

NEWS TODAY

INDIAN STATES' ELECTRICITY TRANSITION (SET) REPORT RELEASED BY INSTITUTE FOR ENERGY ECONOMICS AND FINANCIAL ANALYSIS (IEEFA)

- Report provides progress and performance of Indian states on various aspects of clean electricity transition.

➤ It has analysed 16 states on electricity transition pathway based on four dimensions with 17 parameters. (refer image).

- These states together account for 90% of India's annual power requirement.

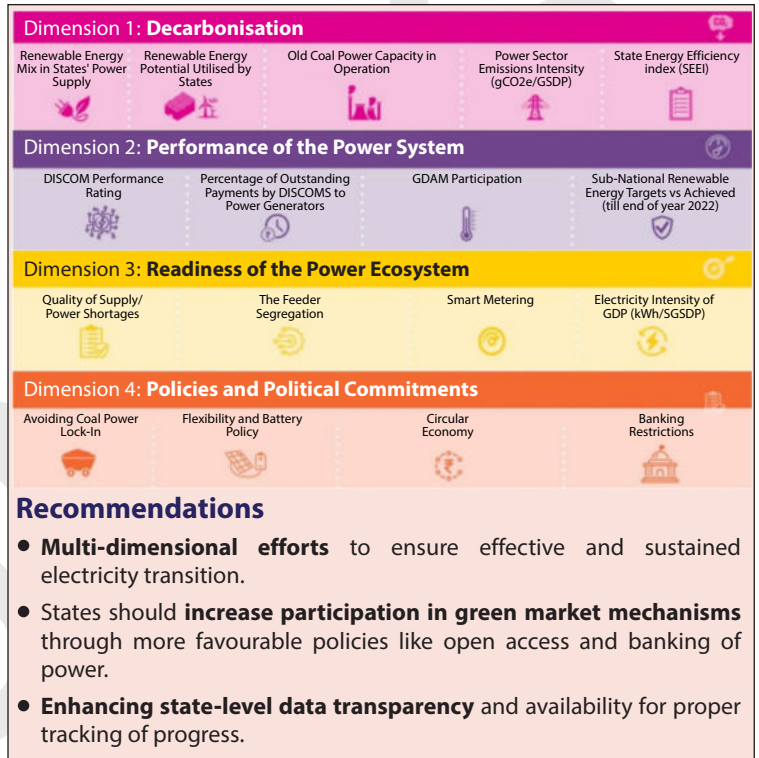
➤ **Electricity Transition** refers to the shift from fossil-based power production and consumption to renewable energy sources (RES) like wind and solar.

Key findings of report

- Bihar, UP and West Bengal need to expand their potential and transition commitments.
- Karnataka is only state that scored well across all four dimensions followed by Gujarat.

Four dimensions are

- **Decarbonisation:** Evaluate states' preparedness to shift from fossil-based power to RES.
 - Decarbonisation is reduction of carbon dioxide emissions through use of low carbon power sources, achieving lower output of greenhouse gases into atmosphere.
- **Performance of Power System:** Evaluate states' ability to create greener market pulls effectively.
- **Readiness of Power Ecosystem:** Transform power systems while ensuring reliable electricity supply.
- **Policies and Political Commitments:** Evaluate proactiveness in promoting innovative policies.



LEGISLATOR FACING DISQUALIFICATION CAN'T ATTEND FLOOR TEST: SUPREME COURT

- SC has put forth its judgement on legislator's disqualification while hearing Anti-defection case in Maharashtra.

Key highlights

- **Allowing a Member of Parliament (MP) or Member of Legislative Assembly (MLA) who is facing disqualification under Anti-defection law (ADL) to participate in floor test would amount to legitimising a Constitutional Sin.**

➤ Elected Members of a House are **bound by instructions of whip** in house and **actions defying it will attract disqualification.**

- ADL provides for **disqualification of MLAs who, after being elected on ticket of a political party, "voluntarily give up their party membership".**

Grounds of Disqualification

- If **member votes or abstains from voting** in such House **contrary to any direction issued by his political party** without obtaining prior permission of such party and **such act has not been condoned by party within 15 days.**
- **Nominated member**, if he joins any political party after expiry of 6 months.
- **Independent member**, if he joins any political party.

- **Deciding authority: Presiding officer of House** will decide any question regarding disqualification arising out of defection. (Kihoto Holohan case said decision is subjected to judicial review).

- Whip is a **written ordinance which mandates party members to be present in a state assembly or parliament** if an important vote is to be cast.

➤ India inherited the concept of whip from **British parliamentary system.**

➤ There are three types of whips i.e., one-line whip, two-line whip, and three-line whip.

CENTRE SET TO INVITE STATE VIEWS ON PUNCHHI PANEL

- Ministry of Home Affairs has decided to seek states' opinion again after 5 years from its first review by Inter State Council's (ISC) Standing Committee in 2017-2018.
- Constituted in 2007** under chairmanship of **Justice Madan Mohan Punchhi (former Chief Justice of India)**, Punchhi Commission on Centre-State Relations submitted its report in 2010.
 - Punchhi Commission made **273 recommendations in its seven- volume report**.
- Major Recommendations of Punchhi Commission**
 - Centre should **consult states before introducing bills** on items in **concurrent list** through ISC.
 - Amend Article 355 (Union Duty to protect States)** with preference to interests of States to curb misuse of Article by Centre.
 - Exercise of power under Article 356** should be **limited strictly to rectifying a failure of Constitutional machinery** in State.
 - Set-up a **National Integration Council** on lines of Homeland Security Department in US to look into matters of **internal security**.
 - Appointed Governors should be non-political persons or persons away from active politics** for at least two years prior to appointment etc.
 - Provide impeachment of Governor** on same lines as provided for impeachment of President in Article 61.

INDIA'S FIRST PROSPECTIVE DNA VACCINE AGAINST DENGUE

- India's first and only DNA vaccine for dengue has shown promising results which has been in development since 2019 in **National Centre for Biological Sciences (NCBS)**, Bengaluru.

Earlier, **world's first DNA vaccine—ZyCoV-D** was approved in 2021 for emergency use against COVID-19.

- DNA vaccine **uses a copy of a genetic sequence from a part** (i.e., outer or spike-protein) of a **pathogen** (virus or bacteria) to **stimulate body's immune system**. More specifically, it known as **"plasmid DNA vaccine"**.

Whereas, RNA vaccine uses a copy of a natural chemical called messenger RNA (mRNA) to produce an immune response in humans. Delivery of mRNA is achieved by **lipid nanoparticles**.

DNA vaccine is more stable than RNA vaccine.

Unlike RNA vaccine, **DNA vaccines** have potential to **integrate into host cell genome**.

- Benefits of DNA vaccine**

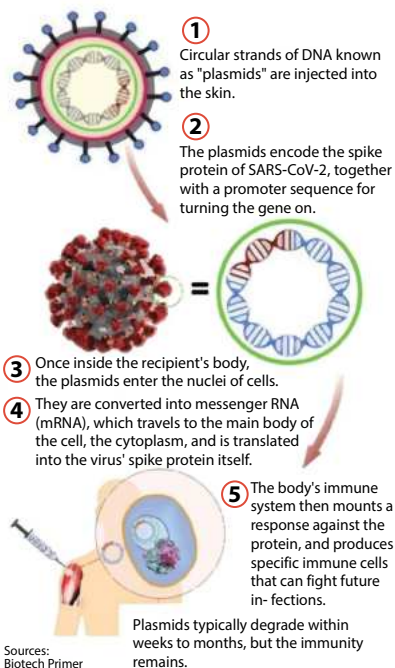
Stability and safety: Vaccines are non-infectious; carries **no potential toxicity from viral vectors**.

Efficacy and boosting: Stimulate both humoral and cellular arms of adaptive immune system; **pose minimal risk of anti-vector immunity**.

Rapid and Scalable manufacturing: Lower cold chain requirements.

- Challenges:** Relatively **limited data on safety and efficacy in humans**; risk of development of **anti-nuclear antibodies**; induction of **antibiotic resistance**.

How DNA vaccine works



Duties of INTER-STATE COUNCIL

- 01** Inquiring into and advising upon disputes which may have arisen between States
- 02** Investigating and discussing subjects in which some or all of the States, or the Union and one or more of the States, have a common interest
- 03** Making recommendations upon any such subject and, in particular, recommendations for the better co-ordination of policy and action with respect to that subject

- Sarkaria Commission was the first commission on Centre-State Relations** which submitted its report in 1988. Its major recommendation was to **set-up permanent ISC** under Article 263. (refer image)

NATIONAL SCIENCE DAY (NSD) 2023: CHANDRASEKHARA VENKATA (CV) RAMAN WON NOBEL FOR RAMAN EFFECT

- 28 February** was designated as **NSD in 1986** to commemorate the announcement of **discovery of Raman effect** (also known as **Raman Scattering**) by Nobel laureate physicist **CV Raman in 1928**.

He won **Nobel Prize in Physics in 1930** (first Asian and non-White to get a Nobel Prize in science) and **Bharat Ratna, India's highest civilian award, in 1954**.

Theme of NSD-2023 is **"Global Science for Global Wellbeing"**.

- Raman Effect is the **change in wavelength of light** that occurs when a light beam is **deflected by molecules**.

- When a **beam of light traverses a dust-free, transparent sample of a chemical compound**, a small fraction of **light emerges in directions other than that of the incident (incoming) beam**.

Most of this scattered light is of unchanged wavelength.

However, a small part has wavelengths different from that of incident light. This is because of Raman Effect phenomenon.

- Significance of Raman effect**

Used in **Raman spectroscopy** to identify and **analyze chemical composition of materials**.

Crucial for **quantum theory**.

Used in remote sensing and planetary exploration.

- Other contributions of CV Raman:** Started **Indian Journal of Physics** in 1926, established **Raman Research Institute** in Bangalore in 1948.




INDIAN SPACE RESEARCH ORGANISATION (ISRO) SUCCESSFULLY CONDUCTS KEY ROCKET ENGINE TEST FOR CHANDRAYAAN-3

- **Flight acceptance hot test of CE-20 cryogenic engine, which will power Cryogenic Upper Stage of LVM3 launch vehicle** for Chandrayaan-3 mission was conducted at ISRO Propulsion Complex at Mahendragiri, Tamil Nadu.
- Cryogenic engine/cryogenic stage is **last stage of space launch vehicles using propellants at extremely low temperature**.
 - It is **more efficient and provides more thrust** for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages.
 - Cryogenic engine makes **use of Liquid Oxygen (LOX) and Liquid Hydrogen (LH2)** as propellants.
 - **Major components of cryogenic rocket engine** are combustion/thrust chamber, igniter, fuel injector, fuel cryo pumps, oxidizer cryo pumps, gas turbine, cryo valves, regulators, fuel tanks and rocket engine nozzles.
- Chandrayaan-3 (to be launched in later 2023) is a **follow-on mission to Chandrayaan-2** to demonstrate **end-to-end capability in safe landing and roving on lunar surface**.
 - **Chandrayaan-2** was launched in **2019** while **Chandrayaan-1** was launched in **2008**.

Modules of Chandrayaan-3	Details
Propulsion Module	● Spectro-polarimetry of Habitable Planet Earth (SHAPE) studies spectral and Polarimetric measurements of Earth from lunar orbit.
Rover Module	● Alpha Particle X-ray Spectrometer (APXS) and Laser Induced Breakdown Spectroscope (LIBS) deriving elemental composition in vicinity of landing site.
Lander Module	● Chandra's Surface Thermophysical Experiment (ChaSTE) measure thermal conductivity and temperature. ● Instrument for Lunar Seismic Activity (ILSA) measure seismicity around landing site. ● Langmuir Probe (LP) estimates plasma density and its variations. ● Passive Laser Retroreflector Array from NASA for lunar laser ranging studies.

ALSO IN NEWS

 Right against self-incrimination	<ul style="list-style-type: none">● SC had rejected Delhi Deputy Chief Minister's arguments that he had right against self-incrimination.● Article 20(3) in Part III (Fundamental Rights) of Indian Constitution says that "No person accused of any offence shall be compelled to be a witness against himself."<ul style="list-style-type: none">➤ A person who is accused of a crime cannot be forced to testify against themselves or provide evidence that may incriminate them.➤ This prohibition cannot be applied in cases where an object or document is searched or seized from possession of the accuse.➤ Right against self-incrimination has its origins in Roman law, and evolved as a distinct right in English jurisprudence.
 Windsor Framework	<ul style="list-style-type: none">● UK government reached a landmark deal with European Union on post-Brexit trade rules that will govern Northern Ireland.<ul style="list-style-type: none">➤ Windsor Framework will replace the Northern Ireland Protocol.● Framework has two crucial aspects<ul style="list-style-type: none">➤ Introduction of a green lane and red lane system for goods that will stay in Northern Ireland and those that will go to EU respectively.➤ Stormont Brake which allows Northern Ireland lawmakers and London to veto any EU regulation they believe affects the region adversely.
 News Broadcasting and Digital Standards Authority (NBDSA)	<ul style="list-style-type: none">● NBDSA has held certain programmes to be in violation of Code of Ethics and Broadcasting Standards and Specific Guidelines.● NBDSA is an independent body set up by News Broadcasters & Digital Association (NBDA), which serves as a representative of private television news, current affairs and digital broadcasters.<ul style="list-style-type: none">➤ It aims to protect all its members from persons carrying unfair and/or unethical practices.➤ It is funded entirely by its members.➤ NBDSA includes a chairperson who is to be an eminent jurist, and other members such as news editors, and those experienced in field of law, education, literature, public administration, etc. nominated by a majority of Board.

 <p>Precision Attack Loitering Munition (PALM 400)</p>	<ul style="list-style-type: none"> Indian Army is going to conduct PALM 400 drone tests in Pokhran. PALM 400 is an armed remotely piloted vehicle (RPV) built by AVision Systems. <ul style="list-style-type: none"> It is a joint venture between Israeli firm UVision Air Ltd and Hyderabad-based Aditya Precitech Private Ltd. It is a high precision loitering system launched from a canister which can loiter for up to 120 minutes. <ul style="list-style-type: none"> Speed: 50-140 knots (90-260 km per hour), Height: 3,000-4,000 feet above ground. It picks out its target and fires an armor-penetrating projectile from top - where its armor protection is the least.
 <p>UNSCR 2396 (United Nations Security Council resolution 2396)</p>	<ul style="list-style-type: none"> Country Reports on Terrorism 2021 was released by US bureau of Counterterrorism. <ul style="list-style-type: none"> Report hails India for its efforts in 2021 to detect, disrupt, and degrade operations of terrorist organizations. Taking regional and global leadership roles against terrorism, India implemented UNSCR 2396, i.e., United Nations Security Council Resolution 2396. <ul style="list-style-type: none"> UNSCR 2396 urges member states to stem the threat posed by foreign terrorist fighters (FTFs) through measures on Border control, Criminal justice and Information-sharing and counter-extremism.
 <p>Other Effective Area-Based Conservation Measures (OECM)</p>	<ul style="list-style-type: none"> In recently concluded fifth International Marine Protected Areas Congress, the need to focus more on OECM was discussed. OECMs refers to a geographic site, which is not within any protected area, that delivers long-term biodiversity conservation under equitable governance and management. <ul style="list-style-type: none"> OECMs may occur in public, individual private lands, community lands, and Indigenous territories. It recognizes that conservation outcomes are possible outside protected areas, and people involved in governance of those natural resources should be valued, respected, and supported.
 <p>Changthang Wildlife Sanctuary (CWS)</p>	<ul style="list-style-type: none"> Standing committee of National Board for Wildlife (NBWL) has cleared the setting up of a new Indian Air Force base in CWS in Eastern Ladakh. CWS is located in Ladakhi Changthang plateau in Leh district of Ladakh UT. <ul style="list-style-type: none"> It covers lakes like Pangong Tso, Tso Moriri and Tso Kar. Fauna: Snow Leopard, Tibetan Antelope, Tibetan wolf, wild yak, bharal etc. Flora: Devoid of trees, Rare and endangered plants can be found throughout the region.
 <p>Grievance Appellate Committee (GAC)</p>	<ul style="list-style-type: none"> Ministry of Electronics and Information Technology (MeitY) has launched a new digital platform named GAC under Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. GAC is an online dispute resolution mechanism that makes digital platforms - big and small, accountable to Digital Nagriks. <ul style="list-style-type: none"> Aims to ensure a Safe & Trusted and Accountable Internet for Indian users. Accessible through Common Service Centres (CSCs), GAC empowers social media users to appeal against decisions taken by social media platforms. It endeavours to resolve the appeals of users within 30 days.
 <p>VAIBHAV Fellowships</p>	<ul style="list-style-type: none"> Ministry of Science and technology launches 'VAIBHAV Fellowship' for NRI researchers. Vaibhav Fellowship aims at improving the research ecosystem of India's Higher Educational Institutions. <ul style="list-style-type: none"> It facilitates academic and research collaborations between Indian institutions and best institutions in world through mobility of faculty/researcher from overseas institutions to India. Criteria <ul style="list-style-type: none"> Applicant should be Non-Resident Indian (NRI), Persons of Indian Origin (PIO) or Overseas Citizen of India (OCI). Must have obtained a Ph.D/M.D/M.S degree from a recognized University. Plan to work for a minimum of 1 month to maximum of 2 months a year in a research institution / academic institution in India.