **trades like a common stock on a stock exchange** and its **trading value is based on net asset value of the underlying stocks** that an ETF represents.



Stablecoins

Recent **volatility in Stablecoin market**, like the collapse of TerraUSD, has raised concerns about the stability and reliability of these digital assets.

About Stablecoin

- It is a **type of cryptocurrency whose value is pegged to another asset**, such as a fiat currency or commodity such as gold, to **maintain a stable price**.
- It provides an **alternative to the high volatility of popular cryptocurrencies**, making them potentially more suitable for common transactions.



Technology Development Fund (TDF)

Ministry of Defence (MoD) sanctioned over Rs 300 crore through its TDF to enhance capabilities in cutting-edge technology and promote 'Aatmanirbharta' in defence.

About TDF

- Flagship programme of **MoD** executed by **DRDO** under **'Make in India' initiative**.
- **Objectives:**
 - ⊕ **Provide Grant in Aid to Indian industries**, including MSMEs and Start-ups, academic and scientific institutions for development of Defence and dual use technologies.
 - ⊕ Focus on **Research, Design & Development** of Niche technologies.
- **Initial Corpus:** Rs. 100 crore.
- MoD approved **Fund Enhancement** under TDF Scheme from Rs. 10 crore to Rs. 50 crore per project.



Global India Summit 2024

Global India Summit 2024 hosted by India (lead chair of GPAI in 2024) was recently concluded.

Key Highlights and Outcomes of the Summit

- India emphasized on **democratizing AI** and making it accessible to all.
- A new **integrated partnership on AI** announced by **OECD - OCDE and GPAI (Global Partnership on Artificial Intelligence)**
- GPAI members came to a consensus about the **future vision of GPAI**, giving recognition to the **New Delhi 2023 GPAI Ministerial Declaration**.



Stryker Combat Vehicles

India is set to carry out trials for US-made Stryker Infantry Combat Vehicles (ICVs) in Ladakh & deserts.

About Stryker Combat Vehicles

- It is a family of eight-wheel-drive combat armoured ICV.
- It has been built by **General Dynamics Land Systems Division in the United States**.
- It is a **V-hull armoured infantry vehicle** equipped with a cannon and a mobile gun.
- India and the US are also considering **joint production of latest generation of Stryker** as part of defence-industrial cooperation roadmap.

Personality in news



Pingali Venkayya (1876 - 1963)

Eminent freedom fighter Pingali Venkayya was remembered on his death anniversary (July 04).

About Pingali Venkayya

- Born in **Krishna district of Andhra Pradesh**.
- Believer in **Gandhian principles and an ardent nationalist**.

Key Contributions

- Served as a **soldier in the British Army** in South Africa during the **Anglo Boer war (1899-1902)**.
- Designed the **Indian National Flag** on request of Mahatma Gandhi.
- Participated in different movements including **Swadeshi Andolan** under the leadership of Mahatma Gandhi.
- **"TirangaUtsav"** was celebrated in 2022 on the occasion of his 146th birthday.
- **Literary works:** 'Bharatha Deshaniki Oka Jatiya Patakam' (National flag of India) in 1916.

Values: Courage, Nationalism, Patriotism, Dedication.

