



# Cashing in on Clean Energy:

A National Renewable Electricity Standard  
will Benefit the Environment AND the  
Economy

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**Union of  
Concerned  
Scientists**

Citizens and Scientists for Environmental Solutions

# Methodology

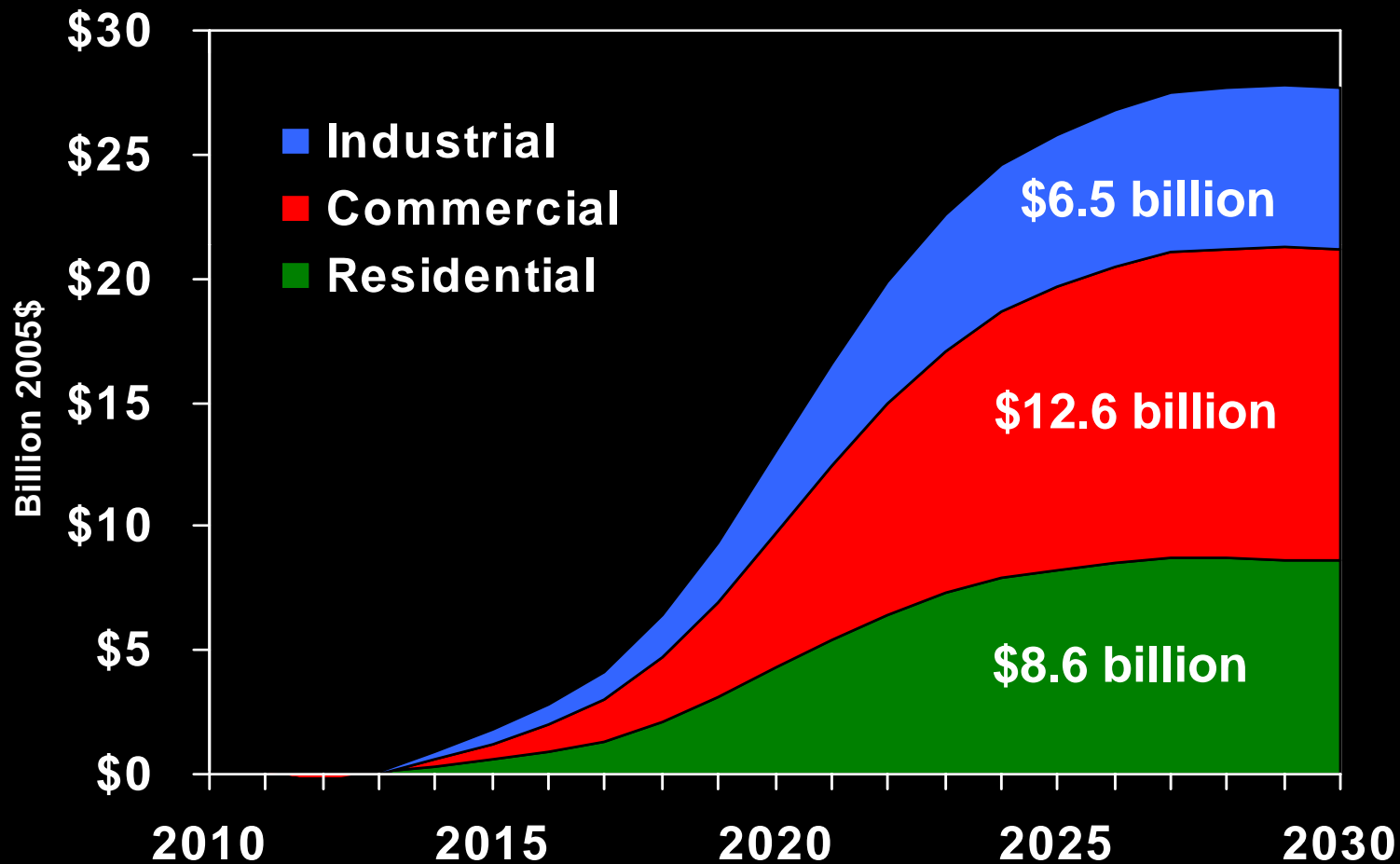
- Used EIA's National Energy Modeling System (NEMS) developed for Annual Energy Outlook 2007
- Analyzed the impacts of a House-passed 15% by 2020 National RPS under two scenarios
  - Higher renewable energy case
  - Lower renewable energy case

## **Modifications to NEMS:**

- Used Black & Veatch cost and performance assumptions for wind, coal, natural gas, and nuclear
- Used cost and performance assumptions for solar, geothermal, and biomass that are more in line with DOE/NREL projections
- Accounted for recent capital cost increases from actual conventional and renewable energy projects

# A national RES saves consumers money on energy bills

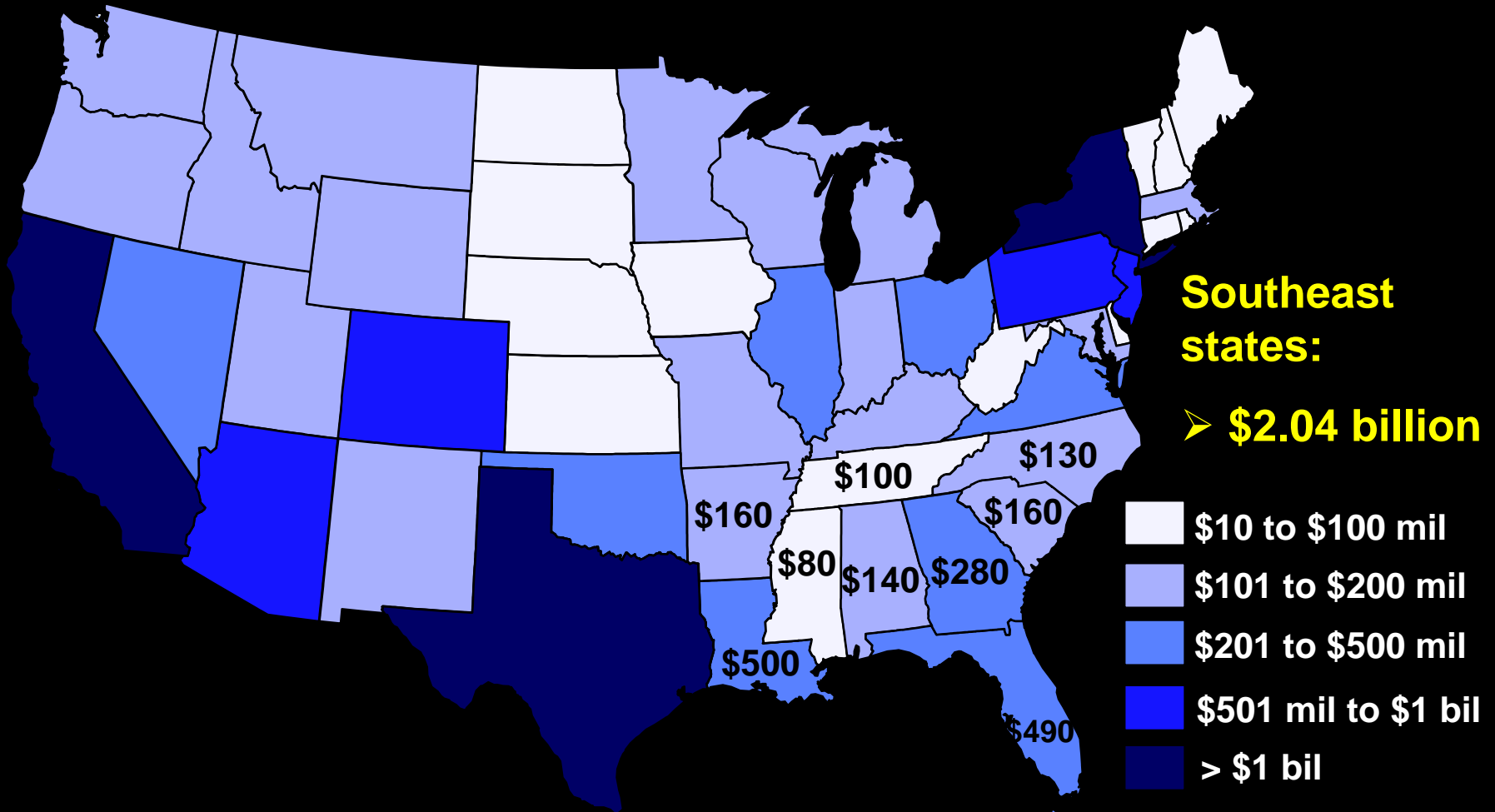
Cumulative Natural Gas and Electricity Bill Savings,  
15% National RES\* higher renewable energy case



\*Results are presented in 2005 dollars using a 7 percent real discount rate.

# Consumer savings in every state

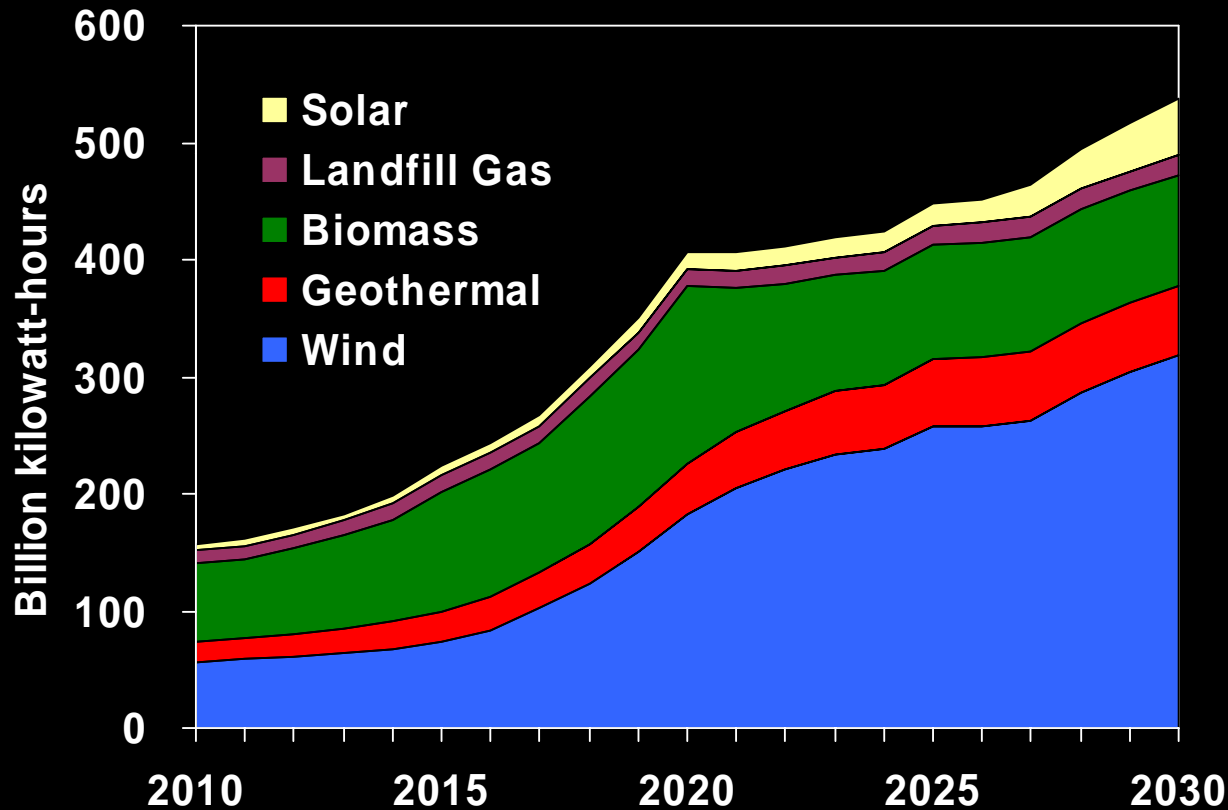
Cumulative Natural Gas and Electricity Bill Savings by State (2020),  
15% National RES\* higher renewable energy case



\*Results are presented in 2005 dollars using a 7 percent real discount rate.

# Renewable energy diversifies the power mix...

Renewable Energy Generation Mix,  
15% National RES\* higher renewable energy case



91,000 MW by 2020

➤ ~ 4.5 times 2005 levels

➤ Could power 68 million typical U.S. homes

➤ Enough energy efficiency to displace 6+ coal and natural gas plants

# ...and reduces fossil fuel use



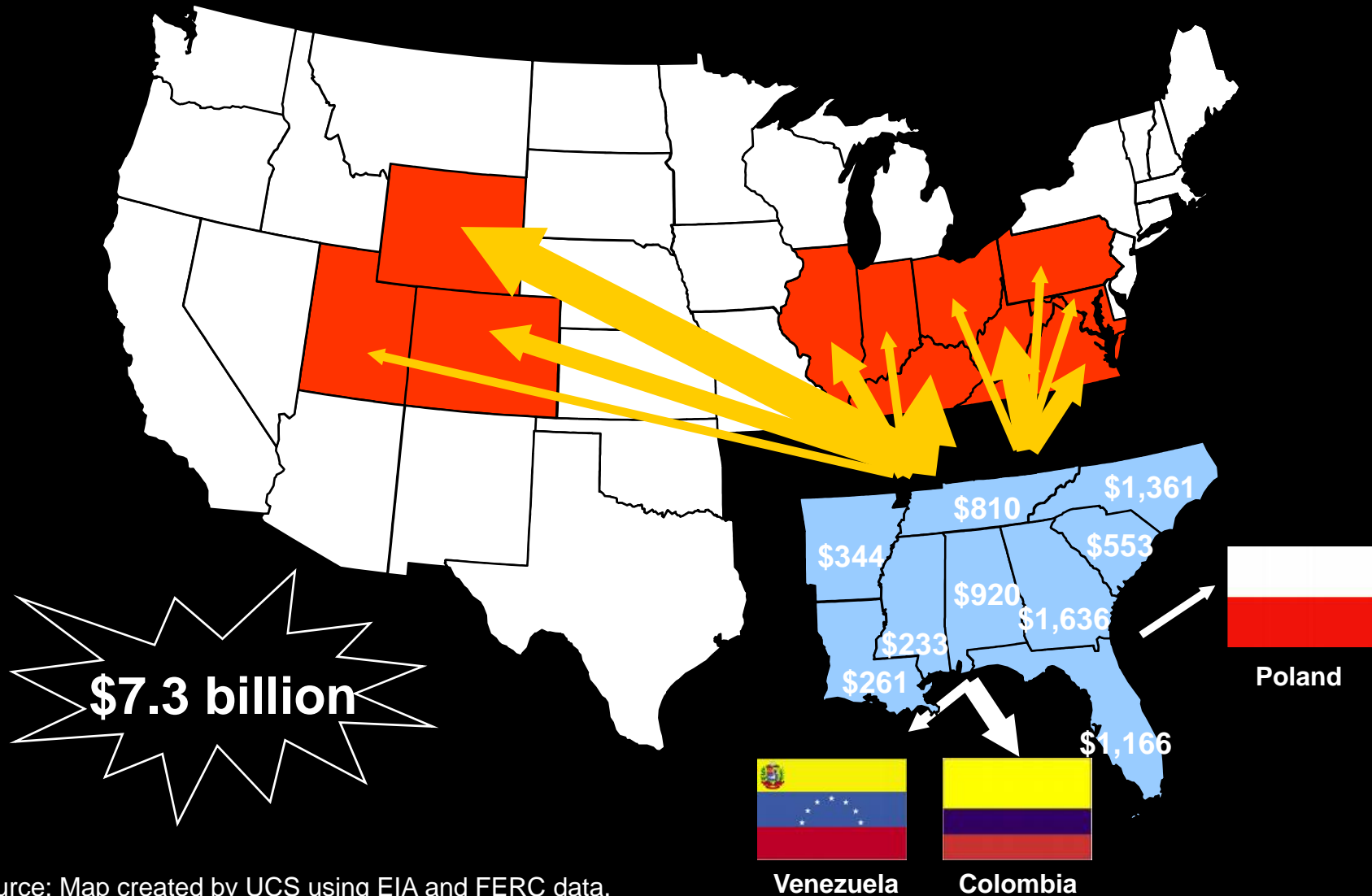
**Nationally by 2020,**

- **2 trillion cubic feet of natural gas**
- **242 million short tons of coal**



# Helping to keep energy dollars at home

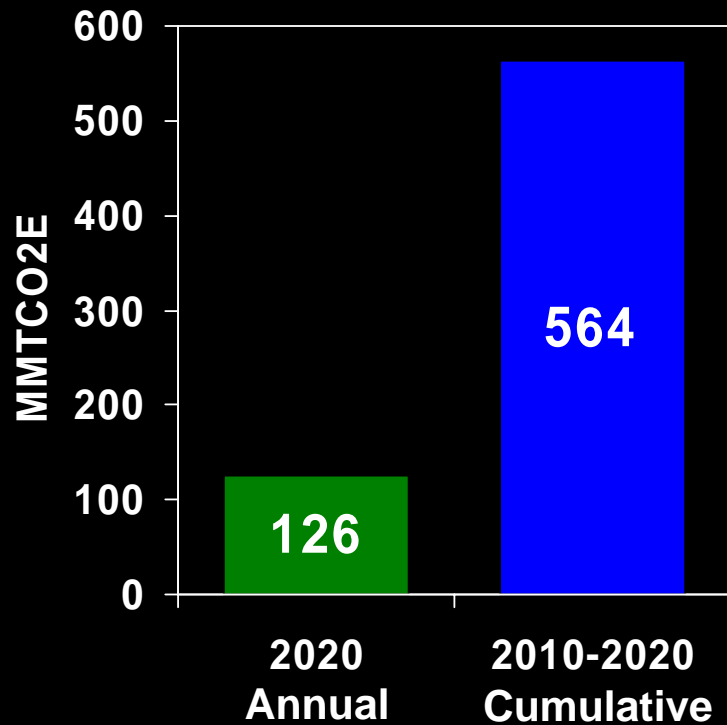
Annual Coal Import Expenditures, 2005 (million \$)



Source: Map created by UCS using EIA and FERC data.

# A down payment on reducing global warming

Power Plant Carbon Dioxide Emission Reductions\*,  
15% National RES higher renewable energy case



**In 2020, CO<sub>2</sub> reductions equivalent to  
20.6 million cars off the road**

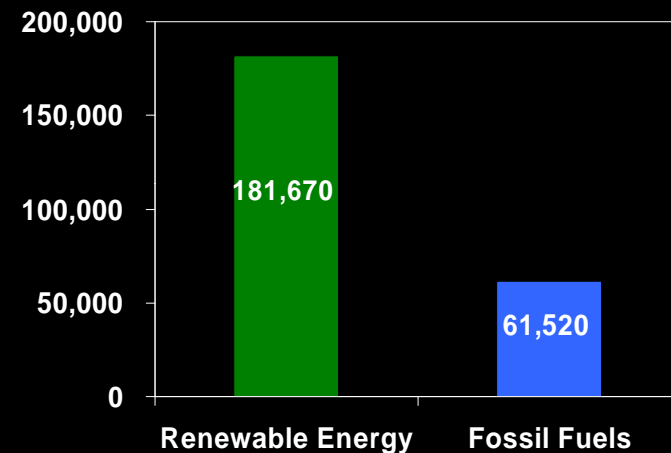


\*Compared with business as usual.

# Jobs and other benefits to local economies

- Net benefit of 120,000 jobs
- \$66.7 billion in new capital investment for renewable energy technologies\*
- \$25.6 billion in new income for farmers, ranchers, and rural landowners
- \$2 billion in new property tax revenues

Job Creation, Renewable Energy vs. Fossil Fuels, 2020  
20% by 2020 National RES, UCS Case



\*Results are presented in 2005 dollars using a 7 percent real discount rate.

**A 15% national standard is achievable and would provide:**

- **Consumer savings**
- **Energy diversity**
- **Down payment toward reducing global warming**
- **Jobs and economic development**

**Thank you. Any questions?**

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