CONSUMER PROTECTION ASSOCIATION

HIMMATNAGAR

DIST. : SABARKANTHA

GUJARAT

Consultation Paper

On

Green Telecommunications

ISSUES FOR CONSULTATION

Saving Costs – Saving the Environment: Innovations for the Telecoms Industry

We found that Implementation of environmentally friendly strategies have increased considerably in the past year. A key reason for this, is the necessity for operators in developing and rural areas to adopt a "green" approach. Basing these strategies on cost-effectiveness and logistically preference, it is often a side-line benefit that the impact on the

environments also reduced. By reducing the consumption in the network and deploying alternative energy solution, the telecom industry will greatly reduce its impact on the environment. The potential for minimizing energy consumption across the global economy grows as ICT services become more sophisticated. To achieve the goal, there should be a constant research in the field of green Telecommunication, as it is a ongoing process. The Telecom Industry should re-focus its innovative services to enable a green economy.

Carbon Footprint

3.1 How should the carbon footprint of Indian telecom industry be estimated?

As per the experts advises.

3.2 What is your estimate of the carbon foot print of the fixed, mobile and broadband networks?

As per the expert advise.

3.3 In case of mobile was would be the individual footprints of the radio access network and the core network? How are these likely to change with 3G and 4G technologies?

Expert Advise.

Carbon Credit Policy

3.4 How should the carbon credit policy for Indian telecom sector be evolved? What should be the timeframe for implementing such a policy?

Time frame for implementing such policy should be maximum 2 years.

3.5 What should be the framework for the carbon credit policy?

Expert Opinion.

3.6 What should be the metric to ensure success of the carbon credit policy in reducing the carbon footprint of the telecom industry?

Expert Opinion.

Availability of Power

3.7 What proportion of tower infrastructure is in rural areas? Please comment on the grid/electricity board power availability to these towers.

Service providers can answer properly.

3.8 To what extent can active sharing reduce the carbon footprint and operational expenses?

The positive approach will be quite achievable and can soon result in green telecommunications, with the least resource wastage and minimum environmental impact.

Domestic Efforts for Reduction of Carbon Footprint

3.9 What proportion of non-grid power supply to towers in rural areas can be anticipated to be through renewable sources of energy in India in the next 5 years?

Expert opinion.

3.10 How much saving accrues per tower if supply is through a renewable source instead of diesel for towers that do not get grid power for 12 hours or more?

Expert opinion.

3.11 How can migration to renewable sources be expedited?

Step by step by giving incentives.

3.12 If you are a service provider what steps has your company taken towards use of renewable sources of energy? Have the gains from this move been quantified?

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Methods for Reducing Carbon Footprint Metrics for Certification of Product and Services

3.13 What should be the metric for certifying a product green?

Expert opinion

3.14 Who should be the metric for certifying a network or service as green?

Expert opinion

Adoption of Energy Efficient Technologies

3.15 As a manufacturer/service provider have you started producing/using energy efficient telecom equipment? How is energy efficiency achieved? Please explain.

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3.16 How does the cost of energy efficient and the normal equipment compare?

Expert Opinion

Use of Renewable Energy Technologies

3.17 What are the most promising renewable energy sources for powering telecom network in India? How can their production and use be encouraged?

1. Solar energy
2. Wind energy
3. Tidal / Lunar energy
4. Scattered electromagnetic energy (Nokia reported to have utilized this for certain handsets)
5. Pico Hydro energy
6. Biomass Energy
7. Fuel cell Energy
8. Other new technologies that might be developed in future

Their production and use can be encouraged By Government support, On going research and creating awareness.

Infrastructure Sharing

3.18 What is the potential of infrastructure sharing in reduction of energy consumption?

Maximum 3 service providers should share the infrastructure and network to reduce the energy consumption and cost.

Waste Management

3.19 What is the current procedure for storing, disposing and recycling telecom waste by the service providers and manufacturers?

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3.20 How can waste management be made more green?

E-waste is a growing problem. Efforts must be made to dispose of mobile phones, computers, etc., in an environment-friendly manner and to reduce and avoid the use of toxic materials in the production stage. The re-use of ICT equipment also needs to be encouraged. Some manufacturers have started inviting their consumers to deposit discarded pieces at specified locations, which is a healthy trend. And such measures would also enable re-use in the most efficient manner.

Better Network Planning

3.21 What steps can be taken by the service providers in planning green networks?

The figures 2-2.5 % of the total global warming effect would be much more important for country like India, where the ICT sector is becoming an integral part of the economic development and, moreover, its growth is unprecedented.

A holistic view shows that development and management of green telecom systems should aim at making the following components green or as green as possible with today's and tomorrow's technologies :

- materials and substances
- operational cycle
- waste disposal
- R &D activities

The buildings should be designed as 'net zero' structures. The telecom components with a special emphasis being placed on achieving low heat dissipation. The trend is towards designing systems that do not need much cooling, air conditioning or heating and can operate at ambient temperatures. Also, heating and cooling systems are being designed to run on eco-friendly energy sources. Lighting has also undergone a sea change, with the arrival of CFL, liquid crystals and LED s, which consume 1/10 of the energy of conventional systems.

The energy front is emerging as the most important aspect to tackle. It is obvious that the larger the equipment, the greater the energy requirement. Today, such energy – in excess of 1 kilowatt – is being provided by diesel generators, which leave a large carbon footprint. We must devise telecommunication systems in sub-sets of a smaller size – spatially separated – so that it is able to serve a large area or a large population, and yet requires less energy than, say, 1 kilowatt at each location.

Recently, the Department of Telecommunications has decided to offer financial support to telecom industries using renewable sources of energy to power their base stations in rural areas. Under certain conditions, it will give Rs 5 million per installation for mobile towers running on solar or wind or some other type of renewable energy. This move surely indicates the government's thrust towards providing affordable telecom facilities in rural India.

Another area of concern is the use of the diesel engine-alternator sets for running mobile systems particularly in rural areas. 70 to 80 percent mobile towers are installed in rural areas where commercial power is available only a part of day. Antennas and other associated equipment for nearly 750,000 base stations, which are estimated to consume about 16 billion liters of diesel a year. The annual carbon emission as a result thereof would be about 40 million tons. In view of the explosive growth of mobile telephony in India, by 2015 these figures are likely to double. This naturally causes an enormous degradation of the environment. Therefore, telecom policy should make it incumbent on rural operators to employ clean energy sources.

The rural network needs to be engineered in such a way that energy requirements are minimized. And furthermore, the systems themselves should be eco-friendly. Networks designed for urban applications cannot be retrofitted.

There is a need for stringent norms for energy efficiency, emissions and carbon footprint, not only for manufacturers, but also for operators. The type of approach mentioned above requires actions which are quite achievable and can soon result in green telecommunications, with the least resource wastage and minimum environmental impact.

Communicating Green identifies several key domains in which telecommunications applications can have a direct, tangible impact on lowering greenhouse gas emissions, power consumption, and achieving efficient recycling of equipment waste. For example, transportation demand management systems can cut down greenhouse gases produced by cars and trucks by leveraging location-based services, unified

communications services, mobile resource management systems, and fleet management systems.

Above all More and more plantation of trees is necessary to produce green network.

Standardization of Equipment

3.22 What standards do you propose to be followed in Indian telecom network for reducing the carbon footprint?

International Standards accommodating Indian situation.

3.23 Who should handle the testing and certification of green equipment and networks?

Experts and expert organization under the supervision of TRAI.

Manufacturing Process

3.24 How can manufacturers help in reducing GHG across the complete product life-cycle?

Mentioned elsewhere.

Monitoring and Reporting

3.25 What should be the rating standards for measuring the energy efficiency in telecom sector?

International standards accommodating Indian situation.

3.26 Please give suggestions on feasibility of having energy audit in the telecom sector on the lines of energy audit of buildings.

Energy audit of buildings should be under close supervision of TRAI and with the help of CAGS.

3.27 What should the monitoring mechanism for implementation of green telecom?

There should be a monitoring committee with a CAG members headed by TRAI personals which meets quarterly.

3.28 Who should be the monitoring agency?

Experts Under the close supervision of TRAI

3.29 What type of reports can be mandated and what should be the frequency of such reports?

Frequency of the reports should be 6 months.

Incentives for Green Telecom

3.30 What financial and non-financial incentives can be useful in supporting the manufacturers and service providers in reducing the carbon footprint?

Mentioned else where.

Promoting R&D for Green Telecom

3.31 What R&D efforts are currently underway for energy efficient and renewable energy telecom equipment?

Some private operators in India have developed microcellular systems run by solar power. Recently, the effort of one such company has gained international recognition by receiving "The Wall Street Journal Technology Innovation Award 2009." Governments should support such efforts so that India can becomes an exporter of clean technologies and thus contributes to the global efforts of reducing carbon emissions, without affecting economic development. There are reports of energy-efficient engine alternators being developed for rural areas. Lightweight base station arrays have been designed for rural applications.

3.32 How can domestic R&D and IPR generation be promoted?

1. Governments should support such efforts.
2. Awareness
3. Ongoing research activities.

CSR and Community Service

3.33 Would it be a good idea for TRAI to evolve a best practices document through a process of consultation with the stakeholders?

Yes