

# **Surveying Solar Energy Potential of Rooftops**

#### Why in news?

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Bengaluru sets out an aerial mission to collect data on the solar energy potential of its rooftops.

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#### What is the mission on?

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- Bengaluru sent helicopter which hovered over the rooftops of the city.  $\slash n$
- The aim was to collect data on the solar energy potential of the city's rooftops.
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  This is being executed by the Centre for Study of Science, Technology and Policy (CSTEP).

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- It offers support to the Bangalore Electricity Supply Company (Bescom).  $\slash n$
- The data will also be put in the public domain.

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#### How does it work?

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- It employs the 'web-based rooftop photovoltaic tool using aerial LIDAR (Light Detection and Ranging) project'.
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- The helicopter has a camera that emits laser pulses. n
- Reflections from the ground get captured, creating a rough 3D map.  $\slash n$
- This raw data will be sent to the Defence Ministry for vetting.

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• After this, the process of shadow analysis and creation of a model city map will begin.

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#### What are the benefits?

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- Bescom The Bangalore Electricity Supply Company will be equipped with a map of the most lucrative rooftops to generate solar power.  $\n$
- Bescom will move to achieve the 1 GW solar target for 2021-22.  $\ensuremath{\sc vn}$
- Resource assessment It helps assess how much of the city's power needs can be met through rooftop solar installations.  $\n$
- The survey helps determine usable rooftops, separating them from green spaces.

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- It thus helps analyse the quality of the solar resource.  $\slashn$
- Investments With urbanisation, solar maps help electricity utilities come up with good business cases and investment vehicles.
- They can also give residents an opportunity to become partners in the effort.  $\ensuremath{\sc n}$
- People can make money by consuming and/or selling the solar energy generated.

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- **Solar Target** Moreover, scaling up rooftop solar installations is essential to achieve the solar target of 100GW by 2022.
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- It is aimed at creating 40GW of power capacity through rooftop solar panels alone by 2022.

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# What are the limitations?

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 $\ensuremath{\cdot}$  The industry is apprehensive that the favourable scope could diminish for the

solar sector during the current year.

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- Impact of factors such as imposition of safeguard duty and anti-dumping duty on imports should be evaluated.  $\n$
- The levy of the goods and services tax on photovoltaic modules also needs an assessment.
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- Major solar projects that connect to the grid often face the challenge of land acquisition and transmission connectivity.

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- This has led to a delay in planned capacity coming on stream during 2017.  $\space{1.5mu}\spac$
- Notably, nearly 3,600 MW did not get commissioned during the last quarter, out of a scheduled 5,100 MW.  $\nphi$

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# What is the way forward?

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• The domestic policy has to be attuned to the overall objective of augmenting solar capacity.

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• The Centre should come up with incentives to utilise the investment potential.

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- The southern States and Rajasthan host the bulk of national solar infrastructure on a large scale.
- These regions should continue to lead by adding rooftop capacity, with some forward-looking policymaking.  $\nlambda{n}$
- Initiatives such as the Bengaluru mapping project can contribute to assessments of real potential.  $\n$
- Surveys to map usable rooftops for solar power must be undertaken on a nationwide scale.

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# Source: The Hindu

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#### **Quick Fact**

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#### LiDAR

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- LiDAR (Light Detection and Ranging) is a monitoring system.  $\slash n$
- LiDAR works by projecting laser beams towards the sky.  $\slashn$
- The light interplays with the objects falling on its path through absorption, reflection and scattering.  $\n$
- $\bullet$  This helps determine the composition of suspended particulates.  $\ensuremath{\sc n}$
- It is used for mapping and modelling in micro-topography, forestry, agriculture, meteorology and environmental pollution.  $\n$

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