



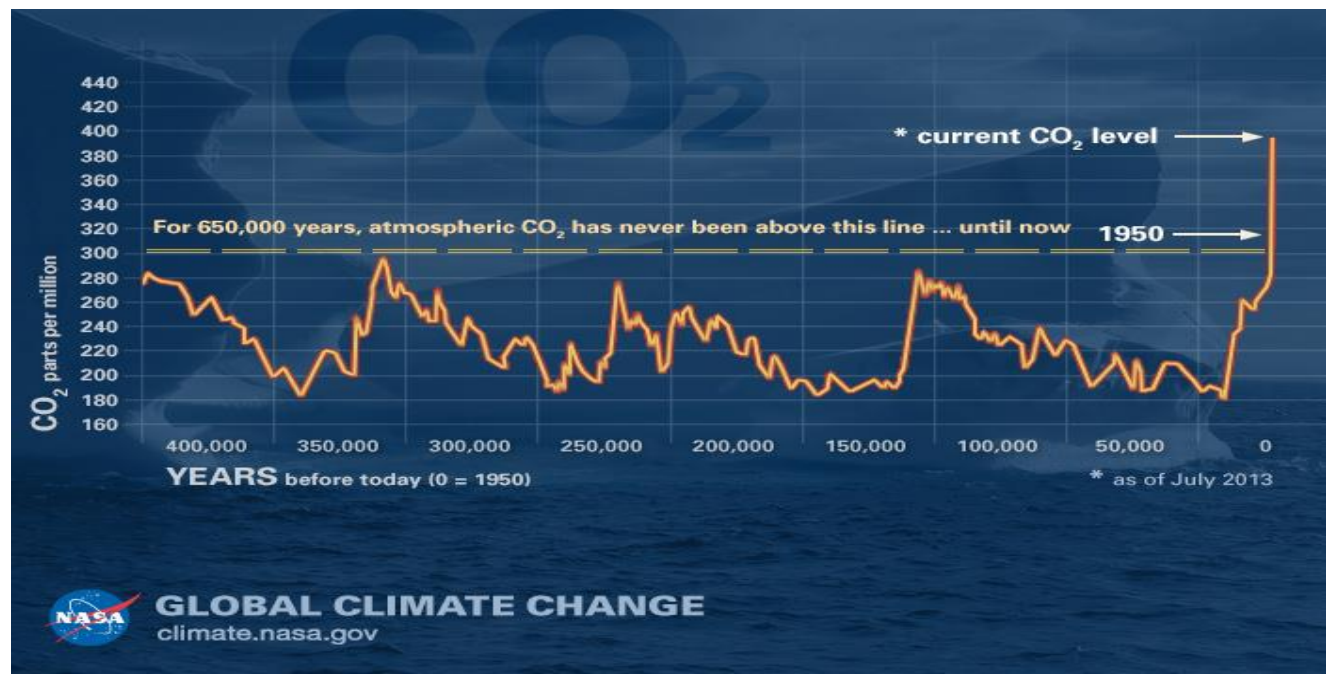
Let us make the sun brighter

K K Sharma, Adviser, ISA

ISA and Solar Irrigation

www.isolaralliance.org

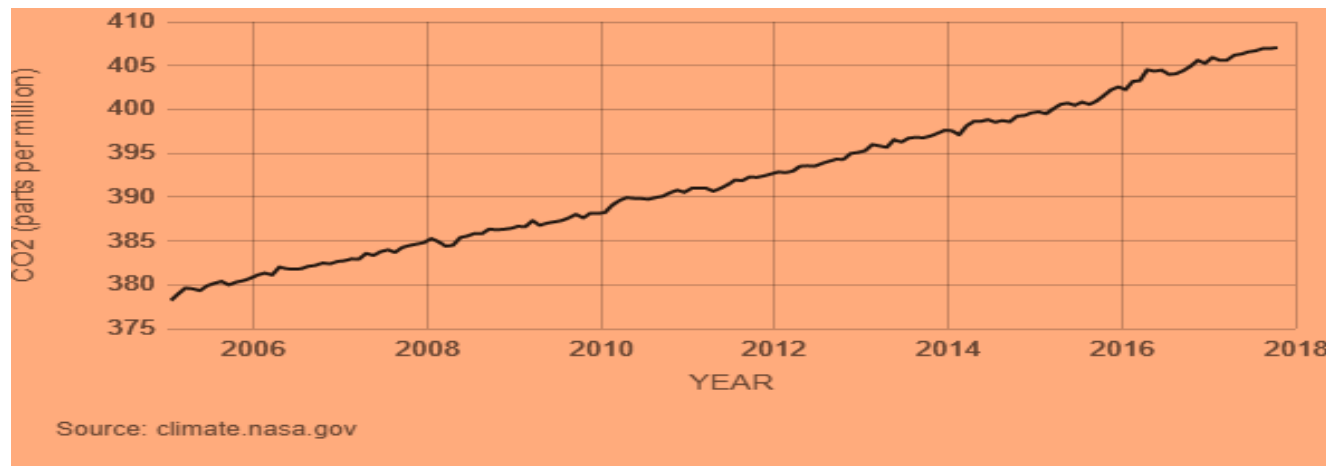
Alarming rise in CO2 levels – Period 1950 to 2017



Carbon Dioxide

LATEST MEASUREMENT: October 2017

407.06 ppm



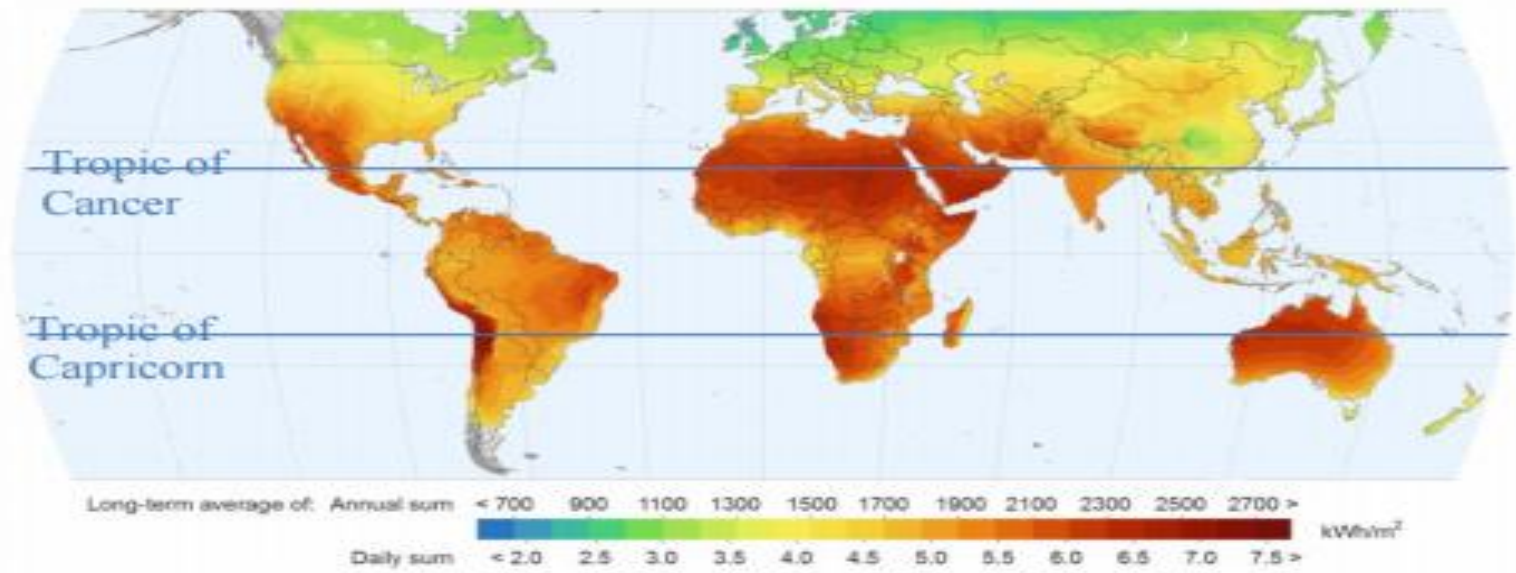
Hon'ble Prime Minister of India, Hon'ble President of
France
and Secretary General of the United Nations at the ISA
launch
on 30th November, 2015



Hon'ble Prime Minister of India, Hon'ble President of France
and Head of States at the ISA Founding Conference – 11th
March, 2018



International Solar Alliance (ISA)

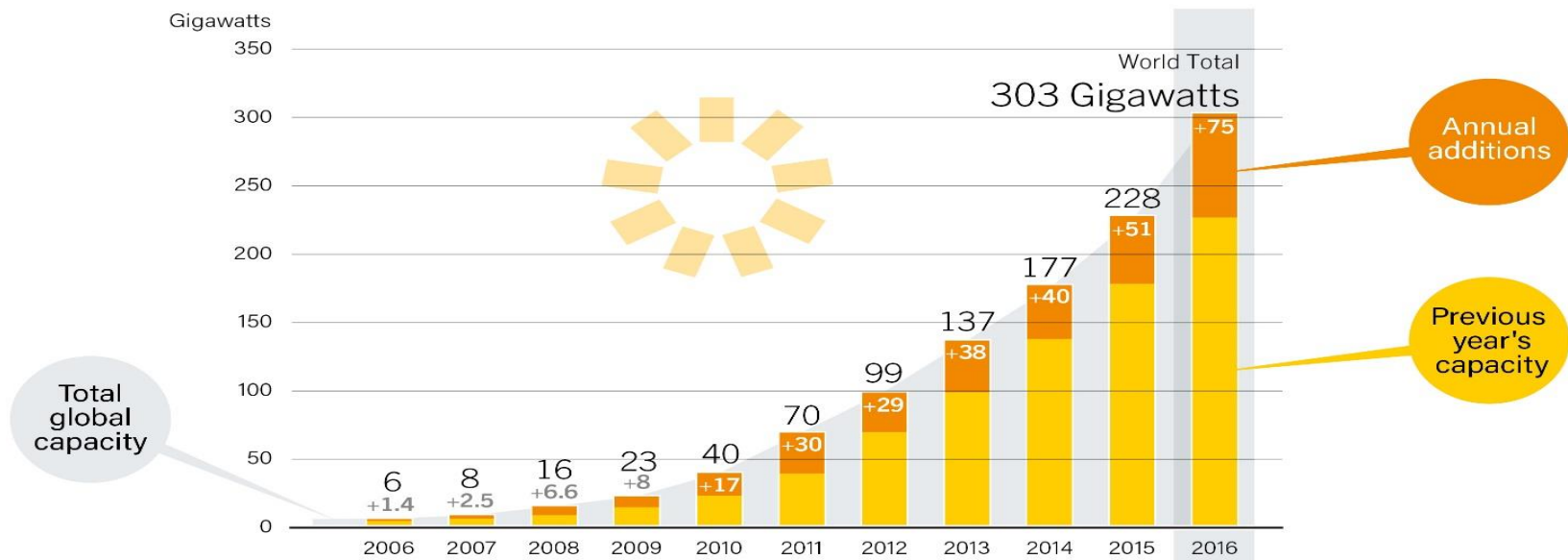


121 Prospective member countries
65 Signatory countries
35 countries have ratified as on 1st June, 2018

2016 – An Extraordinary Year for Renewable Energy



Solar PV Global Capacity and Annual Additions, 2006-2016



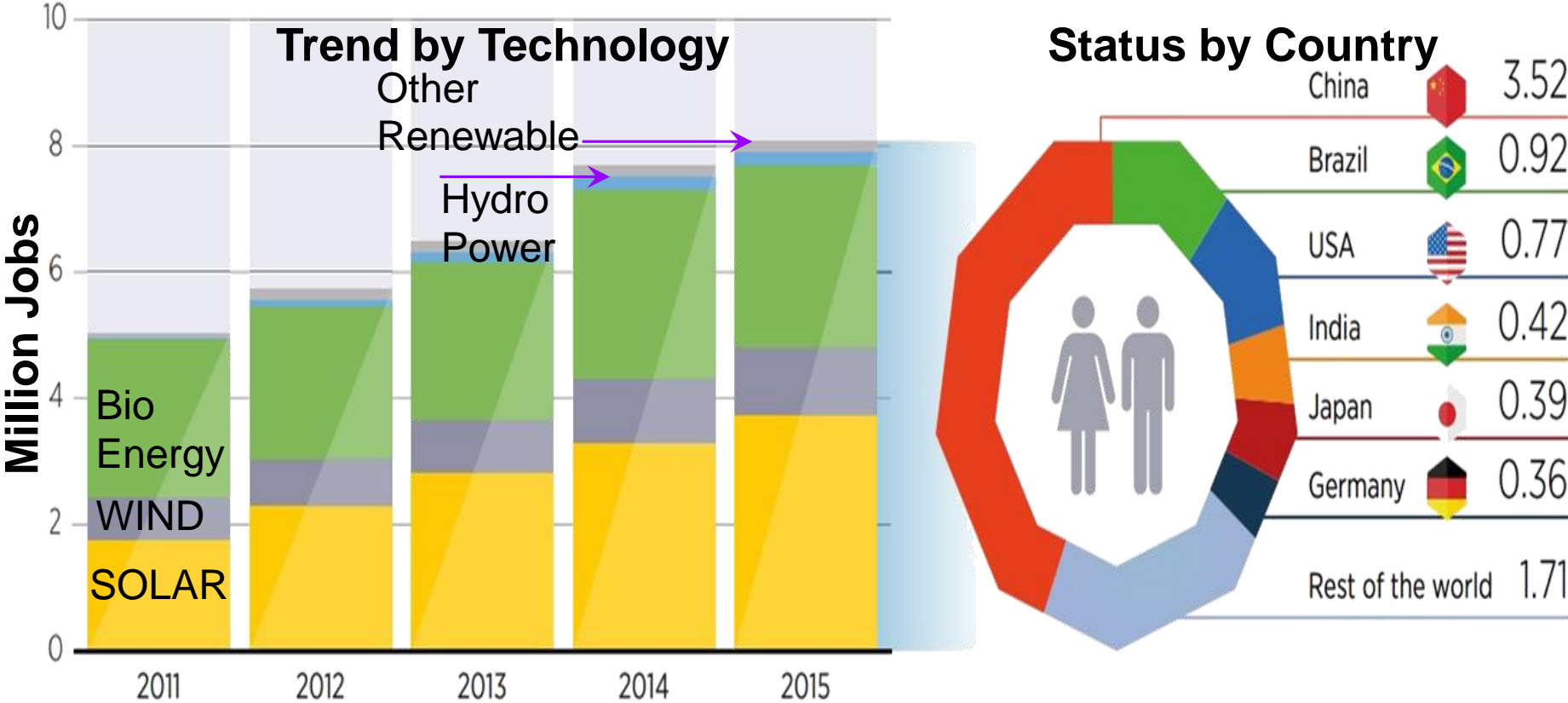
REN21 *Renewables 2017 Global Status Report*



Global solar PV capacity **303 GW** in 2016

Capacity addition **75 GW** (47% of the total RE capacity addition)

Employment trends in Solar Energy 2011 – 2015



Solar PV - largest employer (2.8 million jobs) out of estimated 8.1 million jobs in renewable energy sector (IRENA, 2016c)



Solar Irrigation – A Key Component of ISA Programmes

ISA has launched Four (4) Programmes so far to aggregate demand & to reduce cost.

- 1. Scaling Solar Applications for Agricultural Use**
2. Affordable Finance at Scale
3. Scaling Solar Mini-grids
4. Scaling Solar Roof top

Distributed Solar Applications



ISA's Programme on Scaling Solar Applications for Agricultural Use includes:

Solar Water Pumping

Solar Cold Storage

Solar RO for Water

Solar Street Lights

Solar Home Lighting

Solar Lanterns, etc.

Water Pumping – Options and comparison of energy use

	Electric Pump	Diesel Pump	Solar Pump
Reach	Grid-connected electricity needed	Possible where diesel is easily available	Solar Energy is abundant in ISA Countries.
Environmental Impact	Moderate	Adverse	No adverse impact
Forex impact	Minimal	Significantly high	Moderate
Operating Cost	Losses in T&D	High	Minimal

Advantages - Solar Water Pumping



- A. Quite useful where grid does not exist
- B. Will expand the irrigated land without need for investments in electric grid.
- C. Uncertainty of grid supply taken care of
- D. Fall in recent procurement price of solar pumps
- E. Agriculture power subsidy can be utilized for solar pumps.

Solar Pumps for Drinking Water



BEST PRACTICE:

Hand pumps replaced with off-grid Solar Pumps

Images: courtesy CREDA, Chattisgarh, India



Action by ISA to Scale Solar Irrigation Pumps



- Needs assessment undertaken for “decentralized solar applications” for agriculture pumps through the NFPs in ISA Member Countries.
- An Aggregated Demand of **487,860 solar pumps by 2025** has been projected against proposed 500,000 by ___ Member Countries for Solar Water Pumping Systems.

Country	Requirement
India	3,00,000
Bangladesh	50,000
Uganda	30,000
Sudan	15,000
Others	92,860
Total	4,87,860

Action by ISA to Scale Solar Irrigation ...contd

- ISA to set up i-Solar Technology Application and Resource Centres (iSTAR-C) in each member country.
- Goals of an iSTAR-C :
 - Technological research & development
 - Develop common standards and protocols for testing, monitoring, verification & certification of solar PV systems
 - Sharing best practices
 - Monitoring actual performance of applications
 - Setup common training courses, e-learning for stakeholders
 - Consider innovations and technology transfers

iSTAR-Cs to promote knowledge on solar irrigation pump systems like for all other solar applications.

On going Activities

- ISA working on Price Exploratory tender for Solar Water Pumping Systems
(Ref. Aggregated demand of 500,000 pumps for supply and installation in
___ ISA member countries.)
- Solar roadmaps for 32 countries prepared
for 19 Countries in the ISA convened 'NFP Conclave -2017', and
for 13 countries in the 'NFP Conclave – 2018'
- ISA to assist Member Countries realize their Solar roadmaps.
- ISA to run Master Trainers programme for 500 participants from Member Countries
under assistance from ITEC programme of Ministry of External Affairs, India.

Digital Infopedia Platform of ISA



- EU assisted ISA project to establish and maintain a Digital Infopedia Platform with three (3) major components
 1. Country Counter
 2. Best Practices
 3. Audio & Video interaction

Contributing Organizations : ISA Corpus Fund



US \$ 1 million each ; Soft Bank US \$ 2 million

Partner Organizations



ISA has signed Joint Declarations with Partner Organizations to promote solar energy globally

Thank You
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