

**DAILY  
CURRENT  
AFFAIRS  
ANALYSIS**



LAKSHYA ACADEMY®

**04 NOVEMBER 2024**

# 1 - Decarbonising Road Transportation:

## GS III

### Environmental Conservation:

- **Decarbonising transport: what is it?**
- The process of lowering or getting rid of emissions of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases from the transportation industry is known as "decarbonising transportation."
- Examples include promoting electric cars, using alternative fuels, enhancing energy economy, and funding public transportation and active transportation.
- **India's transport and emissions situation:**
- About 25% of CO<sub>2</sub> emissions and 15% of greenhouse gas (GHG) emissions from fuel combustion worldwide come from the transportation sector.
- More than 90% of road transport CO<sub>2</sub> emissions are produced by the road freight industry, which also accounts for more than one-fourth of India's oil imports.
- Important studies on Delhi's pollution, such as TERI (2018) and Urban Emission (2015), show that PM<sub>2.5</sub> and PM<sub>10</sub> particles play a major role in urban smog. These little particles, primarily from construction and automotive sources.
- **India's transport sector must become less carbon-intensive:**
- **To Enhance Air Quality:**
- 35 of the world's 50 most polluted cities are in India. Road transport electrification can lower PM<sub>2.5</sub> and NO<sub>x</sub>, which is important for enhancing air quality in crowded cities.
- **Diminished Reliance on Fossil Fuels:**
- By reducing reliance on fossil fuels, electrification encourages the use of cleaner, more sustainable energy sources. Energy security is improved by diversifying energy sources.
- **Mitigation of Global Climate Change:**
- According to studies, India's electric cars produced 19–34% fewer greenhouse gas emissions in 2021 than did gasoline-powered vehicles.

- **Economic Growth:** India is the world's fourth-largest automaker. By 2030, the government wants 30% of all mobility to be electrified. Innovation and the creation of jobs in the battery, renewable energy, and charging infrastructure industries are encouraged by electric mobility.
- **Livability and Urban Planning:**
  - By encouraging shared mobility and compact urban architecture, electric vehicles aid in the decongestion of metropolitan areas.
  - **Important Obstacles to India's Road Transport Electrification:**
- **Coal-Powered Power Generation:**
  - When coal power facilities are heavily relied upon without appropriate pollution control methods, SO<sub>2</sub> emissions can rise dramatically.
- **Emissions of Carbon from EVs:**
  - Higher lifecycle carbon emissions are caused by the weight of EVs, the energy needed, and the lithium-ion battery manufacturing process.
- **Important components:**
  - Certain minerals and rare earth elements are required for the manufacturing of lithium-ion batteries, which are an essential part of electric vehicles.
- **Dependency on imports:**
  - India relies nearly exclusively on imports from a select group of nations—Bolivia, Australia, Chile, Argentina, Bolivia, and China—to meet its Li needs for Li-ion battery manufacturing.
- **Financial Concerns:**
  - Greater initial costs prevent EVs from being widely adopted and from being in high demand.
  - Few people corner the state subsidies: The middle and higher middle classes, who usually purchase battery-electric four-wheelers, wind up with the most of the subsidies or tax cuts.
- **Inadequate infrastructure:**
  - Inadequate nationwide network of charging stations: There are now just 2,000 public charging stations in use.

- **Various requirements for charging:**
- For instance, unlike vehicles and buses, e-2W and 3W models in India are suitable for slow charging.
- **Low Level of Market Infiltration:**
- About 1% of the Indian market is made up primarily of electric two-wheelers.
- Initiatives by the Indian government to promote EVs:
- **The Advanced Chemistry Cell (ACC) Battery Storage National Programme:**
- intended to encourage home production of advanced chemical cell batteries.
- **Go Electric Initiative:**
- Campaign for public awareness and outreach to support electric vehicles.
- **The National Mission for Battery Storage and Transformative Mobility:**
- Strategic goal with an emphasis on battery storage and innovative mobility.
- **Policy for Vehicle Scrappage:**
- In order to stimulate the adoption of newer, cleaner vehicles—including electric ones—government policy supports the trashing of older automobiles.
- **Guidelines for Charging Infrastructure from the Ministry of Power:**
- mandating the installation of charging stations every 25 kilometres on both sides of highways and within a 3 kilometre grid.
- **Modifications to the Model Building Byelaws by the Ministry of Housing and Urban Affairs:**
- revisions requiring EV charging stations to take up 20% of available parking in both residential and commercial structures.
- **Grand Challenge of the Department of Science and Technology on EV Charging Infrastructure Standards:**
- focuses on establishing national charging infrastructure industry standards.

- *Source → The Hindu*

## 2 – Project Q\*:

### GS III

#### Science and Technology

- **Project Q\*: What is it?**
- According to reports, Project Q\* is an AI breakthrough that can solve challenging puzzles and exhibit sophisticated reasoning akin to that of humans. The research has sparked worries about whether it poses a threat to civilization because of its deep learning skills, promise to advance science more quickly, and potential for misuse and unforeseen repercussions.
- **What is the difference between generative and artificial general intelligence (AGI)?**
- Artificial General Intelligence (AGI) is the term used to describe artificial intelligence that possesses cognitive capacities equal to those of humans, meaning that it can learn, comprehend, and apply information in a variety of fields. A step towards artificial general intelligence (AGI) is thought to be Q\*.
- **Distinction from Generative AI:** Generative AI focuses on creating content, including writing, graphics, and other types of data, using models and algorithms that have been trained on preexisting examples, whereas AGI strives for general intelligence.
- **Ethical Dilemmas:** Project Q\* raises ethical concerns concerning the suitability of safety precautions, the possibility of accelerating scientific advancement, and the ethical commercialization of such sophisticated AI models.
- *Source → The Hindu*

### **3 - Sculptures of Parthenon:**

#### **GS I**

#### **Culture related issues**

- The statues, also referred to as the Elgin Marbles, are nearly 2,000 years old and were originally part of the Parthenon temple in Athens. Greece has continuously pushed for their permanent repatriation.
- Early in the 1800s, Thomas Bruce, the 7th Earl of Elgin, took the statues down, and the British Museum bought them in 1816.
- Greece accuses Elgin of stealing, but Lord Elgin asserts that the Ottoman Empire gave its consent.
- Over thirty ancient Greek stone sculptures can be found in the Parthenon Sculptures collection. They were formerly a part of the Parthenon temple in Athens and are more than 2,000 years old. The British Museum is presently home to the sculptures.
- *Source → The Hindu*



### **4 – Theory of Man being the Hunter:**

#### **GS I**

#### **Culture related issues:**

- The 1960s saw the emergence of the "Man, the Hunter" idea, which postulated a major role for hunting in the evolution of humans. Recent research, however, has refuted this notion by pointing out how women's involvement in hunting activities is overlooked.
- The study challenges the idea that only men are good at endurance sports like running by arguing that oestrogen, a hormone produced more in women, plays a role in their metabolic fit for such activities.
- The study looks at burial sites and injury patterns among the Neanderthals, our closest extinct human ancestors, from an archaeological standpoint.
- The fact that the researchers did not find any appreciable variations in stress or injury patterns according to sex suggests that both sexes were involved in comparable activities, such as ambush hunting big game and tanning hides for leather.
- The report also discusses how the introduction of agriculture around 10,000 years ago caused societal changes that resulted in inflexible gender norms and economic inequality. The researchers contend that population expansion, resource concentration, and agricultural intensification all contributed to the move towards gendered roles.

- *Source* → *The Hindu*



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