

# **CLIMATE CHANGE and SUSTAINABILITY in CHINA.**

**E-Leader Macao, January 3-4, 2017  
Christine Merritt, Ph.D.**





# GLOBAL DATA

*Reports (NOV 2016)*

## GLOBAL SOLAR PV

## CAPACITY

WILL APPROACH 295 GW in 2016



## LED BY CHINA





**SOLAR HOT WATER HEATERS**

**CHINA INSTALLS  
6MILLION**

A red metal frame supports a large array of blue solar panels. The panels are arranged in a grid pattern and are tilted at an angle. The frame consists of several vertical and diagonal supports. The background is a plain, light color.

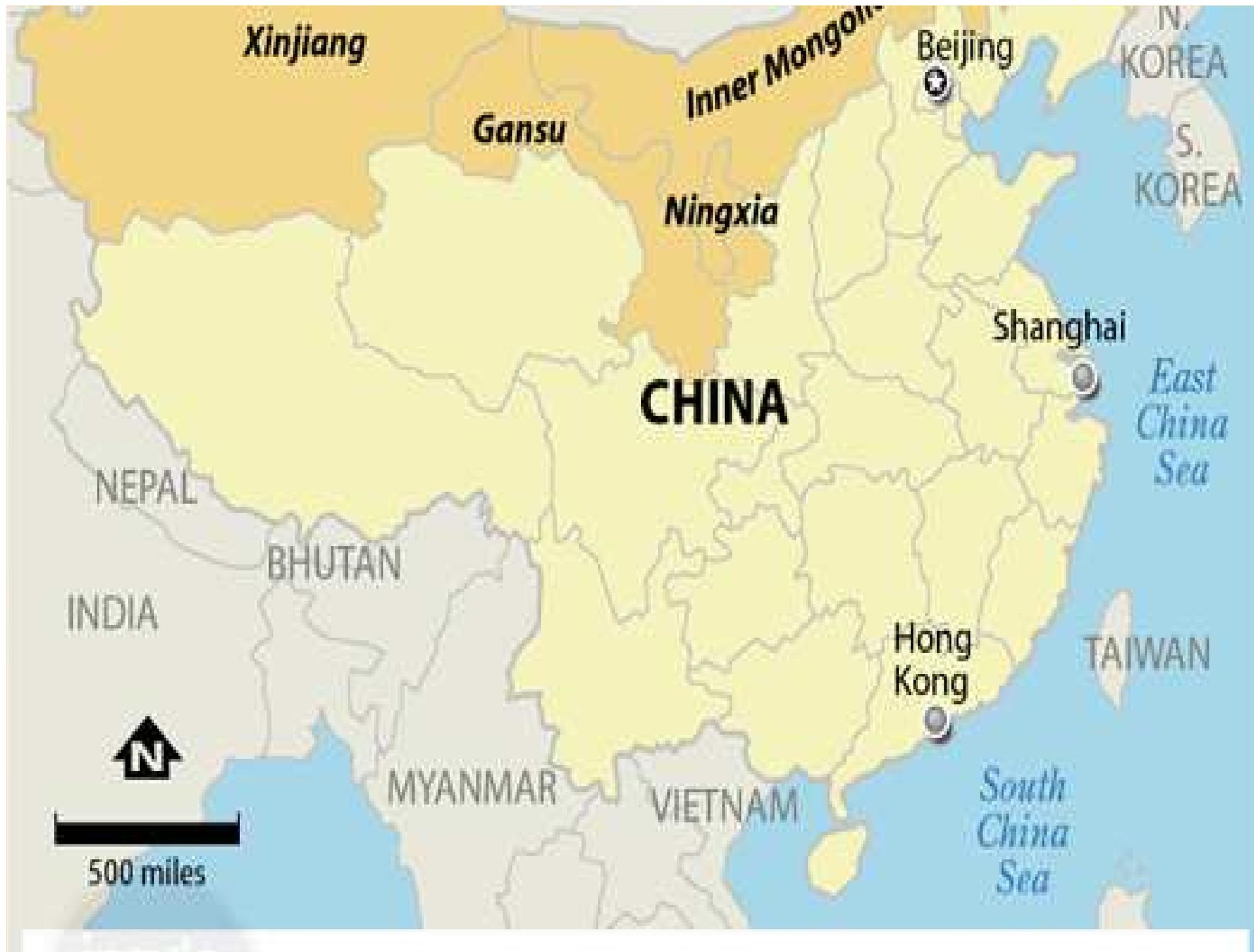
[unipu.en.alibaba.com](http://unipu.en.alibaba.com)

# BLOOMBERG - Dec 15<sup>th</sup> 2016

- ❁ According to Bloomberg's analysis, the cost of solar power in China, India, Brazil and 55 other emerging market economies has dropped to about one third of its price in 2010. This means solar now pips wind as the cheapest form of renewable energy—but is also outperforming coal and gas.







## ❁ CHINA suspended the approval of new wind project on 6 regions of North China:

❁ INNER MONGOLIA	15%	(% of energy wasted - 2015)
❁ NINGXIA	18%	
❁ GANSU	13%	
❁ JILIN	39%	
❁ HEILONGJIANG	21%	
❁ XINJIANG	32%	

Too many wind turbines were idle as a result of grid constraints and other factors. All part of China's growing pains on the road to clean energy.

China's renewable energy investment is part of its 12th Five-Year Plan for Economic and Social Development, which calls for the country to spend \$473.1 billion on clean energy investments from 2011 to 2015









🌸 DEC 16, 2016

**Beijing smog: pollution  
red alert declared in  
China capital and 21  
other cities**

# CHINA HAS MADE STRIDES IN ADDRESSING AIR POLLUTION

❁ MA JUN, DIRECTOR of the INSTITUTE OF PUBLIC  
and ENVIRONMENTAL AFFAIRS, BEIJING

❁ (DEC 2016^)

❁ 4618 ENTERPRISES MONITORED

❁ 247 ENTERPRISES EXCEEDING EMISSIONS

❁ 4371 IN COMPLIANCE

**COAL USE DECLINES**

**\*\*SOLAR INCREASES by  
74%**

**WIND CAPACITY increases  
34%**

**China has become a  
green energy  
superpower.  
(NOV 2016)**

**China has the highest capacity for  
renewable power production**

- ❁ \*\*China is already playing a leading role in the green revolution. It currently makes up about a quarter of the global capacity for renewable power, predominantly through wind power.
- ❁ \*\*China is also the country with the most wind power capacity, and its lead over the US, in second place, increased by over 30 gigawatts in 2015.
- ❁ \*\*2015 saw huge growth in China's solar power production. It moved into first place, ahead of previous solar leader Germany.
- ❁ \*\*In 2015, China had the biggest financial commitment to renewable energy, investing over \$100 billion, an increase from \$3 billion just over 10 years ago.

# Renewable resources

- ✿ \*\*China helped push developing countries into the lead
- ✿ ---Globally, \$286 billion was invested in renewable power and fuels (not including hydro power) in 2015, and for the first time the developing world invested more than developed countries.

# Governor Scott Walker in Wisconsin, USA

- ❁ In his 15 short months in office, he:
- ❁ Hampered green technology and green job development
- ❁ Repeatedly restricted wind energy development
- ❁ Fast-tracked the filling of wetlands
- ❁ Rejected science in wildlife and natural resource management
- ❁ Weakened clean air standards
- ❁ Decimated transit opportunities
- ❁ Gave a pass to polluters threatening our water
- ❁ Failed to enforce the conservation laws that remain on the books
- ❁ Attempted to eliminate local recycling programs

 XIE XIE!

 Many Thanks.

 CHRIS MERRITT. Ph.D.