

Ministry of Statistics and Programme Implementation (MoSPI) Released Comprehensive Modular Survey: Education (CMS:E), 2025

It was conducted by the **National Statistics Office, MoSPI**, as part of the 80th round of the **National Sample Survey (NSS)**.

- It primarily collected **expenditure-related information** incurred by the student households enrolled in **school education**.

Key Highlights of CMS:E

- Government Schools:** Play pivotal role in providing education, accounting for 55.9% of total enrolments.
 - It is higher in rural areas (66%), in comparison to urban areas (30.1%).
- Expenditure: Average expenditure per student** on school education in rural India was estimated at ₹8,382 and ₹23,470 in urban India, for all levels of enrolment and all types of schools.
- Private Coaching:** Nearly **a third of all students (27%)** were taking or had taken **private coaching** during the current academic year.
 - This trend was more common in urban areas (30.7%) than in rural areas (25.5%).
- Funding for Education:** Educational expenses of about 95% students were funded by other members of household.
 - Only 1.2 %** students reported Government scholarships as their first major source of funding for school education.

About NSS

- NSS, under MoSPI, is responsible for conduct of **large-scale sample surveys in diverse fields** on All India basis.
- Major Surveys Include:** Annual Survey of Industries (**ASI**), Periodic Labour Force Survey (**PLFS**), Household Consumption Expenditure Survey (**HCES**), etc.

NITI AAYOG releases “Voluntary National Review (VNR) Report 2025”







VNR is a process through which **countries assess** and present their **progress towards** achieving the **Sustainable Development Goals (SDGs)**.

- India's 2025 report marks its third VNR, building on previous **submissions in 2017 and 2020**.

India's Approach towards Implementing SDGs (Highlighted by Report)

- Whole-of-Government and Whole-of-Society Approach:** Embraced **SDGs** at all levels of government, complemented by active involvement from civil society.
- Cooperative and Competitive Federalism:** E.g. SDG India Index
- SDG Localization Model:** Engaging districts, blocks, and villages to adopt SDG framework.
- Leveraging Innovation: Digital Public Infrastructure (DPI)** such as Aadhaar, UPI, etc. to enable seamless access to essential services.

Key Achievements of India towards SDGs

 SDG 1: No Poverty	<ul style="list-style-type: none"> Extreme poverty fell sharply from 16.2% in 2011-12 to just 2.3% in 2022-23, lifting 171 million people.
 SDG 2: Zero Hunger	<ul style="list-style-type: none"> Food grain production surged from 204.6 million tonnes in 2004-05 to an estimated 332.3 million tonnes in 2023-24.
 SDG 5: Gender Equality	<ul style="list-style-type: none"> Women hold more than 45% of elected seats in deliberative local government bodies. Prevalence of child marriage among women aged 20-24 has declined by more than half, from approximately 47% in 2005-06 to 23.3% in 2019-21.
 SDG 6: Clean Water and Sanitation	<ul style="list-style-type: none"> Jal Jeevan Mission (JJM) has dramatically increased tap water supply to rural households from 17% in 2019 to over 80%.
 SDG 7: Affordable and Clean Energy	<ul style="list-style-type: none"> Share of non-fossil fuel sources in India's installed electricity generation capacity reached 47.37%.
 SDG 9: Industry, Innovation and Infrastructure	<ul style="list-style-type: none"> India's ranking on the Global Innovation Index improved significantly from 48th in 2020 to 39th in 2024.

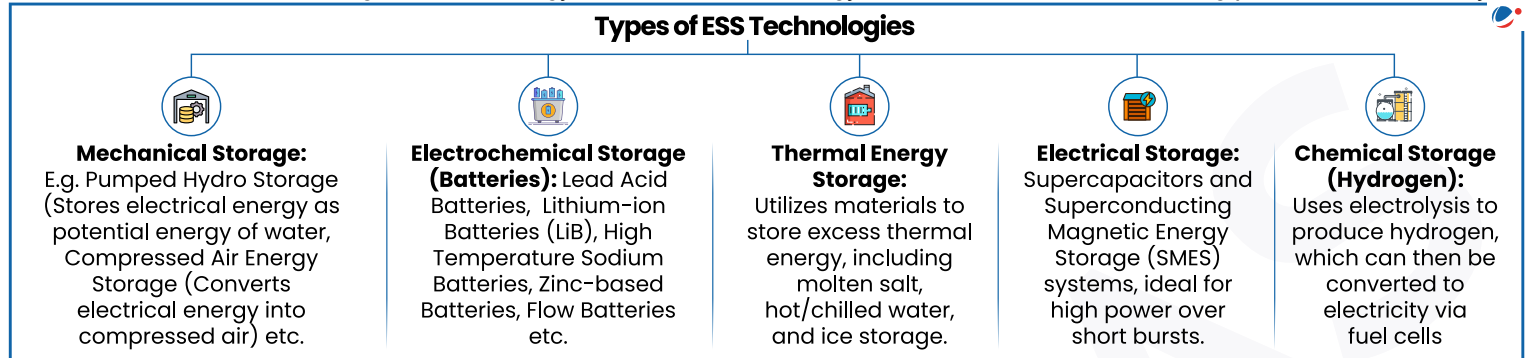
India Requires \$50 billion New Investment in Energy storage System by 2032: Report

Report by **India Energy & Climate Centre** highlights **need to scale up energy storage** to meet clean energy goals such as **installing at least 500 GW** of non-fossil based power generation capacity by 2030.

- India will need **61 GW of energy storage by 2030 and 97 GW by 2032 to support clean energy capacity**, a massive leap from today's 6 GW (mostly pumped hydro).
 - ⊕ Due to significant cost reductions, **battery storage** is anticipated to dominate the overall energy storage mix.

About Energy Storage Systems (ESS)

- ESS can be used for storing available energy from Renewable Energy and further can be used during peak hours of the day.



Significance of ESS in India

- Enables higher penetration of Variable Renewable Energy (VRE) into the grid.
- Increased Electric Mobility adoption.
- Maintain grid stability and power quality.

Policy and Regulatory Recommendations

- **Adding Storage to Existing RE Projects:** To maximize grid infrastructure efficiency and address regulatory challenges.
- **Mandatory Co-located Energy Storage for New RE Projects.**
- **Expanding Viability Gap Funding (VGF):** Extend existing VGF scheme for standalone **Battery Energy Storage Systems (BESS)** to solar + storage projects.
- **Promoting Domestic Manufacturing and Supply Chains:** Expand schemes like **PLI program specifically targeted at advanced chemistry cells (ACC)** and R&D.
 - ⊕ Making strategic investments to secure key supply chains (such as strategic **lithium or rare earth reserves** with partner countries).

PM Inaugurates the Green Mobility Initiatives in Hansalpur, Gujarat

PM flagged off the **"e VITARA"**, **Suzuki's first Made-in-India** global strategic **Battery Electric Vehicle (BEV)** which will be exported to more than one hundred countries.

- PM also inaugurated local production of **hybrid battery electrodes** at the TDS **Lithium-Ion Battery** plant in Gujarat.
 - ⊕ This ensures that over **80% of battery value will now be manufactured within India**.

About Battery Electric Vehicles

- These run **entirely on a battery-powered electric drivetrain**, which can be charged by plugging into the electricity grid.
 - ⊕ **Main Components of BEV:** Electric motor, Inverter, Battery, Control Module, Drive train, etc.
 - ⊕ **Working Principle:** The power for the electric motor is converted from the **DC Battery to AC**.

Challenges

- **Operational Issues:** Such as limited driving range, and inadequate charging infrastructure.
- **High upfront costs For EVs:** E.g. Batteries constitute almost 40 % of the capital cost of an EV.
- **Lack of adequate awareness:** Regarding EV performance among public and private stakeholders.
- **Environmental Concerns:** About battery waste, reuse or recycling processes.
- **Stressed existing electrical grids:** Due to Increased EV charging demand.

Steps Needed

- **Finance:**
 - ⊕ **Decoupling the cost of the battery** from the cost of the vehicle e.g. through leasing batteries.
 - ⊕ Design and operationalize a **blended fund** that helps bring down the cost of capital for e-Trucks and e-Buses.
- **Scaling R&D on new battery technologies:** to secure lower battery prices, higher energy density and reduced dependence on imported rare earth minerals.
- **Strategic scaling of charging infrastructure:** after due assessment of their viability at different locations.

Green Mobility initiatives in India

- **National Electric Mobility Mission Plan (NEMMP) 2020:** To accelerate the adoption and production of **Electric Vehicles (EVs)**.
- **PLI Scheme** for Automobile and Auto Component Industry in India (**PLI-Auto**).
- **PLI Scheme** for National Programme on **Advanced Chemistry Cell (ACC)** Battery Storage.
- **India Electric Mobility Index (IEMI)** by **NITI Aayog:** To track, measure, and compare how States and Union Territories are progressing.

Ministry of Environment, Forest and Climate Change (MoEF&CC) announced a National Designated Authority (NDA)

NDA or DNA (Designated National Authority) is a mandatory requirement to enable a **carbon emissions trading regime** under **Article 6.4 of the Paris Agreement (2015)**.

Article 6 of Paris Agreement

- It sets out how countries can **pursue voluntary cooperation to reach their climate targets** and pertains to the establishment of **International Compliance Carbon Markets** where countries can **trade carbon credits**.
- Article 6.4**, also known as the **Paris Agreement Crediting Mechanism (PACM)**, allows countries to **transfer carbon credits** earned from the reduction of greenhouse gas emissions to help one or more countries meet their climate targets.

About NDA or DNA

- Definition:** DNA is the organization granted responsibility by a Party to **authorize and approve participation in Article 6.4 projects**.
 - India prepared a **list of identified activities/projects** under Article 6.4 which includes GHG mitigation activities (renewable energy, green hydrogen etc.), Alternate materials (Green Ammonia) and Removal Activities (Carbon Capture, Utilization and Storage).
- Composition:** **21-member committee**, headed by **Secretary, Environment Ministry**.
- Functions of NDA:** Recommend list of **eligible activities/projects** for emission reduction trading and authorize projects under Article 6.4.

About Carbon Markets

- Carbon markets are **trading systems in which carbon credits** are sold and bought.
 - 1 carbon credit** is equivalent to **1 tonne CO₂ (or equivalent GHG) emissions reduced/sequestered/avoided**.
- Companies or individuals can use carbon markets to compensate for their GHG emissions by purchasing carbon credits from entities that remove or reduce GHGs.

25% Additional Tariff Imposed on India by USA Comes into Effect

These tariffs are in addition to the 25% tariff on Indian imports that were imposed by USA earlier, **affecting two-thirds of exports by value** to USA.

- This comes amidst **India-USA 2+2 Intersessional Dialogue** involving Ministry of External Affairs and Ministry of Defence of both countries.
 - They agreed to increase defence cooperation, including **signing a new ten-year Framework for the U.S. India Major Defense Partnership**.

Impact of high tariffs on India

- Exports:** GTRI estimates product exports to the US could **fall to \$49.6 billion** in 2025-26 from nearly \$87 billion in 2024-25.
- Most Affected Industries:** These include **low-margin and labour-intensive industries** including gems and jewellery, textiles and apparel, shrimp, and auto components.
- Loss of competitiveness:** **Indian products will be more expensive** making them **uncompetitive** against exports from lower duty countries like Vietnam, Bangladesh, and Mexico.
- Foreign Inflows:** FDI inflows in export-oriented sectors may decline and FPIs may cause volatility in equity and debt markets.

Way Forward

- Reinstate **Interest Equalisation Scheme** providing MSMEs with low-cost export credit in times of high interest rates.
- Introduce targeted credit lines** for shrimp, apparel, jewellery, handicrafts, and high-impact industries.
- Enhance Export Incentive Schemes** such as **RoDTEP** and **ROSCOTL** to support liquidity and **accelerate market diversification** and lead sector-specific trade missions.
- Simplified regulatory processes and rationalised duties** on critical raw materials like cotton, leather, and gem inputs.

Also in News



National Green Tribunal (NGT)

The Supreme Court has strongly criticized NGT for ordering an ED probe, deeming it a violation of law and beyond its jurisdiction.

About NGT:

- Established in:** 2010 under the National Green Tribunal Act 2010.
- Objective:** Effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources
 - Mandated** to make and endeavour for disposal of applications or appeals finally **within 6 months** of filing of the same.
- Not be bound by the procedure laid down under the Code of Civil Procedure, 1908:** shall be guided by **principles of natural justice**.
- Principal Place of Sitting:** New Delhi
- Other four places of sitting:** Bhopal, Pune, Kolkata and Chennai



Project 17A

Two multi-mission stealth frigates of Project 17A – **INS Udaygiri** and **INS Himgiri**, were commissioned into the Indian Navy.

- Frigates are **versatile multi-mission platforms**, designed to protect other ships of the fleet from threats emanating from the sea.

About Project 17 A

- Follow-on ships of **Shivalik-class (Project 17) frigates**.
- Seven Frigates being indigenously built** by Mazagon Dock (Mumbai) and GRSE (Kolkata).
- Configured with **Combined Diesel or Gas (CODOG) main propulsion plants**, comprising a Diesel Engine and Gas turbine.
- The **weapon suite** comprises supersonic Surface-to-Surface missile system, Medium-Range Surface to Air Missile system, and rapid-fire gun Systems.



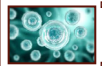
3GPP

India hosted first-ever 3GPP (3rd Generation Partnership Project) RAN Meetings on 6G Standardization.

- The meeting is being hosted by **Telecommunications Standards Development Society, India (TSDSI)**.
 - ⊕ TSDSI is **recognized Standards Development Organization (SDO)** of India.
 - ⊕ TSDSI develops standards for access, back-haul, and infrastructure systems, solutions and services that best meet **India specific Telecom/ICT needs**.

About 3rd Generation Partnership Project (3GPP)

- **Genesis:** Established in **1998** to develop 3G mobile standards.
- **Function:** Global body responsible for developing specifications for mobile communications technologies, **including 5G and 6G**.
- ⊕ 3GPP specifications form the **foundation of global mobile networks**.



Programmed Cell Revival

CCMB's seminal work on programmed cell revival offers hope for regenerative medicine.

Programmed Cell Revival (PCR)

- Usually **Programmed Cell Death (PCD)** is irreversible.
 - ⊕ PCD is a genetically regulated mechanism by which cells undergo self-destruction. **Examples:** Apoptosis, Autophagy, Necroptosis.
- CCMB discovered a "**genetically encoded revival code**" to enable cells to **recover from a near-death state**, termed as **PCR**.
- **Potential significance:** Regenerative medicine (stimulating injured neurons or cardiac cells to survive instead of die), Cancer research (where unwanted "cell revival" may help tumor cells resist therapy), Stem cell biology etc.



FIDE World Cup

The International Chess Federation (FIDE) announced that the FIDE World Cup 2025 will be hosted in Goa, India.

About FIDE World Cup

- It is a **major chess event** organized by the FIDE, the international governing body for chess.
 - ⊕ **FIDE** was constituted as a **non-governmental institution** in Paris in 1924, but is now headquartered in **Lausanne, Switzerland**.
- Top three finishers qualify for the 2026 Candidates Tournament.

Place in News



Australia (Capital: Canberra)

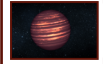
Australia has severed diplomatic ties with Iran and expelled Iran's ambassador over anti-Semitic attacks.

Political features

- Both a country and smallest **continent** entirely surrounded by the Indian and Pacific Oceans, with no land borders.
- **Maritime Boundaries:** the coastline is surrounded by several major seas and straits:
 - ⊕ **Arafura Sea** (north), **Timor Sea** (northwest), **Coral Sea** (northeast)
 - ⊕ **Tasman Sea** (southeast), **Bass Strait** (separates mainland Australia from Tasmania) and **Great Australian Bight** (south).

Geographical features

- **Climate:** Tropical (north), Temperate (southeast and southwest) and most of the country is arid or semi-arid desert.
- **Major Rivers:** Murray and Darling
- **Great Dividing Range** (Mountain range along the east coast).
- **Major Deserts:** **Great Victoria** Desert, the **Gibson** Desert, and the **Great Sandy** Desert.
- **Tropic of Capricorn** runs through the central regions of Australia



Brown Dwarfs

Scientists discover a rare quadruple star system – **UPM J1040-3551 AabBab** – in the Milky Way.

- It consists of a **pair of cold brown dwarfs orbiting a pair of young red dwarf stars**.

About Brown Dwarfs

- Brown dwarfs are celestial bodies that **form like stars** (from collapsing gas and dust) but **lack enough mass for sustained hydrogen fusion** (a process that heats the star).
 - ⊕ Thus, they are often known as "**failed stars**".
- They have **atmospheres similar to gas giant planets such as Jupiter**.
 - ⊕ The major difference between brown dwarfs and planets is their **mass and occurrence of deuterium** (heavy hydrogen) in brown dwarfs.



Arogyapacha

The forest elder (**Kuttimathan Kani**) who revealed Arogyapacha died in Kerala.

About Arogyapacha

- Arogyapacha literally **means** "the green that gives strength".
- It is a **rare, indigenous medicinal plant** of India known for its use as an instant energy stimulant, anti-fatigue and therapeutic properties.
- **Medicinal Properties:** Anti-oxidant, antistress, anti-microbial, anti-inflammatory, anti-tumor, anti-ulcer, anti-diabetic etc.
- Famous for its **traditional use by the local tribal people (known as Kani tribes, settled in Agastya hills, Western Ghats)**.
- A drug named '**Jeevani**' has been developed **using "Arogya Pacha"** with three more ingredients by Tropical Botanic Garden and Research Institute (TBGRI), Thiruvananthapuram, Kerala.
 - ⊕ Kani Tribes gets a share of 50% on commercial returns.



AHMEDABAD



BHOPAL



CHANDIGARH



DELHI



JAIPUR



JODHPUR



GUWAHATI



HYDERABAD



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI



SIKAR