

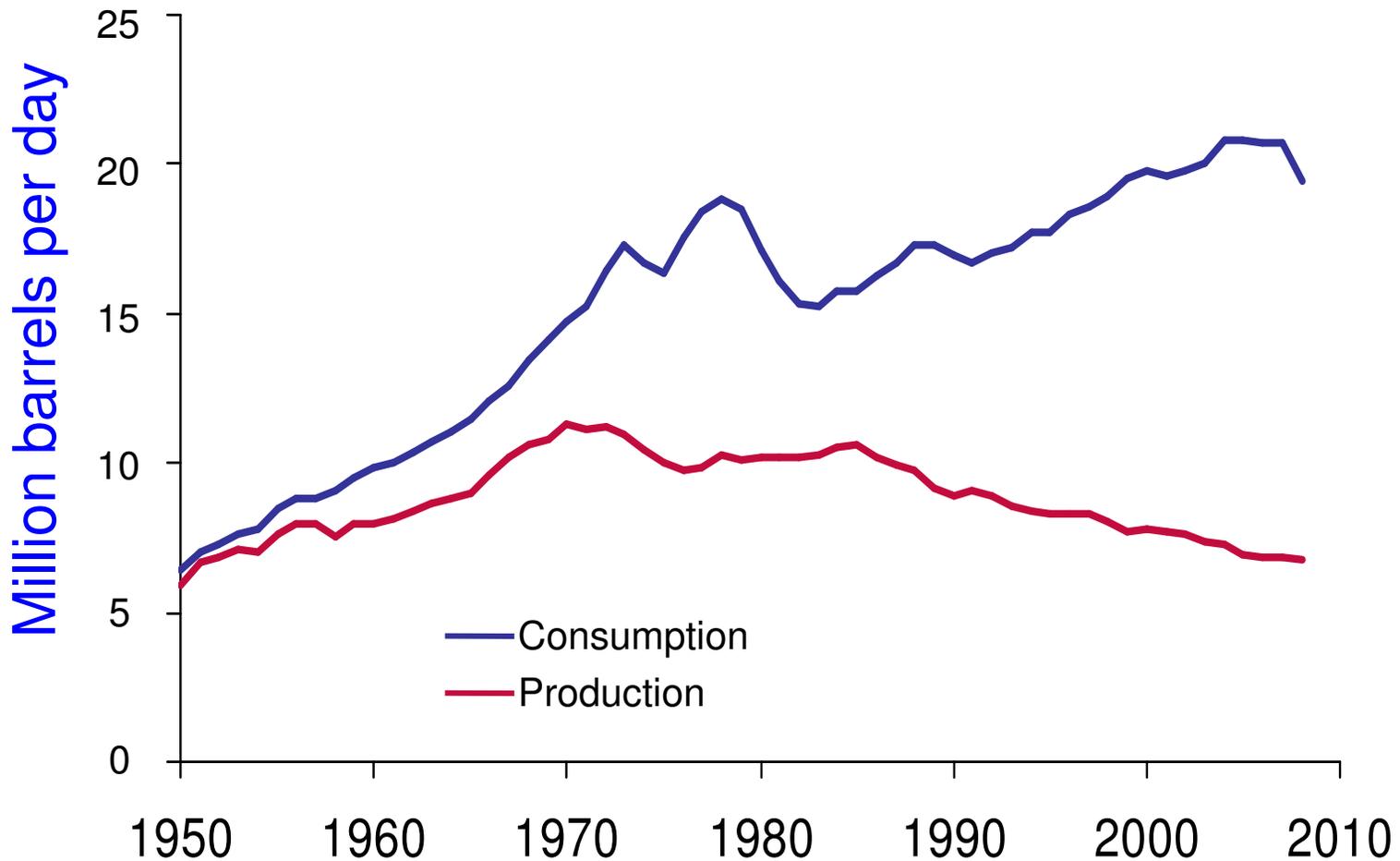
Laying the Foundation for a Generation of Clean Energy Jobs

Energy and Climate Stakeholders Briefing
October 7, 2009

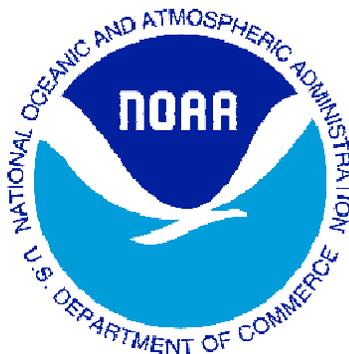
We need a new industrial revolution to ensure American competitiveness, decrease our dependency on foreign oil, and mitigate climate change.

The United States has the opportunity to be the innovation leader.

We are dependent on foreign oil



US became a net oil importer in the 1940s



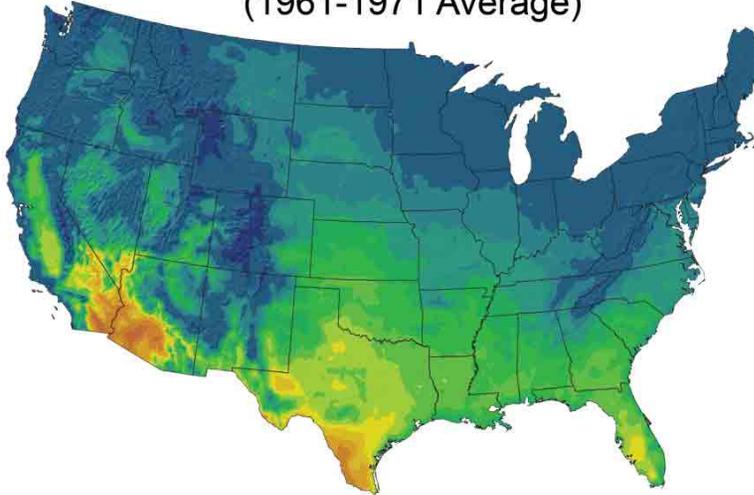
June 2009 summary of climate change impacts on the United States.

Sources include the IPCC and CCSP (Climate Change Science Program)

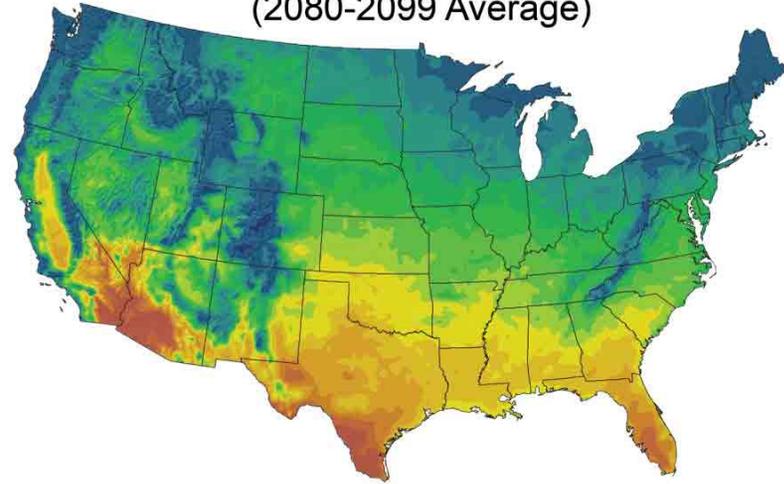


Days above 90° F

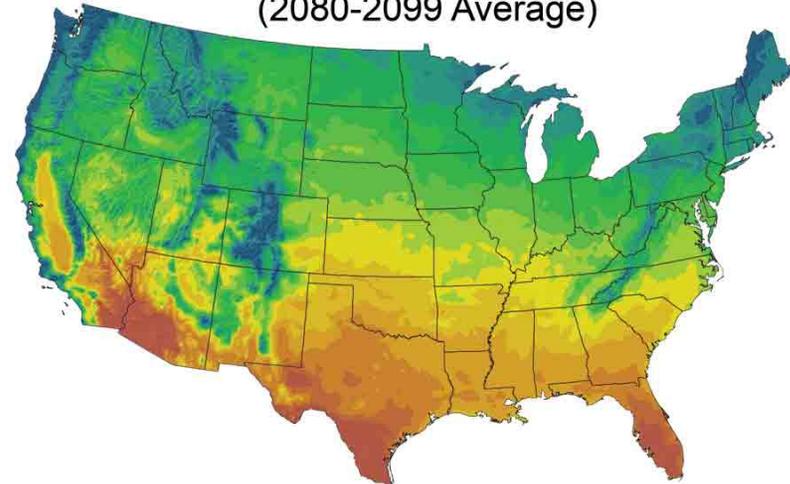
Recent Past
(1961-1971 Average)



Projected End-of-Century under
Lower Emissions Scenario⁹¹
(2080-2099 Average)



Projected End-of-Century under
Higher Emissions Scenario⁹¹
(2080-2099 Average)



Chicago:

~ 10 days to 75 -90 days
greater than 90° F

St. Louis:

~ 45 days to ~ 120 days
(1/3 of the year)

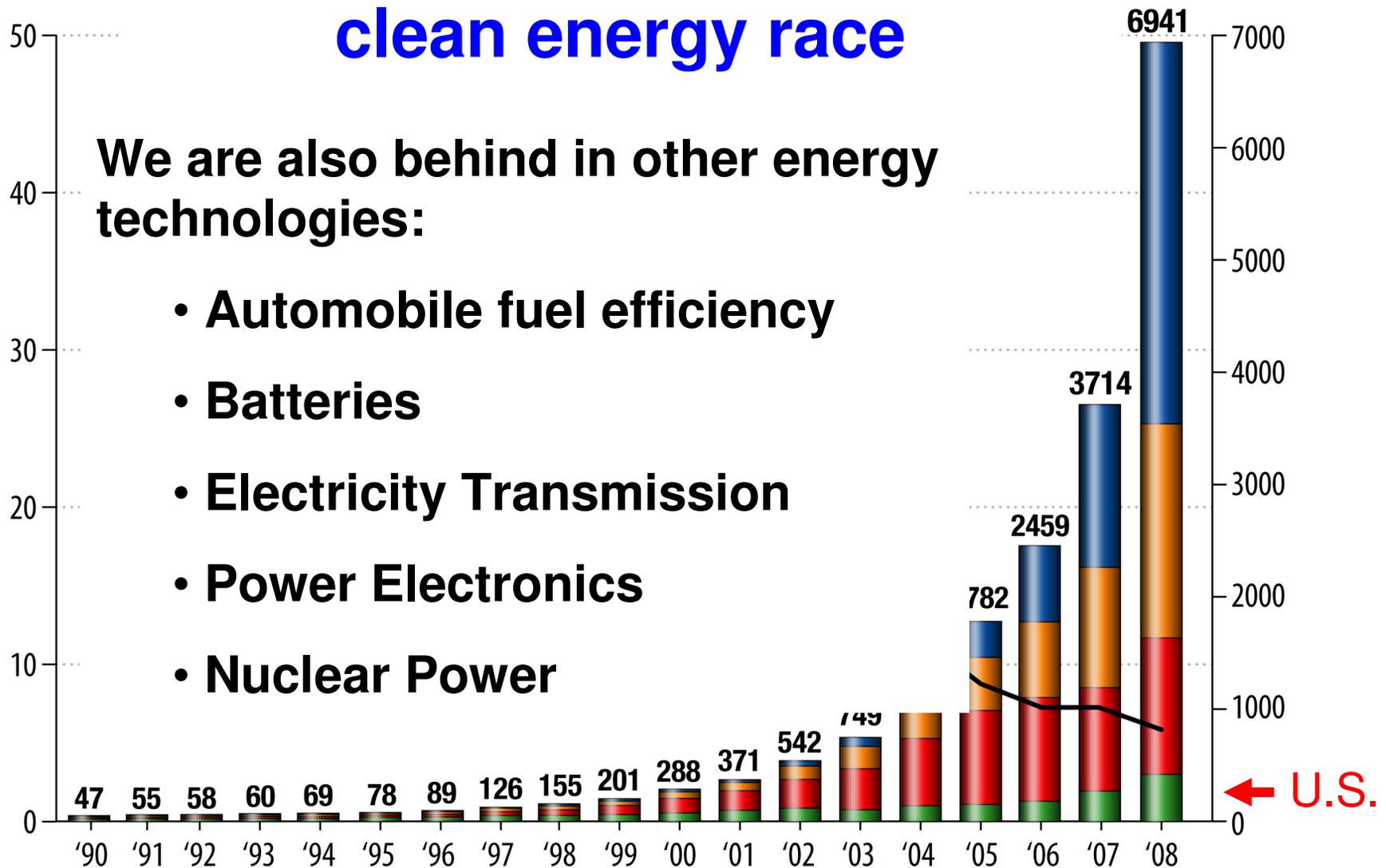
Number of Days per Year



We are falling behind in the clean energy race

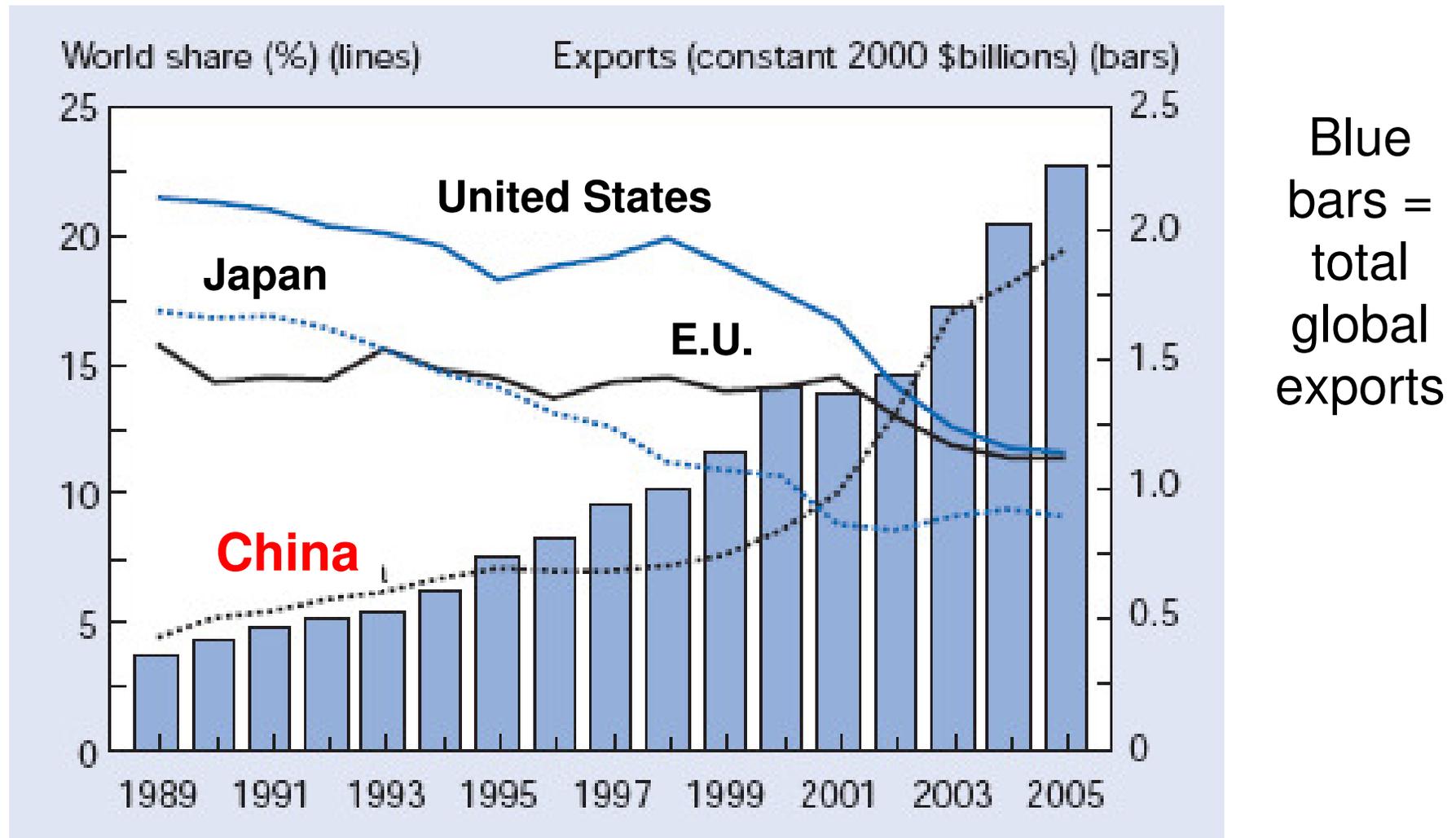
We are also behind in other energy technologies:

- Automobile fuel efficiency
- Batteries
- Electricity Transmission
- Power Electronics
- Nuclear Power



Worldwide shipments of Solar Photovoltaics – in Megawatts

China's high-tech manufacturing is soaring



Blue bars = total global exports

China is spending \$12.6 million every hour on clean energy

Goal: generate 10% of its electricity from renewable sources by 2010 and 15% by 2020.

11th Five Year Plan: reduce energy intensity by 20% by 2010



Wind target:
100 GW by 2020



State Grid: \$44 B by 2012 and
\$88 B by 2020 in UHV
transmission lines

Wind and Solar: A \$3.5 Trillion Market

As the world moves to limit carbon pollution, more than 500,000 wind turbines will be needed by 2030

At roughly \$4 million per turbine, this represents a market of more than \$2 trillion



The global market for solar PV panels amounts to nearly 3 million panels worth \$1.5 trillion

(Source: IEA's 2008 World Energy Outlook 440 PPM Case, using typical facility sizes and costs from EIA)

Today, we are announcing:



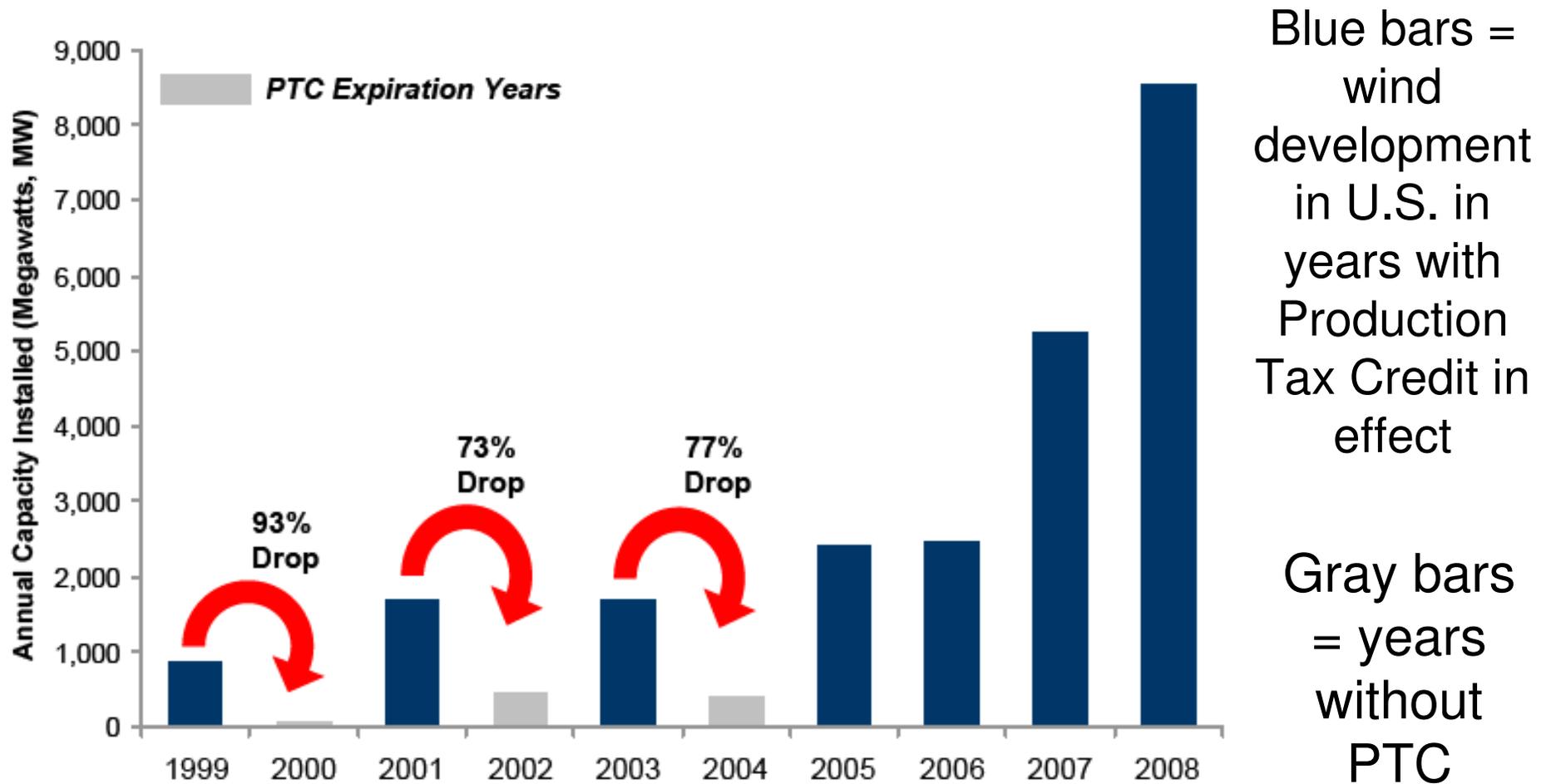
The creation of the Financial Institution Partnership Program

*The \$4 B of ARRA money will support \$32B in loan guarantees and create **\$40-50 Billion in project investments** with a streamlined approval process*

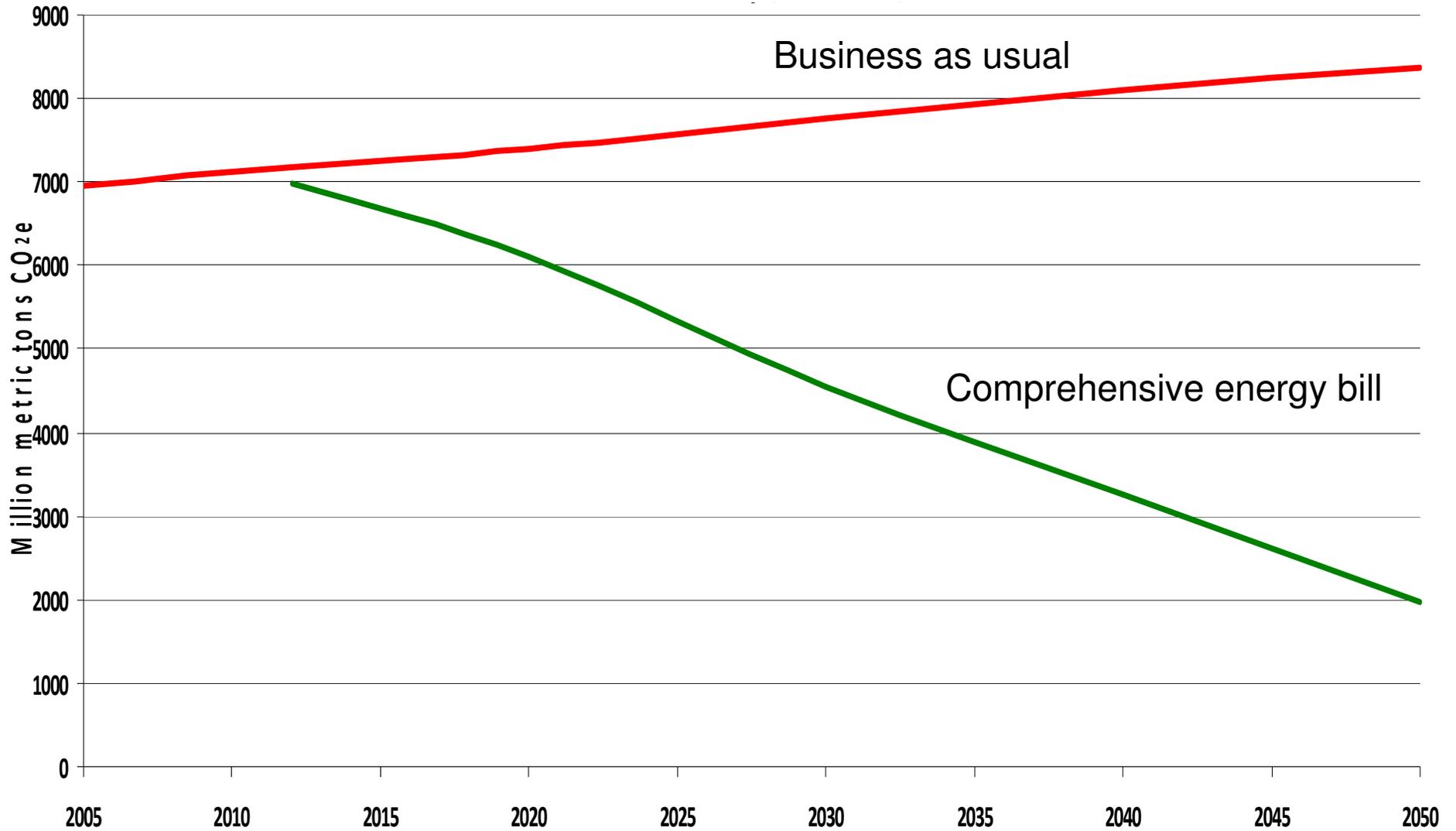
We are also providing \$750 million to accelerate conventional renewable energy projects

To cover loan guarantees that could support as much as \$4 to 8 billion in lending

Stable incentives spur clean energy businesses



The most important long term incentive is a cap on carbon emissions



President Obama: More than 80% emissions reduction by 2050

A Clean Energy Transition Will Create Jobs

One Wind Turbine Requires 1,500 Bolts

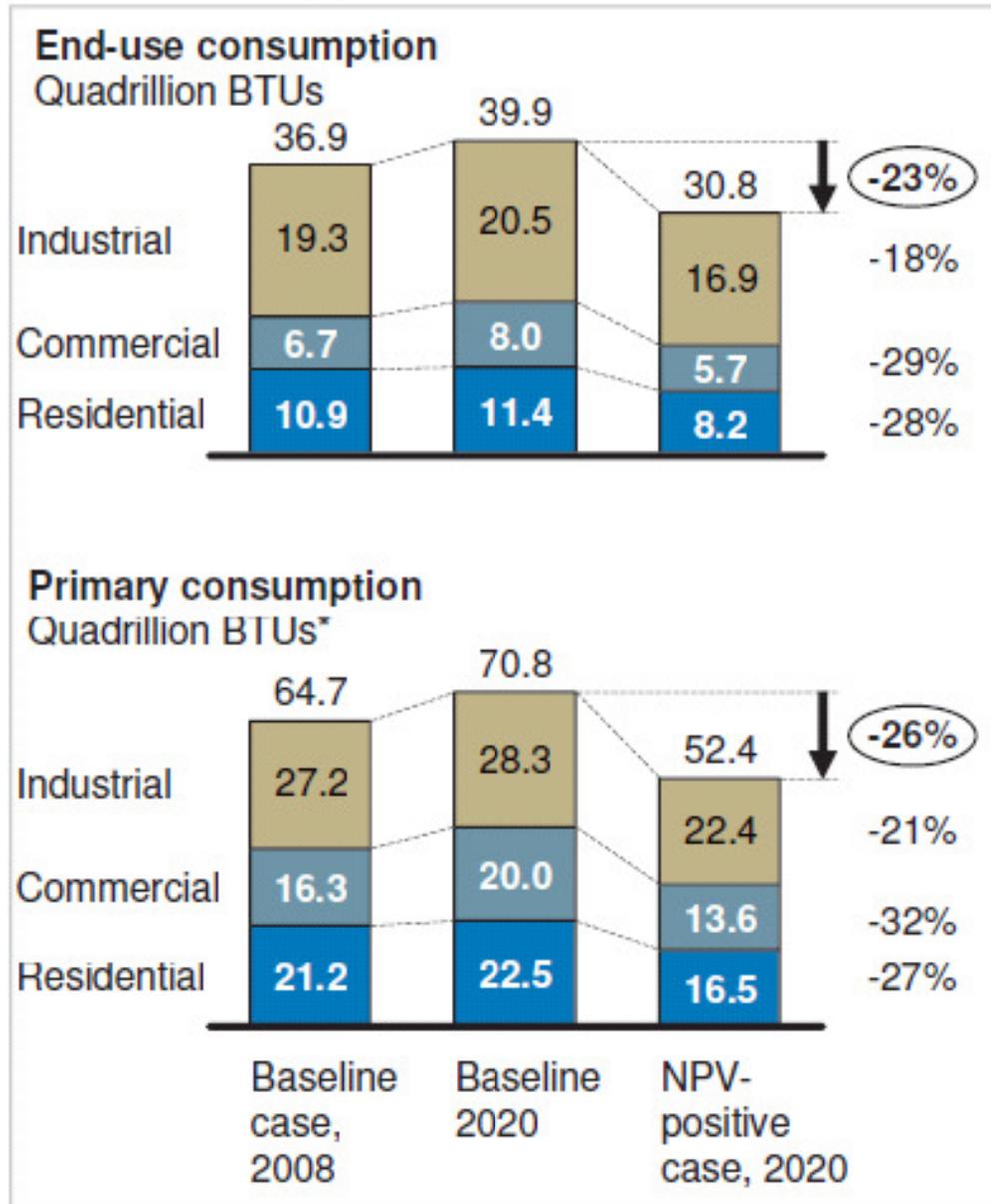


These bolts are manufactured by Cardinal Fastener, a rapidly growing company in Bedford Heights, Ohio

Cardinal will triple its workforce next year to 150 employees

These Ohio-made bolts are used by every U.S. turbine manufacturer and are also exported to foreign manufacturers

McKinsey: Energy Efficiency is a vast, low-carbon energy resource for the U.S. economy



McKinsey: Energy efficiency could abate 1.1 giga-tons of greenhouse gases annually, at a savings of \$680 B, based on Net Present Value estimate.

Investments in energy efficiency will create jobs.

Money saved on energy costs is pumped back into the economy.

A Clean Energy Transition is Affordable

Three analyses confirm the Waxman-Markey approach would cost about a postage stamp per household per day

Congressional Budget Office:
About **44¢** a day in 2020

Environmental Protection Agency:
About **22 – 30¢** a day - annualized
average through 2050

Energy Information Administration:
About **37¢** a day in 2020

