World Energy Outlook 2023

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India is set to witness a considerable reduction in its carbon dioxide (CO2) emissions by 2050, as reported by the **International Energy Agency (IEA)** in its World Energy Outlook 2023.

[Ref: freepik]

About the Report:

Source and Objective:

- This report provides a comprehensive view of how the **global energy system** could develop in the coming decades.
- It is designed to inform **policymakers, industry stakeholders,** and the general public about the challenges and opportunities in the future of energy.

Methodology:

- The report encompasses a wide range of parameters, including **energy consumption, sources, policy frameworks,** and **global challenges.**

Key Findings of the Report:

India's Energy Outlook:

- India is projected to experience the **highest growth in energy demand** among countries or regions in the next three decades.
- Power consumption for household air conditioners in India is expected to increase **nine-fold** by **2050**.
  - It will surpass current consumption levels in **Africa**.
- By 2030, India's industry will emit **30% less CO2**, and each kilometre driven by a passenger car will release **25% less CO2**.
- These projections highlight the success of India's multi-faceted policy approach towards meeting climate commitments without compromising growth.

Global Energy Landscape:

- The energy sector remains **fragile** but has effective strategies to enhance **energy security** and **address emissions.**
- Immediate pressures from the global energy crisis have subsided, but energy markets, geopolitics, and the global economy remain unsettled.
- The emergence of a new clean energy economy, led by solar **PV** and **electric vehicles**, offers hope for the future.
- Clean energy investments have surged by **40%** since **2020**, emphasizing the economic case for mature clean energy technologies and the significance of energy security.

Bioenergy Prospects:

- Modern bioenergy, available in solid, liquid, and gaseous forms, constitutes over **half of the global renewables supply.**
- **Solid bioenergy (biomass)** is primarily derived from **organic waste sources** and is often pelletized for power generation or industrial use.
- **Biogas and biomethane** are gaining traction, especially in Europe, as low-emission domestic gas sources.
- The total modern bioenergy supply is projected to reach around **65 EJ** in the APS by 2030 and over **70 EJ** in the NZE Scenario.

Renewable Energy Growth:

- Renewables are set to constitute **50%** of the global electricity mix by **2030**.
    - It will be up from the current **30%.**
- **Solar, wind, electric cars,** and **heat pumps** are among the clean energy technologies expected to redefine global power generation and usage.
- Global demand for **coal, oil,** and **natural gas** is anticipated to decline within this decade.
- Fossil fuel's share in the global energy supply is projected to drop from **80% to 73%** by 2030.

About International Energy Agency (IEA):

- It is a **Paris-based autonomous intergovernmental** organization to make a **collective response** during major disruptions in the supply of **oil**.
- It was established in **1974** during the **1973 Oil Crisis** [in the framework of the Organization for Economic Co-operation and Development (OECD)]
- **Members**: 30 member countries and 8 Association countries
    - **India** is an **associate** member of the IEA and **not** a **member state**.
- Unlike the **World Bank** or the **International Monetary Fund** (IMF), it does **not** dispense **grants** or **make loans**.
- **Main decision-making body: Governing Board** composed of **energy ministers** or their **senior representatives** from each member country.
- **Focuses on the** "**3Es**":
    - Energy security,
    - Economic development, and
    - Environmental protection.

- It **advises** governments on **effective policies** on oil.
- **Reports**:
    - Global Energy & CO2 Status Report
    - World Energy Outlook; World Energy Statistics
    - World Energy Balances and Energy Technology Perspectives