Green Day-Ahead Market

Why in News

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.

Indian Energy Exchange

> **Indian Energy Exchange** is the **first and largest energy exchange in India providing a nationwide, automated trading platform** for physical delivery of electricity, **Renewable Energy Certificates** and **Energy Saving Certificates.**

Day-Ahead Market (DAM)

> It is a **physical electricity trading market** for deliveries for any/some/all 15 minute time blocks **in 24 hours of the next day starting from midnight.**

Term-Ahead Market (TAM)

- The contracts under TAM cover a **range for buying/selling electricity** for duration **up to 11 days.**
- It enables participants to purchase electricity for the same day through intra-day contracts, for the next day through day-ahead contingency, on a daily basis for **rolling seven days through daily contracts.**

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 t**o 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.
    - The GDAM comes at a time when the **country is facing a shortage of coal**.
    - The country **needs to decrease its dependence** on imported sources of fossil fuel.

Source: PIB