Comments on the TRAI Consultation paper

Q 3/4/5. We should consider the average emission factor of the grid weighted by net generation. We may consider a factor based on the T&D losses – sine we would be measuring only the grid electricity supplied to the telecom network. A margin for the T&D loss may be specified (suggested 15-20%)

Hence the EF would be 0.82x1.1 5 =0.943 kg/kWh

Q6.a) The formula proposed based on the consumption of diesel should be used. The data required would be

D – annual kg of diesel consumed

C- percentage of carbon in the diesel (based on sample ultimate analysis of diesel)

Total CO2 emissions = CxDε44/12 (assuming complete combustion)

Based on N – diesel consumption in litres

Total CO2 emissions = CxNxρε44/12 (assuming complete combustion)

(where ρ is the density kg/ litre)

For 86% Carbon by weight and ρ 0.85 kg/litre

Total CO2 emissions = 2.68 N kg (0.00268 tonnes)

This is similar to the formula in the TRAI report – but can account better for variations in the diesel composition

b)The formula based on the capacity of the generator is likely to be more inaccurate – since the loading of the generator will vary as well as the efficiency. The same generator would have different efficiencies and emission factors depending on the load variation. Part load efficiency characteristics and loading are usually not known.

The uncertainty in a) would only be due to diesel being stolen/ used for non telecom purpose

8) There should be an attempt to benchmark the energy use and CO2 emissions based on output (activity level). Traffic Exabytes could be used as a proxy for output. An alternate easily quantifiable metric for output could be the revenue viz CO2/ revenue

Some metrics for benchmarking are included in the GESI report (see link)

http://gesi.org/assets/js/lib/tinymce/jscripts/tiny_mce/plugins/ajaxfilemanager/uploaded/GeSI_FNO%20EE%20Benchmark%20Study_Word%20report_October%202012%20pdf%20pdf.pdf

Other comment

The reporting should encourage benchmarking and efficiency improvement of operators. The energy supply mix of the TSPs should be documented and the shares of renewables quantified.

TRAI should encourage sharing of best practices among TSPs

The actual generation from renewables by TSPs should be logged – not just the peak rating. There should be a reporting of actual electricity and diesel consumption by different network components for TSPs. Load profiles need to be logged – especially for isolated units

A third party annual report of the energy performance of the telecom sector should be published and discussed with the TSPs

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