

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAJYA SABHA
UNSTARRED QUESTION NO. 748
ANSWERED ON 24.07.2026

ELECTRIC POWER REQUIREMENTS OF INDIAN RAILWAYS

748 SHRI R. GIRIRAJAN:

Will the Minister of RAILWAYS be pleased to state:

- (a) the current status of 100 per cent electrification of Railways initiative in various railway zones in the country;
- (b) the total electric power requirements of Indian Railways at the moment zone-wise and the monthly expenditure incurred in this regard, zone-wise;
- (c) whether Government has any comprehensive plans to harness renewable energy through Indian Railways Organisation for Alternate Fuel (IROAF), if so, the details thereof; and
- (d) whether Government plans for generating renewable energy through 'Amrit Bharat Station Scheme', if so, the details thereof?

ANSWER

MINISTER OF RAILWAYS, INFORMATION & BROADCASTING AND
ELECTRONICS & INFORMATION TECHNOLOGY
(SHRI ASHWINI VAISHNAW)

(a) to (d) Electrification of railway network on Indian Railways has been taken up in mission mode. So far, about 99.6% of Broad Gauge (BG) network has been electrified. The electrification in remaining network has been taken up. Electrification carried out during 2014-26 and before 2014 is as under:

Period	Route Kilometer
Before 2014 (about 60 years)	21,801
2014-26	48,072

Further, all new line / multi-tracking projects are being sanctioned and constructed with electrification.

Zone wise status of electrification is as under:

SN	ZONE	% Electrified
1	Central Railway	100%
2	East Coast Railway	100%
3	East Central Railway	100%
4	Eastern Railway	100%
5	Konkan Railway	100%
6	Kolkata Metro	100%
7	North Central Railway	100%
8	North Eastern Railway	100%
9	Northern Railway	100%
10	South Central Railway	100%
11	South Coast Railway	100%
12	South East Central Railway	100%
13	South Eastern Railway	100%
14	West Central Railway	100%
15	Western Railway	100%
16	North Western Railway	99.8%
17	Northeast Frontier Railway	98.7%
18	Southern Railway	98.7%
19	South Western Railway	96.1%

Indian Railways (IR) has undertaken one of the fastest railway electrification programs in the world. While many countries prioritize electrifying only their busiest passenger and freight corridors, India has chosen to electrify its entire broad gauge network. Indian Railways' achievement in railway electrification stand out globally. According to the latest report of International Union of Railways (UIC) of June, 2025, railway electrification in important railway systems is as under:

Country	Railway Electrification
Switzerland	100%
India	99.6%
China	82%
Spain	67%
Japan	64%
France	60%
United Kingdom	39%

By network coverage, Indian Railways is now among the most extensively electrified large railway systems in the world. Indian Railways had electrified 99.6% of its broad-gauge network, completing one of the world's largest infrastructure transformation programs in a decade.

Zone-wise details for FY 2025-26 of electric power consumption along with the expenditure incurred thereon are furnished as below:

S.N.	Zone	Average Monthly Electrical Energy Consumption for FY 2025-26 (in Million Units)	Average Monthly Expenditure Incurred for FY 2025-26 (in Crores)
1	Central Railway	273.93	184.82
2	Eastern Railway	163.52	121.6
3	East Central Railway	204.90	142.23
4	East Coast Railway	218.38	162.46
5	Northern Railway	231.30	159.57
6	North Central Railway	261.61	151.92
7	Southern Railway	178.59	181.10
8	South Central Railway	317.49	261.08
9	South Eastern Railway	210.34	137.53
10	South East Central Railway	183.43	128.98
11	South Western Railway	79.71	53.08
12	Western Railway	218.17	128.94
13	West Central Railway	179.64	111.92
14	Kolkata Metro	14.38	10.86
15	North Eastern Railway	78.18	49.02
16	North Western Railway	82.30	60.49
17	Northeast Frontier Railway	61.64	56.99

IROAF was formed to explore Alternate Fuel in Indian Railways. Since railways has moved to electrification, IROAF has been closed w.e.f. 07.09.2021.

‘Amrit Bharat Station scheme’ of Indian Railways includes optimal utilization of Solar energy potential of the location. Further, the Scheme envisage gradual shifting to sustainable and environmental friendly solution as per availability of funds and condition of existing assets which includes use of renewable energy.

Provision of Solar Power on railway stations is a continuous process and as on June-2026, rooftop solar capacity of 345 MW has been installed at 2914 nos. of Railway Stations over IR.

Indian Railways aims to progressively meet its electric traction power requirements through renewable energy sources including solar, wind and hybrid systems (solar, wind and energy storage) thereby reducing carbon footprints of IR. As of June, 2026 about 1161 Mega Watt (MW) of solar plants (both on Rooftops and on land) and about 103 MW of Wind power plants have been commissioned.

Indian Railways (IR) has also taken up a state-of-the-art project for running its first hydrogen train has been taken up on pilot basis to demonstrate the use of hydrogen powered train technology in Railways. The project establishes the commitment of IR towards advancements in alternative energy-powered train travel thereby ensuring a cleaner and greener future for the country's transportation sector. The hydrogen train has been flagged off on 17.07.2026 between Jind and Sonipat.

Prominent features of Hydrogen Train-set are as below:

- Designed and developed in India demonstrating IR's commitment to Atmanirbhar Bharat.
- Presently, it is the world's longest (10 coaches) configuration and most powerful (2400 kW) Hydrogen Train-set on Broad Gauge platform. Whereas other countries like Germany run 2-3 coaches with fuel capacity of less than 500 kW.
- The train-set comprises two Driving Power Cars (DPCs) of 1200 kW each, totalling 2400 kW along with eight passenger cars.
- Carrying capacity of approximately 2,600 passengers, which is the highest capacity among compared hydrogen trains globally.
- Zero CO2 emissions; only emission is water vapour.
