

**F.No.815-3/2012-TD**  
**Telecom Regulatory Authority of India**  
Mahanagar Doorsanchar Bhawan,  
Jawaharlal Nehru Marg, Next to Zakir Hussain College,  
New Delhi – 110 002

.....

New Delhi, Dated 14<sup>th</sup> November, 2013

**DIRECTION**

**Subject: Direction under section 13, read with sub clause (i) of clause (b) of sub-section (1), of section 11 of Telecom Regulatory Authority of India Act, 1997 to implement green technology in the telecom sector and submission of the carbon footprint report.**

F. No. 815-3/2012-TD----Whereas the Telecom Regulatory Authority of India (hereinafter referred as the Authority), established under sub-section (1) of section 3 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), has been entrusted with discharge of certain functions, *inter alia*, to regulate the telecommunication services; to ensure compliance of terms and conditions of license;

2. And whereas the Department of Telecommunication accepted the recommendation of the Authority on green technology in the telecom sector and vide its letter No. 820-01/2006-LR (Vol-II)Pt dated the 16<sup>th</sup> January, 2012 decided to adopt measures to green the telecom sector, setting broad directions and goals to achieve the desired reduction in the carbon emission through the use of renewal energy technology and energy efficient equipments and, directed the Internet service providers to submit to the Authority, carbon footprint of their network operations, twice in a year i.e. half yearly report for the period ending September to be submitted by the 15<sup>th</sup> November and the succeeding half yearly report for the period ending March to be submitted by the 15<sup>th</sup> of May each year, in the format prescribed by the Authority **(a copy of the letter is annexed as Annexure I )**;

3. And whereas certain issues regarding the implementation of the green technology in the telecom sector were raised by the associations of telecom service providers which was discussed by the Department of Telecommunication with the said associations and after deliberations the Department of Telecommunication, vide its letter No. 16-6/2011-CS-III dated the 18<sup>th</sup> September, 2012 and the 19<sup>th</sup> November, 2012, informed the associations that there is no change in the directive issued on the implementation of green technology and directed the telecom service providers to implement the directives as per prescribed schedule and prescribed norms **(a copy of each of the letters are annexed as Annexure-II)**;

4. And whereas the Authority, vide its letter No. 305-7/2012-TD dated the 17<sup>th</sup> July, 2012, *inter alia*, directed all Internet Service providers to furnish the requisite



compliance of the directions issued by the Department of Telecommunication, referred in para 2 above, and submit a report on the carbon footprint of their network operations for the base year 2011-2012 (as of March, 2012) in the format enclosed with the said letter **(a copy of the letter is annexed as Annexure-III);**

5. And whereas the Authority, vide its letter No. 815-3/2012-TD dated the 4<sup>th</sup> February, 2013, *inter alia*, directed all Internet Service Providers to furnish the requisite compliance of the directions issued by Department of Telecommunication, referred in para 2 above, and declare the carbon footprint in the format enclosed with the said letter **(a copy of the letter is annexed as Annexure-IV);**

6. And whereas the Authority, vide its letter No. 815-3/2012-TD dated the 1<sup>st</sup> March, 2013, *inter alia*, directed the Internet Service Providers to furnish by the 15<sup>th</sup> March, 2013, the carbon footprint report as per the format specified by the Authority **(a copy of the letter is annexed as Annexure-V);**

7. And whereas the Authority held meeting with the Internet Service Providers along with ISPAI on the 20<sup>th</sup> March, 2013 wherein various aspects of carbon foot print reports and voluntary code of practice were discussed and it was decided that the service providers shall furnish to the Authority, compliance report of directions, referred to in para 2, and declare by the 31<sup>st</sup> March, 2013 positively, the revised carbon footprint report as per the format specified by the Authority;

8. And whereas, pursuant to the meetings, referred to in the proceeding para, the Authority, vide its letter No. 815-3/2012-TD, dated the 15<sup>th</sup> April, 2013, again asked the Internet Service Providers to furnish the requisite compliance report and declare the carbon foot print report for the base year 2011-12 and first half yearly report for the year 2012-13, immediately **(a copy of the letter is annexed as Annexure-VI);**

9. And whereas the Authority, vide its letter No. 815-3/2012-TD dated the 10<sup>th</sup> May, 2013, advised M/s..... to furnish carbon footprint report for the year 2011-12 and first half yearly report for the year 2012-13 immediately and also send a soft copy of the same **(a copy of the letter is annexed as Annexure-VII);**

10. And whereas the Authority, vide its letter No. 815-3/2012-TD dated the 16<sup>th</sup> May, 2013, asked the internet service provider to furnish the requisite compliance report and declare the second half yearly carbon foot print report for the base year 2012-13 immediately **(a copy of the letter is annexed as Annexure-VIII);**

11. And whereas the Authority, vide its letter No. 815-3/2012-TD dated the 28<sup>th</sup> June, 2013, again directed M/s..... to submit the carbon footprint report for the periods mentioned in the said letter **(a copy of the letter is annexed as Annexure-IX);**

12. And whereas M/s....., despite several reminders, failed to submit to the Authority the carbon footprint report of their network;

13. And whereas clause 9.1 of the license agreement of internet service provider, provides that the licensee shall furnish to the Licensor/Authority, on demand, in the manner and, as per the time frames, such documents, accounts, estimates, returns, reports or other information in accordance with the rules/ orders as may be prescribed from time to time and it shall also submit information to the Authority as per any order or direction or regulations issued from time to time under the provisions of TRAI Act, 1997;

14. Now, therefore, in the exercise of powers conferred upon it under section 13, read with sub-clauses (i) of clause (b) of sub-section (1) of section 11, of the Telecom Regulatory Authority of India Act, 1997, the Authority hereby directs M/s.....:-

- (a) to comply with the provisions of directions dated the 16<sup>th</sup> January, 2012 issued by the Department of Telecommunications;
- (b) to furnish, within 30 days of issue of this Direction, the carbon footprint report of their network operations in the format annexed with this direction, beginning from the financial year 2011-12;
- (c) to submit the carbon footprint report twice in a year i.e. half yearly report for the period ending September to be submitted by the 15<sup>th</sup> November and the succeeding half yearly report for the period ending March to be submitted by the 15<sup>th</sup> of May each year, beginning from the financial year 2013-14; and
- (d) to submit element wise details of calculations of the carbon footprint report in softcopy.

**(A. Robert. J. Ravi)**  
**Advisor (TD)**

Encl: As above.

**To,**  
**Internet Service Providers**  
(As per List)



### List of ISPs

1	Adya Tech One Services Pvt Ltd
2	Apna Telelink Ltd.
3	Kappa Internet Services Pvt Ltd
4	Citycom Networks Pvt Ltd
5	Spectra ISP Network Pvt. Ltd.
6	Rajdhani Telecom Pvt Ltd
7	Trans Virtual Pvt. Ltd.
8	United Telecoms Ltd.
9	Zylog Systems(India) Ltd.)
10	Reliance Communications Infrastructure Limited
11	Hathway Cable & Datacom Pvt. Ltd.
12	You Broadband & Cable India Private Limited
13	Beam Cable System Pvt Ltd
14	Beam Telecom Pvt. Ltd.
15	Tata Internet Services Ltd
16	Asianet Satellite Communications Ltd.
17	Reliance Wimax Limited (Gateway Systems (I) Ltd)
18	Alliance Broadband Services Pvt. Ltd.
19	Amber Online Services Ltd.
20	Ankhnet Information Pvt Ltd
21	Astro Network India Pvt. Ltd.
22	Atria Convergence Technologies Pvt. Ltd.
23	Bhaskar Telecom Pvt Ltd
24	Bhiwani Communications Pvt. Ltd.
25	Blazenet PVt Ltd
26	Bohra Pratisthan Pvt Ltd
27	Broadband Pacenet (I) Pvt. Ltd.
28	Broadlane Networks Pvt. Ltd.
29	Capture Network Systems Pvt. Ltd.
30	Chandra Net Pvt. Limited
31	Chemical And Metallurgical Design Co. Ltd
32	City Online Services Ltd
33	Conjoinix Technologies Pvt Ltd
34	Cordia L T Communications Pvt Ltd
35	Data Infosys Ltd
36	Descon Ltd
37	Digital2Virtual ISP Pvt. Ltd.
38	Dream Plus Multi Services Pvt. Ltd.
39	Dreamzcraft Info Solutions Pvt Ltd
40	Eronet Broadband Service India Pvt Ltd
41	Essel Shyam Communications Ltd
42	F/X Wireless Technology Services Pvt. Ltd.
43	Financial Technologies Communications Ltd.
44	Five Network Solution (India) Ltd.
45	Gujarat Narmada Valley Fertilizer Co. Ltd. (GNFC)
46	Harisree Cable Net Pvt. Ltd.



47	Home Systems Pvt. Ltd.
48	Honesty Net Solutions (I) Pvt Ltd
49	ICAN Solutions Pvt Ltd
50	IKF Technologies Ltd
51	Indusind Media & Communications Limited (In2cable (I) Ltd.)
52	IOL Telecom Pvt Ltd
53	Ishan Netsol Pvt Ltd
54	Karuturi Telecom Private Limited(Estel Communications Pvt. Ltd).
55	Kelnet Communication Services Pvt. Ltd
56	Kerala State Electronics Development Corp Ltd.(Keltron)
57	Khetan Cable Network (P) Ltd
58	Konark Infocomm Pvt Ltd
59	L&T Finance Ltd
60	Limras Eronet Broadband Service
61	Madura Cable Net Pvt. Ltd.
62	Manipal Ecommerce Ltd.
63	Maple PC & Peripherals Pvt Ltd
64	Meghbela Cable & Broadband Servies (P) Ltd
65	Microsense Pvt Ltd
66	My Own Infotech Pvt Ltd
67	Mynet Services India Pvt. Ltd.*
68	Narmada Cyberzone Pvt Ltd
69	Nettlinx Ltd.
70	NextraTeleservices Pvt Ltd
71	Nextgen Communications Ltd(RPG Infotech Ltd).
72	Nihar Internet Services (P) Ltd
73	Nivyah Infrastructure & Telecom Services Ltd
74	Noida Software Technology Park Ltd.
75	North East Dataa Network Pvt Ltd.
76	Novanet Ltd.
77	Oasis Cable Pvt Ltd
78	Opto Network Pvt. Ltd.
79	Ortel Communication Ltd.
80	Phonic Net Pvt Ltd
81	Pipetel Communications Pvt. Ltd.
82	Pulse Telesystems Pvt. Ltd.*
83	QBC Infotech Pvt. Ltd.
84	Quest Consultancy Pvt. Ltd.
85	Quick Online Pvt. Ltd.
86	Rainbow Communications (I) Pvt Ltd
87	Rajesh Multi Channel Pvt. Ltd.
88	Reach Network India Pvt. Ltd.
89	Readylink Internet Services Pvt Ltd
90	Rida Communication Pvt. Ltd.
91	R.S. Broadband Service Pvt Ltd

92	S.S.Netcom Pvt Ltd
93	Sab Industires Ltd. (Sab Infotech)
94	Sanchar Telenetwork Pvt Ltd
95	Sanyog Networks Pvt Ltd
96	Shri Vinayagaa Internet Pvt Ltd
97	Sify Technologies Ltd.
98	Silicon Mountain (I) Ltd
99	Sisam Technologies Pvt. Ltd.
100	Software Technology Park of India(STPI)
101	Southern Online Bio Technologies Ltd.
102	Spacenet Internet Services Pvt Ltd
103	Space Online Ltd
104	Speed Online.net Pvt. Ltd.
105	Star Broadband Services (I) Pvt Ltd
106	Swastic Netvision Telecom Pvt Ltd
107	Swiftmail Communications Ltd.
108	Syscon Infoway Pvt Ltd
109	Tata Communications Ltd.
110	Tarang Communications Pvt Ltd
111	Tikona Digital Networks Pvt Ltd
112	Touch Net India Pvt Ltd
113	Trak Online Net India Pvt.Ltd
114	Trikon Electronics Pvt. Ltd.
115	Value Healthcare Ltd.
116	Vainavi Industries Ltd
117	Vasai Cable Pvt. Ltd.
118	Vishwa Shakti Technologies Pvt Ltd
119	Virgo Global Media Ltd
120	Mylai Karpagambal Information Systems Pvt Ltd (VIVA)
121	Wan and Lan Internet Pvt. Ltd.
122	West Bengal Electronics Industry Development Corp. Ltd.
123	Wire and Wireless India Ltd.
124	World Phone Internet Services Pvt Ltd
125	Yashash Cable Network Pvt Ltd



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

No. 820-01/2006-LR (Vol-II)Pt.

Dated 16.01.2012

To,

All Internet Service Providers

*Handwritten signature and date:*  
17/1

**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.

*Handwritten signature and date:*  
17/1/12

*Handwritten signature and date:*  
16.1.2012  
sec (CS/II)

(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.

  
(Ritu Pande)  
Director (DS-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(I.F-I), DDG(LF-II)

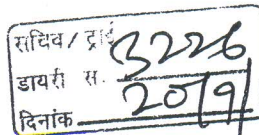
Annexure-III

**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 18.09.2012

To.  
The AUSPI, TAIPA, COAI  
New Delhi



24/9  
Pr. Adv (TD)

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

Kindly refer to your representations submitted vide letters dated 15.03.2012 and 16.05.2012 on the above mentioned subject. In response to your representation, a meeting was held with all the three associations on 14.06.2012 under Chairmanship of Secretary (T).

2. The representatives of the three associations stated that the telecom service providers are facing difficulties in implementing and adhering to the timelines prescribed by DoT for implementation of Green Technologies in Telecom Sector.

As per discussions held in the meeting, the associations were asked to make out a workable plan with clearly defined timelines and achievable targets. The industry was requested to provide a line of action within 30 days from the date of the meeting.

3. In response, the three associations together have submitted a letter dated 31.07.2012, wherein the associations have submitted their observations / challenges upon the compliance to the DoT's directive, however, no definite timeline has been furnished. The observations of the Industry have been examined in DoT. The response of DoT is as below:

(i) The definition of Hybrid Power is not required to be amended. The definition of Hybrid Power defines the various source of power such as RET + Grid Power. Whereas, the battery is only for storage of energy and is not the source of power. Moreover, the battery bank is part of all types of power system in telecom sector, as it needs un-interrupted power supply on 24x7 basis.

(ii) The distinction of urban and rural area already exists in Telecom Sector based on which the Tele-density for urban and rural areas are calculated. The separate target for rural and urban area shall be helpful in implementation of Green Technologies in both the areas. However, the target for urban area is already much less than the rural area.

(iii) TEC has constituted a committee for preparation of ECR document. The standards and certification in this regard shall be as per international norms and procedures. TEC shall also consult stakeholders in this regard.

Dy. No. 3430  
Date 20/9/12

Principal Advisor (NSL)  
Dy. No. 753  
Date 24/9/12



(3)

The formula to assess the carbon footprint includes the consumption of Grid Power as well as the Power generated through Diesel Generator sets. As the complete footprint of the entire network is to be calculated, it is imperative to include all sources of power other than renewable sources for calculation of carbon footprint. Accordingly, the carbon footprint of the network is due to the emission of carbon content because of consumption of Grid Power and the Diesel Power only.

(v) The formula for calculation of carbon footprint given by TRAI is very simple. To have a benchmark, TRAI has used the rated capacity of the DG Sets in the formula. Using the quantity of diesel consumed for calculating the carbon footprint shall be a non-standard and non-verifiable method. The carbon footprint of a shared tower site is equally distributed amongst the telecom service providers sharing the site. All these issues have already been explained to the telecom service providers during the workshop organized by TRAI in this regard.

(vi) As per direction issued to all CMTS / UASL / Basic Service licensee, vide DoT letter no. 800-61/2012-VAS dated 23.01.2012, the base year for calculating all existing carbon footprints is the year 2011. Accordingly, all service providers should declare to TRAI, the carbon footprint of their network operations in the format prescribed by TRAI. The carbon footprint should be submitted to TRAI as per prescribed schedule and as per prescribed formula as no revision in the schedule of submission has been made by DoT / TRAI.

(vii) It is hereby clarified that the formula and procedure for calculation of the carbon footprint has already been provided by TRAI and there will be no change in the formula, procedure and prescribed carbon emission targets.

(viii) DoT has no objection to the Renewable Energy Supply Companies (RESCO) model of green power supply. However, it was already clarified in the meeting held on 14.06.2012 that representative of DoT would not be a member of the industry's Multi Stakeholders Committee. The industry may approach BSNL to get a representative included in the committee, as BSNL is also a telecom service provider.

4. Therefore, it is to reiterate that there is no change in the DoT directives on implementation of Green Technologies in Telecom Sector. All the telecom service providers should implement the directives as per prescribed schedule and as per prescribed norms.

  
18.9.2012  
(S.T. Abbas)  
Director(Carrier Services-III)  
Tel: 011-23722444

Copy to:

1. The Secretary, TRAI for information please.
2. Sr. DDG(TEC), for information please.



भारतीय दूरसंचार विनियमन प्राधिकरण  
महानगर दूरसंचार भवन, नई दिल्ली-2

25 NOV 2012

हाथी सं 6498





भारतीय दूरसंचार विनियामक प्राधिकरण  
महानगर दूरसंचार भवन I, जवाहर लाल नेहरू मार्ग,  
(पुराना मिनटो रोड), नई दिल्ली - 110002

**TELECOM REGULATORY AUTHORITY OF INDIA**

Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg,  
(Old Minto Road), New Delhi 110002  
Fax : 91 11 23213294

F.No.305-7/2011-QOS

Dated 17<sup>th</sup> July, 2012

To

All Internet Service Providers.

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

Please refer to Direction No. 820-01/2006-LR (Vol-II)Pt. dated 16<sup>th</sup> January, 2012 issued by the Department of Telecommunications regarding implementation of Green Technologies in Telecom Sector.

2. As per the above direction, 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 and necessary compliance to be reported to DOT and TRAI.

3. In accordance with the above directions of Department of Telecommunications, all the Internet Service Providers are requested to submit to TRAI a report on the carbon footprint of their network operations for the base year 2011-2012 (as of March, 2012) in the format enclosed herewith. The access service providers may also submit the half yearly report on carbon footprints by 15<sup>th</sup> November and 15<sup>th</sup> March in this format.

Yours faithfully,

  
(Shaji Abraham)  
Joint Advisor(QoS)

Copy to: Internet Service Providers Association of India, 612- A, Chiranjiv Tower, 43, Nehru Place, New Delhi-110 019.

o/c



**Name of the Service Provider :**

**Name of the Service Provider :**

[illegible]





भारतीय दूरसंचार विनियामक प्राधिकरण  
TELECOM REGULATORY AUTHORITY OF INDIA

महानगर दूरसंचार भवन, जवाहर लाल नेहरू मार्ग (पुराना मिनटो रोड),  
Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg,  
नियर डॉ. जाकिर हुसैन कॉलेज, नई दिल्ली-110002.  
(Old Minto Road), Near Dr. Zakir Husain College, New Delhi - 110 002.  
फैक्स/Fax : +91-11-23213294



F. No. 815-3/2012-TD

Date: 04.02.2013

To,

All Internet Service Providers

**Subject: Compliance in respect of DoT's Direction vide its letter No 820-01/2006-LR (Vol-II)Pt dated 16.01.2012 for implementation of Green Technologies in Telecom Sector.**

Please refer DoT's direction vide its letter no. 820-01/2006-LR (Vol-II)Pt dated 16.01.2012 regarding implementation of Green Technologies in Telecom Sector.

2. Accordingly, you are requested to furnish the requisite compliance and declare the carbon footprint as per the format prescribed by TRAI vide its recommendations on 'Approach towards Green Telecommunications' dated 12.4.2011 (a copy of the same is enclosed) for the year 2011- 2012 and first half yearly report for the year 2012 - 2013. In addition, as per DoT's above mentioned directive you are also requested to evolve the voluntary code of practice through your associations and submit the same to TRAI, at the earliest.

(Rajkumar Upadhyay)  
Advisor (TD)

Encls: As stated.

Copy to:

Director (DS-III), DoT: For information please

# CONSOLIDATED REPORT

Name of the Service Provider :

## Telecom Network

S. No.	Network Elements	Total Power Consumption (P) (in KW)	Avg. Grid Supply (in hrs.)	DG Capacity (in KVA)	Avg. DG Supply (in hrs.)	n of DG Set	Carbon Emission C= $0.365[0.84 Px + 0.52B yz/n]$	Total Carbon Emission (in Tonnes)	Total No. of Subscribers	Carbon Emission per subscriber (in Tonnes)	Carbon Emission per subscriber (in Kg)
1.	Mobile Network -B.T.S. (C <sub>BTS</sub> )- Own B.T.S.										
2.	Mobile Network: -B.T.S. (C <sub>BTS</sub> )- B.T.S. from Infra providers										
3.	Mobile Network - B.S.C.(C <sub>BSC</sub> )										
4.	Mobile Network - M.S.C. (C <sub>MS</sub> )										
5.	Fixed Line Network (C <sub>L</sub> )										
6.	Fixed Broadband -(C <sub>FB</sub> )										
7.	Fiber to the X -(C <sub>FT</sub> )										
8.	Core Network -(C <sub>d</sub> )										
9.	Aggregators Network - (C <sub>A</sub> )										
10.	Transmission Network -(C <sub>TX</sub> )										
11.	Any other										
							<b>Total</b>				

Note : (1) Carbon Footprint of applicable items to be mentioned separately for Rural and Urban areas.

(2) Carbon Footprint of BTS site may be provided separately for own sites and for sites leased from Infra providers.





# भारतीय दूरसंचार विनियामक प्राधिकरण TELECOM REGULATORY AUTHORITY OF INDIA

महानगर दूरसंचार भवन, जवाहर लाल नेहरू मार्ग (पुराना मिनटो रोड),  
Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg,  
नियर डॉ. ज़ाकिर हुसैन कॉलेज, नई दिल्ली-110002.  
(Old Minto Road), Near Dr. Zakir Husain College, New Delhi - 110 002.  
फैक्स/Fax : +91-11-23213294



सत्यमेव जयते

F. No. 815-3/2012-TD

Date: 1.3.2013

To,

1. All Internet Service Providers
2. Shri S.P. Jerath,  
Secretary,  
Internet Service Providers Association of India,  
612-A, Chiranjiv Tower,  
43, Nehru Place,  
New Delhi – 110 019

**Subject: Compliance in respect of DoT's Direction vide its letter No 820-01/2006-LR (Vol-II)Pt. dated 16.01.2012 for implementation of Green Technologies in Telecom Sector.**

Sir,

It is reiterated that as per DoT's direction No 800-61/2006-LR (Vol-II)Pt. dated 16<sup>th</sup> January, 2012, all Internet service providers have to evolve a 'Carbon Credit Policy' in line with carbon credit norms and have to declare to TRAI the carbon footprint of their network operations in the format prescribed by TRAI twice in a year i.e. half yearly report for the period ending September to be submitted by 15<sup>th</sup> November and the succeeding half yearly report for the period ending March to be submitted by 15<sup>th</sup> of May each year. The direction of DoT dated 16<sup>th</sup> January 2012 also mandate the service providers to consensually evolve, through their Associations, a Voluntary Code of Practice encompassing energy efficient Network Planning, infra-sharing, deployment of energy efficient technologies and adoption of Renewable Energy Technology (RET) and submit the voluntary code of practice to TRAI within three months of the date of direction.

2. In accordance with the directions of DoT, vide TRAI's letter No 305-7/2011-QOS dated 17.7.2012 and letter No. 815-3-2012-TD dated 04.02.2013, all Internet service providers were requested to furnish the requisite compliance in respect of DoT's Direction vide its letter No 800-61/2006-LR (Vol-II)Pt. dated 16<sup>th</sup> January, 2012 and declare the carbon footprint (for the year 2011-12 and first half yearly report for the year 2012-13 by 15<sup>th</sup> November 2012) as per the format prescribed by TRAI. In addition, it was also requested to evolve the voluntary code of practice through associations and submit the same to TRAI.

3. In this regard, carbon footprint report received from some of the service providers are not as per the TRAI's format. TRAI is also yet to receive the voluntary code of practice from service providers. Hence, all the Internet service providers are again requested to submit the voluntary code of practice and carbon footprint report as per the TRAI's format by 15<sup>th</sup> March 2013 positively.

1/3/2013

(A.R. Gupta)

Sr. Research Officer (TD)



**भारतीय दूरसंचार विनियामक प्राधिकरण**  
**TELECOM REGULATORY AUTHORITY OF INDIA**

महानगर दूरसंचार भवन, जवाहर लाल नेहरू मार्ग (पुराना मिनटो रोड),  
 Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg,  
 नियर डॉ. ज़ाकिर हुसैन कॉलेज, नई दिल्ली-110002.  
 (Old Minto Road), Near Dr. Zakir Husain College, New Delhi - 110 002.  
 फ़ैक्स/Fax : +91-11-23213294



F. No. 815-3/2012-TD

Date: 15.4.2013

To,

1. Internet Service Providers  
(As per list)
2. Shri S.P. Jerath,  
Secretary,  
Internet Service Providers Association of India,  
612-A, Chiranjiv Tower,  
43, Nehru Place,  
New Delhi – 110 019.

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

- Reference:** i) DoT's direction No 800-61/2006-LR (Vol-II)Pt. dated 16<sup>th</sup> January, 2012  
 ii) TRAI's letter No 305-7/2011-QOS dated 17.7.2012  
 iii) TRAI's letter No. 815-3-2012-TD dated 04.02.2013 & 1.3.2013  
 iv) TRAI's letters No. 815-3-2012-TD dated 08.03.2013

Sir,

Please refer to the meeting held in TRAI's Conference Hall on 20<sup>th</sup> March 2013 on the above mentioned subject.

2. During the meeting, various aspects of carbon footprint reports and voluntary code of practice were discussed. In the meeting, it was decided that the Internet service providers have to furnish the requisite compliance in respect of DoT's direction and declare the revised carbon footprint report as per the format prescribed by TRAI alongwith voluntary code of practice by 31<sup>st</sup> March 2013 positively.

3. In this regard, TRAI is yet to receive the carbon footprint report as discussed in the meeting. Therefore, you are advised to furnish the requisite compliance and declare the carbon footprint report for the base year 2011-12 and first half yearly report for the year 2012-13, immediately. You are also requested to evolve the voluntary code of practice through their associations and submit the same to TRAI, immediately.

15/4/2013  
 (A. R. Gupta)  
 Sr. Research Officer (TD)





**भारतीय दूरसंचार विनियामक प्राधिकरण**  
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 (Old Minto Road), Near Dr. Zakir Husain College, New Delhi - 110 002.  
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F. No. 815-3/2012-TD

Date: 10.05.2013

To,

NLD / ILD Service Providers / ISPs  
 (As per list)

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

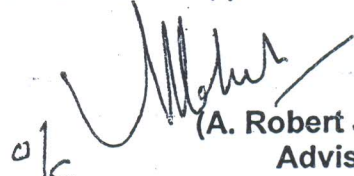
- Reference:** i) DoT's direction No 16-6/2011-CS-III dated 04.01.2012 (For NLDs/ILDs)  
 ii) DoT's direction No 800-61/2006-LR (Vol-II) Pt. dated 16.01.2012  
 (For ISPs)  
 iii) TRAI's letter No 305-7/2011-QOS dated 17.7.2012  
 iv) TRAI's letters No. 815-3-2012-TD dated 04.02.2013 and 1.3.2013  
 v) TRAI's letters No. 815-3-2012-TD dated 08.03.2013 and 15.04.2013

Sir,

Please refer above DoT's direction, TRAI's letters and meetings held on 19.03.2013 & 20.03.2013 regarding implementation of green technologies in telecom sector wherein you were advised to furnish the requisite compliance in respect of above DoT's Direction and declare the carbon footprint (for the year 2011-12 and first half yearly report for the year 2012-13) in the TRAI's prescribed format.

2. In this regard, it is noticed that carbon footprint report for the year 2011-12 and first half yearly report for the year 2012-13 is still awaited inspite of reminders from TRAI.

3. Non-submission of carbon footprint report to TRAI is non compliance of the above said DoT directions and will attract action as stipulated in the TRAI act. You are, therefore, once again advice to furnish the carbon footprint report for the year 2011-12 and first half yearly report for the year 2012-13 immediately and also send a soft copy of the same at [tdra.trai@gmail.com](mailto:tdra.trai@gmail.com).

  
 (A. Robert J. Ravi)  
 Advisor (TD)



भारतीय दूरसंचार विनियामक प्राधिकरण  
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Annexure - VIII

F. No. 815-3/2012-TD

Date: 16.05.2013

To,

All NLDs / ILDS / ISPs / CMTS / UASL  
/ Basic Service Licensees Including BSNL and MTNL

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

- Reference:** i) DoT's direction No 800-61/2012-VAS dated 23.01.2012  
(For all CMTS/UASL/Basic Service Licensees including BSNL and MTNL)
- ii) DoT's direction No 16-6/2011-CS-III dated 04.01.2012  
(For all NLD Service Providers)
- iii) DoT's direction No 16-6/2011-CS-III dated 04.01.2012  
(For all ILD Service Providers)
- iv) DoT's direction No 820-01/2006-LR(Vol-II)Pt dated 16.01.2012  
(For all Internet Service Providers)

Sir,

Please refer to the above mentioned DoT's directions issued by the Department of Telecommunications regarding implementation of Green Technologies in Telecom Sector.

2. As per the above directions, all NLDs/ILDS/ISPs/CMTS/UASL/Basic Service Licensees Including BSNL and MTNL have to declare the carbon footprint of their network operations in the format prescribed by TRAI twice in a year i.e. half yearly report for the period ending September to be submitted by 15<sup>th</sup> November and the succeeding half yearly report for the period ending March to be submitted by 15<sup>th</sup> of May each year.

3. In this regard, TRAI is yet to receive the second half yearly carbon footprint report of your network operations for the year 2012-13. Therefore, you are advised to furnish the same immediately, as per the format prescribed by TRAI.

(A. R. Gupta)  
Sr. Research Officer (TD)