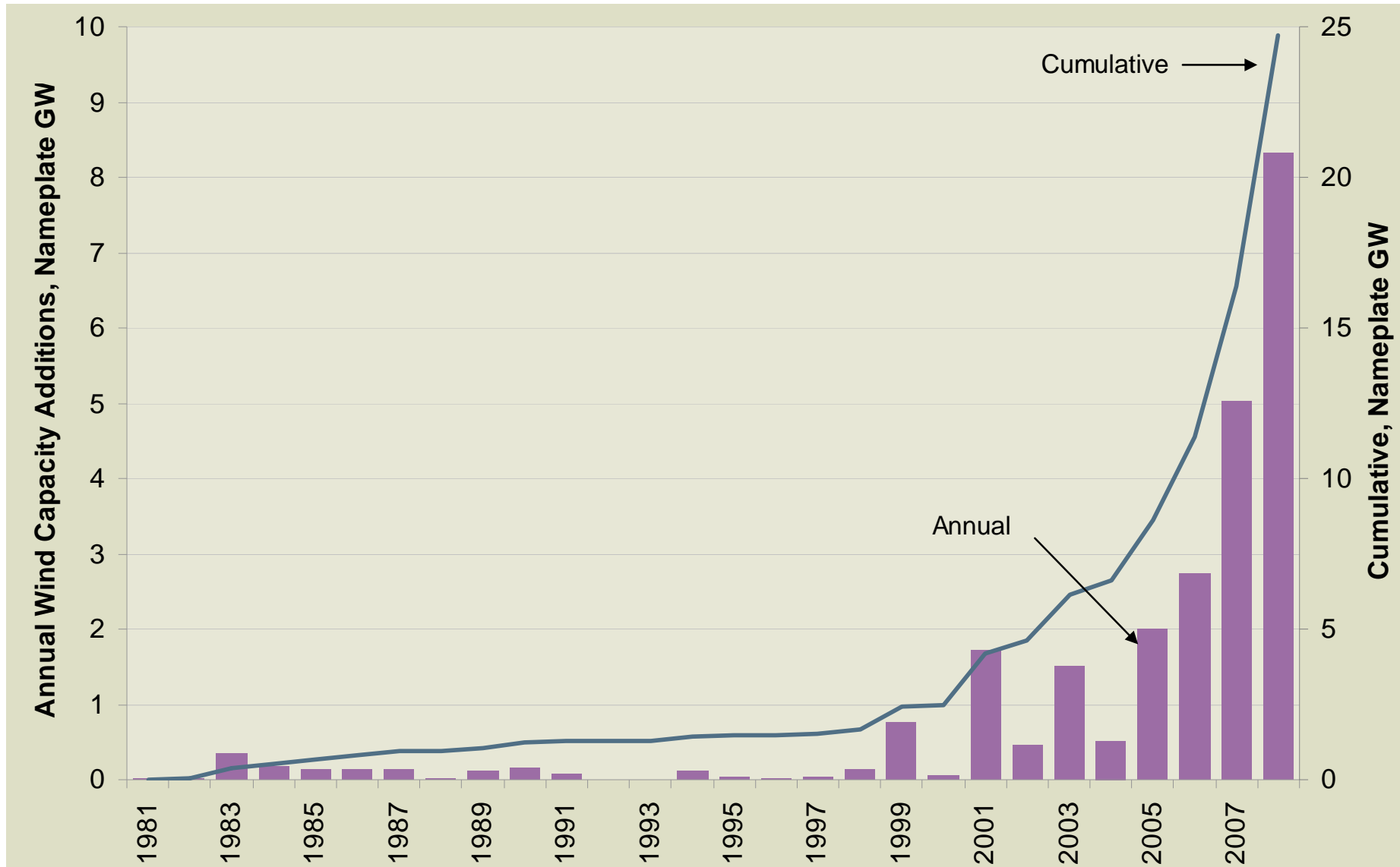




# Great Lakes Wind Energy Institute

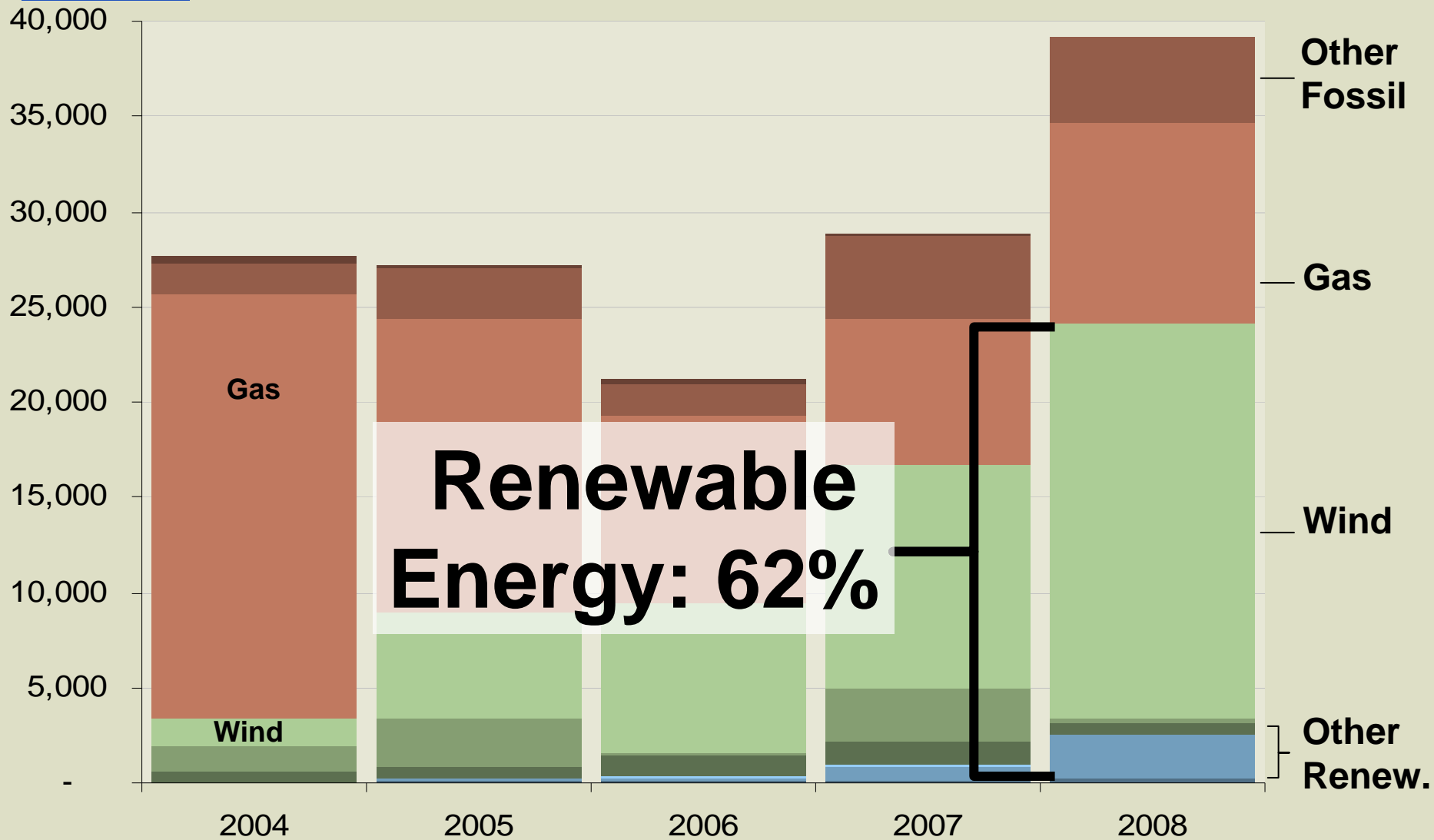
**February 23, 2008**

# Wind is ~1% of U.S. electricity, but growing fast

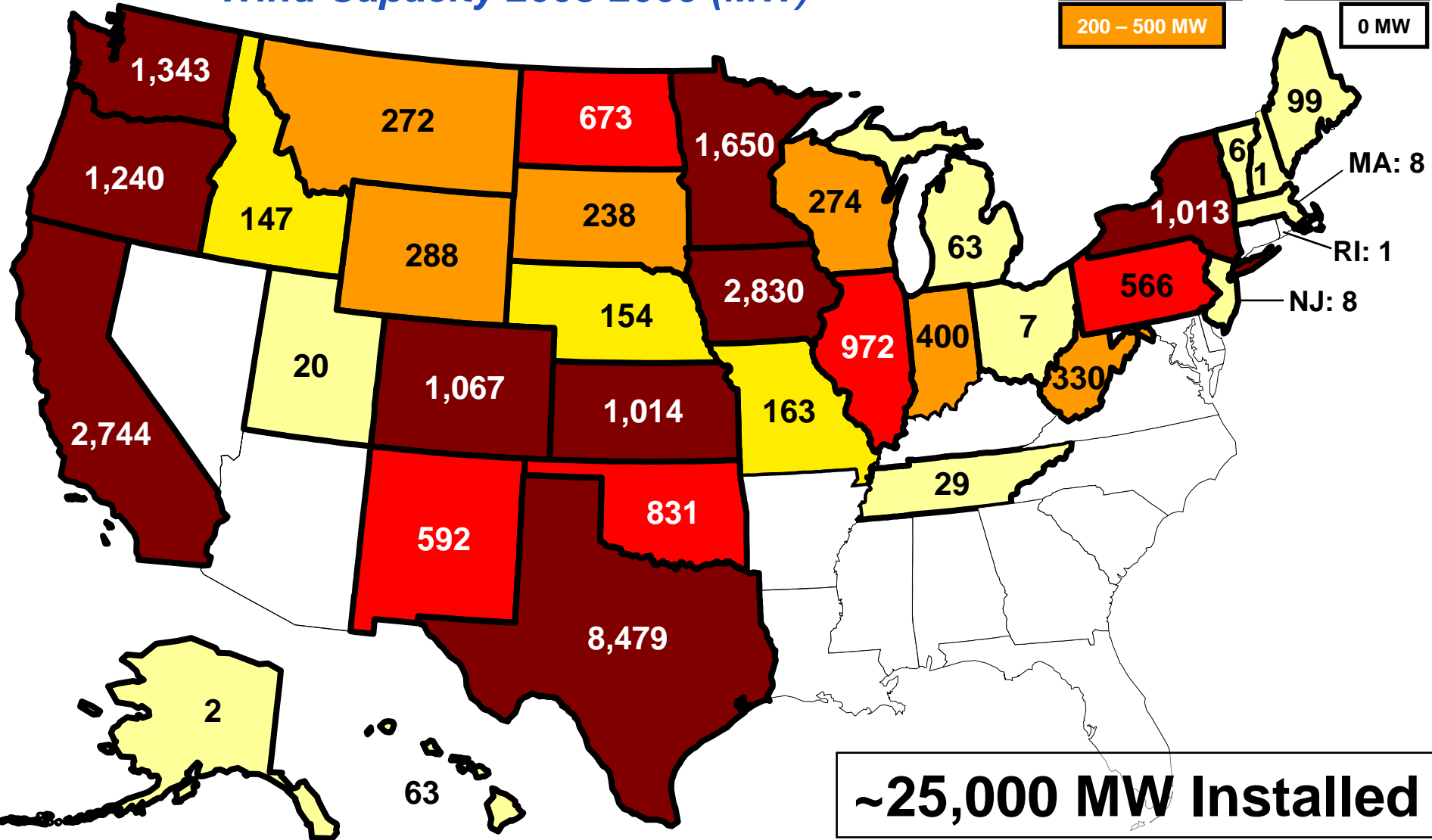
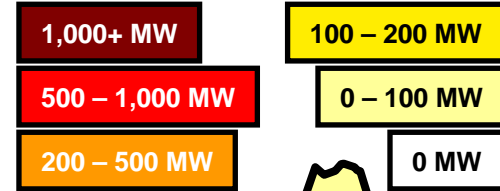


# Cost of Annual North American Capacity Additions

\$ Millions

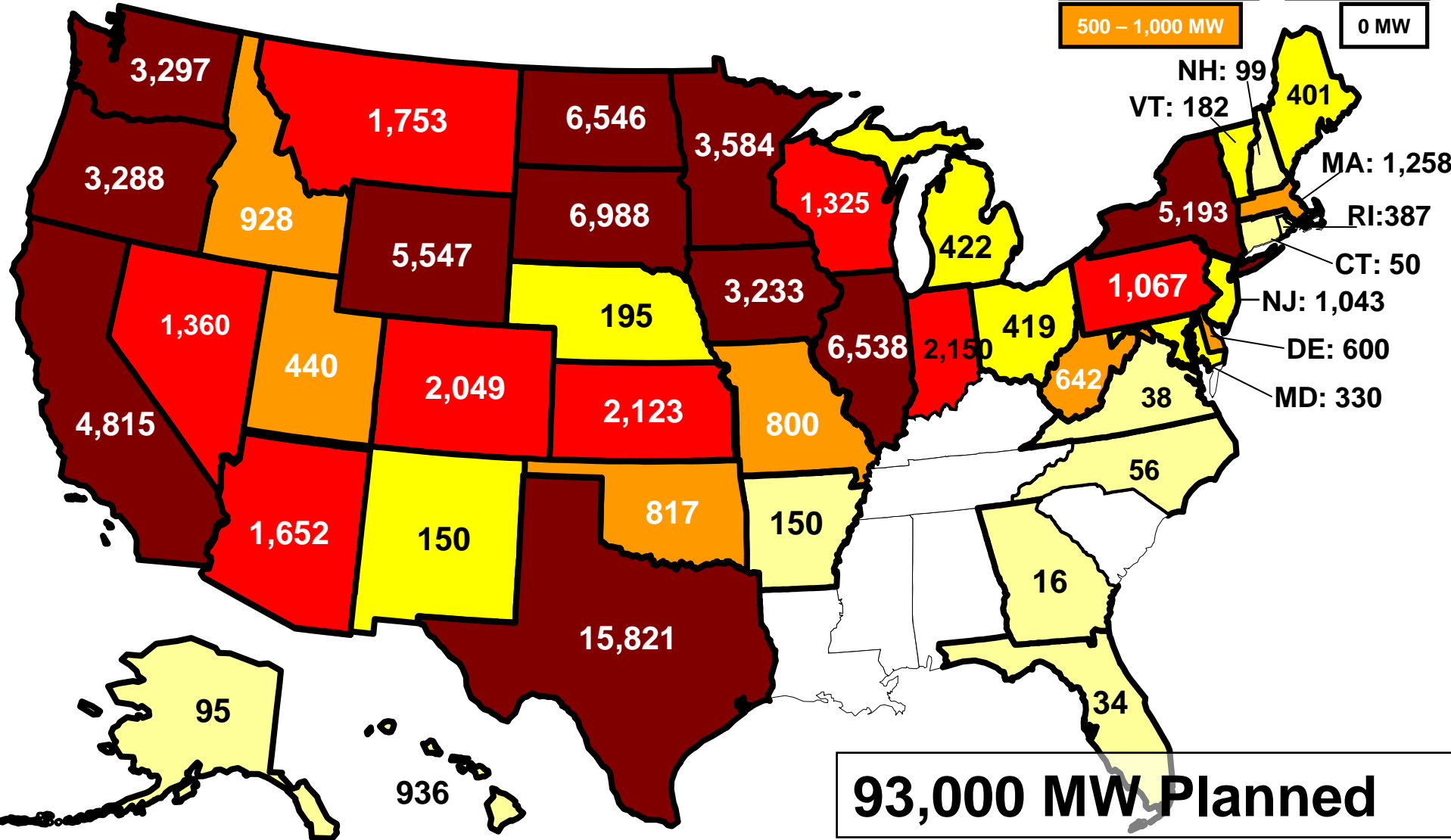
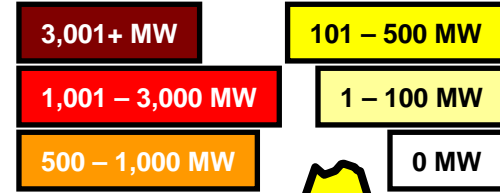


## Installed and Under Construction Wind Capacity 2008-2009 (MW)



**~25,000 MW Installed**

# Wind Capacity in Development (MW)



# Conventional Generation

# Construction costs for all plants are rising rapidly

Significant escalation in key global commodities



Expanded demand for equipment and specialized construction contracts

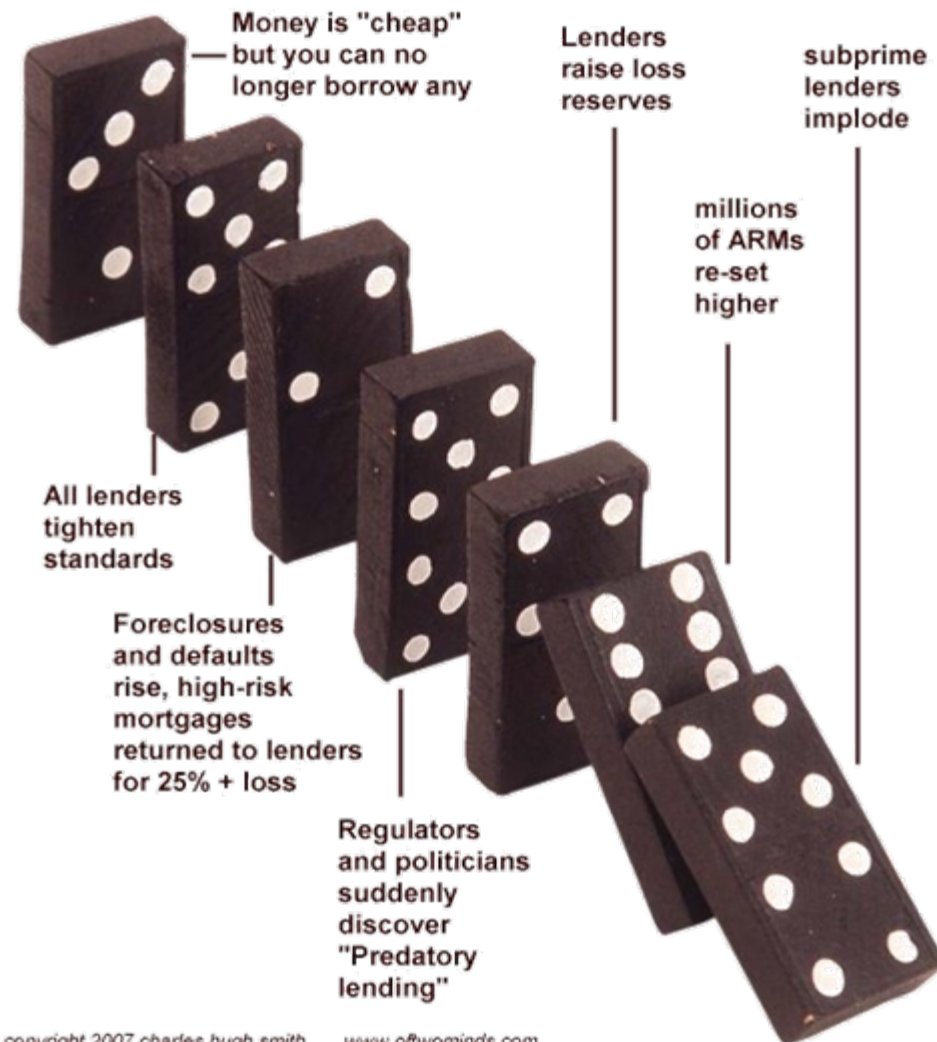


Insufficient labor availability



# Stricter financing requirements anticipated

- Credit crunch boosts cost of redevelopment – Increased costs in getting capital and cost of bond insurance
- Slowdowns in some projects needing additional time to acquire financing
- More stringent terms and conditions to received project financing

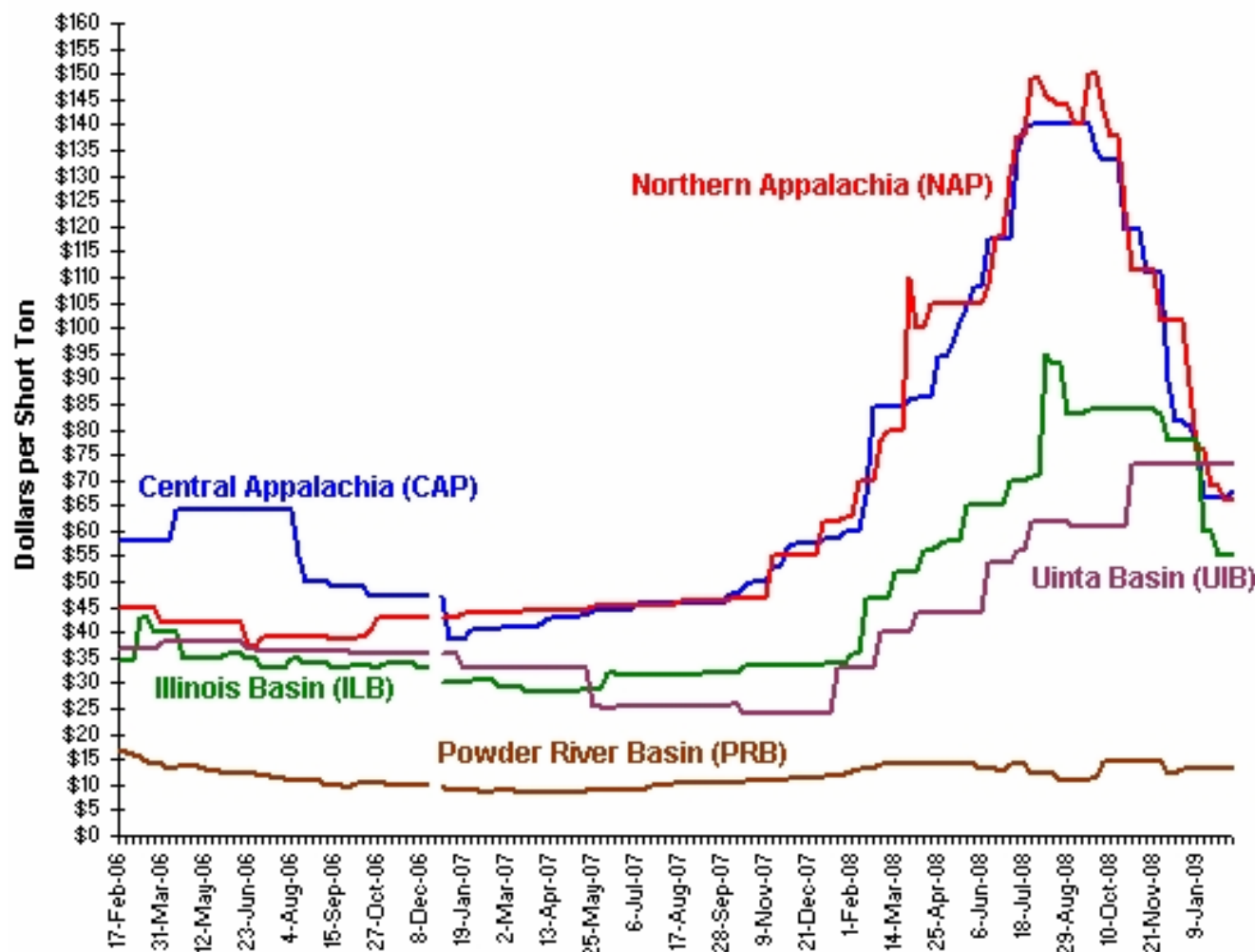




# Natural Gas Prices



# Coal Spot Prices



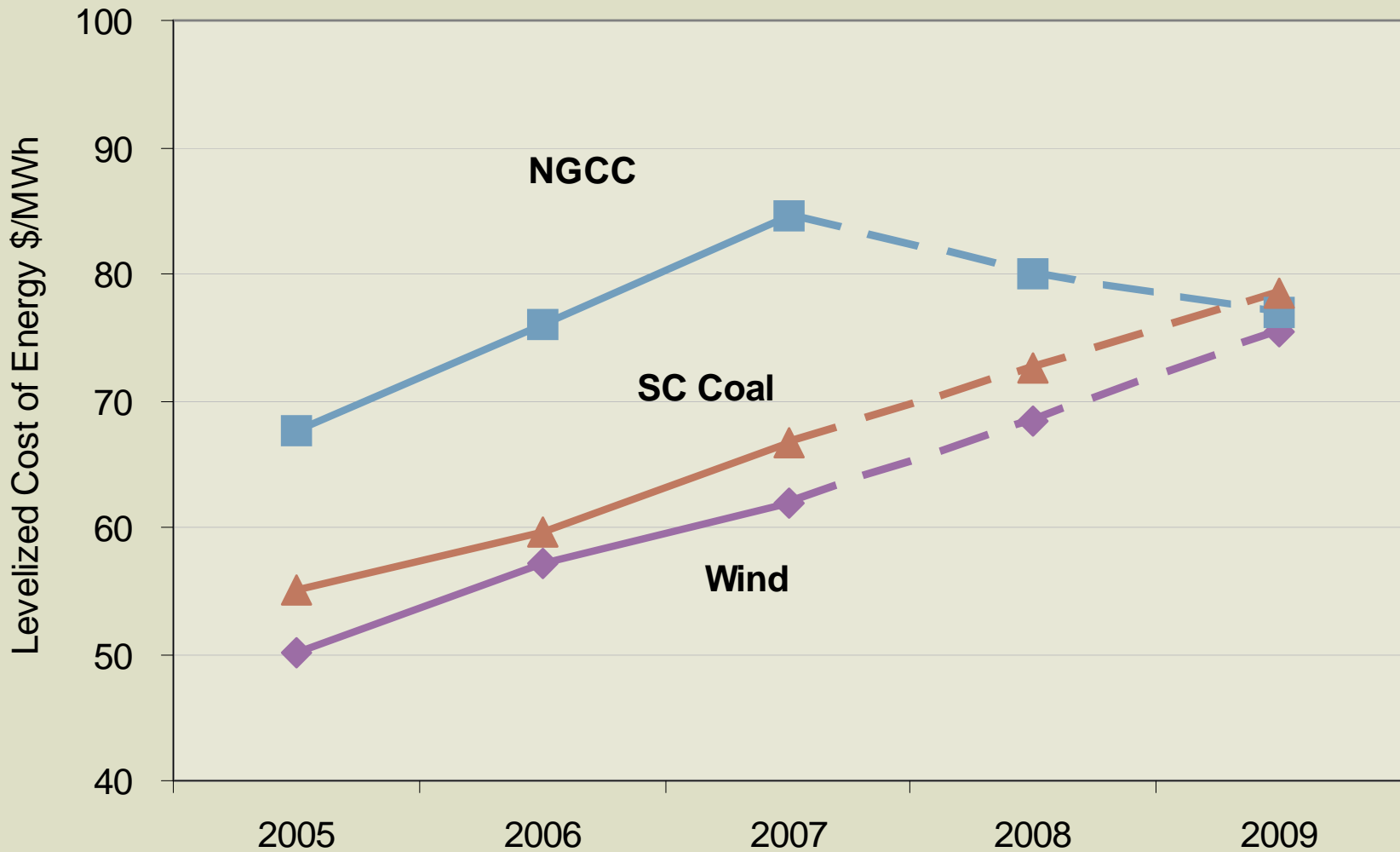
**Key to Coal Commodities by Region'**

Central Appalachia: Big Sandy/Kanawha 12,500 Btu, 1.2 lb SO<sub>2</sub>/mmBtu  
Northern Appalachia: Pittsburgh Seam 13,000 Btu, <3.0 lb SO<sub>2</sub>/mmBtu  
Illinois Basin: 11,800 Btu, 5.0 lb SO<sub>2</sub>/mmBtu

Powder River Basin: 8,800 Btu, 0.8 lb SO<sub>2</sub>/mmBtu  
Uinta Basin in Colo.: 11,700 Btu, 0.8 lb SO<sub>2</sub>/mmBtu

Source: EIA

# A Return to Gas?

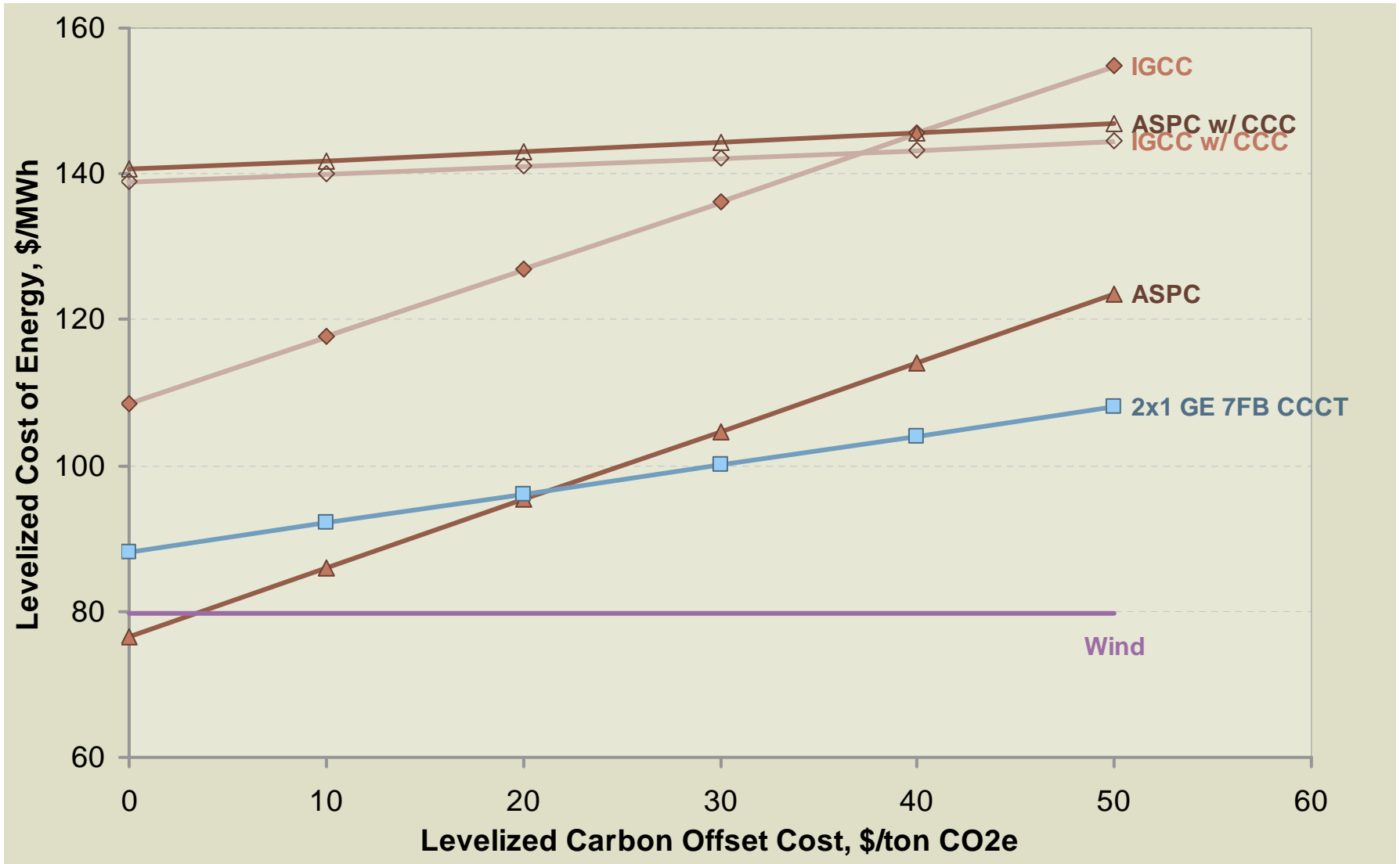


## Emissions regulations uncertain, contentious and evolving ... especially for CO<sub>2</sub>

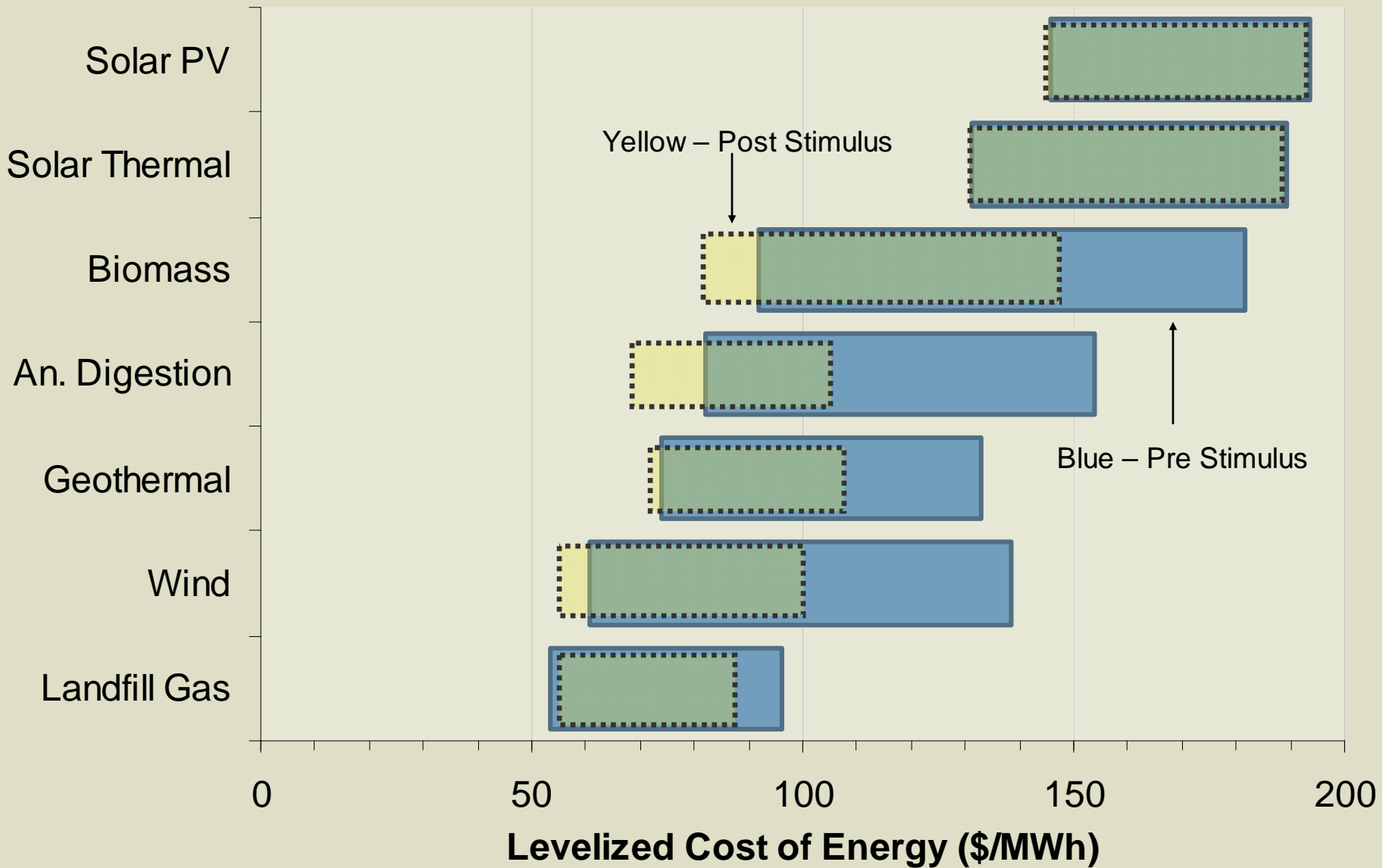
- Proven technologies exist for capturing CO<sub>2</sub> from fossil power plants
- Several unproven technologies show promise
- No U.S. power plants currently capturing significant percentage of CO<sub>2</sub> generated
- Costs to capture CO<sub>2</sub> are high for all processes

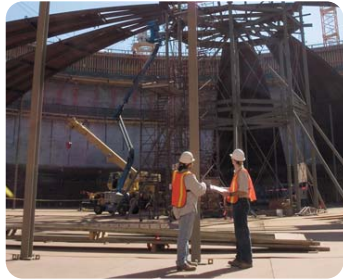


# Effect of Carbon Price on Generation



# Effects of Stimulus on Levelized Cost of Energy





# Thank You!

## Discussion - Questions?

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