



Solar Mango

Everything about Rooftop Solar

## Solar for the **CEO**

The Big Picture on Rooftop Solar for your Enterprise

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# Solar for the CEO

## *The big picture on rooftop solar for your enterprise*

Industrial and commercial enterprises in India are operating in a very difficult environment, with intense competition from both domestic and international players. Rooftop solar power may not, at first glance, appear to provide a competitive edge in such an environment – after all, you cannot do anything more with solar power than you can with grid power.

Or can you?

Business leaders are keen to know how rooftop solar power can be leveraged to provide more value than just units of electricity generated. This ***Solar for the CEO*** whitepaper from **Solar Mango** provides an overview on the strategic value of rooftop solar power:

- Be seen along with international companies that are shaping the future
- Expand capacity previously constrained by lack of grid power
- Gain new customers as green supply chains become an urgent need for global business

We also discuss a few myths surrounding solar power and the reality, enabling you to take an informed decision on incorporating rooftop solar power in your enterprise.

***Solar for the CEO*** is thus an exclusive white paper providing a bird's eye review of rooftop solar power from a top management perspective, presented in a concise format to ensure we present the big picture to the top management.

We do hope it provides you insights to appreciate how rooftop solar can be used as a strategic lever for your organization.

All the best!

**Narasimhan Santhanam & Raja Manuel Muthayya**

**Solar Mango**

[www.solarmango.com](http://www.solarmango.com)

## Contents

<b>1. Trends in Solar – India and International .....</b>	<b>3</b>
1.1 Status of Rooftop Solar – India and International .....	4
<b>2. Rooftop Solar – Spectrum of Benefits.....</b>	<b>5</b>
<b>3. Rooftop Solar Power – Myths vs. Reality.....</b>	<b>6</b>
<b>4. How Quickly Can You Get Solar for Your Rooftop?.....</b>	<b>7</b>
<b>5. Government Policies and Incentives for Rooftop Solar .....</b>	<b>8</b>
5.1 Impact of Accelerated Depreciation on Solar Plant Cost.....	8
<b>6. Other Benefits of Rooftop Solar .....</b>	<b>9</b>
<b>7. Steps to Get Rooftop Solar on Your Facility .....</b>	<b>10</b>
<b>8. Takeaways .....</b>	<b>11</b>

# 1. Trends in Solar – India and International

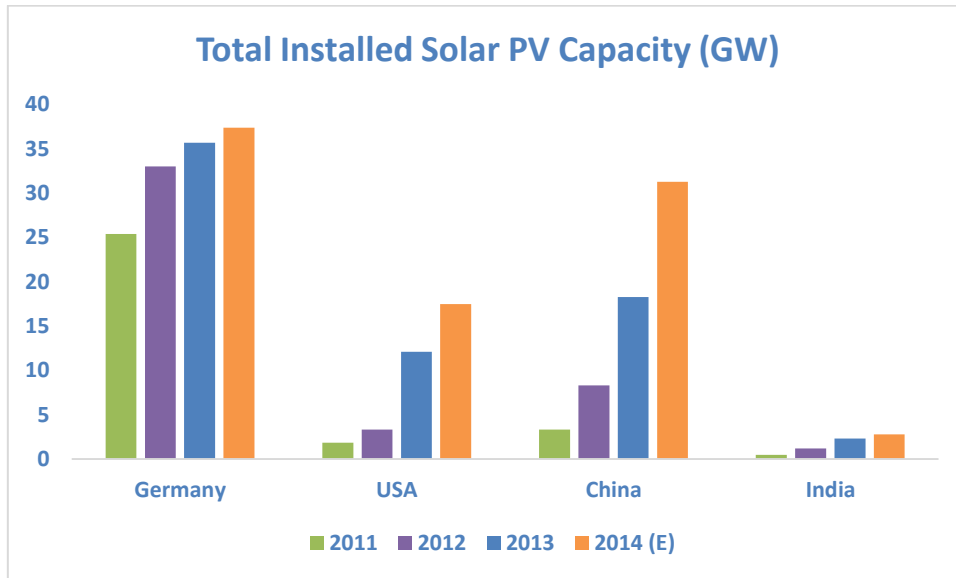


Figure 1: Total installed PV capacity (rooftop and ground mounted)

- Compared with other prominent developed and developing economies, India lags in solar power generation. That is set to change with the National Solar Mission targeting 100 GW of solar power by 2022
- Germany incentivised solar power through feed-in-tariffs (FiT). The USA offered tax credits and emphasised net metering which particularly helped rooftop installations. All these propelled these countries to the top of the table in rooftop solar installations
- With India setting aggressive targets for solar power, we will likely witness significant incentives and push from the government to accelerate rooftop solar in this country too
  - Net metering already exists in some states, and will soon be rolled out by other states across India
    - Net metering allows excess solar power generation (such as during holidays when electrical loads are low) to be monetised through export to the grid
  - Rooftop solar plants in India can save tax through accelerated depreciation

## 1.1 Status of Rooftop Solar – India and International

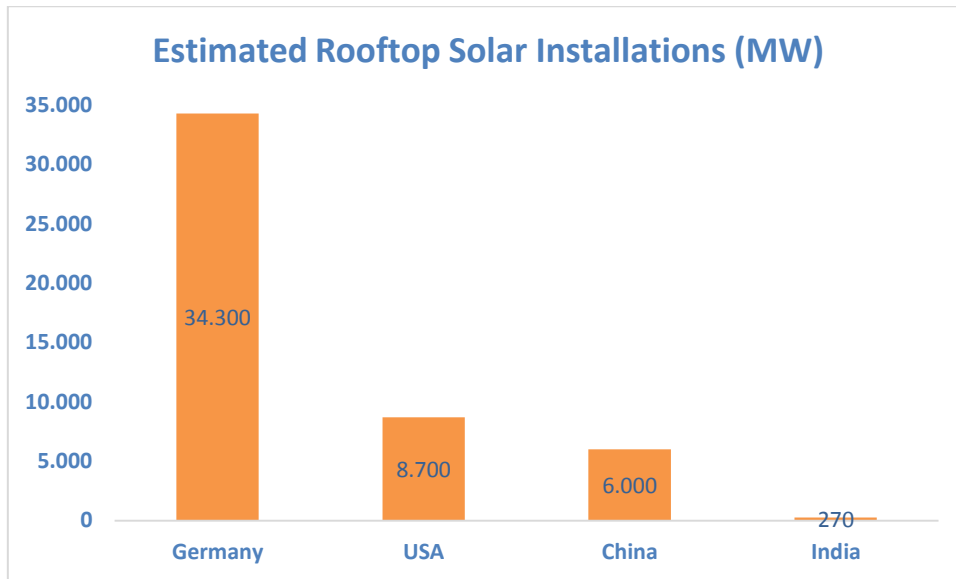


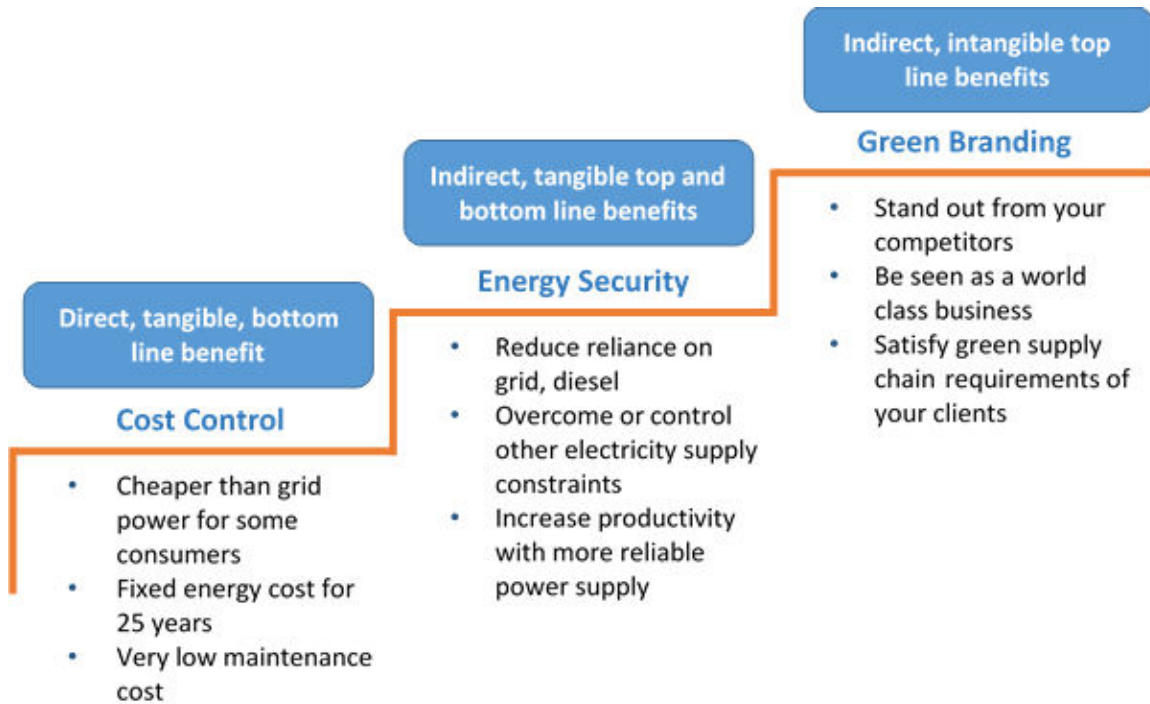
Figure 2: Rooftop solar installations: India and Abroad

- Major US corporations have installed more than 570 MW of solar plants in the US alone
  - Walmart has installed over **250** solar plants, each providing 15-30% of a store's power requirement
- Over 90% of Germany's solar power comes from rooftop plants
- India is currently trailing other developed and developing countries with only 270 MW of rooftop installations
  - 165 MW of the above are from Industrial and Commercial units, spread over less than 4,000 rooftops

### Why Go Solar?

Less than **1 in 250** Indian companies currently have a rooftop solar plant. Going solar not only adds to your energy security, but also makes you stand out amongst your competitors. Going solar is a significant international trend that Indian companies cannot afford to miss.

## 2. Rooftop Solar – Spectrum of Benefits



### Why Go Solar?

Today, solar is more than just a cost-centric strategy. With the decentralized paradigm providing energy security to increase your productivity, and by enabling you to project your business as a responsible action leader, rooftop solar benefits your top line, bottom line and business branding.

The last benefit will be especially crucial if your business is operating in or catering to international markets.

## 3. Rooftop Solar Power – Myths vs. Reality

Myth	Reality
Rooftop solar power can eliminate all diesel consumption	Rooftop solar power can reduce, but not usually eliminate, diesel consumption
Rooftop solar power can provide electricity during power failure	Rooftop solar power will need to be integrated with another source of power, such as diesel or batteries, to provide electricity during power failure
Only concrete roofs can support rooftop solar plants	Many metal roofs, and even some asbestos roofs, can support rooftop solar plants
Solar power generated on holidays is wasted	If net metering facility is made available, excess solar power generated can be monetised
Rooftop solar power is expensive	Rooftop solar power has already achieved grid parity for many industrial and commercial units across India
Rooftop solar power requires expensive batteries to work	Where grid power supply is fairly reliable, there is little or no need for batteries along with rooftop solar power
Rooftop solar plants cannot power heavy machinery	When supported by grid power, rooftop solar plants can support some heavy machinery

### Why Go Solar?

While rooftop solar power does have a few constraints, flexible, robust, cost-effective solar solutions are available to suit the requirements of different types of energy consumers.

## 4. How Quickly Can You Get Solar for Your Rooftop?



Figure 3: Time required to commission rooftop solar plants (by capacity)

These timelines may be shortened or extended based on material procurement and labour availability. The primary activities involved are

Phase of project	% of total duration
Surveys, drawings, initial site work	20%
Manufacturing of mounting structures, procurement of major components	55%
Installing, testing, commissioning	25%

### Why Go Solar?

A rooftop solar plant can be commissioned and start generating power in very short periods of time, allowing you to quickly increase your supply of power and implement your business strategy.



## 5. Government Policies and Incentives for Rooftop Solar

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### Accelerated Depreciation

Rooftop solar plants enjoy accelerated depreciation of **80%**

### Net Metering

Increasingly rolled out by various states. Eligibility may depend on type of energy consumer

### Subsidy

- A capital subsidy of 30% is offered by the Ministry of New and Renewable Resources (MNRE). As there have been many issues in receiving subsidy, we recommend performing your cost estimates without considering subsidy
- Draft proposals suggest deprioritising subsidies for Industrial/Commercial consumers. We therefore believe that subsidies are unlikely to be received by these sectors in future

### 5.1 Impact of Accelerated Depreciation on Solar Plant Cost

Particulars	Rs.
Cost of 1 kW plant	100,000
Accelerated depreciation @ 80%	80,000
Tax savings (Tax rate of 35%)	<u>28,000</u>
<b>Net cost after AD benefit</b>	<b><u>72,000</u></b>

### Why Go Solar?

Attractive financial incentives from governments make a strong business case for rooftop solar power.

## 6. Other Benefits of Rooftop Solar

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### Expand Your Business

Power constraints no longer hinder business opportunities

Solar Mango's client couldn't grow their business because HT supply was unavailable. Rooftop solar combined with their existing LT supply allowed them to expand their infrastructure and sign new customers

### Get an Extra Room!

Rooftop solar plant can be used as a partial roof

Using elevated structures, solar panels can be raised above the existing roof (or even above ground), functioning as a partial roof for the space beneath. Examples of use for the space below include cafeterias (on rooftops) and covered car parking (on ground)

### Be a Pioneer

Be a pioneer and thought leader in your industry

Across the world, forward-looking enterprises are increasingly choosing rooftop solar power. Be a part of this club by generating electricity from sunlight on your rooftop and be seen as a future-ready business

### Why Go Solar?

Rooftop solar power can add significantly more value to your business than just provision of electricity. It can be a strategic tool for business expansion and branding.

## 7. Steps to Get Rooftop Solar on Your Facility



## 8. Takeaways

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- A rooftop solar plant can help position you as a pioneer in your industry as very few Indian companies currently have rooftop solar plants
- Through green branding, a rooftop solar plant can help you gain more customers
- For many industrial and commercial consumers, rooftop solar power is already a cost-effective option as it is cheaper than grid power
- Rooftop solar power allows enterprises to expand production capacity that was previously constrained due to lack of power
- Rooftop solar plants can be installed and commissioned quickly
- Attractive government incentives are available for rooftop solar plants
- Rooftop solar plants can themselves serve as partial roofing, thus making your vacant rooftops more productive
- Selecting the right vendor and appropriate architecture is vital to gain the most from your rooftop solar plant
- Rooftop solar power does have a few constraints, which should be understood before deciding on including solar power in your energy mix

### **Talk to Solar Mango for a High Quality Rooftop Solar Solution**

Are you an energy intensive commercial or industrial energy consumer looking for rooftop solar power? [Solar Mango](#) can help you gain reliable, cost-effective rooftop solar power.

Write in with your requirements to [enquiry@solarmango.com](mailto:enquiry@solarmango.com), call us on **09840436048**, or visit [www.solarmango.com/in](http://www.solarmango.com/in) for more information.