In 2018, the Ministry of Railways launched the Mission mode to electrify the Broad Gauges Routes aiming for:

- De-Carbonisation
- Increase in average train speed
- Providing Clean transport
- Reduce fuel bills

In order to implement the Mission 100% electrification by 2024, major challenges were to:

- Increase the pace of electrification in India from a 1,500 Route Km per year to 6,000 Route km per year
- Maintain a stable manpower
- Increase vendor base → ensure supply chain is able to sustain/meet the higher demand of more than threefold increased requirement.

In order to overcome these challenges, decentralized contractual power is given to field units for rapid decision making and timely execution of projects. In 2020-2021 the pace of electrification of the network reached 6,000 km

The project outcomes were:

- 75% Broad Gauge Network has been electrified
- High Density Network routes are electrified (60% of total IR freight traffic)
- Reduction in fuel expenditures
- Enhancement of speed and line capacity by 20%
- Increased Energy Security

IR targets to reduce CO₂ emissions of 24% by 2027 – 2028

Keywords: Zero-Carbon Technology, Solar Plants