

U.S.-China Renewable Energy Forum

Beijing, China

May 27, 2010

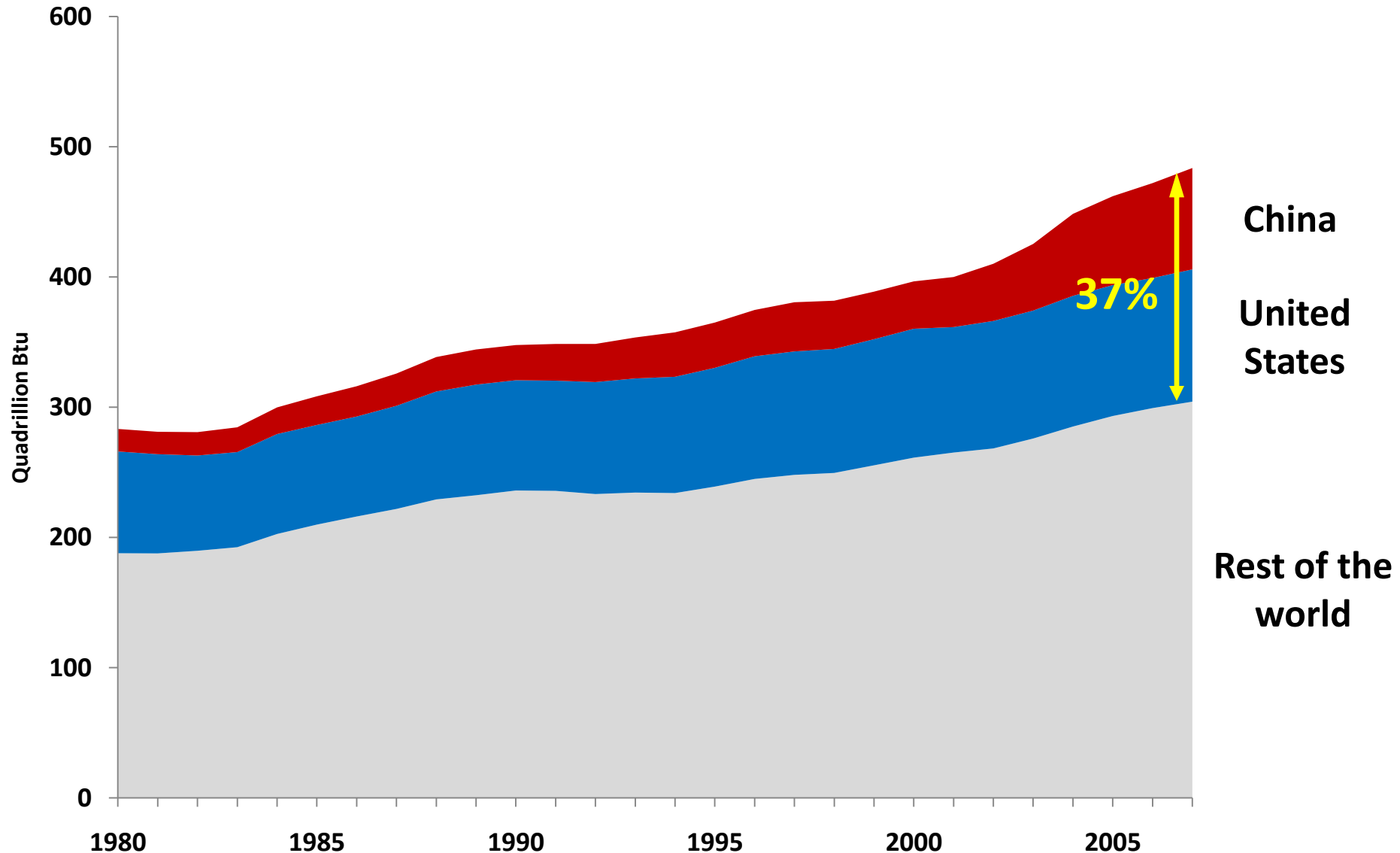


David Sandalow

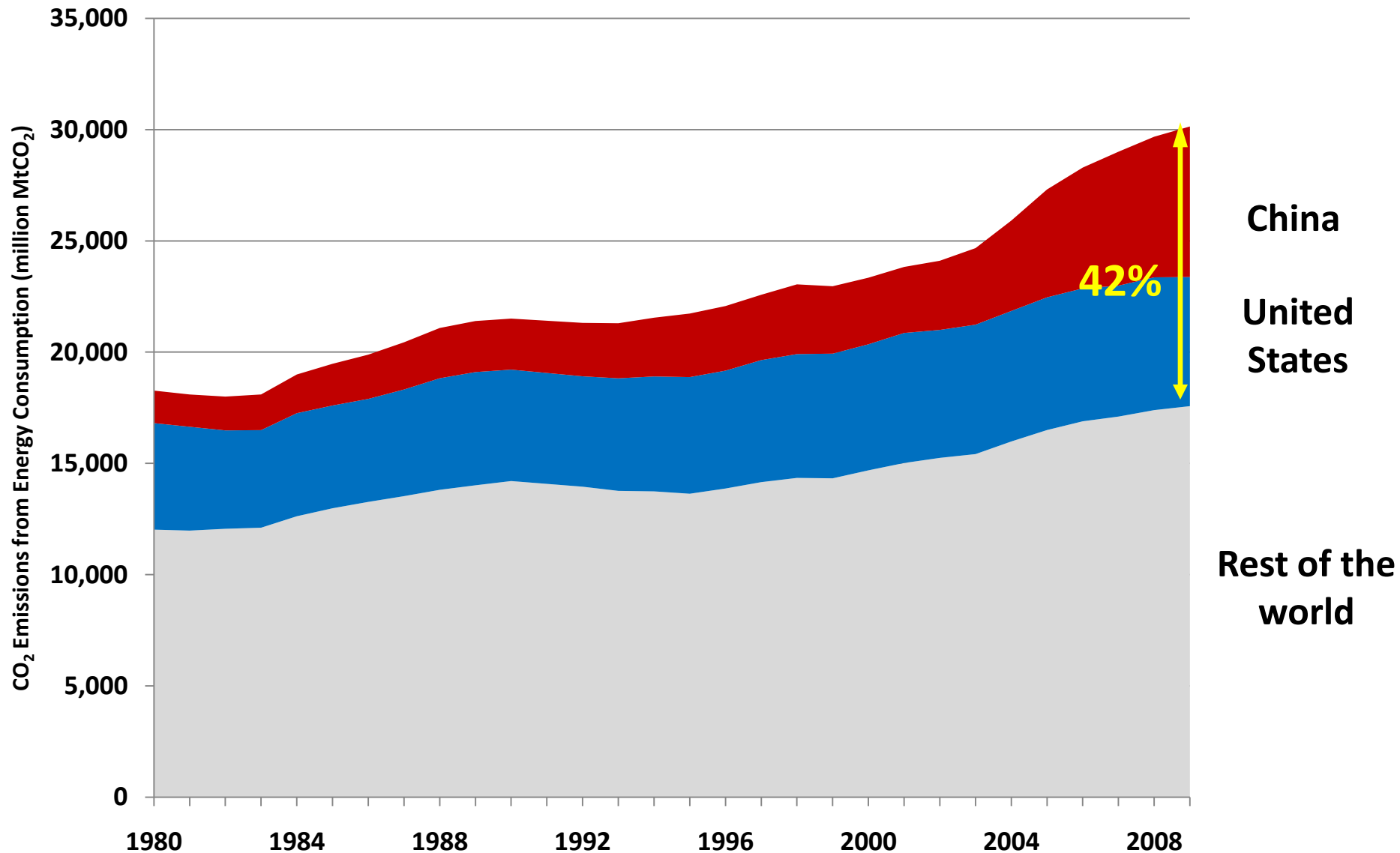
Assistant Secretary for Policy and International Affairs

U.S. Department of Energy

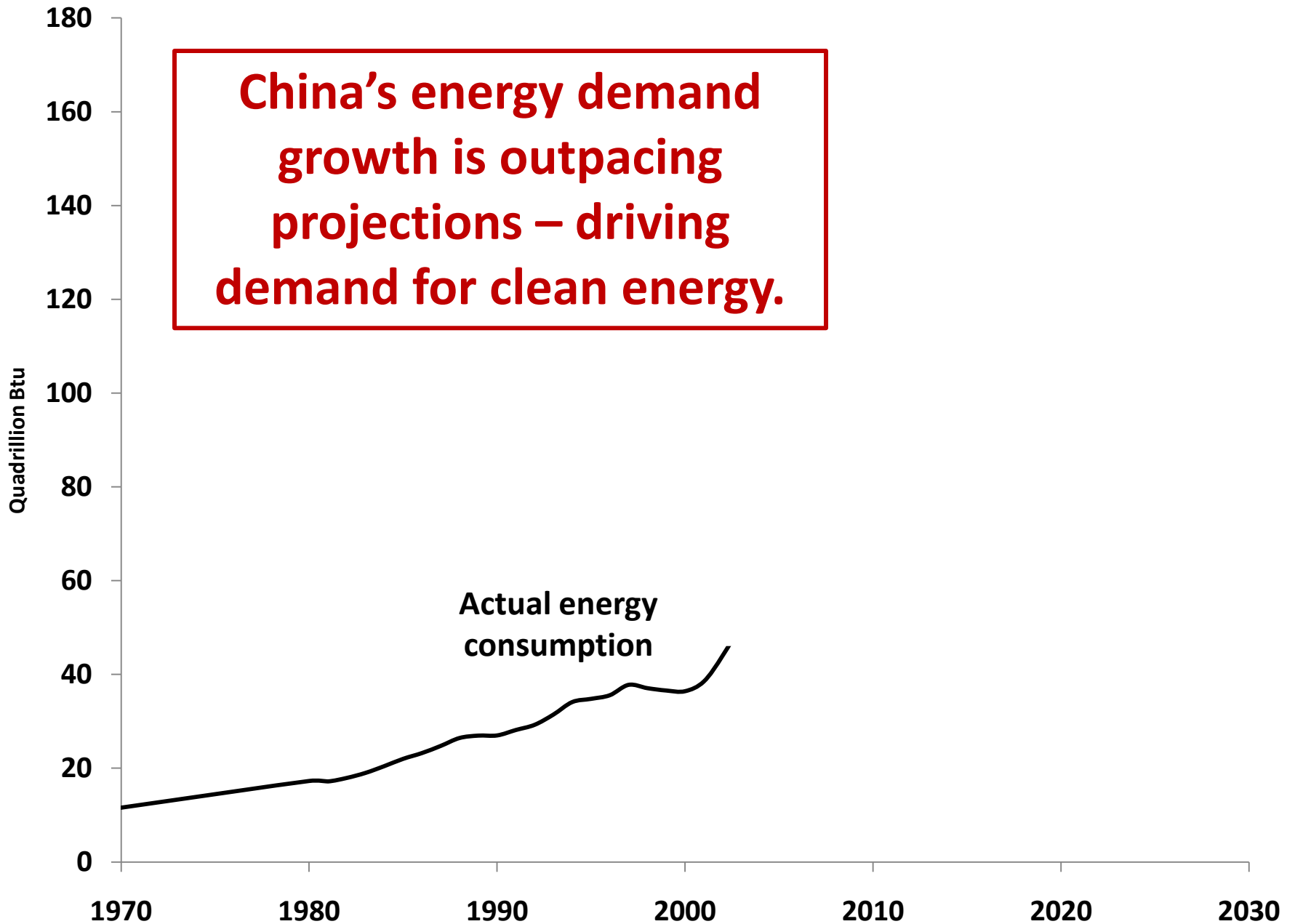
China and the United States together consume around 40% of the world's **energy**...



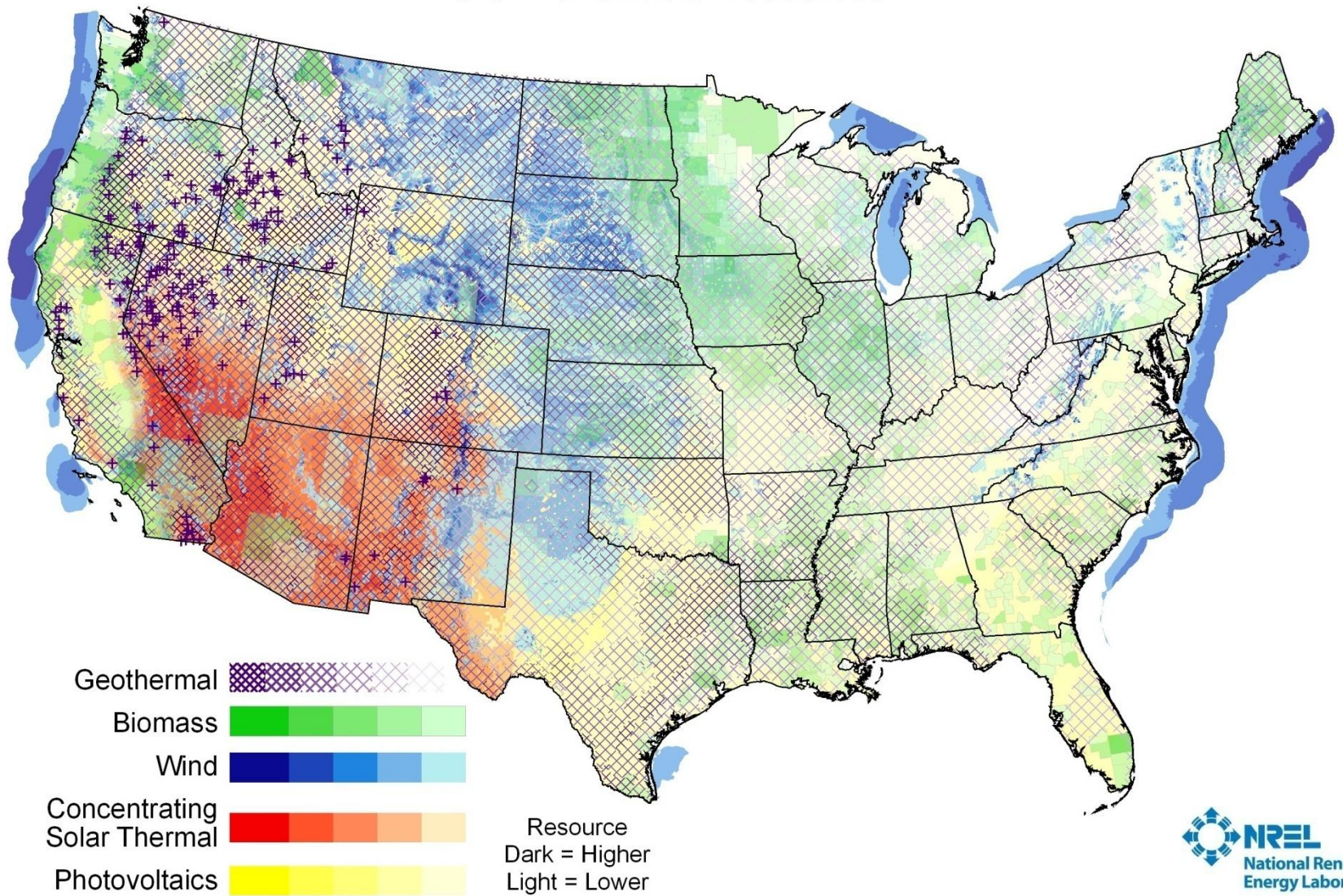
...and together account for
more than 40% of global **GHG emissions**.



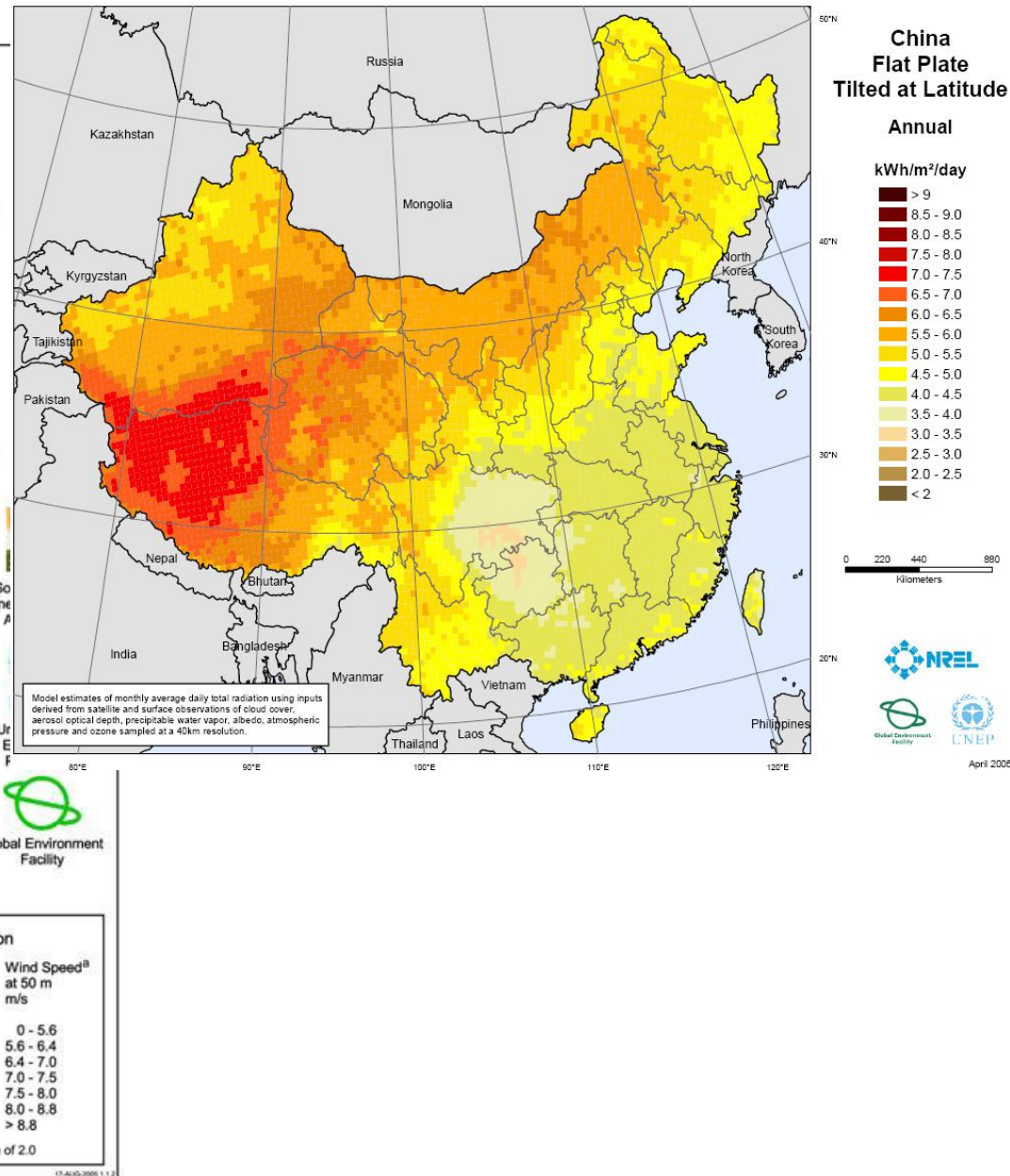
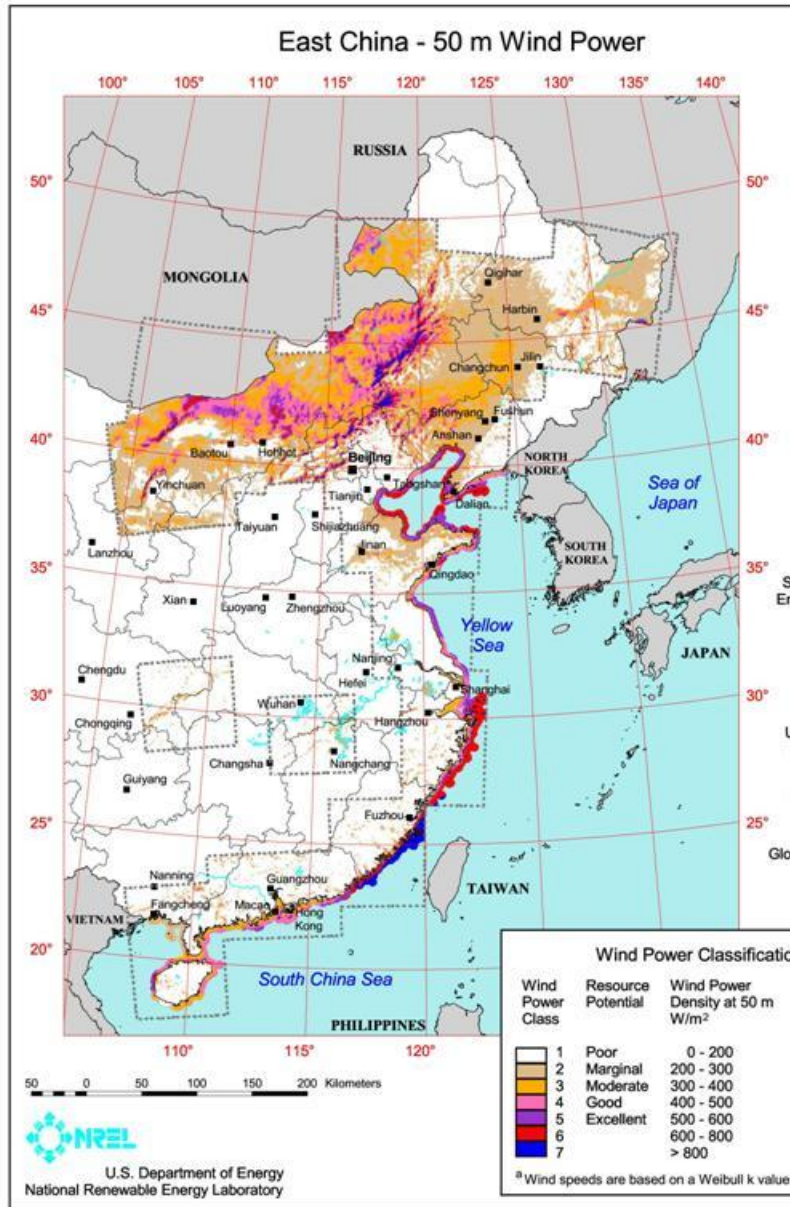
**China's energy demand
growth is outpacing
projections – driving
demand for clean energy.**



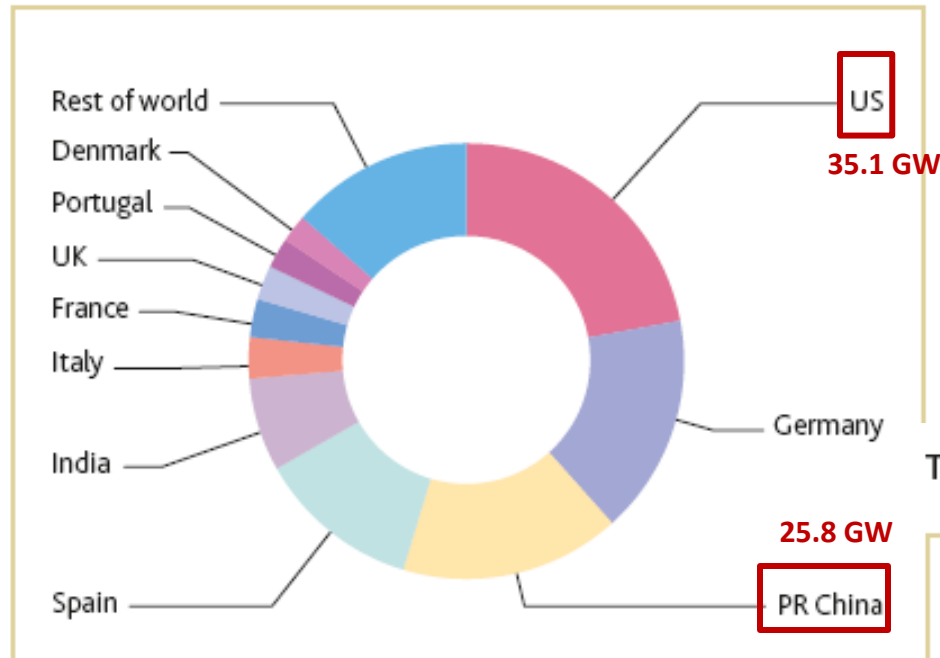
U.S. has a huge renewable resource base...



...and China does, too.



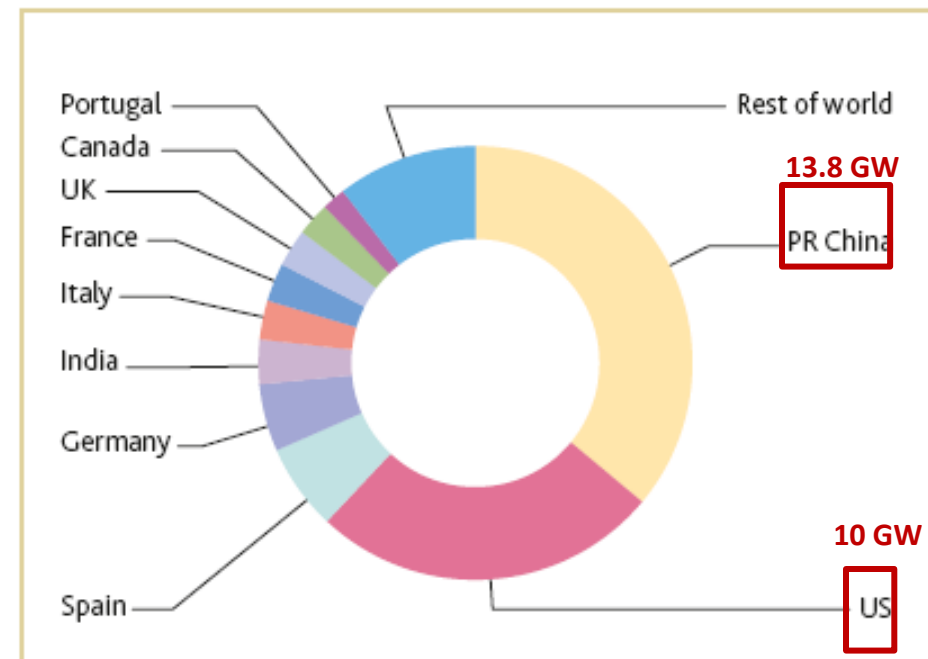
TOP 10 CUMULATIVE INSTALLED CAPACITY 2009



...and we're
ramping up
investment

We are already
world leaders
in renewable
energy

TOP 10 NEW INSTALLED CAPACITY 2009



Recovery Act will double renewables by 2012

30% tax credit for renewables
available when project is
placed in service, instead of
having to wait for annual tax
refunds over 10 years.
("Section 1603")

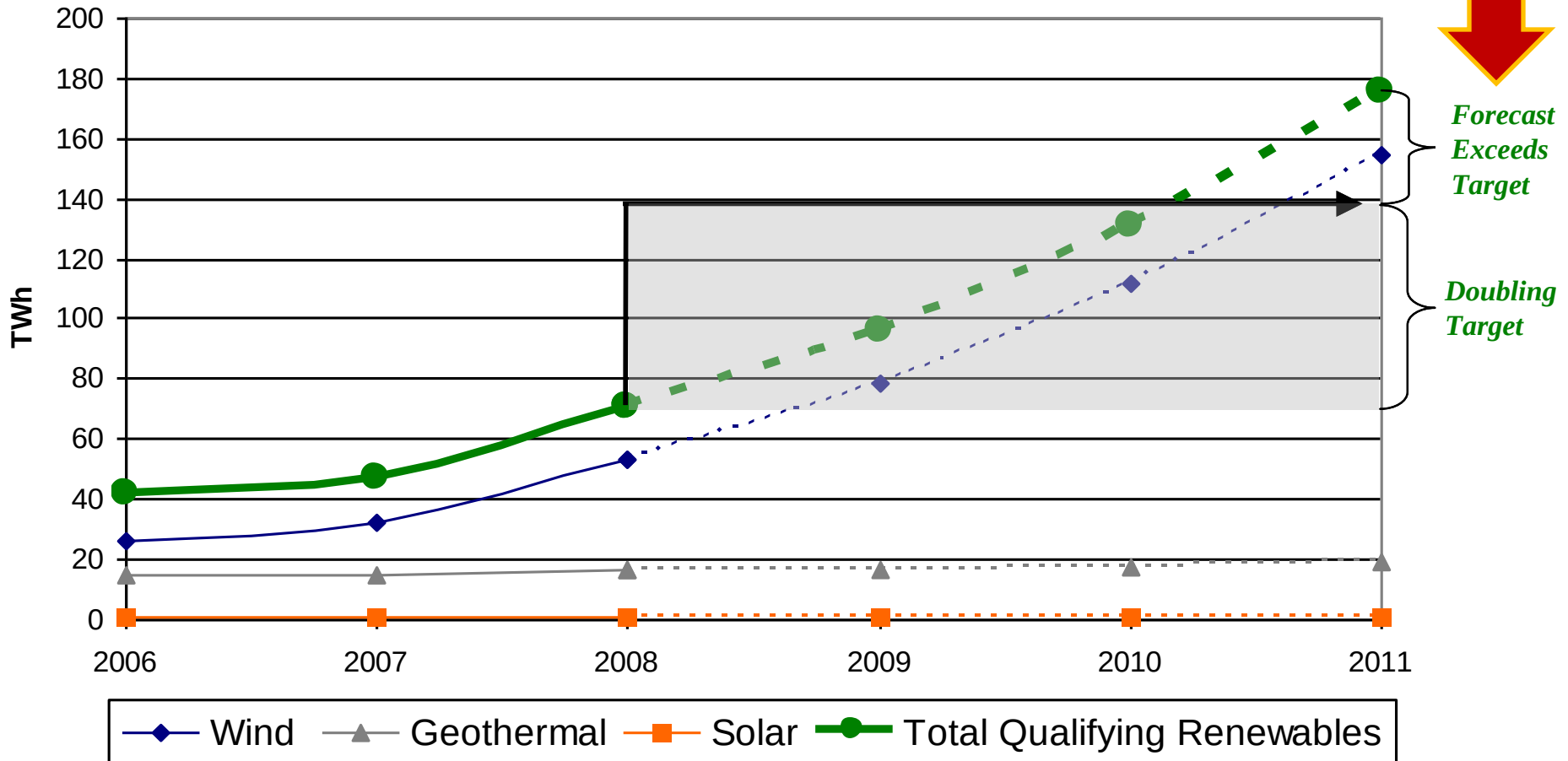


30% tax credit for major clean energy
manufacturing projects
("Section 48(c)")

We're making **loan guarantees** for the
first time since the 1980s

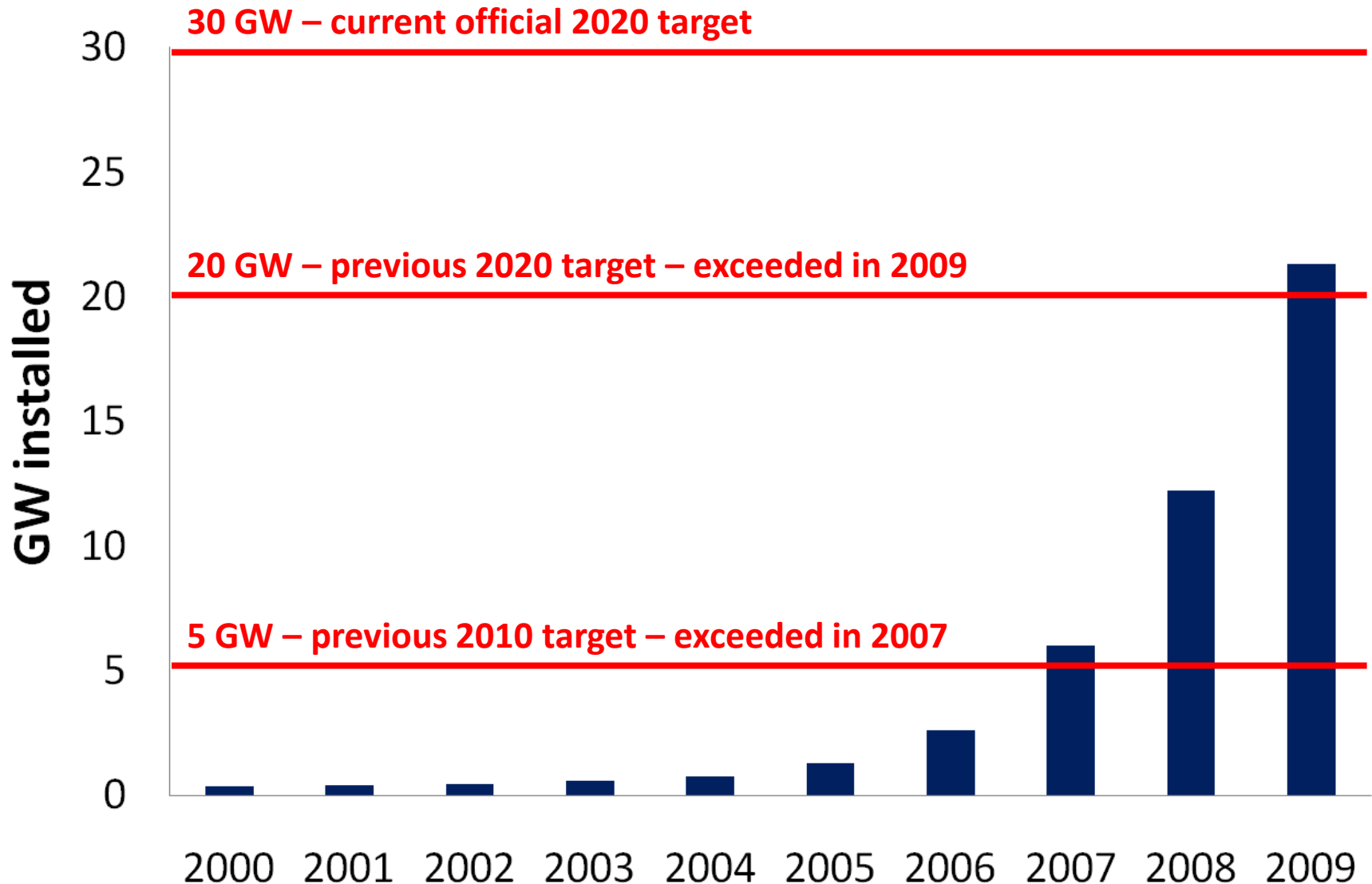
We are on track to exceed our 2012 target

Historical and Forecasted Data for Wind, Geothermal, and Solar Energy

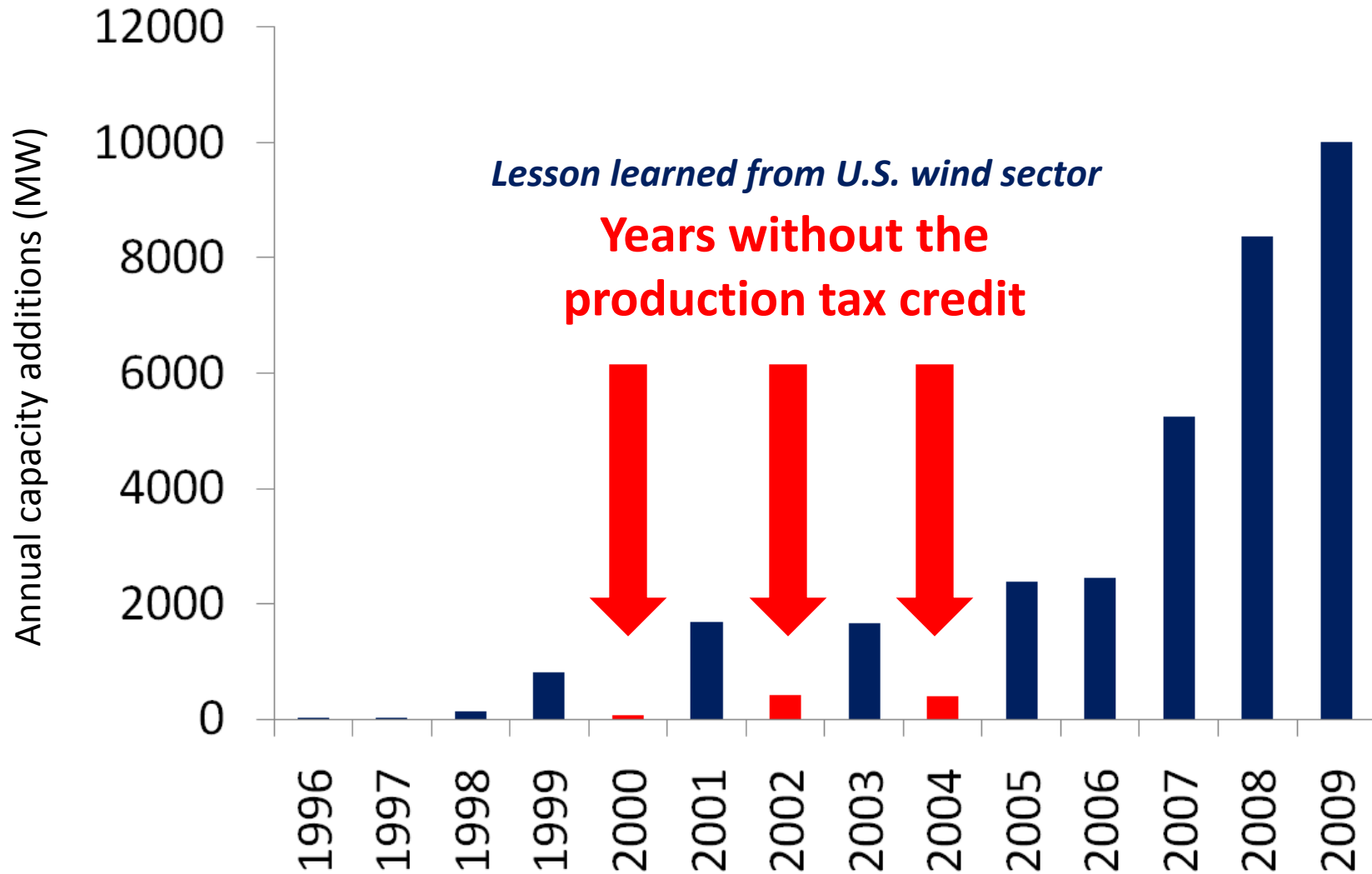


Source: Energy Information Administration, *Annual Energy Outlook 2009*, Updated April 2009.

China's wind installations are also exceeding targets



But we need stable, long-term policy to ensure this growth is consistent...



And high-impact innovation to sustain the clean energy transition...

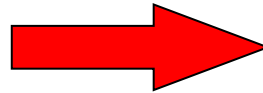


- Modeled after the Defense Advanced Research Projects Agency (**DARPA**)
- **\$400 million** in Recovery Act funds
- Short-term, **high-risk/high-reward** research projects

Innovation in wind: *High-efficiency turbines*



Leveraging mature jet engine technologies to create the next generation of compact wind turbines



Efficient, compact turbines could bring wind power to many more environments

Innovation in solar: *Simplified manufacturing*

High efficiency solar cells at a lower cost

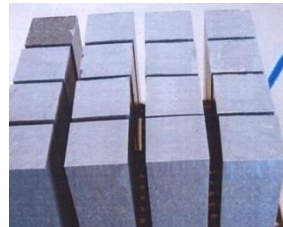
Current Silicon-Wafer Process



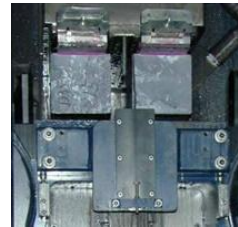
Pure Silicon



Cast Ingot



Cut Brick



Saw Wafers

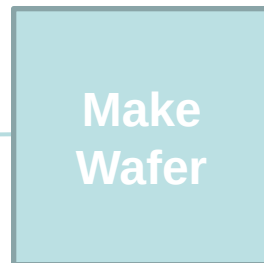


Clean & Damage Etch
Wafers

**50%
waste!**

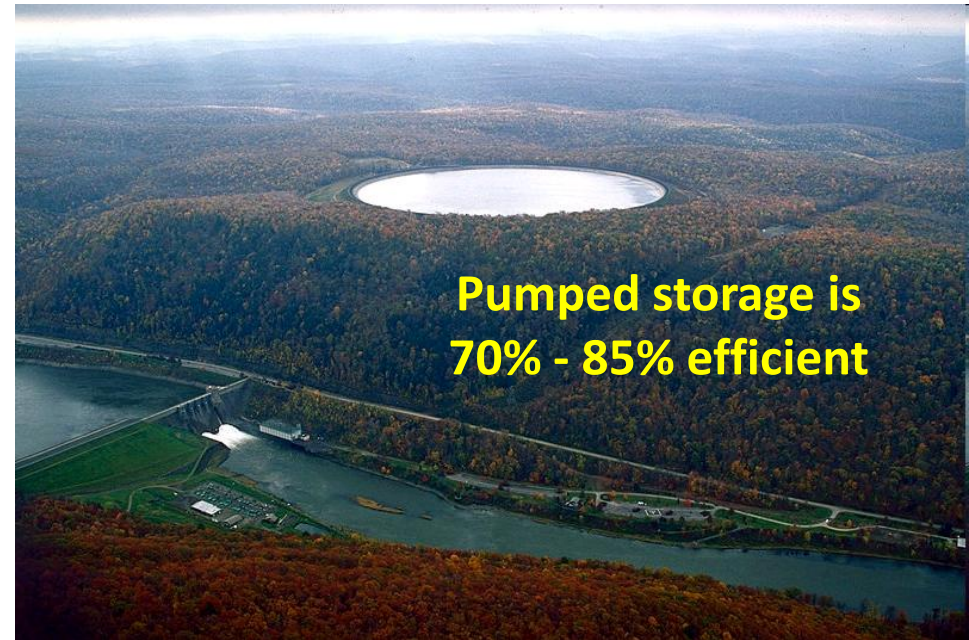


Pure Silicon



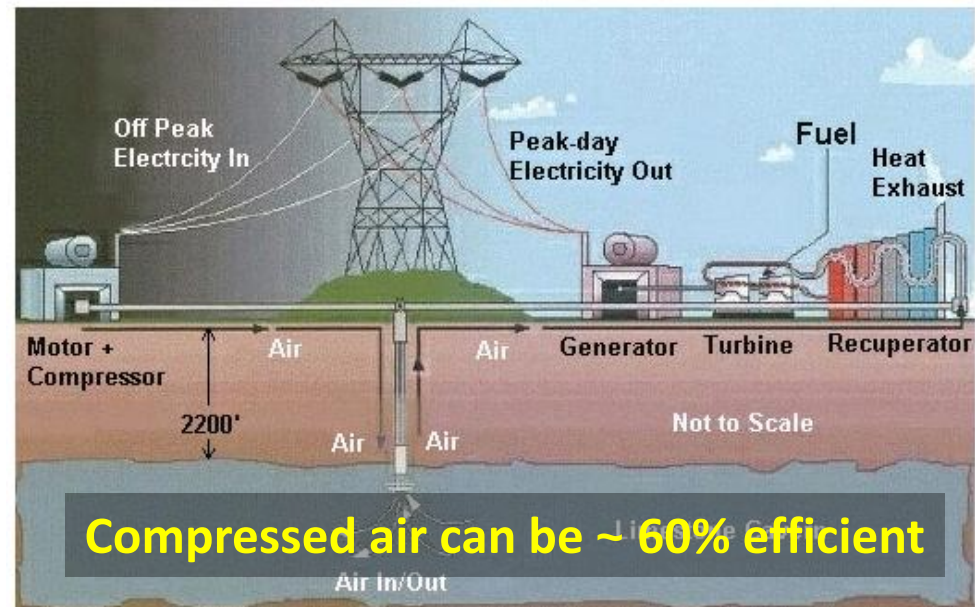
**Silicon to wafer in
one machine**

**Simpler “direct
wafer” technology
could dramatically
reduce costs**

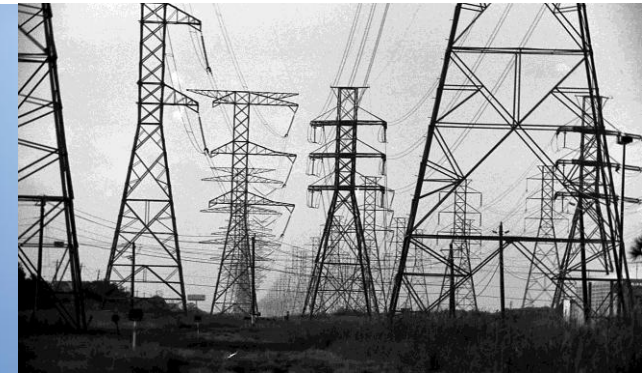


As renewable energy become
a greater part of our
electricity supply, we will need
a **smart grid** to respond to
variable generation

Large-scale energy storage
will also be needed



U.S.-China Renewable Energy Partnership



Joint roadmapping

Together develop a roadmap and identify the policy and financial tools, grid infrastructure, technology solutions need to achieve that goal

Grid modernization

Bring together policymakers, regulators, industry leaders and civil society in an Advanced Grid Working Group

Regional partnerships

Provide technical and analytical resources to states/provinces and regions in both country to support widespread renewable energy deployment

Advanced R&D

U.S. and China will to collaborate on research and development and pre-commercial demonstration of advanced biofuels, solar, wind and grid technologies

Public-private engagement

... e.g. through the U.S.-China Renewable Energy Forum

