

The International Energy Agency (IEA) has identified the development of renewable energy sources as a key element to mitigate climate change. At the same time, it has projected India to be the second-largest contributor to the increase in global energy demand to 2035. India hence faces a significant challenge to ensure its energy security by diversifying its power generation mix.

Policy Framework

India was the first country in the world to have a dedicated ministry for Renewable Energy. It was established as the Ministry of Non-Conventional Energy Sources in 1992 (re-christened as Ministry of New & Renewable Energy in 2006). The Jawaharlal Nehru National Solar Mission (JNNSM) announced in 2010 under India's National Action Plan on Climate Change, setup targets, through a systematic approach and structured framework, linking them with the nation's 5

year plan, and establishing sector based Renewable Purchase Obligations (RPO).

The objective of the National Solar Mission 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.

Advantage India

India is endowed with abundant solar energy, which is capable of producing 5,000 trillion kilowatts of clean energy. We are blessed with around 300 sunny days in a year and solar insolation of 4-7 kWh per Sq. m per day.

Many States in India have recognized and identified solar energy potential and other are lined up to meet their growing energy needs with clean and everlasting solar energy. In near future Solar energy will have a huge role to play in meeting India's energy demand.

Rooftop Solar PV

One of the immediate aims of the National Solar Mission is to focus on setting up an enabling environment for solar technology penetration in the country both at centralized and decentralized level.

With large scale infrastructure development in India now extending to towns and villages, the demand for electricity has subsequently been increasing over the years. As a result, distribution utilities are unable to support peak demand in all areas, with frequent power outages. Rooftop Solar PV system is one of the best solutions to cater to this demand. The systems can be grid-connected / interactive or off-grid / standalone systems, depending on the application of the load, and availability of grid power

Rooftop

solar power is being aggressively explored by commercial, industrial, and residential consumers for

- › On-site generation of power at reasonable rate
- › Productively utilizing unused rooftop space

Rooftop space is often left un-utilized in many establishments; installing a solar plant on the roof is a great way to derive additional value from your premises

Depending on the tariff regime, solar power may prove to be cheaper than even grid power for some consumers and definitely more economic than diesel power for all, and offers the added advantage of fixing the cost of power for the next 25 years.

Cost Benefit Analysis

Though the initial investment in setting up a rooftop solar plant may be high (to the tune of Rs. 80,000 per kW, depending on the plant size), the savings realized over a period of time help in offsetting the costs involved.

It also helps in establishing a fixed cost or zero cost (with estimated escalation) towards power consumption over a period of 25 years (typical life cycle of solar PV plant, with warranties)

Incentives & Subsidies

Financial incentives by Government for rooftop solar power plants (industrial & commercial) include

- › Accelerated Depreciation
- › 10 year tax holiday

Thereby aiding in reducing the payback period, and the burden of taxes on the asset owner.

However, budget constraints & approval for upfront investment and lack of capital subsidies in the above mentioned sectors may result in delay in decision making

Current Initiatives from Government of India

Amalgamation of Ministries

The ministries for Power, Coal and Renewable Energy have been brought under a common leadership, with Shri Piyush Goyal heading all three portfolios

This has helped a lot in establishing effective co-ordination among the three sectors, in terms of



SOLAR ROOF TOP

A 40GW CHALLENGE

