



Challenges in India's Rooftop Solar Program

For Prelims: Schemes and programmes for Achieving Renewable Energy Target

For Mains: India's achievements in renewable energy sector, India's renewables energy targets, challenges and initiatives taken to achieve it.

Why in News

According to the data available on the website of the Union Ministry of New and Renewable Energy (MNRE), India could install just **6GW of Rooftop Solar (RTS) power** by the end of October 2021 under the [rooftop solar scheme](#).

- Although utility-scale solar has seen tremendous progress with leading players lining up for projects, tariffs spiralling down and **government agencies pushing mega projects, RTS has continued to remain neglected.**

Rooftop Solar

- Rooftop solar is a [photovoltaic system](#) that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.
- Rooftop mounted systems are **small compared to ground-mounted photovoltaic** power stations with capacities in the megawatt range.
- Rooftop PV systems on residential buildings typically feature a capacity of about 5 to 20 kilowatts (kW), while those mounted on commercial buildings often reach 100 kilowatts or more.

Key Points

- **Rooftop Solar Scheme:**
 - The major objective of the scheme is to generate **solar power through the installation of solar panels** on the roof of the houses.
 - Also, the Ministry of New and Renewable Energy has announced the implementation of **Phase 2 of the grid-connected Rooftop Solar Scheme.**
 - The aim of the scheme is to **achieve the final capacity of 40 GW** from Rooftop Solar Projects by 2022.
The 40GW goal is part of **India's ambitious target to achieve [175GW renewable energy \(RE\) capacity](#)** that includes 100GW of solar power by 2022.
 - According to a [report](#) released in September, 2021, the [lockdowns](#) slowed [renewable energy](#) installations in the country and the pace of such installations is lagging India's 2022 target.
- **Challenges:**
 - **Flip-Flopping Policies:**

- Although many companies began using solar energy, **flip-flopping (sudden real or apparent change of policy) policies remained a major hurdle**, especially when it came to power distribution companies (discoms).
- Industry executives point out RTS was becoming attractive for several consumer segments when discoms and state governments started tightening regulations for the sector.
 - India's [Goods and Service Tax \(GST\) Council](#) recently hiked the GST of many components of the solar system from 5% to 12%.
 - It will increase RTS's capital cost by 4-5%.
- **Regulatory Framework:**
 - The growth of the RTS segment is highly **dependent on the regulatory framework**.
 - Slow growth has been primarily caused by the **absence or withdrawal of state-level policy support for the RTS segment**, especially for the business and industrial segment, which makes up the bulk of target consumers.
- **Inconsistent Rules on Net and Gross Metering:**
 - Net metering regulations are one of the major obstacles facing the sector.
 - According to a report, Power ministry's new rules that **excludes rooftop solar systems above 10 kilowatts (kW) from net-metering** would stall adoption of larger installations in India affecting the country's rooftop solar target.
 - The **new rules mandate net-metering for rooftop solar projects up to 10 kW and gross metering for systems with loads above 10 kW**.
 - Net metering allows surplus power produced by RTS systems to be fed back into the grid.
 - Under the gross metering scheme, state power Distribution Companies (DISCOMS) compensate consumers with a fixed feed-in-tariff for the solar power supplied to the grid by the consumer.
- **Low Financing:**
 - Commercial, institutions, and residential sectors are keen to install grid-connected RTS by getting bank loans.
 - The Union Ministry of New and Renewable Energy (MNRE) has advised banks to give loans for RTS at subsidised rates. However, **nationalised banks hardly offer loans to RTS**.
 - Thus, many private players have come into the market that offer loans for RTS at higher rates like 10-12%.

Schemes for Promoting Solar Energy

- [Kisan Urja Suraksha evam Utthaan Mahabhiyan \(PM-KUSUM\)](#):
 - The scheme covers **grid-connected Renewable Energy power plants** (0.5 - 2 MW)/Solar water pumps/grid connected agriculture pumps.
- **Scheme for Development of Ultra Mega Renewable Energy Power Parks:**
 - It is a scheme to develop **Ultra Mega Renewable Energy Power Parks** (UMREPPs) under the existing Solar Park Scheme.
- **National Wind-Solar Hybrid Policy:**
 - The main objective of the National Wind-Solar Hybrid Policy, 2018 is to **provide a framework for promotion of large grid connected wind-solar PV hybrid systems** for optimal and efficient utilisation of wind and solar resources, transmission infrastructure and land.
- **Atal Jyoti Yojana (AJAY):**
 - The AJAY scheme was launched in September 2016 for the **installation of solar street lighting (SSL) systems** in states with less than 50% households covered with grid power (as per Census 2011).
- [International Solar Alliance](#):
 - The ISA, is an Indian initiative that was launched on the side-lines of the [Conference of the Parties \(COP-21\)](#), with 121 solar resource rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
- [One Sun, One World, One Grid \(OSOWOG\)](#):
 - It focuses on a framework for facilitating global cooperation, building a global ecosystem of

interconnected renewable energy resources (mainly solar energy) that can be seamlessly shared.

- **National Solar Mission :** It is a part of the National Action Plan on Climate Change.
- **Suryamitra Skill Development Programme:** To provide skill training to rural youth in handling solar installations.

Way Forward

- The RTS needs **easy financing, unrestricted net metering, and an easy regulatory process.** Public Financial Institutions and other key lenders could be mandated to lend to the segment.
- Some of the existing bank lines of credit could be adapted to meet the challenges of the Indian RTS segment, making it more attractive to developers in this area.

Source: DTE

PDF Refernece URL: <https://www.drishtias.com/printpdf/challenges-in-india-s-rooftop-solar-program>