

Solar energy can create up to 145 GW of capacity and 6.7 lakh jobs in India over next 10 years says a joint report by Bridge To India and Tata Power Solar

September 1, 2014



SL. NO	PUBLICATION	PLATFORM	REGION	HEADLINE
PRINT				
1.	Financial Chronicle	Print	National	Solar Sector Can Create 7 Lakh Jobs
2.	The Hindu Business Line	Print	National	Solar Sector Can Create 6.7 Lakh Jobs In Ten Years
ONLINE				
3.	PTI	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
4.	The Hindu Business Line	Online	National	'Solar Sector Can Create 6.7 Lakh Jobs In Ten Years'
5.	PV Magazine	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
6.	The Economic Times	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
7.	Business Standard	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
8.	The Free Press Journal	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
9.	The Energy Source	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
10.	EIN	Online	National	India Poised To Be World Solar Leader – Adding 145GW In 10 Years
11.	WN	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
12.	Financz Nachrichten	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
13.	Today Eco	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
14.	Panchabuta	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
15.	Renew Economy	Online	National	India Poised To Be World Solar Leader – Adding 145GW In 10 Years
16.	ITW Solar	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
17.	Noodls	Online	National	Solar Energy Can Create Up To 145GW Of Capacity And 6.7 Lakh Jobs In India Over Next 10 Years, Says A Joint Report By Bridge To India And Tata Power Solar
18.	Renew Economy	Online	National	India Poised To Be World Solar Leader – Adding 145GW In 10 Years
19.	PV Tech	Online	National	No Alternative For India Energy But 'Solar Revolution
20.	Wall Street Online	Online	National	Solar Energy To Create 6.7 Lakh Jobs In India Over Next 10 Years: Report
21.	Energy Next	Online	National	Solar Energy To Create 6.7 Lakh Jobs In India Over Next 10 Years: Report

22.	Shine	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
23.	See News Renewables	Online	National	India May Add 145 GW Of Solar By 2024 – Report
24.	Green Tech Lead	Online	National	Solar Energy To Create 6.7 Lakh Jobs In India In Next 10 Years
25.	Eco Business	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
26.	Clean Energy Info	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
27.	EV Wind	Online	National	Solar Energy Can Create Up To 145 GW Of Capacity In India
28.	Infra Line Energy	Online	National	Solar Energy To Create 6.7 Lakh Jobs In India In Next 10 Years
29.	Peak Energy	Online	National	India Poised To Be World Solar Leader – Adding 145GW In 10 Years
30.	Renew Economy	Online	National	India Poised To Be World Solar Leader – Adding 145GW In 10 Years
31.	I Data Insights	Online	National	Solar Energy To Create 6.7 Lakh Jobs In India In Next 10 Years
32.	EIN	Online	National	No Alternative For India Energy But 'Solar Revolution
33.	Wisdom Jobs	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
34.	Business Spectator	Online	National	India Could Add '145GW In Ten Years'
35.	Sun Infinite	Online	National	India's Ideal Solar Roadmap Could Add 145 GW Of PV Within Decade, Says Report
36.	High Ground	Online	National	Solar PV Industry Can Create 6.7 Lakh Jobs In India In 10 Years
37.	WN	Online	National	Solar Energy Can Create Up To 145GW Of Capacity And 6.7 Lakh Jobs In India Over Next 10 Years, Says A Joint Report By Bridge To India And Tata Power Solar (Tata Group - Tata Sons Ltd)
38.	Today Eco	Online	National	No Alternative For India Energy But 'Solar Revolution' - Interview Bridge To India And Tata Power Solar
39.	Solar Choice	Online	National	Colourful Options For India's Solar Future: Beehives, Pigeons, Horses And/Or Elephants
40.	The Australian	Online	National	India Could Add '145gw In Ten Years'
41.	Silicon India	Online	National	Solar Energy Can Create 6.7 Lakh Jobs In India In 10 Years
42.	Aros	Online	National	India's Ideal Solar Roadmap Could Add 145 Gw Of Pv Within Decade
43.	Industry News	Online	National	India Solar Roadmap Targets 145,000 Mw Of Solar In Next 10 Years
44.	Eco News	Online	National	Report: India Could Add 145gw Solar In 10 Years

45.	Solar Magazine	Online	National	2028: 'Negen Landen Met Meer Dan Vijf Gigawatt, China Honderd Gigawatt'
46.	India Education Diary	Online	National	Solar Energy Can Create Up To 145gw Of Capacity And 6.7 Lakh Jobs In India Over Next 10 Years
47.	Jagran Post	Online	National	India Should Go Solar To Bring Down Carbon Emission, Says Climate Change Expert From UK
48.	Domain B	Online	National	Time For India To Shift From Coal To Solar Power, Says Uk Envoy On Climate Change

SOLAR SECTOR CAN CREATE 7 LAKH JOBS
SEPTEMBER 2, 2014
FINANCIAL CHRONICLE (NATIONAL)

Solar sector can create 7 lakh jobs

PRESS TRUST OF INDIA

New Delhi

SOLAR power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report.

Solar energy can create up to 1,45,000 mw capacity and 6.7 lakh jobs over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar.

The report examines the ideal solar roadmap for India through comparative analysis of four distinct scenarios of solar power generation – residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation – from distributed to centralised generation, and residential kilowatt to gigawatt

scale solar plants, the permutations are endless.

The ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and at parity with imported coal, says the report.

With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years.

In the long-term, large rooftop systems will be the cheapest option for India with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024. The rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 mw.

SOLAR SECTOR CAN CREATE 6.7 LAKH JOBS IN TEN YEARS
SEPTEMBER 2, 2014
THE HINDU BUSINESS LINE (NATIONAL)

'Solar sector can create 6.7 lakh jobs in ten years'

OUR BUREAU

Mumbai, September 1

Solar energy can create 145 GW (one GW equals 1000 MW) of capacity and 6.7 lakh jobs in India over the next 10 years, according to a joint report by Bridge to India and Tata Power Solar.

The report compares four distinct scenarios of solar power generation – residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants).

Point of consumption

The report said that LCOP, in certain cases, could be as much as 30 per cent higher than LCOE, and should be the de-facto economic metric for India to examine various power options.

It further said that currently the ultra-mega plants with a levelised generation cost of ₹6.6 a kWh (a unit) and a landed cost of ₹8.4 a kWh are most attractive and at parity with imported coal plants.

With an expected rise in imported coal prices, all the other three scenarios would also be able to achieve parity with imported coal over the next three years.

In the long term, large rooftop systems will be the cheapest option for India with a levelised generation cost of ₹6.6 a kWh and landed cost of ₹6.7 a kWh by 2024.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 1, 2014**[PTI](#)

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Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation - from distributed to centralised generation, and residential KW (kilowatt) to GW (gigawatt) scale solar plants, the permutations are endless.

"To solarise our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject," Goel said.

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation.

Tobias Engelmeier, Founder & Director, Bridge To India, said, "The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years."

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and are already at parity with imported coal.

With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years.

In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

'SOLAR SECTOR CAN CREATE 6.7 LAKH JOBS IN TEN YEARS'

SEPTEMBER 1, 2014

[THE HINDU BUSINESS LINE](#)

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INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE, SAYS REPORT

SEPTEMBER 1, 2014

[PV MAGAZINE](#)

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

"But the real issue," Engelmeier added, "is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market."

Coal parity

The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

"Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless," said Tata Power Solar CEO Ajay Goel. "To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact."

The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 1, 2014****[THE ECONOMIC TIMES](#)**

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The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation.

Tobias Engelmeier, Founder & Director, Bridge To India, said, "The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years."

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years. In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 1, 2014****BUSINESS STANDARD**

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INDIA POISED TO BE WORLD SOLAR LEADER – ADDING 145GW IN 10 YEARS

SEPTEMBER 1, 2014

[EIN](#)

India's raft of ambitious plans and policies to ramp up national solar development have been generating plenty of headlines over the past few months, and new data has suggested the best-case scenario for India's solar sector could boost the sub-continent's PV capacity by more than 140GW over the next decade.

In a report by Tata Power Solar and cleantech experts Bridge to India, analysts argue that India's solar potential is huge enough to revolutionise the nation's energy mix, as long as decision-makers followed the best possible solar roadmap.

The report, *How should India drive its solar transformation? Beehives or Elephants*, compares four different scenarios, each with a different solar focus – residential rooftops (solar bees); large rooftops (solar pigeons); utility-scale (solar horses); and ultra-mega projects (solar elephants) – evaluating their potential speed of deployment, implementation challenges and job creation potential.

“The realizable potential for solar power generation in India is between 110GW to 145GW across (all four) different types of systems,” said Bridge to India founder and director Tobias Engelmeier. “The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

“But the real issue, is to choose the best way for India to go solar that entails a fair choice between millions of small systems (“bees”) on one end of a spectrum, and a few very large systems (“elephants”) on the other; the former creating a consumer market and the latter an infrastructure market,” Engelmeier said.

According to PV Magazine, the analysts compared each scenario in terms of landed cost of power (LCOP) – the cost to the consumer at the point of consumption – and levelised cost of energy (LCOE).

While LCOE is the more traditional gauge of renewables generation costs, analysts at Bridge to India and Tata argue that LCOP, which can be as much as 30 per cent higher than LCOE, should become the new economic metric for measuring India's solar potential.

The report calculates that the LCOE for ultra-mega plants in India is 6.6 rupees per kWh (\$US0.10c/kWh), with LCOP at 8.4R/kWh (\$US0.14c) – already comparable to imported coal (Bloomberg New Energy Finance has predicted that solar PV in India will best both gas and coal on costs by 2020). And with the price of coal expected to increase, the other three scenarios would also be expected to reach parity during that time.

This graph below – from a concurrent report by Deutsche Bank – shows how the levelised cost of solar in India (and China) is cheaper than in other countries. And it shows how India's solar capacity has jumped from basically nothing in the last few years. Its previous National Solar Mission target was for 22GW by 2020 – less than one sixth of what is now thought possible.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 1, 2014**[WN](#)

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SEPTEMBER 1, 2014

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"But the real issue," Engelmeier added, "is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market."

Coal parity

The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

"Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless," said Tata Power Solar CEO Ajay Goel. "To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact."

The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE, SAYS REPORT

SEPTEMBER 1, 2014

[TODAY ECO](#)

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

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The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 1, 2014****PANCHABUTA**

According to reports, solar power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report.

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar. It examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation – residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Each scenario is analysed in terms of not only levelised cost of energy but also landed cost of power which measures the cost to a consumer at the point of consumption, rather than at the point of generation.

Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation – from distributed to centralised generation, and residential KW (kilowatt) to GW (gigawatt) scale solar plants, the permutations are endless.

“To solarise our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject,” Goel said.

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation.

Tobias Engelmeier, Founder & Director, Bridge To India, said, “The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years.”

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and are already at parity with imported coal.

With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years.

In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024. The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE, SAYS REPORT

SEPTEMBER 1, 2014

[ITW SOLAR](#)

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

"But the real issue," Engelmeier added, "is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market."

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The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

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The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

SOLAR ENERGY CAN CREATE UP TO 145GW OF CAPACITY AND 6.7 LAKH JOBS IN INDIA OVER NEXT 10 YEARS, SAYS A JOINT REPORT BY BRIDGE TO INDIA AND TATA POWER SOLAR**SEPTEMBER 1, 2014**[NOODLS](#)

This report examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation - residential rooftops, large rooftops, utility scale projects and ultra-mega projects

Delhi/Bangalore: A joint report on "How should India drive its solar transformation? Beehives or Elephants" was released today by Bridge To India, a leading consulting services and knowledge provider in the Indian cleantech market, and Tata Power Solar, India's largest integrated solar player.

The report compares four distinct scenarios of solar power generation - residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants). Each scenario is analysed in terms of not only levelized cost of energy (LCOE) but also landed cost of power (LCOP) which measures the cost to a consumer at the point of consumption, rather than at the point of generation. The LCOP, in certain scenarios could be as much as 30% higher than LCOE, and should become the de-facto economic metric for India to examine various power options.

Commenting on the report, Ajay Goel, CEO, Tata Power Solar, said, "Solar is unique in its limitless potential for power generation - from distributed to centralized generation, and residential KW to GW scale solar plants, the permutations are endless. To solarize our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject."

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation. Highlighting the key findings of the report, Dr. Tobias Engelmeier, Founder & Director, Bridge To India, said, "The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems. The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years. But, the real issue is to choose the best way for India to go solar which entails a fair choice between millions of small systems ("bees") on one end of a spectrum and a few very large systems ("elephants") on the other, the former creating a consumer market and the latter an infrastructure market."

The report shows that currently the ultra-mega plants with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 8.4/kWh are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years. In the long term, large rooftop systems will be the cheapest option for Indian with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 6.7/kWh by 2024.

The report also leads us to the fact that while the levelized generation cost of large ultra-mega plants seems attractive, policy makers and investors should evaluate the landed cost of power, given the much higher related infrastructure requirements and the technical and commercial losses in the grid.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 325,000 new jobs for 25 GW.

India has the potential to become one of the largest transformative solar markets in the world, free of subsidies and with a thriving solar value creation ecosystem. However, it must strike a balance among the various ramp-up opportunities it has - both via central and distributed generation. Thus, the report recommends specific actions in each of these areas.

INDIA POISED TO BE WORLD SOLAR LEADER – ADDING 145GW IN 10 YEARS**SEPTEMBER 2, 2014****[RENEW ECONOMY](#)**

India's raft of ambitious plans and policies to ramp up national solar development have been generating plenty of headlines over the past few months, and new data has suggested the best-case scenario for India's solar sector could boost the sub-continent's PV capacity by more than 140GW over the next decade

In a report by Tata Power Solar and cleantech experts Bridge to India, analysts argue that India's solar potential is huge enough to revolutionise the nation's energy mix, as long as decision-makers followed the best possible solar roadmap.

The report, *How should India drive its solar transformation? Beehives or Elephants*, compares four different scenarios, each with a different solar focus – residential rooftops (solar bees); large rooftops (solar pigeons); utility-scale (solar horses); and ultra-mega projects (solar elephants) – evaluating their potential speed of deployment, implementation challenges and job creation potential.

“The realizable potential for solar power generation in India is between 110GW to 145GW across (all four) different types of systems,” said Bridge to India founder and director Tobias Engelmeier. “The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

“But the real issue, is to choose the best way for India to go solar that entails a fair choice between millions of small systems (“bees”) on one end of a spectrum, and a few very large systems (“elephants”) on the other; the former creating a consumer market and the latter an infrastructure market,” Engelmeier said.

According to PV Magazine, the analysts compared each scenario in terms of landed cost of power (LCOP) – the cost to the consumer at the point of consumption – and levelised cost of energy (LCOE).

While LCOE is the more traditional gauge of renewables generation costs, analysts at Bridge to India and Tata argue that LCOP, which can be as much as 30 per cent higher than LCOE, should become the new economic metric for measuring India's solar potential.

The report calculates that the LCOE for ultra-mega plants in India is 6.6 rupees per kWh (\$US0.10c/kWh), with LCOP at 8.4R/kWh (\$US0.14c) – already comparable to imported coal (Bloomberg New Energy Finance has predicted that solar PV in India will beat both gas and coal on costs by 2020). And with the price of coal expected to increase, the other three scenarios would also be expected to reach parity during that time.

This graph below – from a concurrent report by Deutsche Bank – shows how the levelised cost of solar in India (and China) is cheaper than in other countries. And it shows how India's solar capacity has jumped from basically nothing in the last few years. Its previous National Solar Mission target was for 22GW by 2020 – less than one sixth of what is now thought possible.

NO ALTERNATIVE FOR INDIA ENERGY BUT 'SOLAR REVOLUTION

SEPTEMBER 2, 2014

[PV TECH](#)

Manufacturer and developer, Tata Power Solar and analyst, Bridge to India have just released a report stating solar in India is already cost-competitive with imported coal, and will be level with domestic coal generation by 2019.

An inevitable “solar revolution” is just around the corner for India, predicts Bridge’s managing director, Tobias Engelmeier. “There isn’t really an alternative. Coal is limited, other resources are limited; solar is the one thing that is available in almost unlimited quantities,” he says.

“A lot of people have been pessimistic and sceptical over the last year, but the report shows the potential is actually higher than [current national targets],” adds Engelmeier. Tata Power and Bridge to India worked on the report, ‘Beehives or elephants? How should India drive its solar transformation?’, for a little over six months. It looks at all types of on-grid solar generation, naming small rooftop solar “bees”, larger commercial and residential rooftop systems, “pigeons”, utility-scale projects “horses” and mega-scale solar “elephants”.

Talking to PV Tech, Engelmeier and Tata Power Solar CEO, Ajay Goel say the report highlights the difference between the cost of power at generation – the levelised cost of energy (LCOE) - and the cost at consumption – the ‘landing cost of power’ (LCOP). Goel says the report scrutinises “everything for each scenario to find out the real cost of power when it gets to the customer”. “The idea was to come up with a thought provoking way to look at the different opportunities,” he says.

Engelmeier explains that while India has been successful in utility-scale solar, from 20-50MW in size, the announcements of mega-solar parks and the development of much smaller distributed rooftop solar, there is still has “too little understanding” of the “merits and demerits” of each scale for policy makers. The report aims to set the record straight.

“We are talking about very different types of markets,” says Engelmeier. “There is a role for all types [of solar] in India, but not one at the expense of the other.” The report focuses on looking at solar as different to other renewables, due to the flexibility in deployment scales: from mega-gigawatt solar power plants, to a couple of kW systems on small houses.

The report is aimed at everyone from investors to developers, installers and homeowners, to policy makers.

Mega solar

Engelmeier says the development of mega-scale solar is a large infrastructure task which requires investment in transmission distribution infrastructure. “There are only a few key players in the market that would be able to work on something like that.” Goel adds that transmission infrastructure can be 300-400km, and can include balancing power from fossil fuel plants or storage.

Engelmeier explains that as mega-scale solar parks are located in cheap, high-radiation land, far from load centres, sometimes the LCOP would actually be cheaper from distributed solar generation. The report also aims to show the costs reductions for large-scale projects are more immediate, driving the market

forward. Engelmeier says larger infrastructure projects are favoured by policy makers, “as they fall into existing categories of institutional decision making, but what hasn’t been pushed enough in India is the distributed generation opportunity – and that is very large.”

Rooftop

For smaller rooftop systems, there is more work in “creating a market, which relies on reliable policies, like net metering, or creating consumer finance options, it is very different”, says Goel. Engelmeier suggests that the larger scale solar market is easier to execute because the government can provide support directly, but for the small-scale market – a more long-term, sustainable market - “the government needs to create the right ecosystem for it”.

Goel says “tactical consumer financing” is needed to open the market to the millions of customers required to kick start the distribution market ecosystem. “At the moment there are few installers in the country, few installations, the whole system is not yet functioning probably,” adds Engelmeier.

An ecosystem can be created “through having more professional sales structures, installation companies and financing mechanisms”, says Engelmeier. This development would allow for cost reductions in the rooftop sector. Taking in limiting factors such as space and grid capacity, however, Engelmeier says India could do 100GW-plus of residential and commercial rooftop.

Engelmeier also adds the report shows how solar can be integrated with the existing grid structure, without threatening other generation markets. “Solar should be a very large chunk of India’s future energy needs, a large chunk that is feasible in the next 10 years and does not destabilise the existing power systems – to get everyone on board is a big thing.”

New government

The government still “needs to help set the scene” for solar says Engelmeier, until “substantial parity” is met and the market takes off by itself. Goel says there has been a lot of talk from the new government, and the report shows how national targets can be met using solar.

“We’ve been hearing a lot about ambitions from the new government, about more electricity for the poor and getting away from power deficits, we have been very encouraged by this, and we hope this report will provide a starting point; a blue print for solving energy problems in as many ways as possible,” says Goel.

SOLAR ENERGY TO CREATE 6.7 LAKH JOBS IN INDIA OVER NEXT 10 YEARS: REPORT**SEPTEMBER 2, 2014**[WALL STREET ONLINE](#)

Bisher ist der Solarmarkt in Indien eher ein Schatten seiner selbst. Einem Report von Tata Power Solar und Bridge to India wird nun über die Aussichten für die kommenden zehn Jahre berichtet, welche Chancen für ein rasantes Wachstum aufzeigen.

Analysten von Tata Power Solar und Bridge to India haben sich in einem Bericht zu den Optionen für das Wachstum des indischen Solarmarktes auseinandergesetzt. Darin werden Möglichkeiten für die Gesetzgeber aufgezeigt, um ein hohes Wachstum auf dem Subkontinent zu erzielen.

In dem Bericht werden vier Szenarien verglichen, die jeweils einen unterschiedlichen Ansatz beim Zubau bieten. So wird unterschieden zwischen einem vorrangigen Zubau mit dachgebundenen Anlagen im privaten Bereich oder auf großen Gebäuden und Solarkraftwerke oder riesigen Solarparks, die im Bericht als ultra-mega-Projekte bezeichnet werden.

Das mögliche Zubaupotential der vier Szenarien liegt dem Bericht zufolge zwischen 110 und 145 GW in den kommenden zehn Jahren. Auch ist eine Neuschaffung von 675.000 Arbeitsplätzen denkbar. Tobias Engelmeier von Bridge to India sagte, dass die größte Herausforderung sei, das richtige Szenario zu wählen. Mit einem dachgebundenen Zubau würde in Indien vor allem ein Verbrauchermarkt entstehen, mit großen Anlagen entstünde hingegen ein Infrastrukturmarkt.

SOLAR ENERGY TO CREATE 6.7 LAKH JOBS IN INDIA OVER NEXT 10 YEARS: REPORT

SEPTEMBER 2, 2014

[ENERGY NEXT](#)

Solar energy in India is likely to create a capacity of 145 GW and a job creation of around 1.7 lakh over the next ten years. This was revealed in a report jointly released by Tata Power Solar and Bridge to India.

The report titled- 'How should India drive its solar transformation? Beehives or Elephants' - compares four distinct scenarios of solar power generation. The four scenarios comprise residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants).

Each scenario is analysed in terms of not only levelised cost of energy (LCOE) but also landed cost of power (LCOP) which measures the cost to a consumer at the point of consumption, rather than at the point of generation. The LCOP, in certain scenarios could be as much as 30 per cent higher than LCOE, and should become the de-facto economic metric for India to examine various power options.

Commenting on the report, Ajay Goel, CEO, Tata Power Solar, said, "Solar is unique in its limitless potential for power generation – from distributed to centralised generation, and residential KW to GW scale solar plants, the permutations are endless." He stressed that in order to solarise the economy, there has to be right pathways that will have both economic as well as social impact.

Highlighting the key findings of the report, Dr. Tobias Engelmeier, Founder & Director, Bridge to India, said that the feasible potential of solar energy in India was anywhere between 110 GW to 145 GW across different types of systems. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years. But, the real issue is to choose the best way for India to go solar which entails a fair choice between millions of small systems ("bees") on one end of a spectrum and a few very large systems ("elephants") on the other, the former creating a consumer market and the latter an infrastructure market," he noted.

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6/kWh and a landed cost of Rs 8.4/kWh are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years. In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6/kWh and a landed cost of Rs 6.7/kWh by 2024.

The findings of the report also indicate that rooftop projects can lead to significantly higher job creation than larger projects. The small rooftop scenario would contribute the most, with around 325,000 new jobs for 25 GW.

India has the potential to become one of the largest transformative solar markets in the world, free of subsidies and with a thriving solar value creation ecosystem. However, it must strike a balance among the various ramp-up opportunities it has – both via central and distributed generation. Thus, the report recommends specific actions in each of these areas.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 2, 2014****[SHINE](#)**

Solar power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report. Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar.

It examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation residential rooftops, large rooftops, utility scale projects and ultra-mega projects. Each scenario is analysed in terms of not only levelised cost of energy but also landed cost of power which measures the cost to a consumer at the point of consumption, rather than at the point of generation.

Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation from distributed to centralised generation, and residential KW (kilowatt) to GW (gigawatt) scale solar plants, the permutations are endless. "To solarise our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject," Goel said.

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation. Tobias Engelmeier, Founder & Director, Bridge To India, said, "The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years."

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years.

In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024. The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

**INDIA MAY ADD 145 GW OF SOLAR BY 2024 – REPORT
SEPTEMBER 2, 2014**

[SEE NEWS RENEWABLES](#)

The Indian solar market can expand to 145 GW and create 670,000 jobs in the next 10 years, solar advisory Bridge to India and power producer Tata Power (BOM:500400) say in a report.

SOLAR ENERGY TO CREATE 6.7 LAKH JOBS IN INDIA IN NEXT 10 YEARS**SEPTEMBER 2, 2014****GREEN TECH LEAD**

The solar power generation in India will create around seven lakh jobs in next 10 years, says a report jointly prepared by Bridge To India and Tata Power Solar.

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years.

The solar energy target set by India creates an opportunity of US\$ 41.73 billion in the market up to 2022.

The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems.

To solarize the economy, it is important to find the right mix of pathways that will have both economic as well as social impact. This unique report is expected to trigger a robust dialogue on the subject, noted, Ajay Goel, CEO, Tata Power Solar.

The reports give an account of the solar road map for India through comparative analysis of residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Each scenario is analyzed in terms of leveled cost of energy and landed cost of power which measures the cost to a consumer at the point of consumption.

The four scenarios together will create over 6,75,000 solar jobs in India in the next 10 years, says the report.

Currently, the ultra-mega plants with a leveled generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are appealing in the market.

INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE, SAYS REPORT

SEPTEMBER 2, 2014

ECO BUSINESS

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30 per cent higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

"But the real issue," Engelmeier added, "is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market."

Coal parity

The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

"Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless," said Tata Power Solar CEO Ajay Goel. "To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact."

The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

SOLAR ENERGY CAN CREATE UP TO 145 GW OF CAPACITY IN INDIA**SEPTEMBER 2, 2014****[EV WIND](#)**

A joint report on “How should India drive its solar transformation? Beehives or Elephants” was released today by Bridge To India, a leading consulting services and knowledge provider in the Indian cleantech market, and Tata Power Solar, India’s largest integrated solar player.

The report compares four distinct scenarios of solar power generation – residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants). Each scenario is analysed in terms of not only levelized cost of energy (LCOE) but also landed cost of power (LCOP) which measures the cost to a consumer at the point of consumption, rather than at the point of generation. The LCOP, in certain scenarios could be as much as 30% higher than LCOE, and should become the de-facto economic metric for India to examine various power options.

Commenting on the report, Ajay Goel, CEO, Tata Power Solar, said, “Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential KW to GW scale solar plants, the permutations are endless. To solarize our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject.”

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation.

Highlighting the key findings of the report, Dr. Tobias Engelmeier, Founder & Director, Bridge To India, said, “The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems. The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years. But, the real issue is to choose the best way for India to go solar which entails a fair choice between millions of small systems (“bees”) on one end of a spectrum and a few very large systems (“elephants”) on the other, the former creating a consumer market and the latter an infrastructure market.”

The report shows that currently the ultra-mega plants with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 8.4/kWh are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years. In the long term, large rooftop systems will be the cheapest option for Indian with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 6.7/kWh by 2024.

The report also leads us to the fact that while the levelized generation cost of large ultra-mega plants seems attractive, policy makers and investors should evaluate the landed cost of power, given the much higher related infrastructure requirements and the technical and commercial losses in the grid.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 325,000 new jobs for 25 GW.

India has the potential to become one of the largest transformative solar markets in the world, free of subsidies and with a thriving solar value creation ecosystem. However, it must strike a balance among the various ramp-up opportunities it has – both via central and distributed generation. Thus, the report recommends specific actions in each of these areas.

SOLAR ENERGY TO CREATE 6.7 LAKH JOBS IN INDIA IN NEXT 10 YEARS**SEPTEMBER 2, 2014****INFRA LINE ENERGY**

The solar power generation in India will create around seven lakh jobs in next 10 years, says a report jointly prepared by Bridge To India and Tata Power Solar.

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years.

The solar energy target set by India creates an opportunity of US\$ 41.73 billion in the market up to 2022.

The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems.

To solarize the economy, it is important to find the right mix of pathways that will have both economic as well as social impact. This unique report is expected to trigger a robust dialogue on the subject, noted, Ajay Goel, CEO, Tata Power Solar.

The reports give an account of the solar road map for India through comparative analysis of residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Each scenario is analyzed in terms of leveled cost of energy and landed cost of power which measures the cost to a consumer at the point of consumption.

The four scenarios together will create over 6,75,000 solar jobs in India in the next 10 years, says the report.

Currently, the ultra-mega plants with a leveled generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are appealing in the market.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 2, 2014****[CLEAN ENERGY INFO](#)**

Solar power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report.

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar. It examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation – residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

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Tobias Engelmeier, Founder & Director, Bridge To India, said, “The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years.”

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In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

INDIA POISED TO BE WORLD SOLAR LEADER – ADDING 145GW IN 10 YEARS

SEPTEMBER 2, 2014

PEAK ENERGY

India's raft of ambitious plans and policies to ramp up national solar development have been generating plenty of headlines over the past few months, and new data has suggested the best-case scenario for India's solar sector could boost the sub-continent's PV capacity by more than 140GW over the next decade. In a report by Tata Power Solar and cleantech experts Bridge to India, analysts argue that India's solar potential is huge enough to revolutionise the nation's energy mix, as long as decision-makers followed the best possible solar roadmap.

The report, *How should India drive its solar transformation? Beehives or Elephants*, compares four different scenarios, each with a different solar focus – residential rooftops (solar bees); large rooftops (solar pigeons); utility-scale (solar horses); and ultra-mega projects (solar elephants) – evaluating their potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110GW to 145GW across (all four) different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years."

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In a report by Tata Power Solar and cleantech experts Bridge to India, analysts argue that India's solar potential is huge enough to revolutionise the nation's energy mix, as long as decision-makers followed the best possible solar roadmap.

The report, How should India drive its solar transformation? Beehives or Elephants, compares four different scenarios, each with a different solar focus – residential rooftops (solar bees); large rooftops (solar pigeons); utility-scale (solar horses); and ultra-mega projects (solar elephants) – evaluating their potential speed of deployment, implementation challenges and job creation potential.

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"But the real issue, is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market," Engelmeier said.

According to PV Magazine, the analysts compared each scenario in terms of landed cost of power (LCOP) – the cost to the consumer at the point of consumption – and levelised cost of energy (LCOE).

While LCOE is the more traditional gauge of renewables generation costs, analysts at Bridge to India and Tata argue that LCOP, which can be as much as 30 per cent higher than LCOE, should become the new economic metric for measuring India's solar potential.

The report calculates that the LCOE for ultra-mega plants in India is 6.6 rupees per kWh (\$US0.10c/kWh), with LCOP at 8.4R/kWh (\$US0.14c) – already comparable to imported coal (Bloomberg New Energy Finance has predicted that solar PV in India will best both gas and coal on costs by 2020). And with the price of coal expected to increase, the other three scenarios would also be expected to reach parity during that time.

This graph below – from a concurrent report by Deutsche Bank – shows how the levelised cost of solar in India (and China) is cheaper than in other countries. And it shows how India's solar capacity has jumped from basically nothing in the last few years. Its previous National Solar Mission target was for 22GW by 2020 – less than one sixth of what is now thought possible.

Longer-term, the Tata Power report suggests that large rooftop solar systems – the pigeons – will prove the cheapest option, achieving an LCOE of \$US0.10/kWh and an LCOP of just \$US0.11/kWh by 2024.

The "solar bees" approach – with a focus on small rooftop projects – is shown by the report to have the best outcome for India's economy, offering the potential to add 325,000 jobs and 25GW of PV capacity.

“Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless,” said Tata Power Solar CEO Ajay Goel. “To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact.”

SOLAR ENERGY TO CREATE 6.7 LAKH JOBS IN INDIA IN NEXT 10 YEARS**SEPTEMBER 2, 2014****[I DATA INSIGHTS](#)**

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years.

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To solarize the economy, it is important to find the right mix of pathways that will have both economic as well as social impact. This unique report is expected to trigger a robust dialogue on the subject, noted, Ajay Goel, CEO, Tata Power Solar.

The reports give an account of the solar road map for India through comparative analysis of residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Each scenario is analyzed in terms of leveled cost of energy and landed cost of power which measures the cost to a consumer at the point of consumption.

The four scenarios together will create over 6,75,000 solar jobs in India in the next 10 years, says the report.

Currently, the ultra-mega plants with a leveled generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are appealing in the market.

NO ALTERNATIVE FOR INDIA ENERGY BUT 'SOLAR REVOLUTION

SEPTEMBER 2, 2014

[EIN](#)

Manufacturer and developer, Tata Power Solar and analyst, Bridge to India have just released a report stating solar in India is already cost-competitive with imported coal, and will be level with domestic coal generation by 2019.

An inevitable “solar revolution” is just around the corner for India, predicts Bridge’s managing director, Tobias Engelmeier. “There isn’t really an alternative. Coal is limited, other resources are limited; solar is the one thing that is available in almost unlimited quantities,” he says.

“A lot of people have been pessimistic and sceptical over the last year, but the report shows the potential is actually higher than [current national targets],” adds Engelmeier.

Tata Power and Bridge to India worked on the report, ‘Beehives or elephants? How should India drive its solar transformation?’, for a little over six months. It looks at all types of on-grid solar generation, naming small rooftop solar “bees”, larger commercial and residential rooftop systems, “pigeons”, utility-scale projects “horses” and mega-scale solar “elephants”.

Talking to PV Tech, Engelmeier and Tata Power Solar CEO, Ajay Goel say the report highlights the difference between the cost of power at generation – the levelised cost of energy (LCOE) - and the cost at consumption – the ‘landing cost of power’ (LCOP).

Goel says the report scrutinises “everything for each scenario to find out the real cost of power when it gets to the customer”. “The idea was to come up with a thought provoking way to look at the different opportunities,” he says.

Engelmeier explains that while India has been successful in utility-scale solar, from 20-50MW in size, the announcements of mega-solar parks and the development of much smaller distributed rooftop solar, there is still has “too little understanding” of the “merits and demerits” of each scale for policy makers. The report aims to set the record straight.

“We are talking about very different types of markets,” says Engelmeier. “There is a role for all types [of solar] in India, but not one at the expense of the other.”

The report focuses on looking at solar as different to other renewables, due to the flexibility in deployment scales: from mega-gigawatt solar power plants, to a couple of kW systems on small houses.

The report is aimed at everyone from investors to developers, installers and homeowners, to policy makers.

Mega solar

Engelmeier says the development of mega-scale solar is a large infrastructure task which requires investment in transmission distribution infrastructure. “There are only a few key players in the market that would be able to work on something like that.”

Goel adds that transmission infrastructure can be 300-400km, and can include balancing power from fossil fuel plants or storage.

Engelmeier explains that as mega-scale solar parks are located in cheap, high-radiation land, far from load centres, sometimes the LCOP would actually be cheaper from distributed solar generation.

The report also aims to show the costs reductions for large-scale projects are more immediate, driving the market forward. Engelmeier says larger infrastructure projects are favoured by policy makers, “as they fall into existing categories of institutional decision making, but what hasn’t been pushed enough in India is the distributed generation opportunity – and that is very large.”

Rooftop

For smaller rooftop systems, there is more work in “creating a market, which relies on reliable policies, like net metering, or creating consumer finance options, it is very different”, says Goel.

Engelmeier suggests that the larger scale solar market is easier to execute because the government can provide support directly, but for the small-scale market – a more long-term, sustainable market - “the government needs to create the right ecosystem for it”.

Goel says “tactical consumer financing” is needed to open the market to the millions of customers required to kick start the distribution market ecosystem. “At the moment there are few installers in the country, few installations, the whole system is not yet functioning probably,” adds Engelmeier.

An ecosystem can be created “through having more professional sales structures, installation companies and financing mechanisms”, says Engelmeier. This development would allow for cost reductions in the rooftop sector.

Taking in limiting factors such as space and grid capacity, however, Engelmeier says India could do 100GW-plus of residential and commercial rooftop.

Engelmeier also adds the report shows how solar can be integrated with the existing grid structure, without threatening other generation markets. “Solar should be a very large chunk of India’s future energy needs, a large chunk that is feasible in the next 10 years and does not destabilise the existing power systems – to get everyone on board is a big thing.”

New government

The government still “needs to help set the scene” for solar says Engelmeier, until “substantial parity” is met and the market takes off by itself.

Goel says there has been a lot of talk from the new government, and the report shows how national targets can be met using solar.

“We’ve been hearing a lot about ambitions from the new government, about more electricity for the poor and getting away from power deficits, we have been very encouraged by this, and we hope this report will provide a starting point; a blue print for solving energy problems in as many ways as possible,” says Goel.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS

SEPTEMBER 2, 2014

[WISDOM JOBS](#)

Solar energy may generate up to 1,45,000 MW of capacity and 6.7 lakh jobs in India coming 10 years. Solar energy enables to create nearly seven lakh jobs in the country in the next 10 years as per a report by Bridge To India and Tata Power Solar. The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation. Solar energy can create 6.7 lakh jobs in India in 10 years.

INDIA COULD ADD '145GW IN TEN YEARS'

SEPTEMBER 2, 2014

[BUSINESS SPECTATOR](#)

A new report says India could deploy 100-145 GW of solar - the latter set to be equal to 13 per cent of power generation - in the next 10 years, PV-Tech reports.

The report comes just days after analysts Solarbuzz said that China could reach 100 GW of cumulative solar installed by 2018, up from about 20 GW today.

According to PV-Tech, the report – by manufacturer and developer, Tata Power Solar, and solar analyst, Bridge to India – says large-scale solar, which was already viable against imported coal, could be on parity with domestic coal by 2019 (and storage technology will be cost competitive with imported coal by 2017.)

"Comparing different scenarios for various sizes of solar installations across India, the report also predicts solar prices will drop a further 4% by 2024, while coal imports are expected to rise by 12%, and domestic coal prices are to increase by 7%," the website says.

The report found rooftop solar was the best option in terms of costs in the long-term – compared to commercial, utility and mega-utility projects – PV-Tech reports, with Bridge to India saying the rooftop segment could be optimised by “creating a market, which relies on reliable policies, like net metering, or creating consumer finance options”.

INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE, SAYS REPORT**SEPTEMBER 2, 2014****[SUN INFINITE](#)**

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems," said Bridge to India founder and director Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

"But the real issue," Engelmeier added, "is to choose the best way for India to go solar that entails a fair choice between millions of small systems ("bees") on one end of a spectrum, and a few very large systems ("elephants") on the other; the former creating a consumer market and the latter an infrastructure market."

Coal parity

The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

"Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless," said Tata Power Solar CEO Ajay Goel. "To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact."

The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

SOLAR PV INDUSTRY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 2, 2014****HIGH GROUND**

Solar power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report. Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar.

It examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation - residential rooftops, large rooftops, utility scale projects and ultra-mega projects. Each scenario is analysed in terms of not only levelised cost of energy but also landed cost of power which measures the cost to a consumer at the point of consumption, rather than at the point of generation.

Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation - from distributed to centralised generation, and residential KW (kilowatt) to GW (gigawatt) scale solar plants, the permutations are endless. "To solarise our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject," Goel said.

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation. Tobias Engelmeier, Founder & Director, Bridge To India, said, "The realizable potential for solar power generation in India is between 110 GW (1,10,000 MW) to 145 GW (1,45,000 MW) across different types of systems. The four scenarios together could easily create over 6,75,000 solar jobs in India in the next 10 years."

The report shows that currently the ultra-mega plants with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 8.4 per unit are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years.

In the long term, large rooftop systems will be the cheapest option for Indian with a levelised generation cost of Rs 6.6 per unit and a landed cost of Rs 6.7 per unit by 2024. The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 3,25,000 new jobs for 25,000 MW.

SOLAR ENERGY CAN CREATE UP TO 145GW OF CAPACITY AND 6.7 LAKH JOBS IN INDIA OVER NEXT 10 YEARS, SAYS A JOINT REPORT BY BRIDGE TO INDIA AND TATA POWER SOLAR (TATA GROUP - TATA SONS LTD)

SEPTEMBER 2, 2014

[WN](#)

This report examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation - residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Delhi/Bangalore: A joint report on "How should India drive its solar transformation? Beehives or Elephants" was released today by Bridge To India, a leading consulting services and knowledge provider in the Indian cleantech market, and Tata Power Solar, India's largest integrated solar player.

The report compares four distinct scenarios of solar power generation - residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants). Each scenario is analysed in terms of not only levelized cost of energy (LCOE) but also landed cost of power (LCOP) which measures the cost to a consumer at the point of consumption, rather than at the point of generation. The LCOP, in certain scenarios could be as much as 30% higher than LCOE, and should become the de-facto economic metric for India to examine various power options.

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India has the potential to become one of the largest transformative solar markets in the world, free of subsidies and with a thriving solar value creation ecosystem. However, it must strike a balance among the various ramp-up opportunities it has - both via central and distributed generation. Thus, the report recommends specific actions in each of these areas.

NO ALTERNATIVE FOR INDIA ENERGY BUT 'SOLAR REVOLUTION' - INTERVIEW BRIDGE TO INDIA AND TATA POWER SOLAR
SEPTEMBER 2, 2014
[TODAY ECO](#)

Manufacturer and developer, Tata Power Solar and analyst, Bridge to India have just released a report stating solar in India is already cost-competitive with imported coal, and will be level with domestic coal generation by 2019.

An inevitable “solar revolution” is just around the corner for India, predicts Bridge’s managing director, Tobias Engelmeier. “There isn’t really an alternative. Coal is limited, other resources are limited; solar is the one thing that is available in almost unlimited quantities,” he says.

“A lot of people have been pessimistic and sceptical over the last year, but the report shows the potential is actually higher than [current national targets],” adds Engelmeier.

Tata Power and Bridge to India worked on the report, ‘Beehives or elephants? How should India drive its solar transformation?’, for a little over six months. It looks at all types of on-grid solar generation, naming small rooftop solar “bees”, larger commercial and residential rooftop systems, “pigeons”, utility-scale projects “horses” and mega-scale solar “elephants”.

Talking to PV Tech, Engelmeier and Tata Power Solar CEO, Ajay Goel say the report highlights the difference between the cost of power at generation – the levelised cost of energy (LCOE) - and the cost at consumption – the ‘landing cost of power’ (LCOP).

Goel says the report scrutinises “everything for each scenario to find out the real cost of power when it gets to the customer”. “The idea was to come up with a thought provoking way to look at the different opportunities,” he says.

Engelmeier explains that while India has been successful in utility-scale solar, from 20-50MW in size, the announcements of mega-solar parks and the development of much smaller distributed rooftop solar, there is still has “too little understanding” of the “merits and demerits” of each scale for policy makers. The report aims to set the record straight.

“We are talking about very different types of markets,” says Engelmeier. “There is a role for all types [of solar] in India, but not one at the expense of the other.”

The report focuses on looking at solar as different to other renewables, due to the flexibility in deployment scales: from mega-gigawatt solar power plants, to a couple of kW systems on small houses.

The report is aimed at everyone from investors to developers, installers and homeowners, to policy makers.

Mega solar

Engelmeier says the development of mega-scale solar is a large infrastructure task which requires investment in transmission distribution infrastructure. “There are only a few key players in the market that would be able to work on something like that.”

Goel adds that transmission infrastructure can be 300-400km, and can include balancing power from fossil fuel plants or storage.

Engelmeier explains that as mega-scale solar parks are located in cheap, high-radiation land, far from load centres, sometimes the LCOP would actually be cheaper from distributed solar generation.

The report also aims to show the costs reductions for large-scale projects are more immediate, driving the market forward. Engelmeier says larger infrastructure projects are favoured by policy makers, “as they fall into existing categories of institutional decision making, but what hasn’t been pushed enough in India is the distributed generation opportunity – and that is very large.”

Rooftop

For smaller rooftop systems, there is more work in “creating a market, which relies on reliable policies, like net metering, or creating consumer finance options, it is very different”, says Goel.

Engelmeier suggests that the larger scale solar market is easier to execute because the government can provide support directly, but for the small-scale market – a more long-term, sustainable market - “the government needs to create the right ecosystem for it”.

Goel says “tactical consumer financing” is needed to open the market to the millions of customers required to kick start the distribution market ecosystem. “At the moment there are few installers in the country, few installations, the whole system is not yet functioning probably,” adds Engelmeier.

An ecosystem can be created “through having more professional sales structures, installation companies and financing mechanisms”, says Engelmeier. This development would allow for cost reductions in the rooftop sector.

Taking in limiting factors such as space and grid capacity, however, Engelmeier says India could do 100GW-plus of residential and commercial rooftop.

Engelmeier also adds the report shows how solar can be integrated with the existing grid structure, without threatening other generation markets. “Solar should be a very large chunk of India’s future energy needs, a large chunk that is feasible in the next 10 years and does not destabilise the existing power systems – to get everyone on board is a big thing.”

New government

The government still “needs to help set the scene” for solar says Engelmeier, until “substantial parity” is met and the market takes off by itself. Goel says there has been a lot of talk from the new government, and the report shows how national targets can be met using solar. “We’ve been hearing a lot about ambitions from the new government, about more electricity for the poor and getting away from power deficits, we have been very encouraged by this, and we hope this report will provide a starting point; a blue print for solving energy problems in as many ways as possible,” says Goel.

COLOURFUL OPTIONS FOR INDIA'S SOLAR FUTURE: BEEHIVES, PIGEONS, HORSES AND/OR ELEPHANTS**SEPTEMBER 3, 2014****SOLAR CHOICE**

India has the potential to grow its solar PV capacity by more than 140GW over the next decade if it chooses the right policy path, a new report has found.

The report – How should India drive its solar transformation? Beehives or Elephants, by Tata Power Solar and cleantech experts Bridge to India – argues that solar could revolutionise India's energy mix, as long as decision-makers followed the best possible roadmap.

The researchers compared four different scenarios, each with a different solar focus – residential rooftops (solar bees); large rooftops (solar pigeons); utility-scale (solar horses); and ultra-mega projects (solar elephants) – evaluating their potential speed of deployment, implementation challenges and job creation potential.

“The realizable potential for solar power generation in India is between 110GW to 145GW across (all four) different types of systems,” said Bridge to India founder and director Tobias Engelmeier. “The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

“But the real issue, is to choose the best way for India to go solar that entails a fair choice between millions of small systems (“bees”) on one end of a spectrum, and a few very large systems (“elephants”) on the other; the former creating a consumer market and the latter an infrastructure market,” Engelmeier said.

Longer-term, the report suggests that large rooftop solar systems – the pigeons – will prove the cheapest option, achieving an LCOE of \$US0.10/kWh and an LCOP of just \$US0.11/kWh by 2024.

The “solar bees” approach – with a focus on small rooftop projects – is shown to have the best outcome for India's economy, offering the potential to add 325,000 jobs and 25GW of PV capacity.

According to PV Magazine, the analysts compared each scenario in terms of landed cost of power (LCOP) – the cost to the consumer at the point of consumption – and levelised cost of energy (LCOE).

While LCOE is the more traditional gauge of renewables generation costs, analysts at Bridge to India and Tata argue that LCOP, which can be as much as 30 per cent higher than LCOE, should become the new economic metric for measuring India's solar potential.

The report calculates that the LCOE for ultra-mega plants in India is 6.6 rupees per kWh (\$US0.10c/kWh), with LCOP at 8.4R/kWh (\$US0.14c) – already comparable to imported coal (Bloomberg New Energy Finance has predicted that solar PV in India will best both gas and coal on costs by 2020).

And with the price of coal expected to increase, the other three scenarios would also be expected to reach parity during that time.

INDIA COULD ADD '145GW IN TEN YEARS'**SEPTEMBER 3, 2014****[THE AUSTRALIAN](#)**

A new report says India could deploy 100-145 GW of solar - the latter set to be equal to 13 per cent of power generation - in the next 10 years, PV-Tech reports.

The report comes just days after analysts Solarbuzz said that China could reach 100 GW of cumulative solar installed by 2018, up from about 20 GW today.

According to PV-Tech, the report – by manufacturer and developer, Tata Power Solar, and solar analyst, Bridge to India – says large-scale solar, which was already viable against imported coal, could be on parity with domestic coal by 2019 (and storage technology will be cost competitive with imported coal by 2017.)

"Comparing different scenarios for various sizes of solar installations across India, the report also predicts solar prices will drop a further 4% by 2024, while coal imports are expected to rise by 12%, and domestic coal prices are to increase by 7%," the website says.

The report found rooftop solar was the best option in terms of costs in the long-term – compared to commercial, utility and mega-utility projects – PV-Tech reports, with Bridge to India saying the rooftop segment could be optimised by “creating a market, which relies on reliable policies, like net metering, or creating consumer finance options”.

SOLAR ENERGY CAN CREATE 6.7 LAKH JOBS IN INDIA IN 10 YEARS**SEPTEMBER 3, 2014****[SILICON INDIA](#)**

Solar power generation has the potential to create close to seven lakh jobs in the country in the next 10 years, says a report.

Solar energy can create up to 1,45,000 MW of capacity and 6.7 lakh jobs in India over next 10 years, said the report, jointly prepared by Bridge To India and Tata Power Solar.

It examines the ideal solar road map for India through comparative analysis of four distinct scenarios of solar power generation - residential rooftops, large rooftops, utility scale projects and ultra-mega projects.

Each scenario is analysed in terms of not only levelised cost of energy but also landed cost of power which measures the cost to a consumer at the point of consumption, rather than at the point of generation.

Ajay Goel, CEO, Tata Power Solar, said, solar is unique in its limitless potential for power generation - from distributed to centralised generation, and residential KW (kilowatt) to GW (gigawatt) scale solar plants, the permutations are endless.

"To solarise our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject," Goel said.

INDIA'S IDEAL SOLAR ROADMAP COULD ADD 145 GW OF PV WITHIN DECADE**SEPTEMBER 3, 2014****[AROS](#)**

The potential for solar power to completely transform India's energy mix is vast – provided the country's decision-makers follow the most fruitful solar roadmap, argue analysts at Bridge to India and Tata Power Solar .

Their joint report, titled How should India drive its solar transformation? Beehives or Elephants, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110 GW and 145 GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

'The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems,' said Bridge to India founder and director Tobias Engelmeier. 'The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.'

'But the real issue,' Engelmeier added, 'is to choose the best way for India to go solar that entails a fair choice between millions of small systems ('bees') on one end of a spectrum, and a few very large systems ('elephants') on the other; the former creating a consumer market and the latter an infrastructure market.'

Coal parity

The report calculates that the LCOE for ultra-mega plants in India is INR 6.6/kWh, with LCOP at INR 8.4/kWh – an already-attractive rate that is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems – the pigeons – will prove the cheapest option for Indian solar, achieving an LCOE of INR 6.6/kWh and an LCOP of just INR 6.7/kWh by 2024.

'Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless,' said Tata Power Solar CEO Ajay Goel. 'To solarize our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact.'

The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities. Workers and bees appears to be the best fit, however, with the small rooftop scenario able to add 325,000 jobs and 25 GW of PV capacity.

The key to achieving this growth, the report suggests, is striking a correct balance between the four scenarios, and accurately pitching ramp-up opportunities via both central and distributed generation.

INDIA SOLAR ROADMAP TARGETS 145,000 MW OF SOLAR IN NEXT 10 YEARS**SEPTEMBER 3, 2014****INDUSTRY NEWS**

A new report from Bridge to India and Tata Power Solar shows that India could install 110,000 MW to 145,000 MW (145 GW) of solar power in the next 10 years. The title of the report is "How should India drive its solar transformation? Beehives or Elephants."

It looks at four different scenarios for India's solar power policies and market in the coming 10 years: "one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants)," as pv magazine puts it.

"Indian cleantech experts Bridge to India analyzed each scenario in terms of landed cost of power (LCOP) – which measures the cost of solar power to the consumer at the point of consumption rather than generation – alongside the more traditional levelized cost of energy (LCOE). Analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30% higher than LCOE, should become the de-facto economic metric for measuring India's solar potential."

General findings are that ultra-mega plants are already competitive with coal (LCOE = INR 6.6/kWh; LCOP = INR 8.4/kWh), large rooftop systems are probably the cheapest in the long term (LCOE = INR 6.6/kWh; LCOP = INR 6.7/kWh by 2024), and the small rooftop scenario (bees) could generate the most jobs, 325,000.

The report doesn't recommend one scenario over the others but recommends a balanced approach that reaps the benefits of each.

REPORT: INDIA COULD ADD 145GW SOLAR IN 10 YEARS**SEPTEMBER 3, 2014****[ECO NEWS](#)**

According to a report prepared by Indian solar manufacturer and developer, Tata Power Solar, and solar analyst, Bridge to India, the country could deploy up to 145 gigawatt (GW) of solar photovoltaic power with a decade. Provided the country's decision-makers follow the most fruitful solar roadmap, the two argue the potential for solar power to completely transform India's energy mix is vast.

Their joint report, titled *How should India drive its solar transformation? Beehives or Elephants*, compared four distinct solar scenarios for India's future: one driven by residential rooftops (solar bees); one led by large rooftops (solar pigeons); a utility-scale future (solar horses), or a strategy built around ultra-mega projects (solar elephants).

PV Magazine reports that Bridge to India analysed each scenario in terms of landed cost of power (LCOP). LCOP measures the cost of solar power to the consumer at the point of consumption rather than generation, alongside the more traditional levelised cost of energy (LCOE).

PV Magazine reports analysts at both Bridge to India and Tata Power Solar believe that the LCOP, which can be as much as 30 per cent higher than LCOE, should become the de-facto economic metric for measuring India's solar potential.

In doing so, India could add between 110GW and 145GW of solar power over the next ten years cumulatively across the four scenarios, say the report's authors, who evaluated each scenario's potential speed of deployment, implementation challenges and job creation potential.

"The realisable potential for solar power generation in India is between 110GW to 145GW across different types of systems," said Bridge to India founder and director Dr Tobias Engelmeier. "The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years.

PV Magazine says the report calculates that the LCOE for ultra-mega plants in India is close to grid parity with imported coal. As coal is expected to increase in cost over the next few years, the other three scenarios should soon be able to reach coal parity during that time, the report suggests.

Longer-term, the report suggests that large rooftop systems will prove the cheapest option for Indian solar. "Solar is unique in its limitless potential for power generation, from distributed to centralized generation, and residential kW to GW-scale solar plants, the permutations are endless," said Tata Power Solar CEO Ajay Goel.

"To solarise our economy, it is important to find the right mixture of pathways that will have both economic as well as social impact." The report also suggests that rooftop projects will prove better for the economy than large-scale projects, creating significantly more job opportunities.

2028: 'NEGEN LANDEN MET MEER DAN VIJF GIGAWATT, CHINA HONDERD GIGAWATT'**SEPTEMBER 3, 2014****[SOLAR MAGAZINE](#)**

NPD Solarbuzz voorspelt dat er in 2028 tenminste negen landen met meer dan vijf gigawatt geïnstalleerd vermogen zijn.

China (honderd gigawatt) zal de dans leiden, gevolgd door Japan, Amerika en India. Tegelijkertijd voorspellen Tata Power Solar en Bridge to India in een andere rapportage dat het geïnstalleerd pv-vermogen in India wel eens kan toenemen tot 145 gigawatt in de komende tien jaar.

De voorspellingen van NPD Solarbuzz lijken overigens aan de voorzichtige kant door al een fors aantal meer landen de grens van vijf gigawatt voor 2020 wil doorbreken, waaronder mogelijk ook Nederland dat werkt met ramingen van vier tot zes gigawatt in 2020.

SOLAR ENERGY CAN CREATE UP TO 145GW OF CAPACITY AND 6.7 LAKH JOBS IN INDIA OVER NEXT 10 YEARS**SEPTEMBER 5, 2014****[INDIA EDUCATION DIARY](#)**

A joint report on “How should India drive its solar transformation? Beehives or Elephants” was released today by Bridge To India, a leading consulting services and knowledge provider in the Indian cleantech market, and Tata Power Solar, India’s largest integrated solar player.

The report compares four distinct scenarios of solar power generation – residential rooftops (solar bees), large rooftops (solar pigeons), utility scale projects (solar horses) and ultra-mega projects (solar elephants). Each scenario is analysed in terms of not only levelized cost of energy (LCOE) but also landed cost of power (LCOP) which measures the cost to a consumer at the point of consumption, rather than at the point of generation. The LCOP, in certain scenarios could be as much as 30% higher than LCOE, and should become the de-facto economic metric for India to examine various power options.

Commenting on the report, Ajay Goel, CEO, Tata Power Solar, said, “Solar is unique in its limitless potential for power generation – from distributed to centralized generation, and residential KW to GW scale solar plants, the permutations are endless. To solarize our economy, it is important to find the right mix of pathways that will have both economic as well as social impact. We hope that this unique and thought-provoking report will trigger a robust dialogue on the subject.”

The objective of the report is to evaluate each of the four distinct scenarios in terms of speed of deployment, implementation challenges and potential for job creation.

Highlighting the key findings of the report, Dr. Tobias Engelmeier, Founder & Director, Bridge To India, said, “The realizable potential for solar power generation in India is between 110 GW to 145 GW across different types of systems. The four scenarios together could easily create over 675,000 solar jobs in India in the next 10 years. But, the real issue is to choose the best way for India to go solar which entails a fair choice between millions of small systems (“bees”) on one end of a spectrum and a few very large systems (“elephants”) on the other, the former creating a consumer market and the latter an infrastructure market.”

The report shows that currently the ultra-mega plants with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 8.4/kWh are most attractive and are already at parity with imported coal. With an expected rise in imported coal prices, all the other three scenarios will also be able to achieve parity with imported coal over the next three years. In the long term, large rooftop systems will be the cheapest option for Indian with a levelized generation cost of INR 6.6/kWh and a landed cost of INR 6.7/kWh by 2024.

The report also leads us to the fact that while the levelized generation cost of large ultra-mega plants seems attractive, policy makers and investors should evaluate the landed cost of power, given the much higher related infrastructure requirements and the technical and commercial losses in the grid.

The findings of the report also indicate that Rooftop projects can lead to significantly higher job creation than large projects. The small rooftop scenario would contribute the most, with around 325,000 new jobs for 25 GW.

India has the potential to become one of the largest transformative solar markets in the world, free of subsidies and with a thriving solar value creation ecosystem. However, it must strike a balance among the various ramp-up opportunities it has – both via central and distributed generation. Thus, the report recommends specific actions in each of these areas.

INDIA SHOULD GO SOLAR TO BRING DOWN CARBON EMISSION, SAYS CLIMATE CHANGE EXPERT FROM UK**SEPTEMBER 6, 2014**[JAGRAN POST](#)

On a mass scale, solar energy would be economical to coal-fired thermal energy, he added. "India has already reached a point where installation of large scale photovoltaic (PV) energy sources is on priority with coal, if you look at imported coal and as India develops its energy demands, you will either go for more import of coal or you can install PV. I am going to argue that it is in India's economic benefit to go down this route," King said.

A recent report prepared by Bridge to India and Tata Power Solar says that India has the potential to create 1,45,000 MW of capacity and 6.7 lakh jobs in solar power sector over the next 10 years. The British representative Sir David King was in New Delhi to meet Indian officials, ahead of the Climate Summit convened by UN Secretary General Ban Ki-moon in New York on September 23.

TIME FOR INDIA TO SHIFT FROM COAL TO SOLAR POWER, SAYS UK ENVOY ON CLIMATE CHANGE**SEPTEMBER 6, 2014****DOMAIN B**

UK's special representative on climate change Sir David King has called on India to take the solar energy route to bring down carbon emissions. This, he said, can be achieved without compromising on its developmental goals as solar energy, on a massive scale, would be economical to coal-fired thermal energy.

"India has already reached a point where installation of large scale photovoltaic (PV) energy sources is on priority with coal, if you look at imported coal and as India develops its energy demands, you will either go for more import of coal or you can install PV. I am going to argue that it is in India's economic benefit to go down this route," King was quoted as saying in an interview given to Indian Science Journal (ISJ) recently.

According to a recent report jointly prepared by Bridge to India and Tata Power Solar, India has the potential to create 1,45,000 MW of capacity and 6.7 lakh jobs in solar power sector over the next 10 years.

King was in New Delhi to meet Indian officials, ahead of the Climate Summit convened by UN Secretary General Ban Ki-moon in New York on 23 September, to build momentum for a new universal agreement on climate change. While more than 125 world leaders are expected to attend the summit, Indian Prime Minister Narendra Modi and President Xi Jinping of China are skipping the day-long meeting.

Though the absence of Indian and Chinese leaders undercuts the summit, Sir King hopped, India will alternatively send a very senior functionary. India and China together account for nearly a third of total emissions in the world. While Europe and the United States have stabilised carbon footprints, it is growing in the two Asian majors.

"I very much hope that heads of states from as many countries as possible will attend. If they stays down to attend for very good reasons, and many will have good reasons, then I also hope they will send very senior members of their government to the meeting."

India holds the future global climate deal must fulfill the principles of equity and common but differentiated responsibilities (CBDR) under UN convention. Sir King endorsed Indian stand and said he is 'right behind that'.

"I am simply saying you should demand more from OECD countries and we have to allow in the growing economies and in the LDCs (Least Developed Countries) full development growth, but with transfer of technology, so we get to that point of all reducing their emission in the longer run," he said.