

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 2000
TO BE ANSWERED ON 03.07.2019**

ENERGY CONSERVATION TO INCREASE EFFICIENCY

†2000. SHRI P.P. CHAUDHARY:

Will the Minister of RAILWAYS be pleased to state:

- (a) the details of energy consumption of the Railways along with the source of energy during the last five years;**
- (b) whether the Railways is committed to take new steps for energy conservation and to increase energy efficiency; and**
- (c) if so, the details of the steps taken/proposed to be taken during the last five years and the current year?**

ANSWER

MINISTER OF RAILWAYS AND COMMERCE & INDUSTRY

(SHRI PIYUSH GOYAL)

(a) to (c): A Statement is laid on the Table of the House.

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (c) OF UNSTARRED QUESTION NO. 2000 BY SHRI P.P. CHAUDHARY TO BE ANSWERED IN LOK SABHA ON 03.07.2019 REGARDING ENERGY CONSERVATION TO INCREASE EFFICIENCY

(a) Indian Railways uses both electricity and diesel as source of energy. The details of energy consumption for the past 5 years, is tabulated below:

Year	Electrical energy			Diesel fuel energy
	Total energy consumption (in Million Units of Electricity)	Source of energy		Diesel fuel consumption (in Kilo litres)
		Percentage Sourcing from conventional energy (Thermal)	Percentage Sourcing from Renewable energy (Solar + Wind)	
2014-15	18246	99.97	0.03	2893841
2015-16	18208	99.68	0.32	2918278
2016-17	18061	99.33	0.67	2845529
2017-18	18987	98.77	1.23	3080847
2018-19	20439	97.90	2.10	3069280

(b) and (c) Yes, Sir. Indian Railways (IR) is committed to take new steps for energy conservation and to increase energy efficiency. Some of the measures taken are as follows:

i) Use of energy efficient 3-Phase technology with regenerative features for electric locomotives, Mainline Electrical Multiple Units (MEMUs), Electrical Multiple Units (EMUs), train sets for better energy efficiency.

ii) Introduction of Head On Generation (HOG) system in trains

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to reduce diesel fuel consumption in power cars. 350 electric locomotives are equipped with hotel load converters.

iii) Provision of energy efficient Light Emitting Diode (LED) lighting in all Railway installations including Railway stations, service buildings, Residential quarters & coaches for reduction in electricity consumption.

iv) Regular energy audits at consumption points - Energy Efficiency studies of six (6) Production Units (PUs) and four (4) Workshops were conducted and upto 15% energy efficiency improvement achieved. This included activities like identification of significant energy saving opportunities, one day training program, identification of potential technology suppliers who can offer energy saving technologies to the units etc.

v) Emphasis on use of 5 Star rated electrical equipments.

vi) Regular training of Loco pilots for use of coasting, regenerative braking features and switching off blowers of electric-locos in case yard detention is more than 50 minutes. Similarly, diesel locos are also shut down, if expected detention is more than 30 minutes and thereby resulting in reduction of Green House Gases (GHG) emissions.

vii) Trailing locomotive of multi units (MU) hauling empty freight trains are switched off to save energy.

viii) Energy consumption on electric locomotives is regularly monitored through microprocessor based energy meters provided in all the electric locomotives and benchmarking is done based on average energy consumption.

ix) Monitoring the fuel consumption with respect to trip ration of diesel locomotive drivers.

x) Auxiliary Power Unit (APU) has been provided in 986 diesel locomotives to reduce fuel consumption when locomotive is idle.

xi) Monitoring of idling of diesel locomotives is being done through remote monitoring and management of Locomotives and trains (called as REMMLOT). 2606 locomotives at present are equipped with REMMLOT.

xii) Use of 5% bio-diesel in traction fuel- Blending of bio-diesel with HSD, to the extent of 5%, to save HSD.

xiii) 20% Compressed Natural Gas (CNG) substitution in DEMUs -CNG usage emits less GHG than liquid fuels. Indian Railways have the distinction of being the only railway in the world to be using CNG run power cars for passenger transportation. IR has also started conversion of DEMU Driving Power Car (DPC) into dual fuel mode DEMU/DPC with CNG. 25 numbers of DPCs have been converted and are under operation.
