

ECONOMY
Green Day-Ahead Market

Recently, the Union Minister of Power & New and Renewable Energy has launched the new market segment, Green Day Ahead Market (GDAM) at the Indian Energy Exchange. India is the only large electricity market in the world to implement a Green Day Ahead Market (GDAM) exclusively for renewable energy.

Key Points
About:

- It is a marketplace for trading renewable power on a day-ahead basis.
- National Load Despatch Center (NLDC), Power System Operation Corporation Limited (POSOCO) as the nodal agency has set up the requisite technologies and infrastructure for the launch of the GDAM.
- With GDAM, any renewable energy generating company can set up and sell renewable energy on the exchange.

Working of the GDAM:

- It will operate in an integrated way with the conventional day-ahead market. The Exchanges will offer the market participants to submit bids together for both conventional and renewable energy through the separate bidding windows.
- This mechanism will allow renewable energy sellers to subsequently bid in the conventional segment should their bids remain uncleared in the green market.
- There will be separate price discoveries for both the conventional and renewables.

Expected Benefits:

- **Deepen Green Market:** It will deepen the green market and will provide competitive price signals, besides offering an opportunity to the market participants to trade in green energy, in the most transparent, flexible, competitive, and efficient manner.
- **Accelerate the Renewable Capacity Addition:** It will provide another option to renewable generators to sell power as well as accelerate the renewable capacity addition towards India's vision as a sustainable and efficient energy economy. The distribution utilities would also be able to sell surplus renewable power generated in their area.
- **Shift from PPA based Contract to Market-Based Models:** It will create a domino effect that will lead to a gradual shift from Power Purchase Agreements (PPAs) based contracts to market-based models. It will build and deepen the markets to the next level, paving the way for India to meet its ambitious target of 450 GW green capacity by 2030.
- **Reduction of Curtailment of Green Power:** It would reduce the curtailment of green power, unlock untapped renewable energy potential, ensure instant payment to Renewable Energy generators i.e. on the day of delivery itself.

Renewable Energy in India:

- India is the world's third largest consumer of electricity and the world's third largest renewable energy producer with 38% (136 GW out of 373 GW) of total installed energy capacity in 2020 from renewable sources.
 - In 2016 under the Paris agreement, India made the commitment of producing 450 GW, or 40% of its total electricity, from non-fossil fuel sources by 2030.
1. The GDAM comes at a time when the country is facing a shortage of coal.
 2. The country needs to decrease its dependence on imported sources of fossil fuel.

Related Initiatives:

- National Solar Mission (NSM)
- National Biofuels Policy and SATAT
- Small Hydro Power (SHP)
- National Hydrogen Energy Mission (NHEM)
- Production-Linked Incentive (PLI) Scheme
- National Biofuels Policy and SAYAY

GOVERNANCE
Krishi UDAN 2.0

Recently, the Union Minister of Civil Aviation has released Krishi Ude Desh Ka Aam Naagrik (UDAN) 2.0 to facilitate movement of agricultural produce by air.

- It lays out the vision of improving value realization through better integration and optimization of agri-harvesting and air transportation and contributing to agri-value chain sustainability and resilience under different and dynamic conditions.
- Earlier, ahead of UDAN Day (21st October), the Ministry of Civil Aviation flagged off 6 routes, expanding the aerial connectivity of North-East India, under the UDAN Scheme.

Key Points

About:

- Krishi UDAN was launched in August 2020, on international and national routes to assist farmers in transporting agricultural products so that it improves their value realisation.
- Krishi UDAN 2.0 will focus on transporting perishable food products from the hilly areas, northeastern states and tribal areas.
- It will be implemented at 53 airports across the country mainly focusing on northeast and tribal regions and is likely to benefit farmers, freight forwarders and airlines. Opted airports not only provide access to regional domestic markets but also connect them to international gateways of the country.

Main Features:

- **Waiver:** Facilitate and incentivize movement of agri-produce by air transportation by giving a full waiver of landing, parking, Terminal Navigation and Landing Charges and Route Navigation Facilities Charges for domestic airlines.
- **Hub and Spoke Model:** Strengthen Cargo related infrastructure at airports and off airports by facilitating the development of a hub and spoke model and a freight grid. The hub and spoke model refers to a distribution method in which a centralized "hub" exists.
- **Resource Pooling:** Resources-Pooling through establishing a convergence mechanism i.e. collaboration with other government departments and regulatory bodies. It will provide freight forwarders, airlines and other stakeholders with Incentives and concessions to enhance air transportation of Agri-produce.
- **E-KUSHAL:** An online platform named E-KUSHAL (Krishi Udaan for Sustainable Holistic Agri-Logistics) would also be developed to facilitate information dissemination to all stakeholders regarding the transportation of agricultural produce. The ministry has also proposed convergence of E-KUSHAL with the National Agriculture Market (e-NAM).

Expected Benefits:

- **New Avenues of Growth for Agriculture:** This scheme will open up new avenues of growth for the agriculture sector and help attain the goal of doubling farmers' income by removing barriers in supply chain, logistics and transportation of farm produce.
- **Decrease Food Wastes:** It will help solve the problem of wastage of agricultural food wastes in the country.

Other Initiatives Related to Farmers:

1. Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)
2. Green India Mission
3. Soil Health Card (SHC)
4. Paramparagat Krishi Vikas Yojana (PKVY)
5. Rainfed Area Development (RAD)
6. Sub-mission on AgroForestry (SMAF)
7. Mission Organic Value Chain Development for North Eastern Region (MOVCDNER).

SCIENCE & TECHNOLOGY

Converting CO₂ to Methane

Recently, Indian Scientists have designed a photochemical method (Photocatalyst) to convert Carbon Dioxide (CO₂) to Methane (CH₄). A photochemical method is a chemical reaction initiated by the absorption of energy in the form of light.

Key Points

About:

- A polymer has been designed to absorb visible light and catalyse the reaction which reduces CO₂. Most catalysts contain toxic and expensive metal counterparts. Therefore scientists designed a metal-free porous organic polymer to overcome this drawback.
- The photochemical method of reducing CO₂ uses solar light as a renewable source of energy. There are several ways in which CO₂ can be reduced, including photochemical, electrochemical, photoelectrochemical, photothermal, and so on.

Mechanism:

- The catalyst has a chemical called the Conjugated Microporous Polymer (CMP).
- It can uptake CO₂ onto its surface due to its high CO₂ intake capability at room temperature, converting it into methane as a value-added product.
- There are some key requirements of a photo-catalyst to convert CO₂ into value-added products, which rely upon:
 1. Light-harvesting property.
 2. Charge carrier (electron-hole pair) separation proficiency.
 3. Presence of proper electronically aligned conduction band.

Significance:

- Methane can be one of the value-added products with significant uses as the cleanest burning fossil fuel and can directly be used in fuel cells as a hydrogen carrier.
- It is also the main component of natural gas and has the potential to replace coal for electricity generation and furnishing flexible supply to reinforce intermittent renewable generators.

IMPORTANT FACTS FOR PRELIM**SAMBHAV Awareness Programme: MSMEs**

Recently, the Ministry of Micro, Small & Medium Enterprises (MSME) has launched an e-National Level Awareness Programme SAMBHAV.

Key Points**About:**

- It is a mass outreach programme under the Ministry of MSME in which students from different colleges/ITIs from all parts of the country will be encouraged by 130 field offices of the Ministry to take up entrepreneurship.
- During the campaign the college students will be made aware of the various schemes being implemented by the Ministry of MSME through Audio/Video film presentations.

Objective:

- To promote engagement of the youth in promoting entrepreneurship, boost domestic manufacturing with a view to push economic growth.

Need:

- The government is working to increase the contribution of MSME in Gross Domestic Product (GDP) and exports. Enhancing the GDP contribution from present 30% to 50%, and employment generation in MSME sector from 11 crore to 15 crore has been stressed.

Related Initiatives:

1. Women Entrepreneurship Platform (WEP)
2. Venture Capital Scheme for Agri-Business Development
3. Pradhan Mantri Mudra Yojana
4. Generation Unlimited in India (YuWaah)
5. National Career Service
6. Prime Minister's Employment Generation Programme (PMEGP)
7. Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)
8. Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)

2. Economic Advisory Council to the Prime Minister

Recently, the government has reconstituted the Economic Advisory Council to the Prime Minister (EAC-PM) under the leadership of Dr. Bibek Debroy for a period of two years after its term came to an end in September 2021.

Key Points

About:

- EAC-PM is a non-constitutional, non-statutory, independent body constituted to give advice on economic and related issues to the Government of India, specifically to the Prime Minister.
- The council serves to highlight key economic issues to the government of India from a neutral viewpoint. It advises the Prime Minister on economic issues like inflation, microfinance, and industrial output.
- For administrative, logistic, planning and budgeting purposes, the NITI Aayog serves as the Nodal Agency for the EAC-PM.

Terms of Reference of EAC-PM:

- Analyzing any issue, economic or otherwise, referred to it by the Prime Minister and advising him thereon,
 - Addressing issues of macroeconomic importance and presenting views thereon to the Prime Minister.
1. These could be either suo-motu or on reference from the Prime Minister or anyone else.
 2. It also includes attending to any other task as may be desired by the Prime Minister from time to time.

Periodic Reports:

1. Annual Economic Outlook.
2. Review of the Economy.

DAILY ANSWER WRITING PRACTICE

Qns. e-voting in India faces the political, technological and security concerns but it is nevertheless the future of voting in elections. Critically Analyse. (10 marks, 150 words)

Ans:

Introduction

The Chief Election Commissioner has proposed to include the 'remote voting facility' in the upcoming 2024 Lok Sabha elections. This will enable voters to cast votes from remote locations and improve voter turnout.

Body

Features of the Online Voting system

- The online voting system will manage the voter's details and Candidate details.
- Voters can login and use his/her voting rights.
- The system can manage the information data very efficiently.
- The proposed system is more reliable, faster, accurate and easy to handle compared to existing manual systems.
- It helps to computerize everything and reduces the errors as compared to manual voting systems.

Significance of Remote Voting Facility (RVF)

- **Higher Voter Turnout:** The voter turn in the 2019 Lok Sabha elections was 67.11% across 542 constituencies. The RVF can increase the voter turnout in the upcoming Lok Sabha election.
- **Promote Inclusivity:** Individuals who are 'on the move' like students, patients, migrant labourers, essential service providers, etc. will become part of the electoral process.
- **Flexibility:** RVF gives more flexibility to voters. An individual can cast his/her vote from multiple locations and not solely from one registered polling station.
- **Greater Political Accountability:** RVF will give a voice to unheard groups like migrant workers. The contesting candidates generally did not concern with them, as they will not vote in elections.
- **Strengthens Representative Democracy:** RVF will ensure more eligible voters cast their vote. Thus, it will help in fulfilling the ambition of the representative democracy.
- **Fulfils Constitutional Mandate:** Article 326 of the Indian Constitution has given voting rights to every individual above 18 years i.e. universal adult suffrage. The spirit of this

article calls for ensuring universal voter turnout in elections and RVF can help us move closer towards this.

Challenges with e-Voting

Cyber Threats: As RVF is based on block-chain, therefore it might be attacked by hackers which would distort the final result.

Privacy Concern: The process involves saving a user's biometrics and facial data. Any misuse of such by concerned authorities or hackers would undermine the right to privacy.

Stakeholder's Confidence: Nowadays, political parties and candidates are questioning the credibility of EVMs. Instilling trust over RVF will be a challenging task.

Confidentiality of Voting: As the RVF facility will be availed in front of an authorized officer, the secrecy of the voting process might get jeopardized.

Former CEC concerns

Former CEC S.Y. Quraishi stated that developing an app is child's play. He commented that the ECI had ruled out the option.

Even the simplest technology, the Electronic Voting Machine [EVM] that is based on the 17th Century calculator, is a matter of legal disputes.

The technology is simple, credibility and trust in the technology is the issue.

Former CEC asked if EVMs were still being challenged, how an Internet-based system of voting could be acceptable.

It is a dicey proposition because elections are conducted with the total trust of voters, political parties, candidates and the public at large.

One has to see to it that during voting, the voter ID, the environment (that is if there is any coercion), and the security of ballots cast till the time of counting are maintained.

So far, it was not clear how verification of voter identification, maintaining a free voting environment and secrecy of ballots would be maintained.

Way forward

- The government has to do a wider consultation with all the concerned stakeholders before the rollout of RVF. This includes political parties and civil society groups (like the Association for Democratic reforms).
- In the pilot phase, the Parties and candidates should get timely notifications of RVF. By providing real-time information can strengthen trust in the electoral process.
- Also, The Election Commission should organise the RVF hackathons in order to build greater public confidence. So that the 'didn't want to vote' category people also cast their vote with confidence.
- For ensuring a universal voter turnout, awareness generation should be done.
- Further, till the RVF develops, easing and enhancing the process of postal ballots is desired.
- India used the Electronically Transmitted Postal Ballot System (ETPBS) in 2019 Lok Sabha Elections. The ETPBS helped the armed forces, central paramilitary forces and central government officers working in Indian missions abroad to cast their vote.

Conclusion

Technology has played a pivotal role in strengthening the electoral process of the world's largest democracy. For example, the introduction of EVMs, VVPAT machines, C- Vigil App, etc. The launch of RVF will be a significant step. But the apparent challenges have to be resolved first. This will make Remote Voting a safe, secure, trustworthy, and transparent process.

DAILY QUIZ

Q1. Consider the following statements:

1. The Uighurs are a predominantly Muslim minority Turkic ethnic group, whose origins can be traced to Central and East Asia.
2. Currently, the largest population of the Uighur ethnic community lives in the Tigray Region of Ethiopia.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only

- c. Both 1 and 2
- d. Neither 1 nor 2

Q2. The terms 'Blacklist and Grey list', sometimes mentioned in the news recently are related to:

- a. **FATF standards**
- b. WTO standards
- c. IMF standards
- d. UNSC standards

Q3. The term 'Intended Nationally Determined Contributions' is sometimes seen in the news in the context of

- a. pledges made by the European countries to rehabilitate refugees from the war-affected Middle East
- b. **plan of action outlined by the countries of the world to combat climate change**
- c. capital contributed by the member countries in the establishment of Asian Infrastructure Investment Bank
- d. plan of action outlined by the countries of the world regarding Sustainable Development Goals

Q4. With reference to International Securities Identification Number (ISIN), consider the following statements:

1. It is a 16-digit alphanumeric code that uniquely identifies a specific security.
2. The numbers are allocated by a country's respective national numbering agency (NNA).
3. The ISIN code is the only common securities identification number that is universally recognized.

Which of the statements given above is/are correct?

- a. 1 and 2 only
- b. **2 and 3 only**
- c. 1 and 3 only
- d. 1, 2 and 3

Q5. In India, if a species of tortoise is declared protected under Schedule I of the Wildlife (Protection) Act, 1972, what does it imply?

- a. **It enjoys the same level of protection as the tiger.**
- b. It no longer exists in the wild, a few individuals are under captive protection; and now it is impossible to prevent its extinction.
- c. It is endemic to a particular region of India.
- d. Both (b) and (c) stated above are correct in this context.