Meeting the Energy and Climate Challenge

Energy Information Administration

2010 Energy Conference

6 April 2010

America has the opportunity to lead the world in a new industrial revolution:

To ensure American competitiveness,

Decrease dependency on foreign oil,

And mitigate climate change.

It starts with good data and analysis…

EIA is impartial, thorough, and fair – and therefore trusted

EIA's importance is growing:

Tripled the size of its residential energy demand survey; looking to expand commercial and manufacturing surveys

Keeping up with industry changes through work on shale gas, Smart Grid, and alternative energy sources and technologies

Increasing attention to energy-financial market linkages, and ensuring high-quality flagship data releases

U.S. Energy Information Administration
Independent Statistics and Analysis

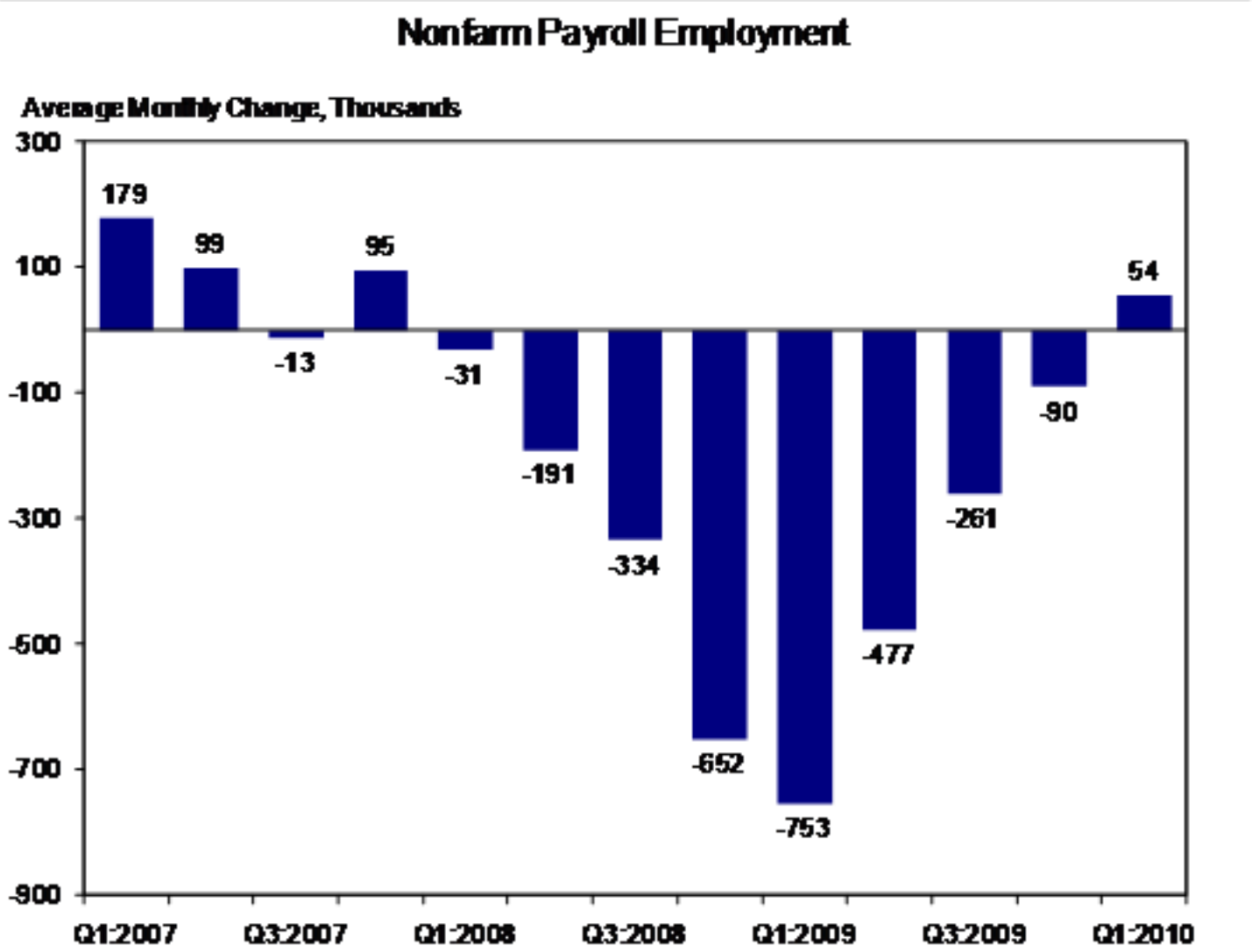
In the near term, government investment is critical

The Recovery Act is making an **$80 B** down payment on a clean energy economy

Creating jobs immediately

Investing in our energy infrastructure to provide lasting value

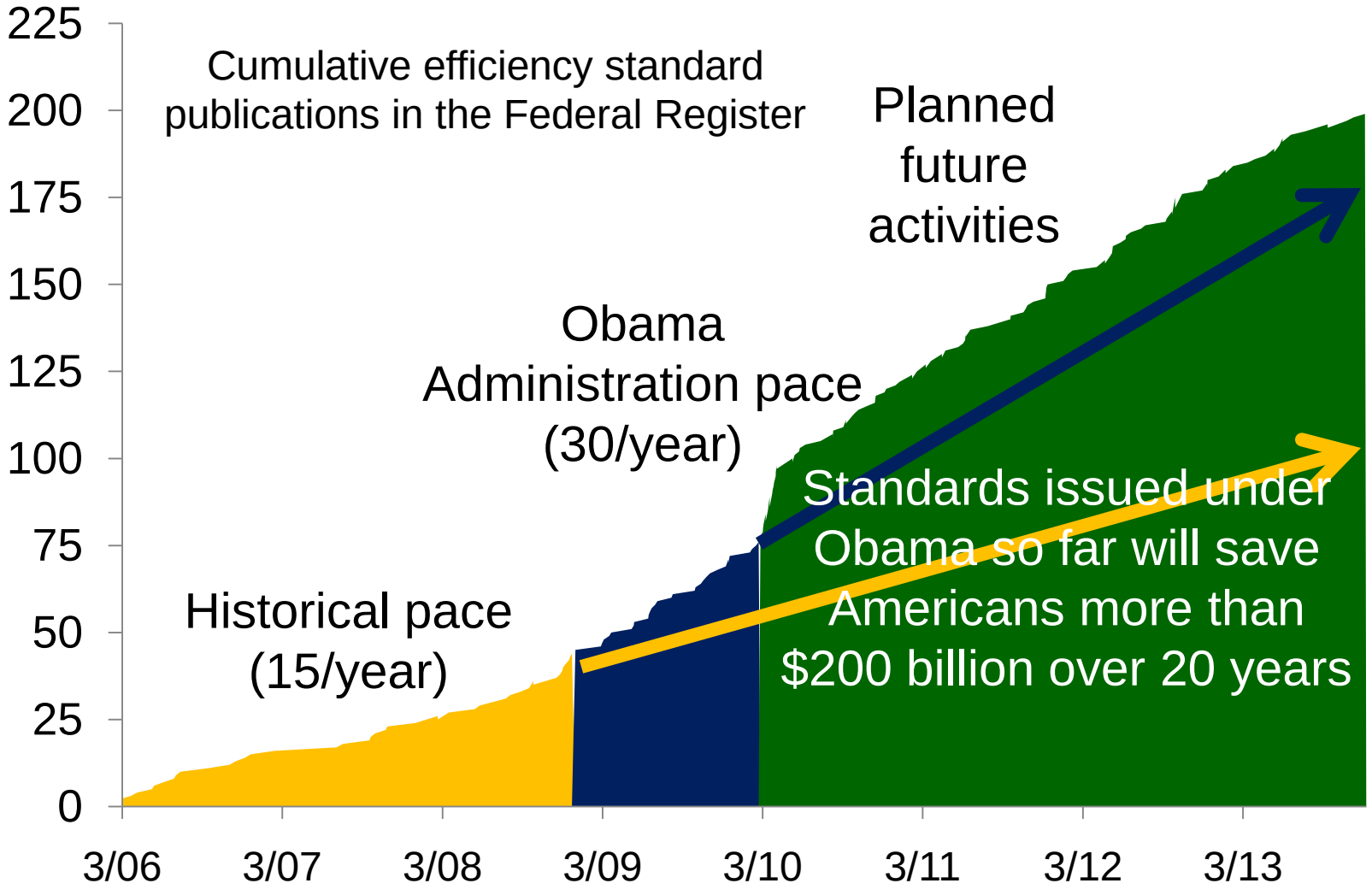
The Recovery Act is putting Americans to work (From losing 753,000 jobs/month to gaining 54,000/mo.)



The momentum started by the Recovery Act needs to be continued.

We can and must become the global leader in the clean energy economy of the future.

We are accelerating appliance standards – and toughening & enforcing them



Building a home retrofit industry in America

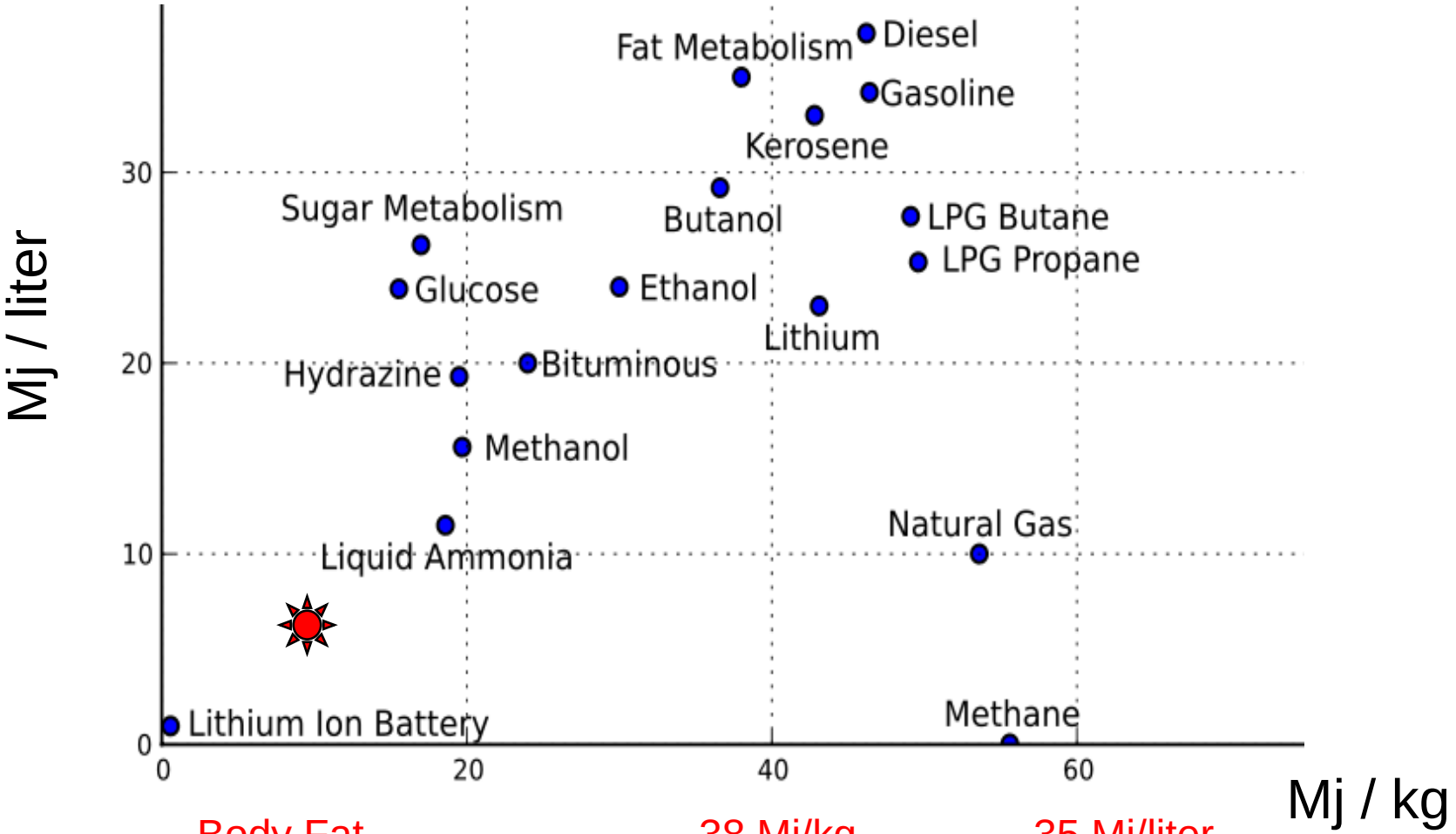
Retrofit Ramp-up – a $400 million initiative to fund building retrofit programs that reach ***whole neighborhoods***

Home Star – Would provide rebates directly to homeowners to create jobs and save energy

We are open to all ideas on how to make energy/money savings a social norm.

We can enhance our energy security through responsible use of America's energy resources

Energy densities of chemical fuels and the best commercial battery



Body Fat	38 Mj/kg	35 Mj/liter
Kerosene, jet fuel	43 Mj/kg	32 Mj/liter
Lithium ion battery	0.54 Mj/kg	0.9 Mj/liter

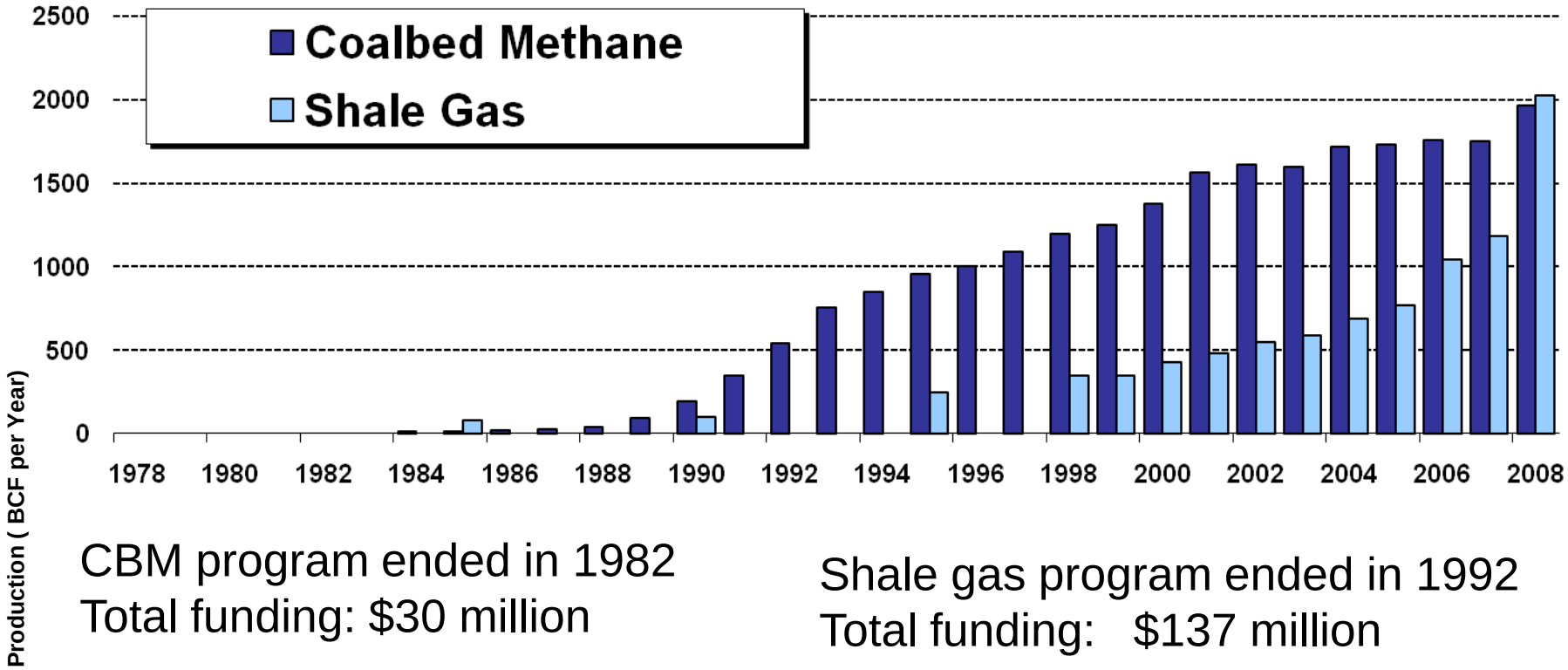
Responsible expansion of offshore oil and gas exploration as part of a comprehensive energy and climate program

The Administration will expand oil and gas development and exploration on the U.S. Outer Continental Shelf ***in a manner that protect communities and coastlines.***

"Given our energy needs, in order to sustain economic growth, produce jobs, and keep our businesses competitive, we're going to need to harness traditional sources of fuel even as we ramp up production of new sources of renewable, homegrown energy." –

President Obama

DOE investments have led to massive increases in recoverable coalbed methane and shale gas



CBM program ended in 1982
Total funding: $30 million

Shale gas program ended in 1992
Total funding: $137 million

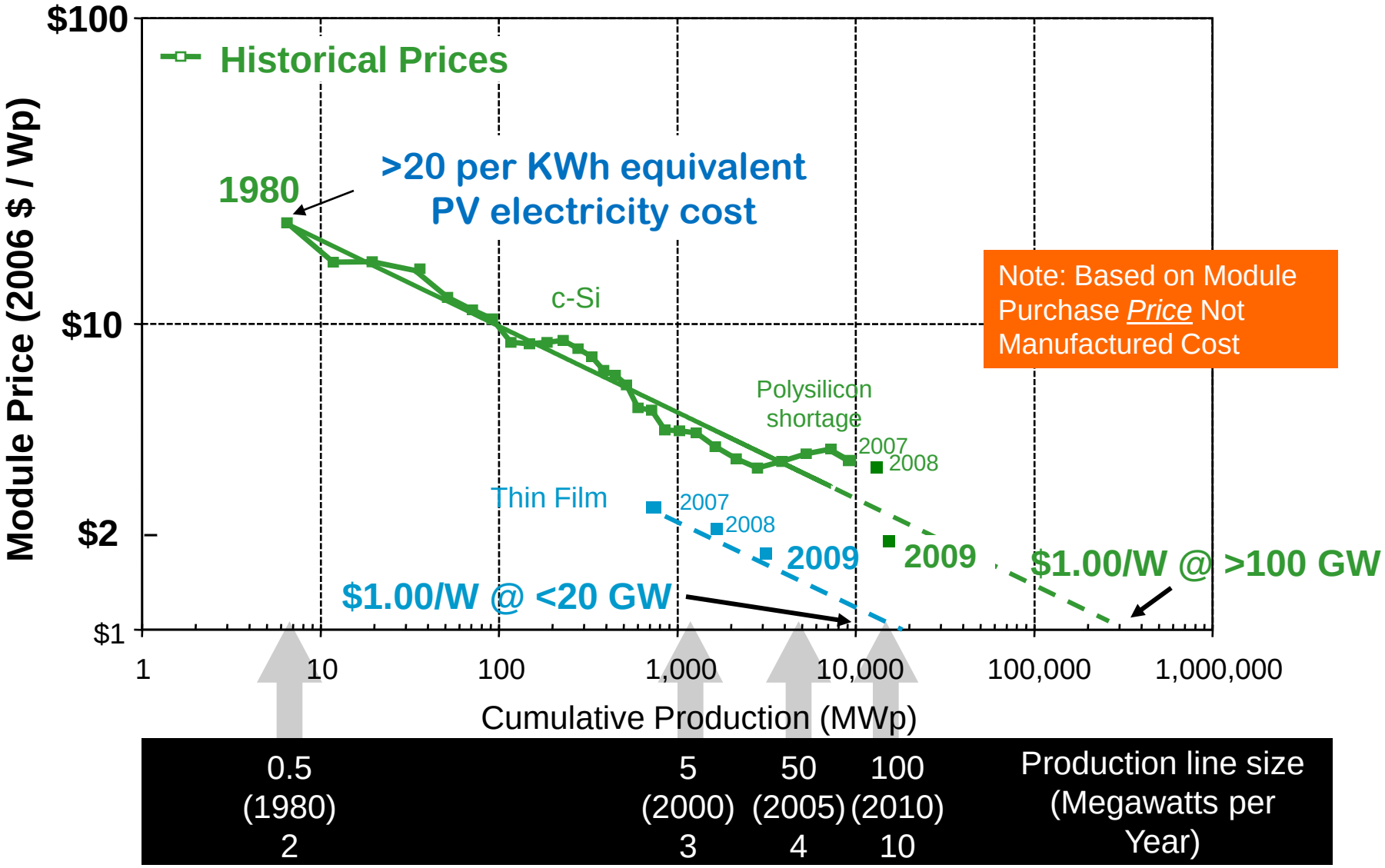
Could methane hydrates be next?

DOE investing $64 million in early-stage research

Source: EIA

We are developing technologies
that will have a significant impact

Learning Curves: crystalline silicon and thin-film technology



Source: Adapted from National Renewable Energy Laboratory

The US, China, Russia, Australia, and India have ¾ of the world's known coal reserves.

The US is investing $4 billion in CCS, matched by ~$7 billion of private sector money.

We are supporting $8 billion in loan guarantees.

We are working towards reducing costs to allow commercial deployment in 8 – 10 years

Small Modular Reactors (300 MW or less)

Benefits:

- Can be “mass-produced” in a factory, and transported by ship, truck, or rail.
- Replacements for moderate sized power plants with no need to upgrade existing transmission system.
- Investment costs of one conventional large nuclear reactor is between $7 to $9 Billion. This amount of financial commitment would be a significant fraction of many power producer’s assets or market capitalization.

President’s budget request includes $39 million for a new program for small modular reactors.

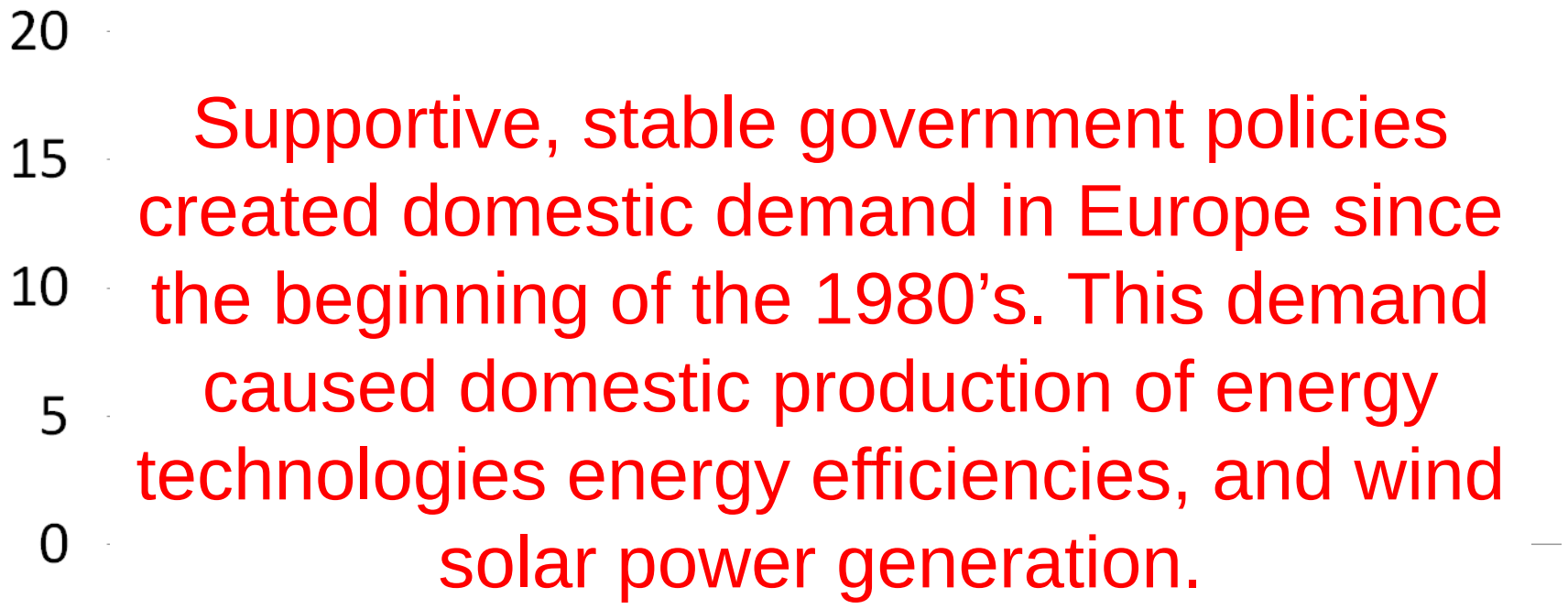
To achieve our clean energy goals, we need rapid, large-scale deployment of technology.

Technology deployment requires investment.

Investment flows toward opportunities for profit.

Market opportunities are structured by policy.

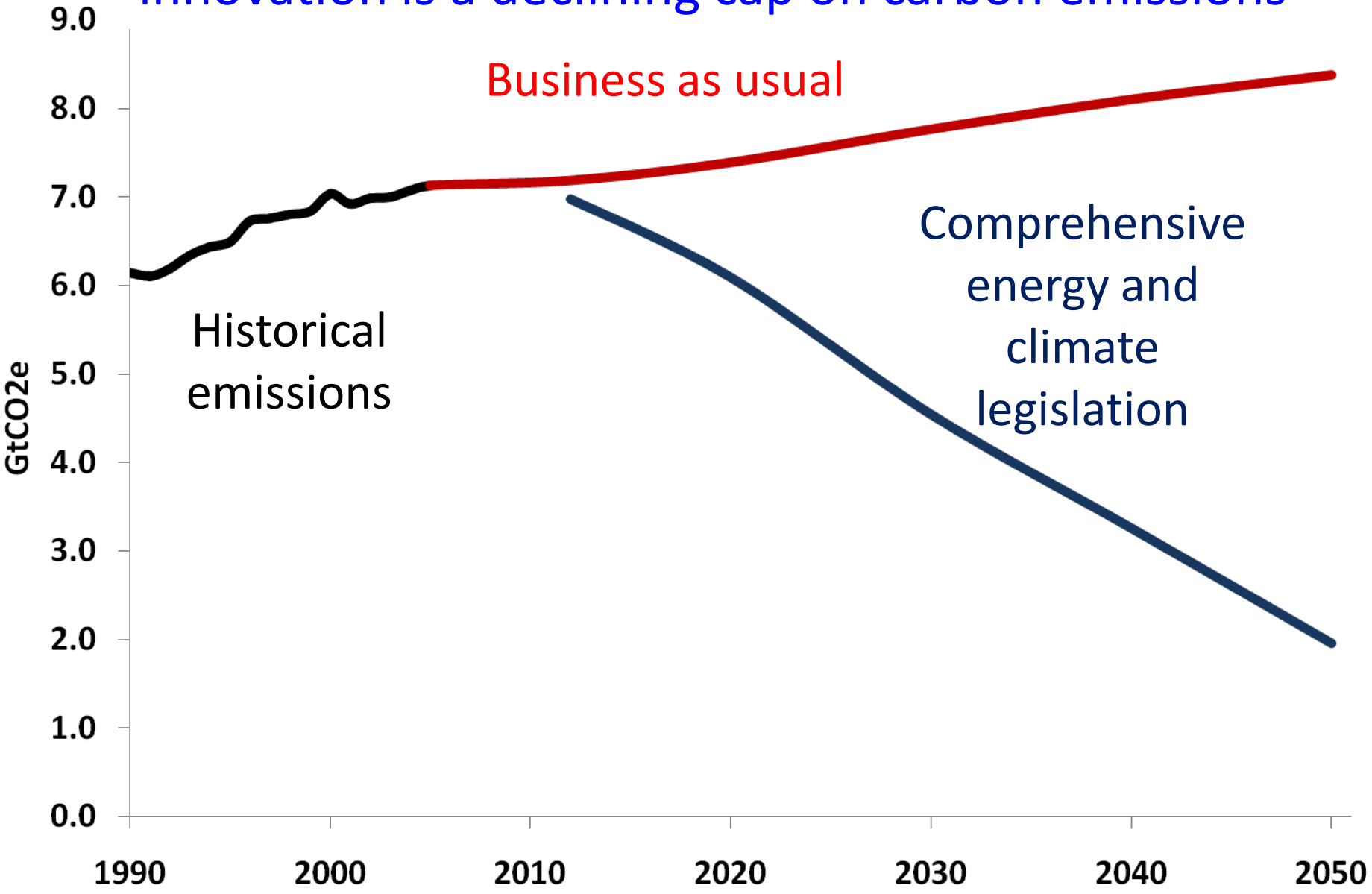
Strong policies drive clean energy investment



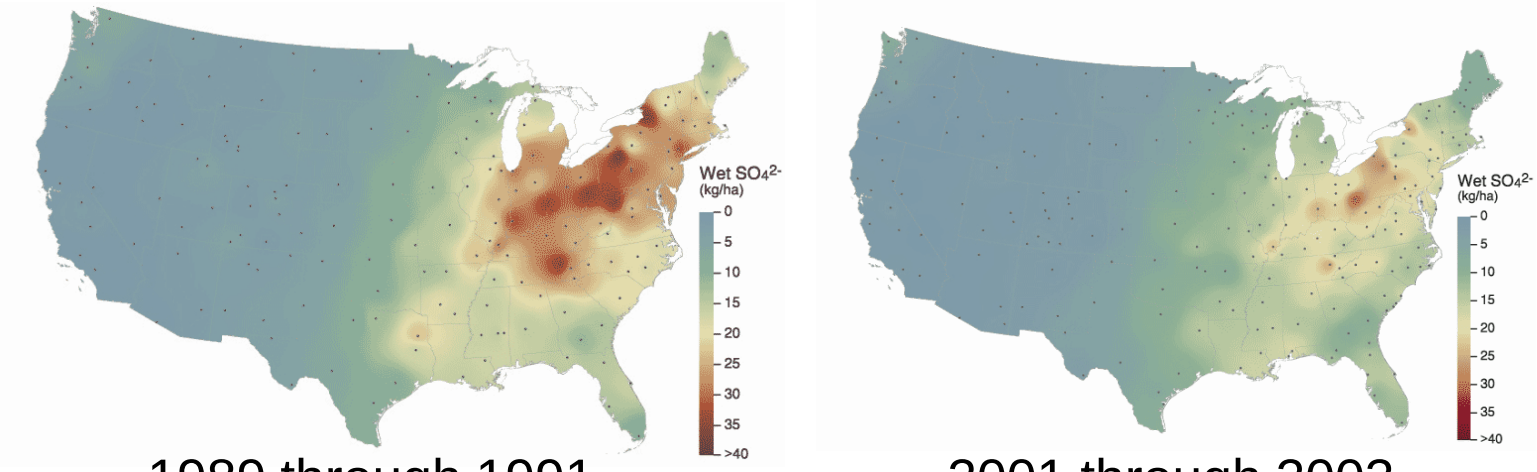
Policies include:				
	Carbon cap	Carbon cap	Renewable electricity standard	**States**
	Green Bank	National efficiency target	Feed-in tariffs	?
	Renewable electricity standard	Feed-in tariffs	Tax incentives	

Source: REN 21; IMF, Center for American Progress

The most important policy that will stimulate innovation is a declining cap on carbon emissions



The private sector can deliver results cheaply and efficiently



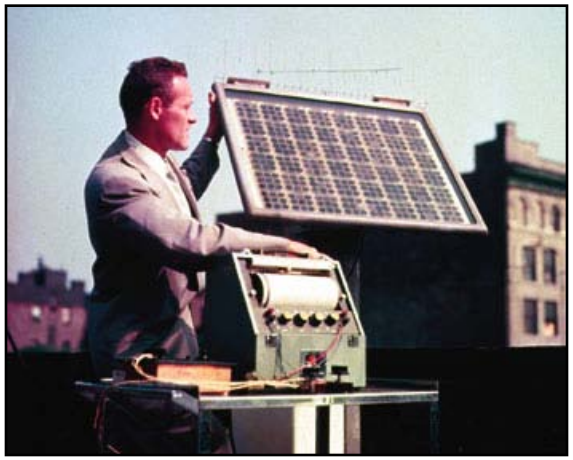
1989 through 1991 2001 through 2003

Annual Mean Wet Sulfate Deposition

The costs of the Acid Rain Program were 4 times less than originally projected by the EPA

EPA: The Acid Rain Program led to the “largest quantified human health benefits of any major federal regulatory program implemented in the last 10 years, with benefits exceeding costs by more than 40:1”

The U.S. innovation machine is the greatest in the world. We can lead the world in the transition to sustainable energy



Bell Labs solar cell - 1954

First transistor

Pentium CPU

Ted Maiman and the first laser - 1961

NAVSTAR GPS satellite

- The cost of oil and other forms of energy will rise in the coming decades.

- The risks of climate change are becoming increasingly apparent. We *will* live in a carbon constrained world.

- China, EU countries and others see the economic opportunity and are moving aggressively.

America ***still*** has the opportunity to lead the world in a new industrial revolution and secure our future prosperity, but time is running out.

The train is leaving the station.