

**GOVERNMENT OF INDIA  
MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY  
DEPARTMENT OF TELECOMMUNICATIONS**

**LOK SABHA  
STARRED QUESTION NO.158  
TO BE ANSWERED ON 9<sup>th</sup> December, 2015**

**GREEN ENERGY IN TELECOM TOWERS**

**†\*158. SHRI RAJU SHETTY:**

Will the Minister of COMMUNICATIONS AND INFORMATION TECHNOLOGY be pleased to state:

- (a) whether the increasing use of diesel by telecom companies for operating telecom towers is contributing to noise and air pollution;
- (b) if so, the details thereof and the quantum of diesel used in the telecom towers along with the remedial action taken thereon;
- (c) whether telecom operators including Bharat Sanchar Nigam Limited are planning to instal solar and wind turbine generators for operating mobile signal towers;
- (d) if so, the details thereof along with the number of towers powered by the green energy so far, State and operator-wise; and
- (e) the details of rules and guidelines put in place by the Government for the telecom service providers in this regard?

ANSWER

**THE MINISTER OF COMMUNICATIONS AND INFORMATION TECHNOLOGY  
(SHRI RAVI SHANKAR PRASAD)**

- (a) to (e) A Statement is laid on the table of the House.

Contd.....2/-

**STATEMENT TO BE LAID ON THE TABLE OF THE LOK SABHA IN RESPECT OF PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO.158 FOR 9<sup>th</sup> December, 2015 REGARDING “GREEN ENERGY IN TELECOM TOWERS”.**

(a) In general, the primary source for powering the telecom tower is grid supply and whenever, grid power is not available, Battery system is used as the first backup. After exhausting battery system, DG (Diesel Generator) set is used as second backup. So, the diesel is used only when grid power is not available and battery system is exhausted. As per DoT guidelines, the DG set used for telecom towers meet the prescribed norms of emission and noise limits.

Further, a report on “An approach towards Green Telecom” dated 12.04.2011 by Telecom Regulatory Authority of India (TRAI) report mentions that the total emission of the Indian telecom industry is expected to be around 1% percent of the country's total CO2 emissions.

(b) As stated in (a) above, the diesel is used in mobile towers by second backup i.e. DG set only when the grid power is not available and battery system is exhausted. So, the diesel consumption is need based.

The quantum of diesel used by Telecom Service Providers is not monitored by the Government. However, Telecom Regulatory Authority of India (TRAI) in its report “An approach towards Green Telecom” dated 12.04.2011 stated that “Assuming 8 hours of operation by DG sets, the average fuel consumption would be 8760 liters of diesel every year per tower, and the total carbon emission on account of diesel use by telecom towers is estimated to be 10 mt (million tonnes) of CO2 for 4 lacs telecom towers.”

Further, DOT is encouraging Telecom Service Providers to use Renewable Energy Technology (RET) solutions and energy efficient equipments.

(c) & (d) The Telecom Service Providers including Bharat Sanchar Nigam Limited are installing solar & wind projects for mobile towers. However, they have intimated that there are certain constraints in installation such as non-availability of suitable & clear south facing space, rental issues for roof-top space, lack of local eco system in rural/ remote areas etc.

The Telecom Service Providers including Bharat Sanchar Nigam Limited have executed around 4000 of Renewable Energy Technology (RET) projects including solar & wind projects till 2014.

(e) The guidelines for greening of the telecom sector and to achieve reduction in carbon emission are **annexed**.

**Contd.....3/-**

Government of India  
Ministry of Communications & IT  
Department of Telecommunications  
Sanchar Bhawan, 20-Ashoka Road, New Delhi-110001  
(Carrier Services Cell)

No. 16-6/2011-CS-III

Dated 04.01.2012

To.

**All NLD Service Providers**

**Subject: Implementation of Green Technologies in Telecom Sector.**

To promote Green Telecommunications, TRAI had issued recommendations on 'Approach towards Green Telecommunications'. Government of India has accepted the TRAI recommendations and decided to adopt measures to green the telecommunication sector setting broad directions and goals to achieve the desired reduction in carbon emission through the use of Renewable Energy Technologies and energy efficient equipments.

2. Accordingly, the following directions are hereby issued to the licensees for implementation with immediate effect:

- (i) At least 50% of all rural towers and 20% of the urban towers are to be powered by hybrid power (Renewable Energy Technologies (RET) + Grid power) by 2015, while 75% of rural towers and 33% of urban towers are to be powered by hybrid power by 2020.
- (ii) All telecom products, equipments and services in the telecom network should be Energy and performance assessed and certified "Green Passport [GP]" utilizing the ECR's Rating and the Energy 'passport' determined by the year 2015.
- (iii) TEC shall be the nodal centre that will certify telecom products, equipments and services on the basis of ECR ratings. TEC may either appoint independent certifying agencies under its guidance or shall certify the same through their Quality Assurance teams. TEC shall prepare and bring out the 'ECR Document' delineating the specifics of the test procedures and the measurement methodology utilized.

(iv) All service providers should declare to TRAI, the carbon footprint of their network operations in the format prescribed by TRAI. This declaration should be undertaken after adopting the formulae and procedures prescribed by TRAI. The Declaration of the carbon footprints should be done twice in a year i.e. Half yearly report for the period ending September to be submitted by 15th of November and the succeeding half yearly report for the period ending March to be submitted by 15th of May each year.

(v) Service providers should adopt a Voluntary Code of Practice encompassing energy efficient Network Planning, infra-sharing, deployment of energy efficient technologies and adoption of Renewable Energy Technology (RET) including the following elements:

(a) The network operators should progressively induct carefully designed and optimized energy efficient radio networks that reduce overall power and energy consumption.

(b) Service providers should endeavour to ensure that the total power consumption of each BTS will not exceed 500W by the year 2020 for 2+2+2 configuration of BTS. TEC shall regularly standardize and prescribe specifications for Telecom Equipments of different Technologies with respect to power consumption levels. Service providers should adhere to the TEC specifications in order to reduce the total power consumption of BTS.

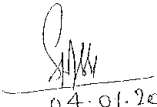
(c) A phased programme should be put in place by the telecom service providers to have their cell sites, particularly in the rural areas, powered by hybrid renewable sources including wind energy, solar energy, fuel cells or a combination thereof. The eventual goal under this phased programme is to ensure that around 50% of all towers in the rural areas are powered by hybrid renewable sources by the year 2015.

(d) Service providers through their associations should consensually evolve the voluntary code of practice and submit the same to TRAI within three months from the date of issue of this letter.

(vi) Service providers should evolve a 'Carbon Credit Policy' in line with carbon credit norms with the ultimate objective of achieving a maximum of 50% over the carbon footprint levels of the Base Year in rural areas and achieving a maximum of 66% over the carbon footprint levels of the Base Year in urban areas by the year 2020. The base year for calculating all existing carbon footprints would be 2011, with an implementation period of one year. Hence the first year of carbon reduction would be the year 2012.

(vii) Based on the details of footprints declared by all service providers, service providers should aim at Carbon emission reduction targets for the mobile network at 5% by the year 2012-2013, 8% by the year 2014-2015, 12% by the year 2016-2017 and 17% by the year 2018-2019.

3. Necessary compliance be reported to DoT and TRAI as mentioned above from time to time.

  
04.01.2012  
**(S.T. Abbas)**  
**Director (CS-III)**

Copy to:

1. PPS to Member(T).
2. Secretary, TRAI.
3. Advisor(T) / Advisor(O) / Advisor(Finance), DoT.
4. Sr. DDG(TEC), Sr. DDG(BW), Sr. DDG(AS).
5. JS(T), DDG(CS), DDG(DS), DDG(LF-I), DDG(LF-II)