

Learning from Surat Smart City – A Rooftop Case Study



Creating Innovative
Solutions for a
Sustainable Future

Mr. Alekhya Datta, TERI

School of Planning & Architecture, New Delhi. 16th February, 2017

Rooftop Solar situation is divided into Four scenarios (out of 48 Smart Cities)

<i>Scenario 1</i>	<i>Scenario 2</i>	<i>Scenario 3</i>	<i>Scenario 4</i>
The city does not have any renewable sources of energy, and there is no commitment to promote this for the foreseeable future.	The city is preparing plans for ensuring that it gets more energy from renewable sources, and is in the process of making commitments in this regard.	Some energy consumed within the city is produced through renewable sources. There are long term targets for higher renewable energy capacities, and the city is making plans to achieve these. (Surat)	At-least 10% of the energy used in the city is generated through renewable sources. The city is undertaking long-term strategic projects to tap renewable sources of energy in its region/beyond to increase the percentage of renewable energy sources.
6 Cities	21 Cities	21 Cities	2 Cities



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Roadmap of Rooftop Solar in Surat Smart City

Target: 10% of the energy requirements must be through Solar under ABD*

Central Scheme

- Promoting Solar rooftop

MNRE
Solar City

Target: Increasing RE supply in the city

MoUD
Smart City

Target: 10% of ABD energy requirement from Solar

Implementation

- Subsidy
- Financing
- Installation

GEDA

SECI

Banks

DISCOMs

Developers

Facilitator

- Coordination
- Publicity & Awareness
- Mass campaign
- Creating Ecosystem

Vision for Solar Rooftop

“Create a replicable model which will act like a light house to other aspiring cities”



*Area-based Development



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Launch of Solar Rooftop: 22nd September, 2016 in Surat

"Solar Equinox Day": A Mega Event on Rooftop Solar Energy for Surat Smart City

OFFICIAL LAUNCH

Inauguration of **#SuratSolar** Web-Portal

Shri Narendra Modi
Hon. Prime Minister of India

Shri Vijay Rupani
Hon. Chief Minister of Gujarat

Website: <http://suratsolar.suratmunicipal.gov.in/>
 Mobile App: <https://play.google.com/store/apps/details?id=in.smc.suratsolar&hl=en>

ROOFTOP SOLAR POWER PLANTS
 IN SURAT SMART CITY

Rooftop Calculator Apply for Solar Rooftop

Last date of Application 31-Jan-2017 6:00 PM

Waiving of GEDA registration fees Amendment of Residential Rooftop Solar Plants



Surat Solar
 Surat Municipal Corporation (SMC) Social

★★★★★ 4.2

This app is compatible with your device.

Add to Wishlist Install

Surat Solar

Apply Online Rooftop Calculator

Electricity Connection Details

Name of DISCOM*
 Tarent power DGVCL

Consumer Number*

Tenement No.*

* Enter your 13 digits Tenement No.

Consumer Details

Name of the Consumer*

Address of the Consumer* (250

Enter your location*

Customer Category*
 Select Category

Please select any one the following criteria for sizing your rooftop solar PV system:

Total Roof Top Area
 Sq. m.
 Sq. Feet

Capacity you want to install
 kW



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Action Plan for Rooftop in Surat Smart City

Planning

- Roadmap for promotion of rooftop solar
- MoU between the SMC and SECI for implementation of rooftop scheme
- Stakeholders consultations
 - DISCOMs
 - State Nodal Agencies
 - Chief Electrical Inspector
 - Project Developers
 - Banks

Implementation

- Development online/single window portal i.e., website and mobile application
 - information dissemination
 - consolidation of solar rooftop installation interest /applications
- Preparation of city specific guidebook and pamphlet in regional language
- Appointment of 200 'Solar Friends' by Mayor
- Workshops for creating awareness

about the solar rooftop

- Residential consumers
- Non- Residential consumers

➤ Mass Publicity

- National /regional newspapers
- Social media (Facebook , Twitter)
- FM radio, public hoardings etc.

Video messages to adopt rooftop solar from 22 Brand Ambassadors (MP, MLA & Others) in 22 Indian Languages

Outcome

- Installation of 3.6 MWp rooftop solar power plants in Govt. buildings under Surat Municipal Corporation
- 1675+ applications (1462+213), 5.5+ MWp (2.5+3) both in Res. & Non-Res. Consumers, 50+ installations completed, till date



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Outreach to the Citizens of Surat Smart City



રાજ્યના એક લાખ ઘરો ઉપર સોલાર પ્લાન્ટનો લક્ષ્યાંક સિદ્ધ કરવા સુરત મનપાની પણ કવાયત

સુરત, તા. ૨૨ - માટે સોલારના આયત્તીને માનવ આરબી જ અંક સેલકારે, આ સેલેના સુવેનર આપે સુવેનર કરવામાં આવ્યો હતો. પરના પાયા અગામી સોલાર વીજળી પેદા કરી શકશે: પ્રીતી કલોવોટ વીજળીના ઉત્પાદનદીક દલ હજારની સહસીડી મળશે

સુરત, તા. ૨૨ - રાજ્યના એક લાખ ઘરો ઉપર સોલાર પ્લાન્ટનો લક્ષ્યાંક સિદ્ધ કરવા સુરત મનપાની પણ કવાયત ચાલુ છે. સુરત મનપાના આયત્તીને માનવ આરબી જ અંક સેલકારે, આ સેલેના સુવેનર આપે સુવેનર કરવામાં આવ્યો હતો. પરના પાયા અગામી સોલાર વીજળી પેદા કરી શકશે: પ્રીતી કલોવોટ વીજળીના ઉત્પાદનદીક દલ હજારની સહસીડી મળશે

40% સહસીડી સાથે મકાનો પર સોલાર પેનલો નાખવા કવાયત આગામી વર્ષોમાં 484 મેગા વોટ વીજળી પેદા કરાશે

સોલાર પ્લાન્ટ ફિટ કરાવો તો મીટ બદલાશે

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Over 900 houses to have solar power plants in 3 months

Rise In No. Of Residents Showing Interest In Solar Plants

The government has scrapped the 1,500-rupee installation fee for rooftop solar power plants. The government has set a target of installing 1 lakh solar power plants in the first phase of the project to reduce the dependency on conventional electricity.

SMC Inks Pact With SECI For Rooftop Solar Power Project



Surat to become Solar City soon

SMC Inks Pact With SECI For Rooftop Solar Power Projects

The power generated through solar plants on the rooftops will give consumer a significant electricity bill discount.

સોલાર પ્લાન્ટ લેગનના આરબદન પ્રાકર્યા શરુ

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Glimpse of Rooftop Solar PV Power Plants in Surat Smart City



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Future Plan of SMC for promoting Clean Energy

- Converting 250+ schools as Model schools under “Green Campus Scheme” of MNRE.
- Pilot demonstration of ‘E-Mobility’ while establishing Solar-based EV Charging Stations.
- Centralized Generation Monitoring of all Solar PV power plants, and utilities to track consumption pattern of Surat Municipal Corporation.
- Development of Eco-Park(s)/Renewable Energy Knowledge Centre in Surat Smart City.
- Developing Surat Smart City as “**Model Solar City**”

RES: 75.8 GWh/Annum (34%), RES + EE: 95.4 GWh/Annum (43.4%)



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TERI in Rooftop Solar Development across India

Segment: Solar Rooftop

Rooftop Solar Power Potential Estimation

Policy and Regulatory Consultancy

3rd Party Inspection

Solar based Charging Station for EVs

Web Platform for Local Bodies & Nodal Agencies

Integration of RE Studies

Technology Implementation support for Smart Cities

Lenders Engineers



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Thank You!

It's crucial time to ACT



Contact Us,

TERI, HEAD OFFICE

Darbari Seth Block, IHC Complex, Lodhi Road,
New Delhi - 110 003, INDIA

Tel. (+91 11) 2468 2100, 4150 4900

Fax (+91 11) 2468 2144, 2468 2145

For general inquires contact,

mailbox@teri.res.in

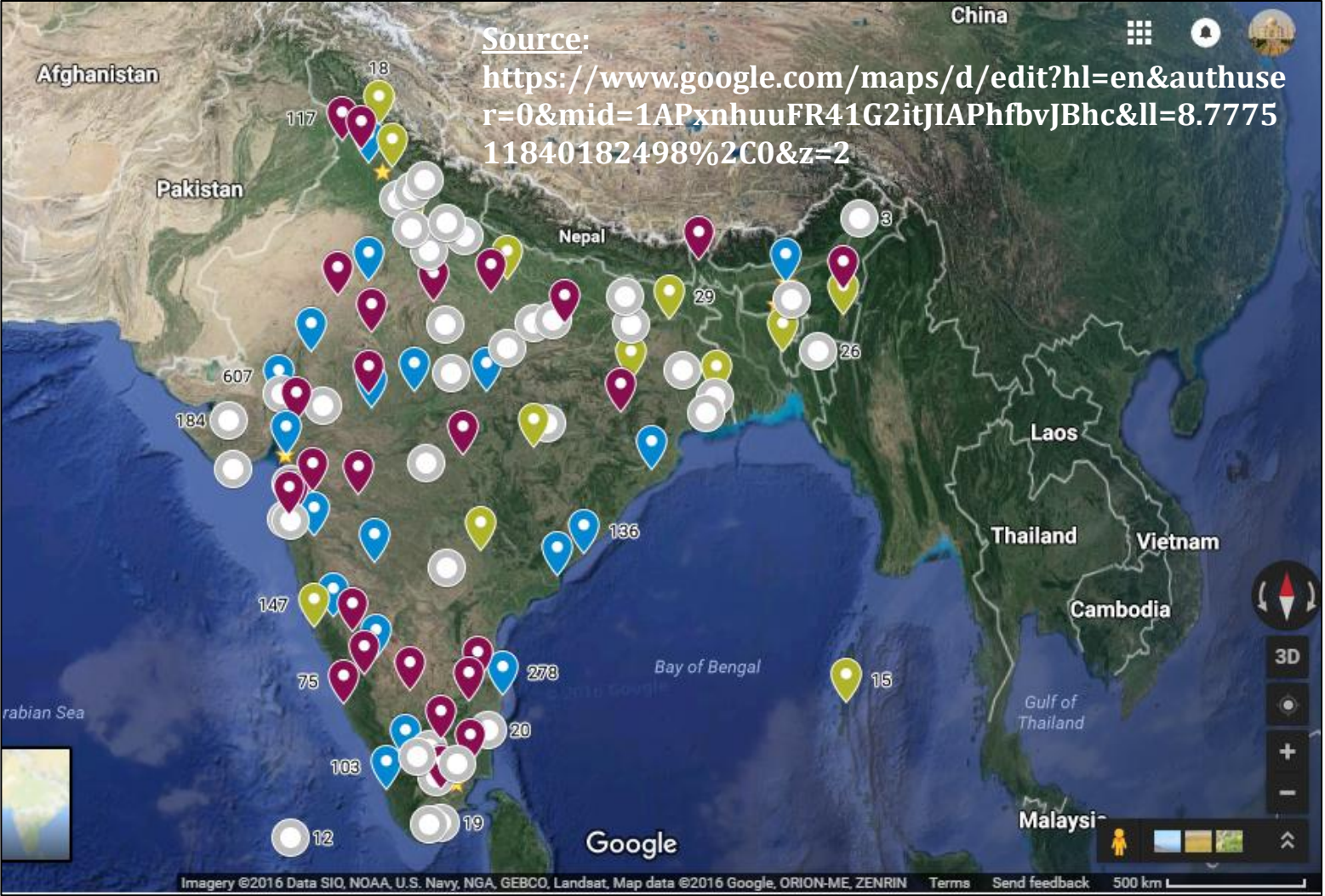


<http://smartcities.gov.in/>



E-mail: alekhya.datta@teri.res.in

Maps of Selected Smart Cities in India

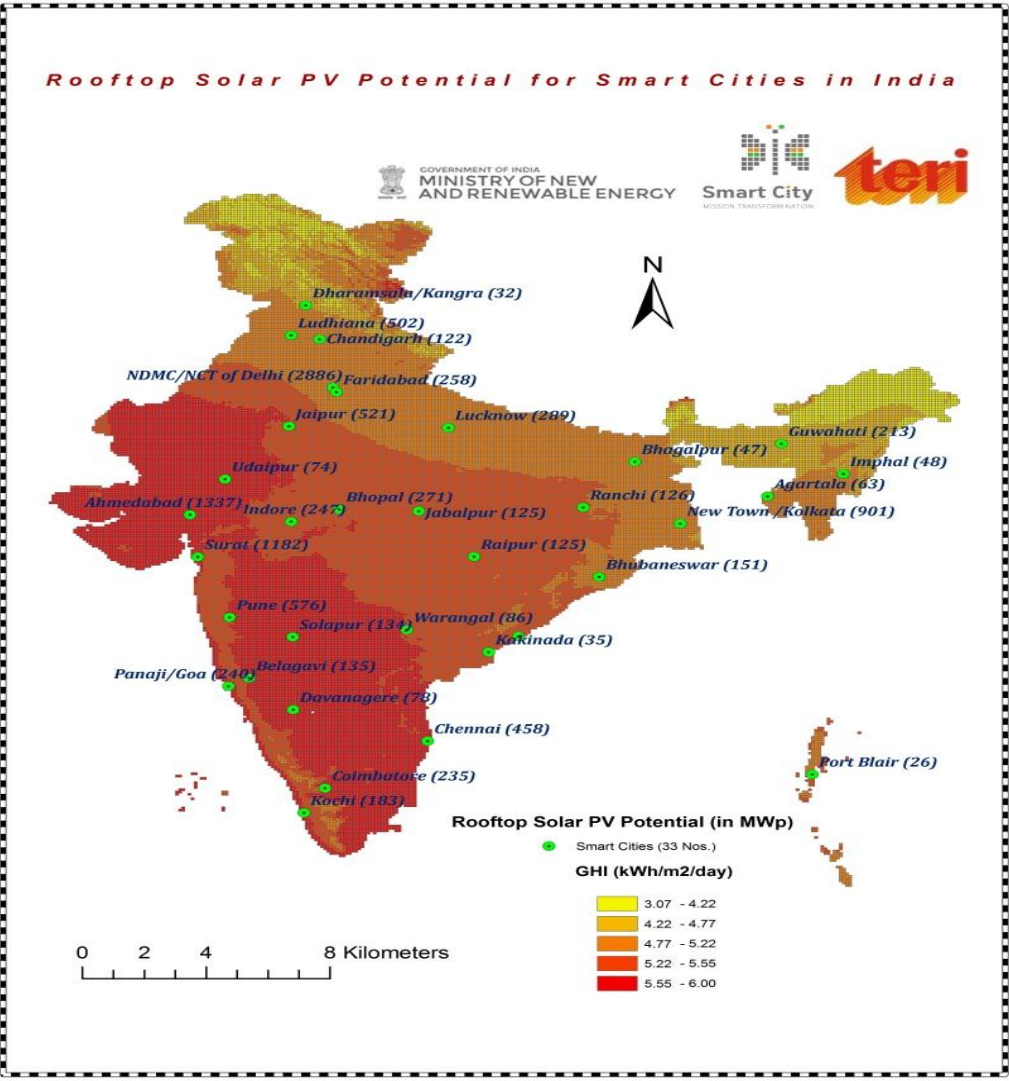


- 1 Round
- 2 Round
- 3 Round
- Other / No data



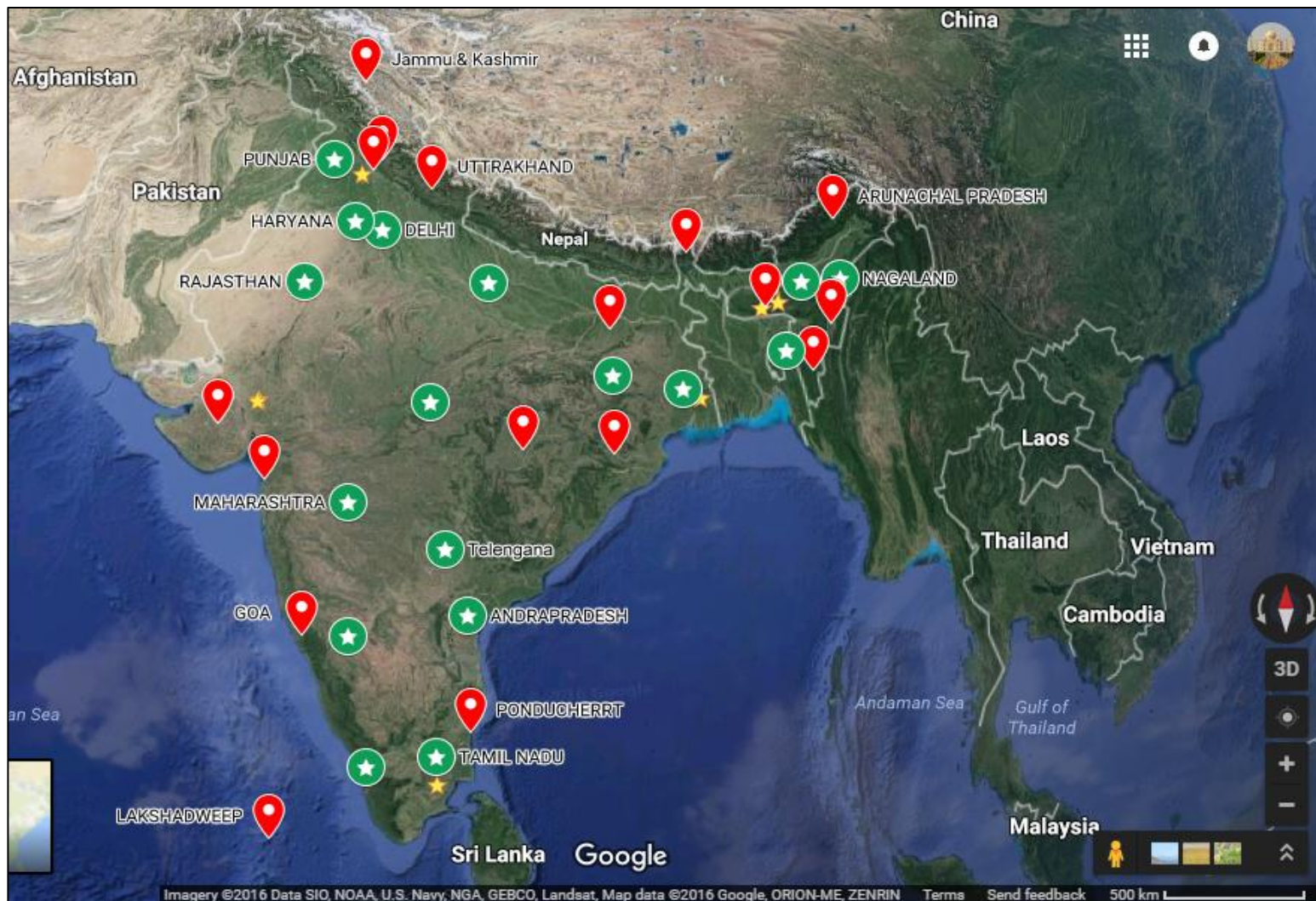
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Rooftop Solar Power Potential in 33 Smart Cities



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State-wise Residential Tariff Structure



Residential Tariff

📍 2-5 INR

★ 6-9 INR



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