World Biofuel Day

Why in News

World Biofuel Day is observed on 10th August every year.

Key Points

- **About:**
  - It is observed **to raise awareness of the importance of non-fossil fuels as a substitute** for conventional fossil fuels.
  - **Ministry of New and Renewable Energy** in association with UNIDO **(United Nations Development Industrial Organisation)** and **GEF (Global Environment Facility** - a financial mechanism) launched **two schemes** on this occasion which are:
    - Interest Subvention Scheme.
    - GIS based inventory tool of organic waste streams.
  - Biofuels programme is also in synergy with Government of India's initiative of **Atmanirbhar Bharat**.
- **History:**
  - This day is observed **in honour of Sir Rudolf Diesel.** He was the inventor of the diesel engine and was the first to predict the possibility of vegetable oil replacing fossil fuels.
- **Theme for 2021:**
  - It is based on the promotion of biofuels for a better environment.
- **Celebrated by:**
  - Ministry of Petroleum and Natural Gas since 2015.
- **Significance:**
  - Any hydrocarbon fuel that is **produced from an organic matter** (living or once living material) in a short period of time (days, weeks, or even months) is considered a biofuel.
    - Examples of Biofuel include **ethanol, biodiesel, green diesel and biogas.**
  - Biofuels help in reducing the dependence on crude oil and fostering a cleaner environment.
  - It also generates additional income and employment for rural areas.
  - This will not only help meet India's rural energy needs but also fulfill the rising demands for transportation.
  - The use of carbon fuels will reduce carbon emissions and meet the energy requirements of the 21st century.
- **Interest Subvention Scheme:**
  - It provides **financial assistance to innovative waste to energy biomethanation projects** and business models.
    - The industrial organic waste-to-energy bio-methanation projects are **generally**

capital intensive and financially sensitive to both operating costs, including waste availability, and revenue, particularly biogas yield and its utilization scenario.
        - Innovations in such projects **seek to improve overall energy output thereby minimizing the cost of energy generation** but may lead to increase in the initial project cost at the establishment stage yet increase revenue and reduce operating costs over project's lifetime.
    - The loan scheme provides financial assistance to beneficiaries to reduce the financial burden on account of interest on the loan component faced by such demonstration projects.
- **Inventory Tool Of Organic Waste Streams:**
    - The tool provides district level estimates of available urban and industrial organic wastes and their energy generation potential across India.
    - The **GIS (Geographic information system)** tool will enable **SMEs (Small and Medium Enterprises)** and project developers to set up new waste to energy projects and may facilitate the rapid growth of biomethanation in the waste-to-energy sector in the country.

Biomethanation

- Biomethanation is a process by which organic material is microbiologically converted under anaerobic conditions to biogas.
    - Three main physiological groups of microorganisms are involved: fermenting bacteria, organic acid oxidizing bacteria, and methanogenic archaea.
    - Microorganisms degrade organic matter via cascades of biochemical conversions to methane and carbon dioxide.

Govt Initiatives to Promote Biofuels

- **Blending of biofuels: Ethanol Blended Petrol (EBP) programme**, Administrative price mechanism for ethanol, Simplifying the procurement procedures by Oil Marketing Companies (OMCs), amending the provisions of Industries (Development & Regulation) Act, 1951 etc are some of the initiatives taken to promote blending of biofuels.
- Researchers at the International Centre for Genetic Engineering and Biotechnology (ICGEB) are developing a method to use **cyanobacterium for biofuel production**.
- Recently, the Central government has also allowed the **conversion of surplus rice to ethanol**.
- **Pradhan Mantri JI-VAN Yojana**, 2019: To create an ecosystem for setting up commercial projects and to boost Research and Development in 2G Ethanol sector
- **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN scheme:** It focuses on managing and converting cattle dung and solid waste in farms to useful compost,biogas and bio-CNG, thus keeping villages clean and increasing the income of rural households.
- Repurpose Used Cooking Oil **(RUCO):** It was launched by **Food Safety and Standards Authority of India (FSSAI)** and aims for an ecosystem that will enable the collection and conversion of used cooking oil to biodiesel.
- **National Policy on Biofuels, 2018**: It expands the scope of raw material for ethanol production by allowing use of sugarcane juice, sugar containing materials like sugar beet, sweet sorghum, starch containing materials like corn, cassava, damaged food grains like wheat,broken rice, rotten potatoes, unfit for human consumption for ethanol production.

Way Forward

- Promotion of the use of biofuels in transportation in countries like India will help in reducing the crude import bill.
- India being a large agricultural economy, there is a large amount of agricultural residues available, therefore the scope of producing Biofuels is immense in the country. Biofuels can help in rural and

agricultural development in the form of new cash crops.

- Efforts for producing sustainable biofuels should be made by ensuring use of wastelands and municipal wastes that get generated in cities. A properly designed and implemented biofuel solution can provide both food and energy.
- A community-based biodiesel distribution programme that benefits local economies, from the farmers growing the feedstock to local businesses producing and distributing the fuel to the end consumer, will be a welcome step.

Source: PIB