

Chapter V

Conclusion and Recommendations

5.1 Conclusion

The usage of renewable energy systems for telecom towers is one significant case where development as well as climate need of country are being jointly addressed.

With the formation of RESCOs, the telecom industry is transitioning to renewable energy solutions. With experience from trials, the forthcoming RET solutions will be aimed towards providing the desired economics and deployment scalability considering effective power generation and optimal system integration.

Enabling distributed power generation and emission-free operation makes solar photovoltaic technology a desired option for backup power. However, the dependency on sunshine and the average space requirement of 10 square metres for a 1kWp panel limits the scope of deployment. Viability of wind power technology is dependent on the duration of useful wind speed and quality of wind. Wind and solar are considered to be a good complementary pair of alternative power sources. It is windy in rainy and winter seasons, which coincides with low solar energy during that period. This gives the hybrid system a competitive advantage over pure wind systems. A biomass plant can form a standalone solution as long as biomass is fed to the plant, no battery is required and maintenance activities include regular cleaning, scheduled repairs and fuel transport. The fuel cell solution is also required maintenance like biomass solution and the average space requirement is less compare to other RETs.

The Government is recognising and encouraging renewable solutions to overcome the challenges faced by the telecom sector due to increased diesel usage. To strengthen the play of RET solutions, government bodies and relevant telecom associations will need to work hand in hand at a fast pace to bring in the necessary change in the telecom energy consumption landscape.

The usage of renewable energy systems for telecom towers is one significant case where developmental as well as climate needs of the country are being jointly addressed. While this is a new venture by the government, its potential for connecting hitherto underserved rural areas needs to be encouraged at all levels. Accordingly, private sector is independently initiating the adoption of renewable technology for powering telecom towers.

Based on the study of USOF's pilot project on RET for telecom towers we find that renewable energy be the way forward for off-grid sites as it significantly reduces the cost of diesel consumption. In a choice between technologies, the economics of solar were found to be much better than solar-wind hybrid. However, the latter becomes viable once the capital subsidy element is factored in.

For grid-connected sites however the viability of renewable installation depends upon hours of grid supply available at the location. In such a case, RET's can be thought of as a backup source at times of grid failure. For such sites however, solar-wind hybrid was not found to be viable despite subsidies.

5.2 Recommendations

These recommendations aims at assisting the government, the telecom industry and other stakeholders in the implementation of green telecommunication, that is, to reform regulations to competition, innovation, economic growth and important social objectives. The stakes in telecommunication infrastructure development based on clean energy are of crucial importance to the growing Indian economy and the world at large.

These recommendations aim toward ensuring sustainable growth in Indian telecommunication industry and accelerating its economic development.

1. Setting up of realistic but ambitious Renewable Energy target within Green Telecom directive:

Findings in the studies clearly outlined that there is strong long-term economic incentive for Indian telecommunication to replace expansive & polluting diesel with