

BIF RESPONSE TO TRAI CP ON APPROACH TOWARDS SUSTAINABLE COMMUNICATIONS

Preamble

Broadband is an enabler of efficiencies that could drive major reductions in carbon emissions. For instance, smart grids/ smart cities connected by broadband raise the potential to monitor and reduce the use of power. It is a well known fact that Smart City infrastructure, driven by a robust Broadband, will enable governments and businesses to significantly reduce their energy consumption and hence reduce the carbon footprint.

Broadband also helps replace person-to-person meetings with remote collaboration and video conferencing, thereby reducing the need of business travel. This has a direct impact of reduction in carbon emission.

Broadband, being a key to the transition towards a digital or a paperless economy, is a key contributor towards reduction in carbon footprint.

Keeping the above in mind, policies should be formulated by the Government, so as to enable development of a robust ICT ecosystem which not only stimulates economic growth but also leads to a reduction in Carbon footprint.

Our issue wise responses are as follows:

Methodology for calculation of Carbon footprint

3.1. What accuracy level may be set for collecting the data and also, what should be the basis for arriving at this threshold level? Please comment with justification.

BIF RESPONSE

Based on expert finding by PWC in its study report entitled “ Technical & Financial Feasibility Report of RET & Carbon footprint “ in 2014, it has been found that the carbon footprint from the telecom industry is only ~1.5% of the total carbon footprint from all industries. Also, it has been found that TRAI recommendations are far more stringent than international standards and the variation being upwards of 20% higher carbon footprint. Also the findings confirm that the industry has achieved a lot in these years through a mix of self regulation & voluntary compliance. The findings also confirm that Telecom Sector in India are doing better in

comparison with their counterparts in developed economies when it comes to adoption of renewable energy and reduction of carbon footprint

Keeping in mind the financial condition of the sector which is extremely stressed due to staggering debt burden of over 400,000 crores , we at BIF sincerely urge the Authority to allow the approach of self regulation & voluntary compliance to be continued. There is perhaps no need for any new or heavy handed regulation in terms of mandating of new targets or threshold levels to achieve marginal improvements.

Some of the key observations /findings of the PWC report which confirm this surmise are

- a) Multiple emission reduction targets for achieving similar objectives of carbon emission reduction have been set for the telecom industry through implementation of RETs, Emission intensity reduction targets, initiation of green passports and carbon credit policies
- b) Due to TRAI recommendations of 2011, the focus has been on absolute reduction of emissions as compared to emissions intensity of its GDP as required by international norms
- c) TRAI recommendations are far more stringent than international standards and the variation being upwards of 20% higher carbon footprint
- d) None of the existing emission trading schemes globally cover the telecom sector as comprehensively as the Indian Telecom sector thereby putting this sector way ahead of its global counterparts
- e) As far as active load is concerned, there is already a reduction of 44% in energy consumed/BTS .
- f) On the passive side, various initiatives taken for reducing the carbon intensity have already proved fruitful viz.

-Passive infra sharing has led to almost 45% reduction across a 4 BTS site

-Conversion to Outdoor BTS has led to almost savings of upto 4tonnes of CO2 /site

-Use of new tower configurations by use of DAS (Distributed Antenna Systems) has led to reduction from 2.5-3 tonnes/site

-Introduction of new technologies like Free Cooling Units (FCUs) etc have led to carbon footprint reduction of upto 3.5 tonnes/site

Keeping the above achievements in mind, we at BIF wish to re-iterate that the present method may kindly continue.

Presently the Electric consumption in kWh and Diesel consumption in liters are determined by using the tariff cards of Electricity and the invoice values for Diesel.

The invoices are raised by the IPs corresponding to the actual consumption of the Grid power and Diesel, while the Tariff Cards are taken from the published data of respective Electricity Distribution companies and Oil Marketing Companies.

Since these are audited financial figures and the derived value of Electricity and Diesel consumption are fairly accurate there is perhaps no necessity to set any threshold limits

3.2. Is there a need for auditing the carbon footprint of a telecom network by a third party auditor? If yes what is the mechanism proposed? Please comment with justification.

BIF RESPONSE

As mentioned in response to Q1, there is perhaps no case to call for independent audit using a third party audit as the results are consistently below the benchmarks set and of those in comparison to other countries.

We are therefore of the view that there is no need for having the third party audit for the determination of carbon footprint. Having a third party auditor will only increase the regulatory and compliance burden on the operators. However, we may leave it to the judgement of TRAI if they feel there is need for it.

The information required for determination of the Carbon footprint can be taken from audited sources:

- a. Electricity (unit) consumed for chosen month of the designated operator / category. The unit consumed should be taken from the audited monthly' bill of the electricity.
- b. Diesel consumption in Litre for chosen month of the designated operator / category. The diesel consumed should be taken from the audited monthly bill.

3.3. Do you agree with the given approach for calculating the carbon footprint? If not, then please comment with justification.

BIF RESPONSE

BIF agrees with the approach for calculation of carbon footprint and supports the public disclosure of the carbon footprint calculation by all TSPs/IPs/RESCOs to TRAI and to the public.

New Formulae for calculation of Carbon footprint of Telecom network

3.4. Whether the existing formulae for calculation of Carbon footprints from Grid (given in paras 1.16, 1.17 and 1.1.8) of Chapter I need to be modified? If so, please comment with justification.

BIF RESPONSE

BIF is in agreement with the existing formulae which is used for calculation of Carbon footprints from Grid which is based on TRAI's recommendations dated 12th April, 2011 which is in line with ITU-T L.1420 recommendations.

3.5. Which emission factors as mentioned in Table 1.2 of Chapter I need to be used for the calculation (Average/OM/BM/CM)? Is there any other factor(s) needs to be considered in the calculation? Please comment with justification.

BIF RESPONSE

Emission factors of electricity grids vary according to the Geography of the respective grids viz.

NEWNE grid which comprises of Northern, Eastern , Western & North Eastern Grids
South grid which covers South India

Based on CO2 Baseline data published by Central Electricity Board , the Emission factor of Various Grids has been provided in Table 1.2 .

The Telecom service Areas powered by the respective grid should use the respective Emission factor of the corresponding grids for a particular choice of margin.

3.6. Is the formula mentioned in Para 1.22 of Chapter I suitable for calculation of Carbon footprints from Grid supply? Please comment with justification.

BIF RESPONSE

Since the formula mentioned in Para 1.22 is based on a straight multiplication of the Emission factor , consumption of grid power by different components of the telecom network (access, transmission, core, aggregation , fixed, mobile , fixed broadband , fiber) and is a composite aggregation of all its constituents, hence it is found to be suitable for the purpose.

3.7. Which of the formula, (i) or (ii) as given in Para 1.23. of Chapter I is to be used for the calculation of carbon footprints from the Diesel generator along with views on possible values of phi & theta ? Please comment with justification.

BIF RESPONSE

TRAI in its Recommendation, “Approach towards Green Telecommunications” dated 12th April, 2011 had come up with the following formula for calculation of carbon footprint:

CTOTAL = CGRIDPOWER + CDGSET in tonnes of CO₂e per year

Where, **CGRIDPOWER= = 0.365(0.84*P*X)** in tonnes per year,

CDGSET = 0.365 [(0.528*Y*Z)/η] in tonnes per year

Service providers have been reporting to TRAI as per the above formula and the same may perhaps be continued with.

3.8. For calculation of average carbon footprint, which of the options mentioned in para 1.25 of Chapter I is to be used? Please comment with justification.

BIF RESPONSE

BIF is of the opinion that perhaps OPTION 3 which is calculation of average carbon footprint based on average amount of traffic carried by a Telecom Network in Exabytes maybe a more accurate reflection of the desired result instead of averaging it based on total number of subscribers or based on total number of unique users.

As Total Traffic in a network generates carbon emissions , hence this is a better reflection of the carbon footprint calculations.

Energy efficiency in Telecom networks

3.9. What are the options available for renewable energy solutions which may be harnessed to their maximum potential to power the telecom sector? Please comment with justification.

BIF RESPONSE

Some of the most popular and proven Renewable Energy Solutions available for powering a telecom network are solar photovoltaic (SPV), Wind Power, Biomass, Fuel Cells (hydrogen based etc) . Hybrid solutions that combine diesel generators (DG sets) with RETs and batteries are extremely popular as they provide optimised energy solutions with optimum efficiency at

the most cost effective prices. However customized solutions for a particular site based on a thorough understanding of each option and its relevant economics is preferable.

Further, The deployment of Combination of the grid-DG-battery-RET should be left to the TSPs.

Renewable Energy targets for Telecom networks

3.10. If electricity generated by a RET project (funded/ maintained by TSP) is also used for community, should it be subtracted from overall carbon emission of a TSP? Please comment with justification.

BIF RESPONSE

Under the emerging concept of a micro-Grid , excess renewable energy generated at a telecom site , if it can be effectively ploughed back either to the grid or could be utilized to meet the needs of an adjacent community or a local area (particularly in the rural areas) , should be incentivized.

One of the ways besides being permitted to sell power back to the Grid at its buying price for the respective renewable source of energy (if option is available) , would be to effectively reduce the carbon footprint from the overall carbon emissions calculated based on the generated energy . Such a move must be encouraged and incentivized. This will encourage the TSP to fund the large scale RET projects and not only power the towers but also provide power through renewable sources to the community

3.11. If the RET project is funded/ maintained by other agency, should that emission be counted? Please comment with justification.

BIF RESPONSE

We believe that in such cases where TSPs are the end users of the RET project which is funded/maintained by another agency, then the corresponding emission reduction due to this should be given to the TSPs as well.

3.12. Please comment with justification on the approach suggested by the DoT committee.

BIF RESPONSE

The Approach by the RET Committee constituted by DOT for implementation of Renewable Energy Technology in the telecom sector is an excellent theoretical one . It has probably lacked in terms of implementation as even after 5 years we find that most of the targets are under-

achieved . The suggestions made perhaps need to be implemented in a time bound manner and under active supervision of a nodal agency . Also, there is perhaps need to create tremendous amount of ‘ awareness campaigns’ on the lines of DOT & TRAI’s initiatives for dispelling the fears of health hazards due to EMF radiation effects on account of use of mobile phones and due to mobile towers . Besides, strong incentives need to be provided equally to all forms of renewable energy based back up infrastructure initiatives in the telecom industry besides mandating all new sites

3.13. For effective implementation of RET/Energy efficient solutions in telecom sector, how can the industry be supported? Should incentives be provided to licensees (TSPs)? If yes, what should be the milestone? Please comment with justification.

BIF RESPONSE

BIF is in favour of introducing a mix of incentives based on adoption and performance based achievement milestones for gradual reduction of carbon footprints .

The following incentives could be useful in supporting the telecom operators in the reduction of the carbon footprint.

- a. Fund from various government agencies i.e. MNRE, BEE, USOF should be actively used which would further encourage the deployment of alternate energy sources.
- b. Capital subsidy could be provided on the capital cost involved in setting up any renewable energy solutions.
- c. The government support is required that the USO-F devises a scheme to provide a Viability Gap Funding (VGF) to service providers who deploy alternate energy sources in their Mobile Networks.
- d. Tax Holidays may be provided for:
 - i. Setting up units in backward and specified areas
 - ii. Grid power projects
- e. Zero customs and excise duties on various renewable energy components such as solar cells, fuel cells, modules and many raw materials.

- f. Charge lower rates of Interest on projects which invest in creating green telecom infra in the rural areas.

3.14. What methodology can be proposed for setting new Renewable energy targets in the telecom sector? What should be the timeframe for achieving these targets? Please comment with justification.

BIF RESPONSE

As mentioned earlier in response to Q1, the findings of the PWC report clearly bring out the achievements of the telecom industry. Keeping in mind that all these years the industry has been continuously adding more towers and thereby adding to the overall diesel consumption, the industry achievements are more praiseworthy. Also, since the industry has achieved much better than both national and international benchmarks through this mixed approach of self regulation and voluntary compliance, we at BIF are of the view that perhaps there is no need for any new mandatory guidelines or targets and that heavy handed regulation may be avoided. . We are of the view that initiatives for reduction in Carbon Footprint should be undertaken by the industry on a voluntary basis and it should be left to the operators to decide on the enablers/methods for reducing the carbon footprint..

Of course, the Authority is well within its rights to intervene, if it feels necessary.