

① Being self-sufficient in strategic minerals is critical for India to achieve its green energy goals. Elaborate.

Strategic minerals are critical for production of Defense equipments (or) finds essential during the times of crisis

Importance of Strategic Minerals

These Minerals are important ~~in~~ for a more advanced economy → transitioning from dependence on fossil fuels to Green energy.

India's Strategic Minerals

India identified 10 Strategic Minerals like Cu, Li, Ni, etc.; Also has 35% of monazite sand, important for nuclear energy

Green Goals

In cop-26 in glasgow PM Modi unveiled parhaemit for transition to green technology

Intro
S.M.
Importance
India's S.M.
Green goals
Need for transition
(JEA)
Challenges
way ahead

One of Important pillar is the Green energy transition.

Need for transition

IEA in a report titled "Net-Zero GHG by 2050" points out more number of EVs has to ~~purchase~~ be purchased to reduced dependence on fossil fuels.

IEA also point out that ~~EVs~~ EVs require more minerals and the demand will increase from 0.4 mn tonnes to 11.4 mn tonnes by 2050 a 30 fold increase; EVs batteries on other hand is going to increase \Rightarrow 100% by 2050.

Challenges

\Rightarrow Mineral requirement is going to increase for EVs compared to combustion vehicles.

✓ Import dependency. India depends on import on 7/10 strategic minerals \Rightarrow recent yrs it increased to 35% (2020) \Rightarrow with forex out flow of \$1.9 bn.

✓ Dumping of Low quality scrap by developed economies

✓ Excavation, processing remains challenging and cost of land acquisition, is higher

✓ supply chain break \rightarrow due to geo political tensions \Rightarrow ukrain-russia war

Way forward

✓ Domestic self reliance on strategic minerals.

Government must ensure specific policy for industries

✓ PLI's on solar pvt ACC, is in right direction

✓ Environment laws violation has to be checked for sustainable development on economy's environment