# Project Executive Summary

The use of renewable energy sources is the need of the hour despite of the uncertainties they face. The environmental concerns and shortage faced in the supply of conventional sources of power like coal and fossil fuels as against the ever increasing demand for power has put forward major emphasis on the adoption of renewable energy projects for a sustainable future. But even the renewable sector is not free from blockages; the major bottleneck is concerned with the technical and financial viability. For instance, per unit production of electricity is much lesser in case of conventional sources than that of renewable sources (except hydro). Also the capital investment required also surpasses the feasible limits, thus financing of these projects becomes the major deciding factor when one thinks of entering the renewable market.

Project financing in itself is a major task which takes into consideration all the factors that directly or indirectly affect the **risk to return ratio of the project.** Thus the main aim of my project is to provide with low cost solutions for renewable energy projects. The renewable sources include energy from water (up to 25 MW), sunlight, wind, tides, solid waste, and biomass. Since the ambit of this sector is too wide and a single financial model cannot cater to the diversity of these technologies, it is more feasible to focus on one single renewable source which has the potential to provide a long term solution to the power crisis and prove as a sustainable source of energy for varied purposes.

In a country like India which experiences tropical climate has great potential for tapping solar energy and its usage thereafter. Thus the Ministry of New and Renewable Energy published **Jawaharlal Nehru National Solar Mission in 2008.** The objective of the Jawaharlal Nehru National Solar Mission (JNNSM) under the brand 'Solar India' is to establish India as a global leader in solar energy, by creating the policy conditions for its diffusion across the country as quickly as possible. The Mission has set a target of 20,000 MW and stipulates implementation and achievement of the target in 3 phases (first phase up to 2012-13, second phase from 2013 to 2017 and the third phase from 2017 to 2022) for various components, including grid connected solar power. The successful implementation of the JNNSM requires the identification of resources to overcome the financial, investment, technology, institutional and other related barriers which confront solar power development in India. The penetration of solar power, therefore, requires substantial support. The policy framework of the Mission will facilitate the process of achieving grid parity by 2022.

The aim of this project is a long term goal which will only be achieved once the financial blockages are removed totally and availing low cost finance becomes a viable option. Thus through this report my sole aim is to provide an insight into the long term goal of attaining grid parity through use of renewable energy as source of power. Due to time constraints, focus would be on proposing low cost solutions to solar energy projects and will cater to both grid and off grid energy systems with special reference to rural electrification and environmental concerns.