

- **Integrating** a larger share of renewables with the grid is another roadblock.
- Challenges are also expected in enabling penetration of renewables in the so called **hard to decarbonize sectors**.
- **Challenges for Coal-Powered Companies:** A transition from coal to non-fossil fuel based power generation/transportation is relatively easier for the companies operating in the services sector.
- However, the **low-carbon transition challenge is bigger for companies that are largely coal-powered** and contribute more than half of our country's emissions.
- **Lack of Technology and Skilled Labour for EV Manufacturing:** India is **technologically deficient** in the production of electronics that form the backbone of the EV industry, such as batteries, semiconductors, controllers, etc.
- EVs have higher servicing costs which require higher levels of skills. **India lacks dedicated training courses for such skill development.**
- **Consumer Related Issues for Shifting to EVs:** In 2018, **India was reported to have only 650 charging stations**, which is quite less than the neighboring counterparts who already had over 5 million charging stations.
- **Lack of charging stations** makes it unsuitable for the consumers in covering long range.
- Also, the **cost of a basic electric car is much higher** than the average price of a car running on conventional fuel.

Way Forward

- **An Energy Mix of Renewables:** Round the clock supply of sources like wind and sunlight is not possible everywhere, therefore, it would be **wise to go for a diversified energy mix of solar, wind and hydrogen** based energy.
- India should work on areas like **investment in infrastructure, capacity building and better grid integration** in the near and immediate future.
- **Encouraging Private Sector Engagement:** Since industries also contribute to GHG emissions, any climate action will need to reduce or offset emissions that emerge from industrial and commercial activity.

- Service companies can easily reduce their emissions by **expanding the use of renewable energy, and working with supply chain partners**. They can become carbon neutral by sourcing 50% of their electricity from renewable sources.
- For coal-powered companies, this 'energy-transition movement' offers an **opportunity to invest in climate technologies** and expand the use of renewable energy sources.
- **Electric Vehicle as Way Forward:** EVs will **contribute to improving the overall energy security situation** as the country imports over 80% of its overall crude oil requirements, amounting to approximately \$100 billion.
- To mitigate the charging issues of EVs, charging infrastructures that draw power from local electricity supply can be **set up at private residences, public utilities** such as petrol and CNG pumps, and **in the parking facilities of commercial establishments** like malls, railway stations, and bus depots.
- **Increasing R&D in EVs:** The Indian market needs **encouragement for indigenous technologies** that are suited for India from both strategic and economic standpoint.
- Since investment in **local research and development is necessary to bring prices down**, it makes sense to leverage local universities and existing industrial hubs.
- India can **pursue countries like the UK to synergise EV development.**

Conclusion

There is a need to act decisively to reach global net-zero, restricting future cumulative emissions to the remaining carbon budget, if the rise in temperature is to remain within the limits of the Paris Agreement.

Protecting Western Ghats

- The link between the climate crisis and extreme weather events such as cloudbursts and flash floods is now well understood by the virtue of numerous researches and various IPCC reports.
- Mindless construction and land use has only exacerbated all these impacts, particularly in ecologically vulnerable regions such as the **Western Ghats**.

Note: