

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

No. 16-06/2011-CS-III

Dated January 7th 2019

To,

All NLD and ILD Service Providers

Subject: Approach towards Sustainable Telecommunications – regd.

In order to achieve the objectives of Green Telecom and reduce the carbon footprint, Telecom Regulatory Authority of India (TRAI) had issued recommendations on “Approach towards Sustainable Telecommunications”. Government of India has considered the TRAI recommendations and decided for setting up of procedures for measurement of carbon footprint and implement carbon emission reduction targets.

2.0 Accordingly, in suppression to DoT letter No. 16-6/2011-CS-III dated 04.01.2012, the following directions are hereby issued to the licensees for implementation with immediate effect:

- (i) The accuracy level of the Carbon Footprint should be taken as adequate based on the self-certification by the TSP. The Service providers shall submit the Carbon Footprint report to DGT Wing on self certification basis.
- (ii) The approach already adopted for calculating carbon footprint including scope 1 emissions (emissions from the sources that are owned or controlled by the organization such as emissions resulting from combustion of fuels) and scope 2 emissions (emission from the use of purchased electricity for operation of telecom equipments fall under this category) is to be continued.
- (iii) The report of Carbon Footprint is to be submitted annually within 45 days after 31 March of every year in the proforma as per Annexure attached. The first report of the

Carbon Footprint for the base year 2011-12 as per revised formula is to be submitted within 3 months from the date of issue of this order.

(iv) The Total Carbon Emission should be calculated as sum of Carbon emission from Grid Power and DG Set:

$$C_{TOTAL} = C_{GRIDPOWER} + C_{DGSET} \text{ in tonnes CO}_2\text{e per year}$$

Carbon Emission from Grid power:

$$C_{GRIDPOWER} = (EF * A) \text{ tonnes of CO}_2\text{e per year}$$

Where EF = Average Emission Factor of the grid (in tonnes of CO₂e/MWh) taken from the report of the Central Electricity Authority for the corresponding zone as applicable from time to time

A = Consumption of power from the grid by the telecom network per year (in 'MWh')

Carbon Emission from DG Sets:

$$C_{DGSET} = 0.002629 * N \text{ tonnes of CO}_2\text{e per year}$$

N = total Diesel consumption of the diesel generator in litre in a year.

(v) The average carbon emission should be based on the average amount of data traffic as below:

If the traffic carried by the telecom network is 'T Petabyte' then the total carbon footprint per unit traffic is given by:

$$C_{TOTAL_PER\ UNIT\ TRAFFIC} = C_{total} / T \text{ [in tonnes of CO}_2\text{e per unit Petabyte]} \\ (1 \text{ Petabyte} = 1024 \text{ Terabyte})$$

Where T should be calculated by adding the data traffic and voice traffic (after converting the voice traffic into data).

(vi) The TSPs should voluntarily adopt the RET solutions, energy efficient equipments and high capacity fast charging storage solutions etc. to meet the target for reduction of Carbon Footprint. TSPs shall finalize and submit a roadmap for meeting the targets of reduction of Carbon footprint within three months from the date of issue of these directions.

(vii) The electricity generated by the RET solution funded/ maintained by the TSP should be subtracted from overall carbon emission of the TSP irrespective of its use.

(viii) RET deployed in Telecom Network, irrespective of the source of funding of RET project, should be counted towards savings from overall carbon emission.

(ix) TEC should set up the model lab facility for certification of telecom products, equipments and service on the basis of ECR ratings. TEC should also finalize the 'ECR document' delineating the test procedures and the measurement methodologies utilized. Public/private agencies may be accredited for conducting such certification.

(x) TEC should also make necessary provisions mandating that all telecom products, equipments and services in the telecom network should be Energy and performance assessed and certified "Green Passport" utilizing the ECR rating and the Energy Passport determined. The recommendation (ix) and this recommendation should be implemented in two phases. In the first phase, TEC set-up the lab and finalize the test procedures and subsequently in the second phase the assessment, testing and certification should be made mandatory.

(xi) The Service Providers would 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). Service providers through their associations should consensually evolve the voluntary code of practice.

The voluntary code of practice shall be submitted by the service providers or their association to DGT in consultation with TEC within three months from the date of issue of these direction.

(xii) Service providers should evolve a 'Carbon Credit Policy' in line with carbon credit norms with the objective of achieving the reduction in carbon footprint target. The ultimate objective of achieving a maximum 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 area by the year 2020. The current status report in this regard may be submitted within 3 months.

(xiii) The target for reduction in 'Average Carbon Emission (tonnes of CO₂e per unit Petabyte as per v above)' shall be 30% by the year 2019-20 and 40% by the year 2022-23, taking base year as 2011-12. For TSPs, whose service had started after 2011-12, the base year average carbon emission shall be considered as the average base year carbon emission

of TSP with highest subscriber basis in the year 2011-12. The targets shall be reviewed in the year 2022-23.

(xiv) The Government shall consider passing all possible benefits related to deployment of RET power to Service Providers as per extant government schemes.

3.0 Necessary compliance be reported to DoT as mentioned above from time to time.

R. Kumar
07/01/19
(Rajnandan Kumar)

Under Secretary to Government of India

Copy to:

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

