

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**LOK SABHA
UNSTARRED QUESTION NO. 2690
TO BE ANSWERED ON 10.03.2021**

ENERGY CONSERVATION

**2690. SHRI P.P. CHAUDHARY:
SHRI KAUSHAL KISHORE:**

Will the Minister of RAILWAYS be pleased to State:

- (a) whether the Railways uses measures to conserve energy in the railway projects and during the operations;**
- (b) if so, the details thereof;**
- (c) the details of the energy conservation methods adopted by the Railways;**
- (d) whether Railways employs/partners with non-Government organizations or third party organizations to help it conserve energy; and**
- (e) if so, the details thereof?**

ANSWER

**MINISTER OF RAILWAYS, COMMERCE & INDUSTRY AND CONSUMER
AFFAIRS, FOOD & PUBLIC DISTRIBUTION**

(SHRI PIYUSH GOYAL)

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

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF UNSTARRED QUESTION NO. 2690 BY SHRI P.P. CHAUDHARY AND SHRI KAUSHAL KISHORE TO BE ANSWERED IN LOK SABHA ON 10.03.2021 REGARDING ENERGY CONSERVATION

(a) to (c) 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. Railways has introduced Insulated-Gate Bipolar Transistor (IGBT) based 3-phase propulsion system with regenerative braking in Electrical Multiple Unit (EMU) trains, Mainline Electrical Multiple Unit (MEMU), Kolkata Metro rakes and Electric Train Sets to conserve energy during the operations.**
- ii. Production Units have completely switched over to production of energy efficient three-phase electric locos with regenerative features.**
- iii. Provision of energy efficient Light Emitting Diode (LED) lighting in Railway installations including Railway stations, service buildings, Residential quarters, coaches, EMUs/MEMUs for reduction in electricity consumption.**
- iv. Use of energy efficient Brushless Direct Current (BLDC) motor fans in coaches.**
- v. Introduction of Head On Generation (HOG) system in trains to reduce diesel fuel consumption in power cars. 1012 electric locomotives are equipped with hotel load converters.**
- vi. Regular energy audits at consumption points.**
- vii. Emphasis on use of 5 Star rated electrical equipments.**
- viii. 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 15 minutes.**

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- ix. **Trailing locomotives of multi units (MU) hauling light loads are switched off to save energy.**
- x. **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.**
- xi. **Monitoring the fuel consumption with respect to trip ration of diesel locomotive drivers.**
- xii. **Auxiliary Power Unit (APU) has been provided in 1167 diesel locomotives to reduce fuel consumption when locomotive is idle.**
- xiii. **Monitoring of idling of diesel locomotives is being done through remote monitoring and management of Locomotives and trains (called as REMMLOT). 3760 locomotives at present are equipped with REMMLOT.**
- xiv. **Use of 5% bio-diesel in traction fuel-Blending of bio-diesel with High Speed Diesel (HSD) to the extent of 5 % to save HSD.**
- xv. **20% Compressed Natural Gas (CNG) substitution in DEMUs-CNG usage emits less Greenhouse Gases (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.**

(d) and (e) Ministry of Railways has entered into Memorandum of Understanding (MoU) with Department for International Development (Government of United Kingdom) now Foreign Commonwealth & Development Office (FCDO) for collaboration on energy and sustainability. Further, an MoU has also been signed with Confederation of Indian Industries (CII) for energy efficiency improvement and conservation of energy.