Rare Earth Permanent Magnet (REPM) Scheme

Prelims: *Current events of national and international importance | Government policies and interventions*

Why in News?

An assessment of Rare Earth Permanent Magnet (REPM) demand in India was done by IREL (India) Limited, Defence Metallurgical Research Laboratory (DMRL) and Bhabha Atomic Research Centre (BARC).

- It aims to ***eliminate import dependence for critical sectors*** like electric vehicles and defense.
- It is to build a domestic, fully integrated manufacturing ecosystem for high-strength sintered rare-earth permanent magnets.

Key Features of the Scheme

- **Financial Outlay -** Total budget of Rs.7,280 crore, split into Rs.6,450 crore for sales-linked incentives over 5 years and Rs.750 crore as a capital subsidy.
- **Production Capacity -** Aims to create a domestic capacity of 6,000 metric tonnes per annum (MTPA).
- **Allocation -** The 6,000 MTPA capacity will be divided among 5 selected beneficiaries (up to 1,200 MTPA each) through a global competitive bidding process.
- **Scheme Duration -** 7 years (including a 2-year gestation period for facility setup and 5 years of sales-linked incentive disbursement).
- **Integrated Value Chain -** Unlike previous models where companies merely assembled imported materials, this scheme mandates building the complete domestic value chain.
    - **Rare Earth Oxides → Metals → Alloys → Sintered Finished Magnets**.
- **Value Chain Coverage -** Supports the complete processing chain from raw rare-earth oxides to metals, alloys, and finished magnets.

Strategic Importance

- **Target Sectors -** Powers electric vehicle (EV) motors, wind turbines, electronics, aerospace, and defense equipment.
- **Self-Reliance -** Aligns with national goals like *Atmanirbhar Bharat* by securing local supply chains for critical green and advanced-technology industries.
- **Surging Domestic Demand**- India's REPM demand is projected to reach 8,220 MTPA by 2030.
- **Key Driving Sectors (2030 Projections)** - The demand is primarily driven by
  - **Electric Vehicles** (3,250 MTPA),
  - **Wind Turbines** (1,800 MTPA),
  - **BLDC Fans** (980 MTPA), and
  - **Consumer electronics/smartphones** (600 MTPA).
- **Vulnerability -** India currently imports around **90–95%** of its rare earth permanent magnets (largely from China).
- This poses a severe supply chain risk for strategic defence systems (missiles, drones, and radars), clean energy transitions, and advanced electronics.

Reference

PIB | RARE EARTH PERMANENT MANAGEMENT SCHEME