

# RENEWABLE ENERGY TRAINING PROGRAMMES AND JOBS



**GANAPATI GROUP**





# Graduation or Diploma

Completed or about to complete

WHAT NEXT



# Engineer



m.tech

MBA

Teacher

job

IES





LOOKING FOR A  
JOB!

# Engineering Education & Jobs

Pass Out Year	Intake Year	No. of Graduates	No. of IT jobs	Ratio
2006- 07	2003-04	4,90,000	4,00,000	82%
2010-11	2006-07	6,87,000	2,00,000	29%
2012-13	2008-09	7,20,000	1,70,000	24%
2014-15	2010-11	11,00,000	2,20,000	20%
2015-16	2011-12	13,50,000	280,000	21%
<b>2020-21</b>	<b>2016-17 (Actual)</b>	<b>24,00,000</b>	<b>360,000 (Projected)</b>	<b>15%</b>

# President Obama on Renewable Energy



- Invest \$150B in alternative energy over 10 years
- Double production of alternative energy in three years
- Upgrade the efficiency of more than 75% of federal buildings and two million private homes
- Create Jobs with Clean, Efficient, American Energy = \$54B
- Transforming Our Economy with Science and Technology = \$16B



# Careers in Green Industries



## What are green careers?

Green careers aim to improve the environment — either locally or globally. Some governments and companies are pouring money into “green” initiatives. They are developing earth-friendly products and cleaner ways of doing things. Trained professionals may be needed to help implement these changes.



## What are the different types of green careers?

Outdoor & Field-based jobs

ex. wildlife preservation



Traditional jobs with “green” alternatives

ex. auto manufacturing



Renewable energy jobs

ex. wind turbine technology



Compliance & Policy-making jobs

ex. Environmental Protection Agency officers



## What are some examples of green job titles?

Environmental Engineer

Hydrologist

Conservation Scientist

Energy Auditor

Urban and Regional Planner



# Emerging Green Occupations



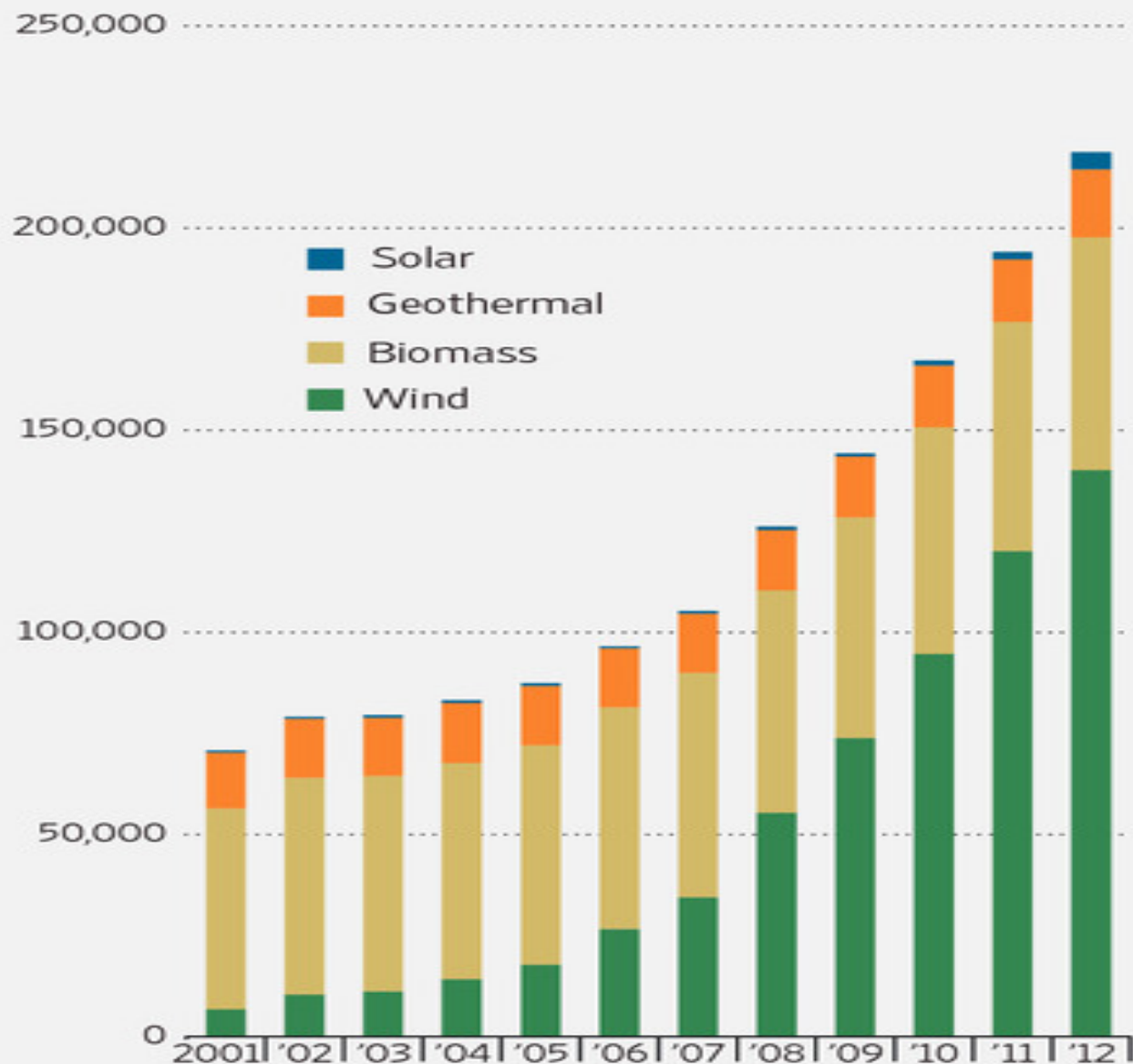
- Tradesmen and Supervisors for Energy Efficiency Construction
- Building Automation Specialist
- Renewable Energy Site Assessor
- Renewable Energy Systems Installer
- Green Building Operator
- Green Landscape Professional
- Geothermal Specialist
- Ice Storage Technician
- Biofuel Processing Technician
- Fuel Cell Technician
- Wind Turbine Technician
- Advanced Transportation Systems Technician
- Waste Handling Engineer
- Green Building Maintainer





## Green Growth

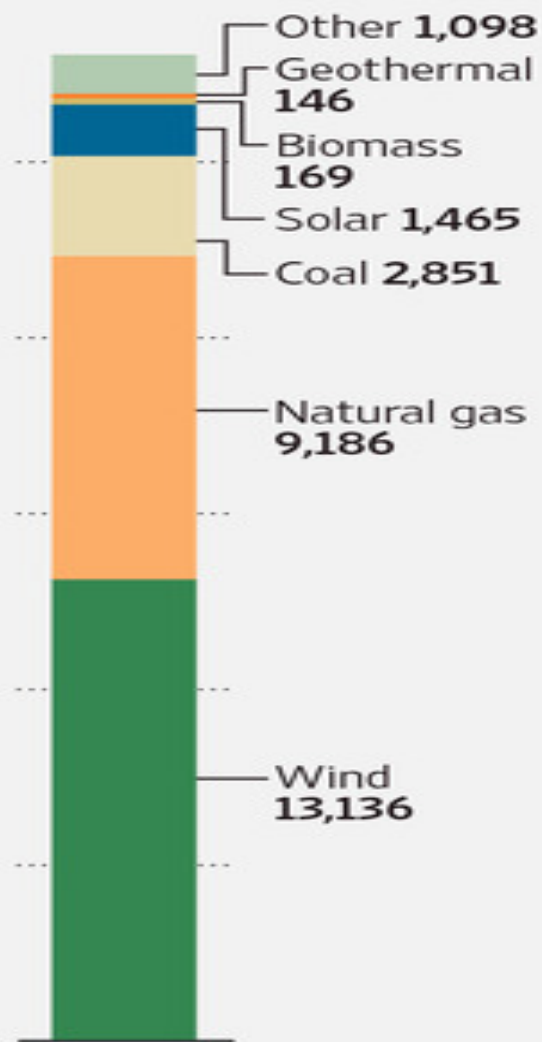
Electricity generation by renewable sources other than hydropower has tripled since 2001, due mostly to increased wind output. Figures are thousand megawatt-hours per year.



Source: Energy Information Administration

## Change in the Air

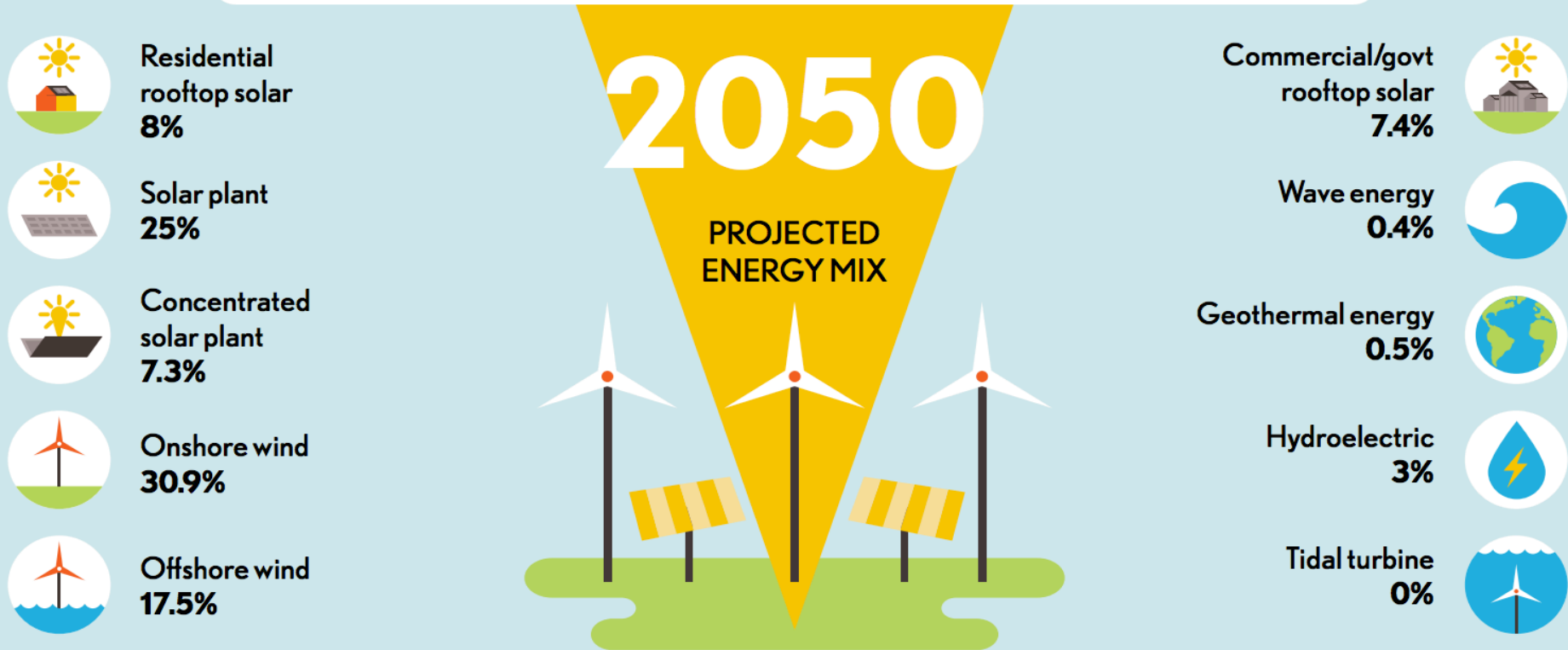
New generating capacity in the U.S. has included increasingly significant amounts of renewable sources, with wind surpassing natural gas last year (new capacity in megawatts)



The Wall Street Journal

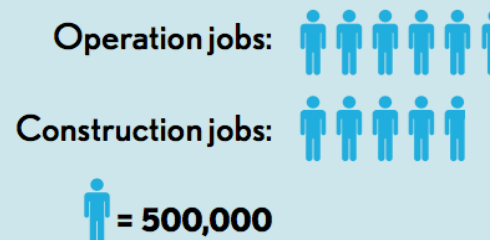
# GREEN JOBS CREATED WORLDWIDE

Transition to 100% wind, water, and solar (WWS) for all purposes  
(electricity, transportation, heating/cooling, industry)



## 40-Year Jobs Created

Number of jobs where a person is employed for 40 consecutive years



**2,815,850**

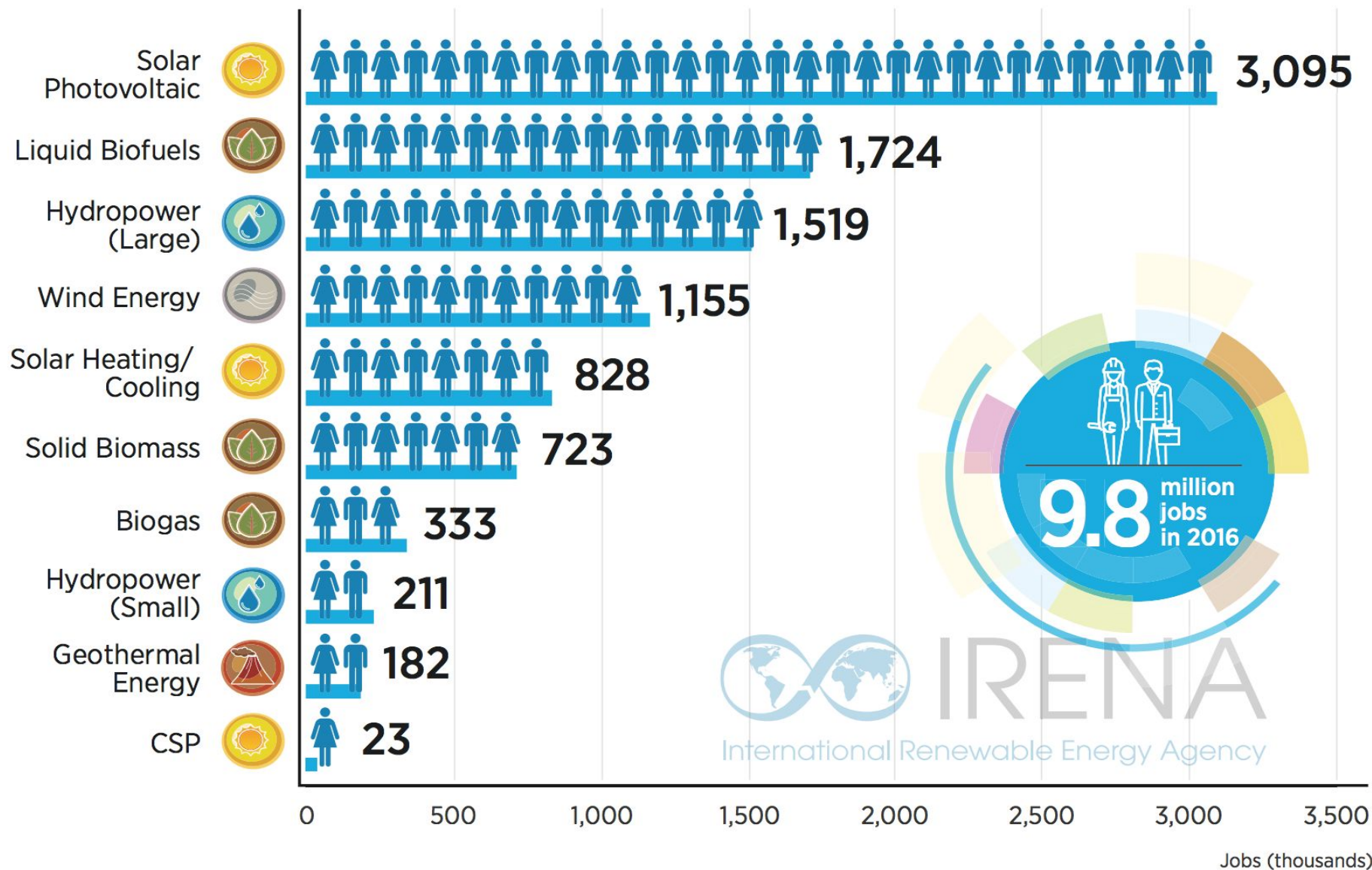
**2,285,816**



**Why**  
**go solar?**



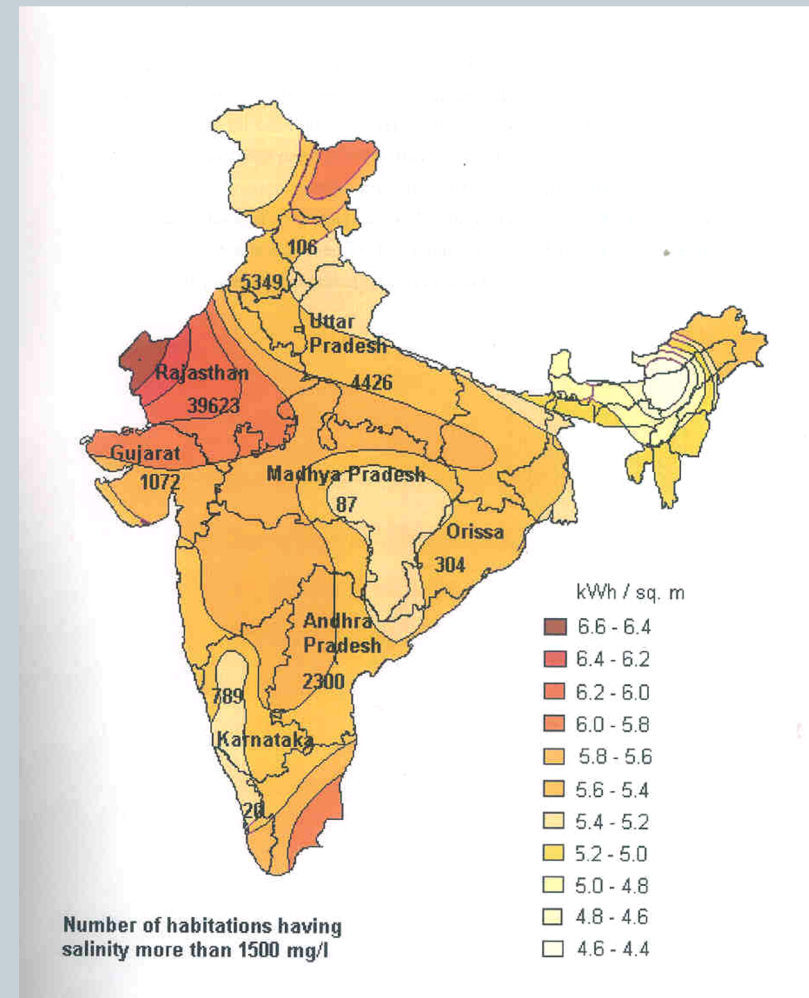
# CATEGORIZATION OF RENEWABLE ENERGY JOBS





# Solar for India

- Most parts of India receive good solar radiation 4- 7 kWh/sq. m/day
- Possible to meet growing energy demands and cover deficit areas
- Can substantially reduce consumption of kerosene and diesel for lighting and power generation
- Provide access and empowerment at grass root level



# Jawaharlal Nehru National Solar Mission



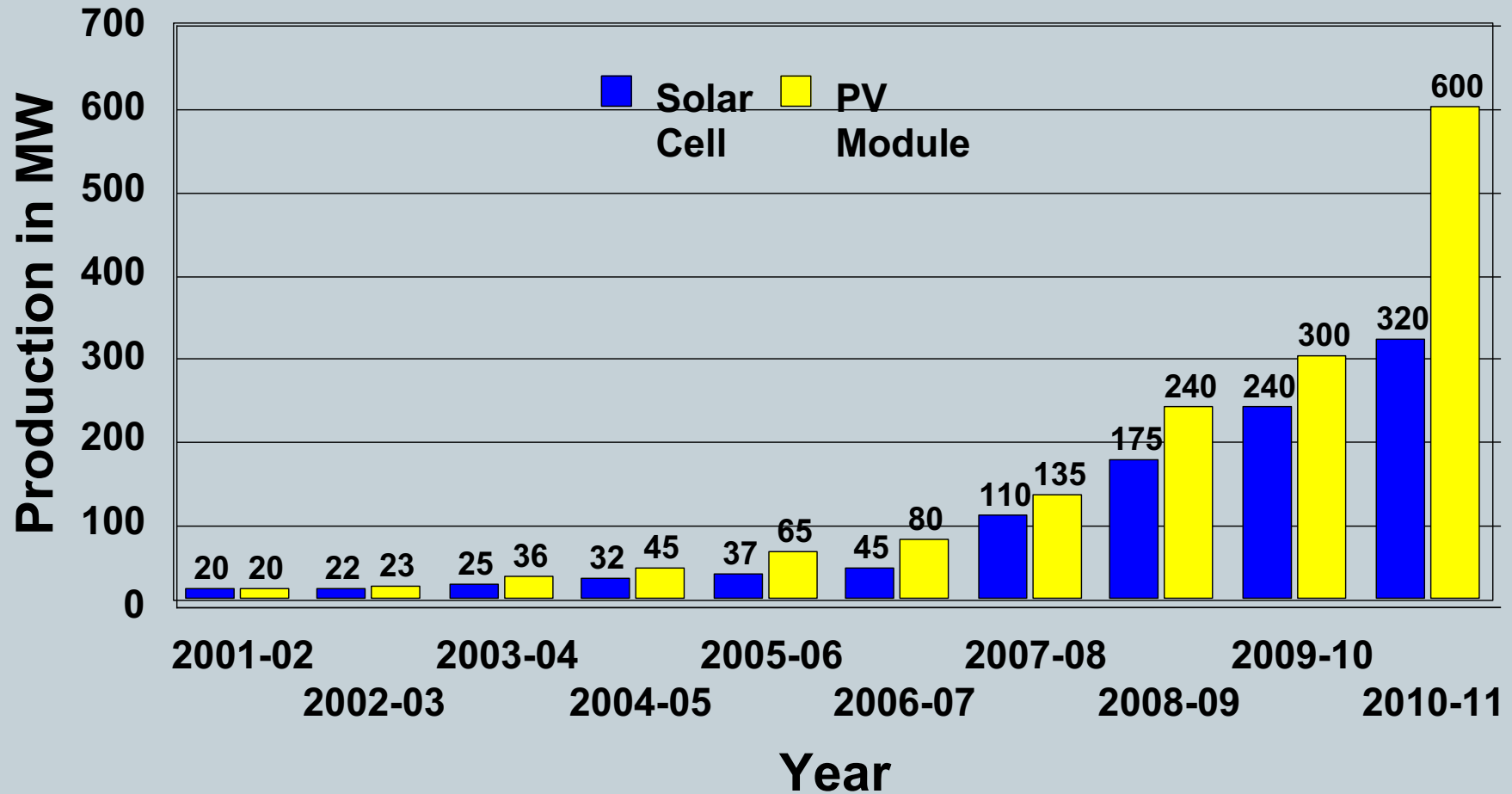
<b>Application segment</b>	<b>Target for Phase I (2010-13)</b>	<b>Cumulative Target for Phase 2 (2013-17)</b>	<b>Cumulative Target for Phase 3 (2017-22)</b>
Grid solar power incl. roof top & distribution grid connected plants	1,000 MW 100 MW	4,000 MW 10,000 MW	20,000 MW
Off-grid solar applications	200 MW	1,000 MW	2,000 MW
Solar collectors	7 million sq meters	15 million sq meters	20 million sq meters

# Indian PV Industry



- ❖ More than 80 companies, with installed capacity of over 1.8 GW make PV modules (As of March, 2012)
- ❖ 15 companies manufacture solar cells (> 700 MW installed capacity)
- ❖ Manufacturing of various raw materials, components, devices and systems is coming up/expanding (Poly silicon, wafers, glass, EVA, back sheet, grid inverters, off-grid BoS, structures etc.)
- ❖ Production capacity of 3-5 GWp likely by 2020
- ❖ Solar Module Manufacturing Companies: VIKRAM SOLAR, SOVA SOLAR, TOSUN, WEBSOL etc.
- ❖ Solar Inverter Manufacturing Companies: KACO, ABB, SUKAM, LUMINOUS, EXIDE, AMARRAJA etc.
- ❖ Other Manufacturing Units: Module Mounting Structure, Cables, Junction Boxes etc.

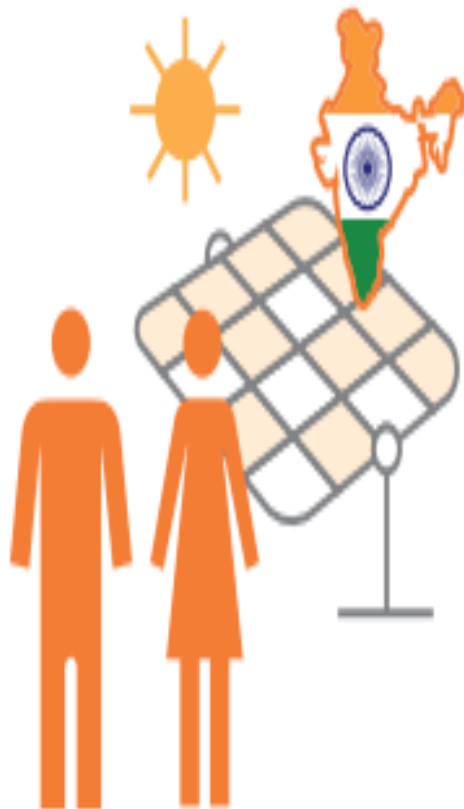
# Growth in Indian PV Production





# CLEAN ENERGY CREATES JOBS FOR INDIA

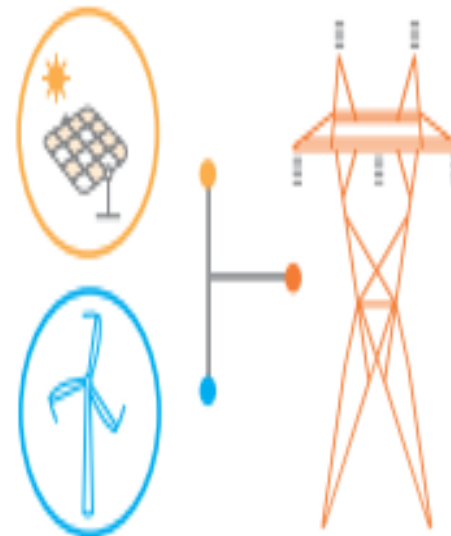
Clean energy = full-time employment. Tens of thousands of Indian citizens are employed by clean energy industries, directly and indirectly. This is great news for India's growing population and workforce.



Between 2011 and 2014

**24,000**

full-time jobs were generated through solar photovoltaic (PV) projects alone.



Grid-connected solar and wind energy is estimated to have created nearly **70,000** full-time jobs in India so far.

If India achieved its target of **100 gigawatts (GW)** of installed solar energy by **2022**

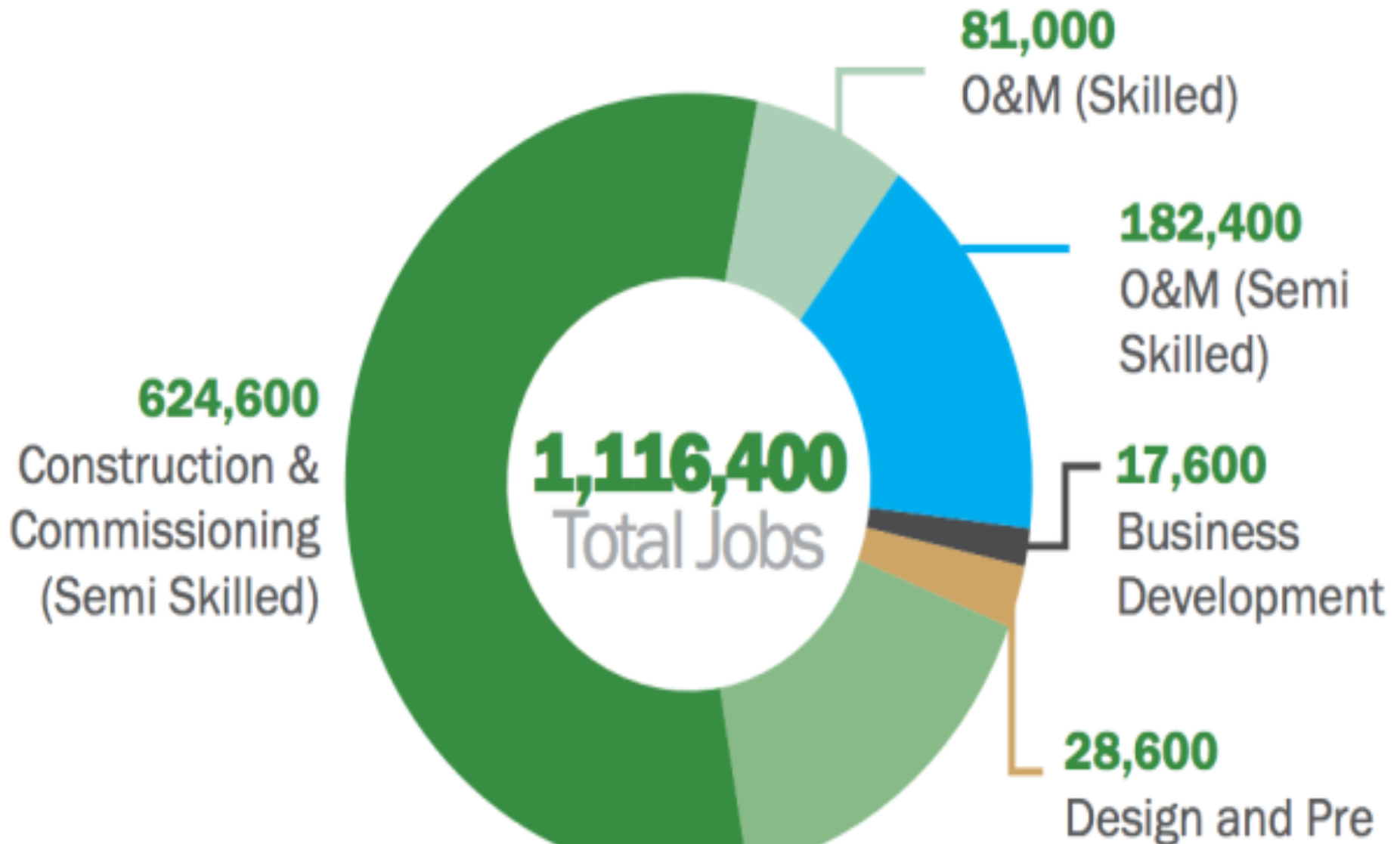
as many as

**1,000,000**

full-time jobs would be created.



# JOBS IN SOLAR INDUSTRY



# THE STATE OF ENGINEERING GRADUATES IN INDIA



GRDUATES  
PER YEAR



UNEMPLOYABLE

Source:  
National Employability Report 2015



# Solar Energy Training Centre



- ❖ The renewable energy sector requires Skilled and knowledge trained students for its growth.
- ❖ Solar Energy Centre (SEC), near New Delhi under the Ministry of New and Renewable Energy (MNRE) is the lead Centre for testing and training in solar energy in the country and has awarded MNRE approved EPC companies to train students.
- ❖ We also offer Training at Engineering and Diploma Colleges followed by Hands on Experience in Solar Projects.
- ❖ The students will also be provided MNRE and MSME certificate on completion of training.
- ❖ Successful students are also offered paid internship and finally Jobs in fastest growing Renewable energy sector.



# Training Programmes



- Certificate Course in Rooftop Solar System- 40 Hours
  - Certificate Course in Solar Designing softwares- 25 Hours
  - Certificate Course in Soft Skill Development- 25 Hours
  - Certificate Course in Solar Managerial/Entrepreneuership Development- 60 Hours
  - 3 Month certificate programme in Renewable energy- 100 Hours
  - Safety Training and EHS- 25 Hours
- 
- Class Hours is daily 2.5 Hours- 4hours
  - For Course fees and Batch Timings contact Us




# COMPANY OVERVIEW

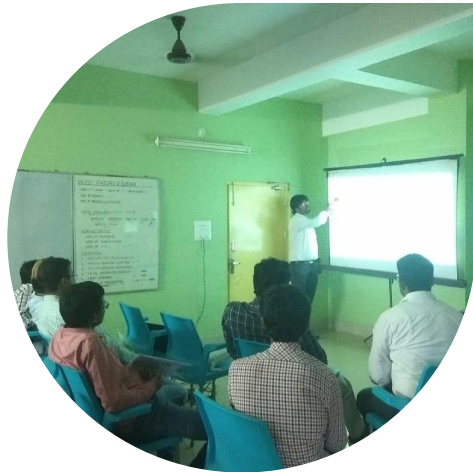


- **Ganapati Group** a MSME Registered Company was established in 2016 with a common values of global improvement. Ganapati Products is a globally recognized leading solar energy solutions provider, specializing in high quality design and strategic EPC solutions. With a Pan India existence, we are an active contributor in shaping the solar revolution. The other sphere of business Ganapati Products deals in are Telecom, Power Distribution, Rural Electrification, IT, Online knowledge processing, training & Recruitment, Healthcare products, Electrical and Fire & Safety Products, Design and Simulation Services, Retail product marketing and Digital Marketing.
- Our team is spearheaded by agile leaders, who are united by the aim of actively revolutionizing energy needs everywhere on earth. A balanced synthesis of young and experienced, dynamic and traditional, international and local, our team has wide-ranging experience in global as well as Indian solar energy sector.
- To know us more kindly visit <[www.ganapatiproducts.com](http://www.ganapatiproducts.com)> or visit our corporate office at Sunil Vila, 39B Ibrahimpur Road, Jadavpur, Kolkata 700032. We have our Existence at Delhi, Bangalore, Ghaziabad, Mumbai and product warehouse at Kolkata and Mumbai. Our Product range varies from Electrical equipments (Switchgear, Cables, Junction Boxes, LEDs), Fire and Safety Equipments (Fire Extinguishers, LA, Earthing Equipments), Home Automation and CCTV.
- We have completed and ongoing project experience of total 14 MWp cumulative Rooftop Solar plant, 175 MWp Ground mounted solar power plant, 3MWp Rural Electrification Projects, 106 Solar street lights, 250 Solar Pumps, 3013 Home Lighting Systems, 3000 smart LED Street Lights and Liaising work experience of 155MWp in solar and Wind. We are also currently working on O&M for various systems ( both kWp & MWp level) cumulative nearly 10MWp on Pan India Basis.





 **Faculty Development Programme**  
on  
**"Latest Technology of Renewable Energy- Green Buildings"**  
Organized By  
**Department of Electrical Engineering and Electronics & Communication Engineering**  
**JIS College of Engineering**  
**Date: 24th Jan 2018      Venue: Room No 304**  
Invited talk  
**Dr Debojyoti Sen**  
Executive Director -Business operations, Ganapati Products





# “Go Green” Today!

- YOU can support the solar energy industry, and the nations movement towards Going Green by
  - INSTALLING solar at your home or business
  - INVESTING in the solar market
  - WORKING in the solar industry

Decide what Solar Solution is best for you!





## **GANAPATI GROUP**

Conglomerate of M/S SAURYA JYOTI RENEWABLES PVT LTD and M/S GANAPATI PRODUCTS

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