

# Driving Growth: Clean Energy Solutions to Fuel Your Business

Joe Muscat  
Americas Director – Clean Technology  
Practice  
Ernst & Young LLP



# What Are We Hearing

**"The two most significant threats to my company's growth are energy costs and shortage of water"**

*P. Brabeck-Letmathe, Chair & CEO, Nestle*

**"Greentech could be the largest economic opportunity of the 21<sup>st</sup> century"**

*John Dorr, General Partner, Kleiner Perkins Caufield  
Byers*

**"Clean Technology is the second wave of industrial technology"**

*Erik Straser,  
General Partner  
Mohr Davidow Ventures*

**"Our Kids will only call us the Greatest Generation if we rise to our challenge and become the Greenest Generation"**

*Thomas Friedman*



# Clean Technology Market: Strong Growth Forecast

## Revenues & Projected Revenues (\$B)

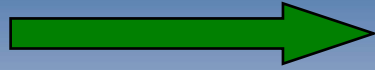


Source: Makower, Pernick and Wilder. *Clean Energy Trends 2007*. CleanEdge. March 2007



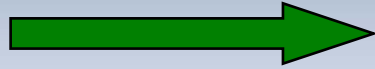
# 5 Key Clean Technology Drivers: Opportunities

## 1. Cost



- Fossil fuel prices increasing
- Cost of renewables decreasing

## 2. Regulation



- Energy security initiatives
- 20 states have carbon emission standards
- Proposed federal legislation

## 3. Customers



- It is on the CEO / Board Agenda
- Consumers willing to pay a premium for carbon reduced products

## 4. Innovation



- Corporate R&D – in house and through partnerships
- Entrepreneurial opportunities

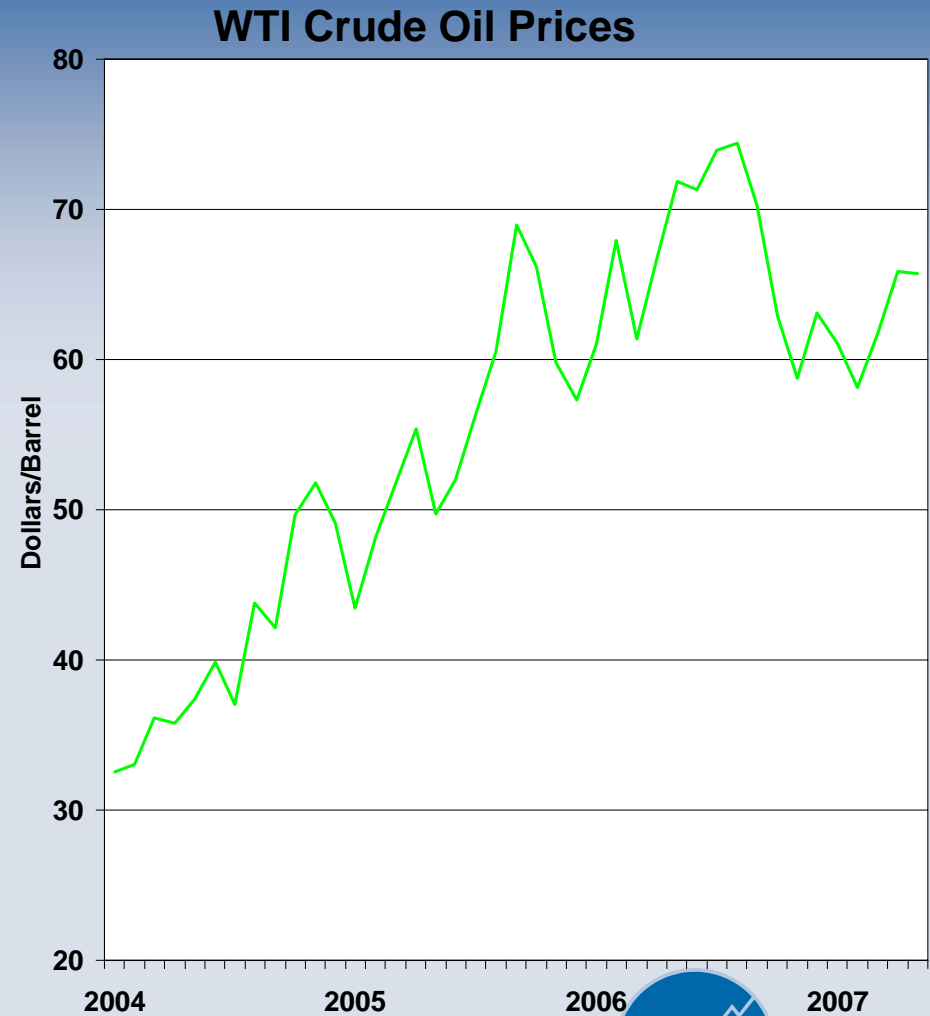
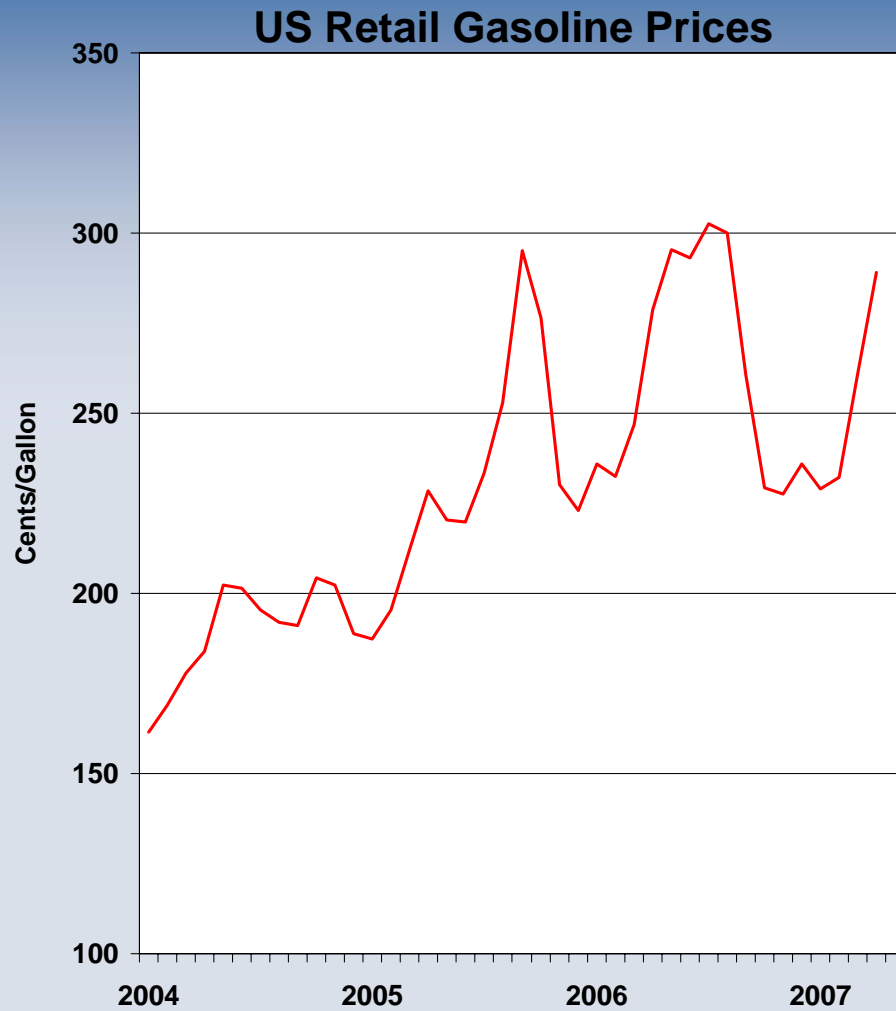
## 5. Capital



- Significant capital available
- Growing pool of investors

# Cost: The Price of Fossil Fuels in the US

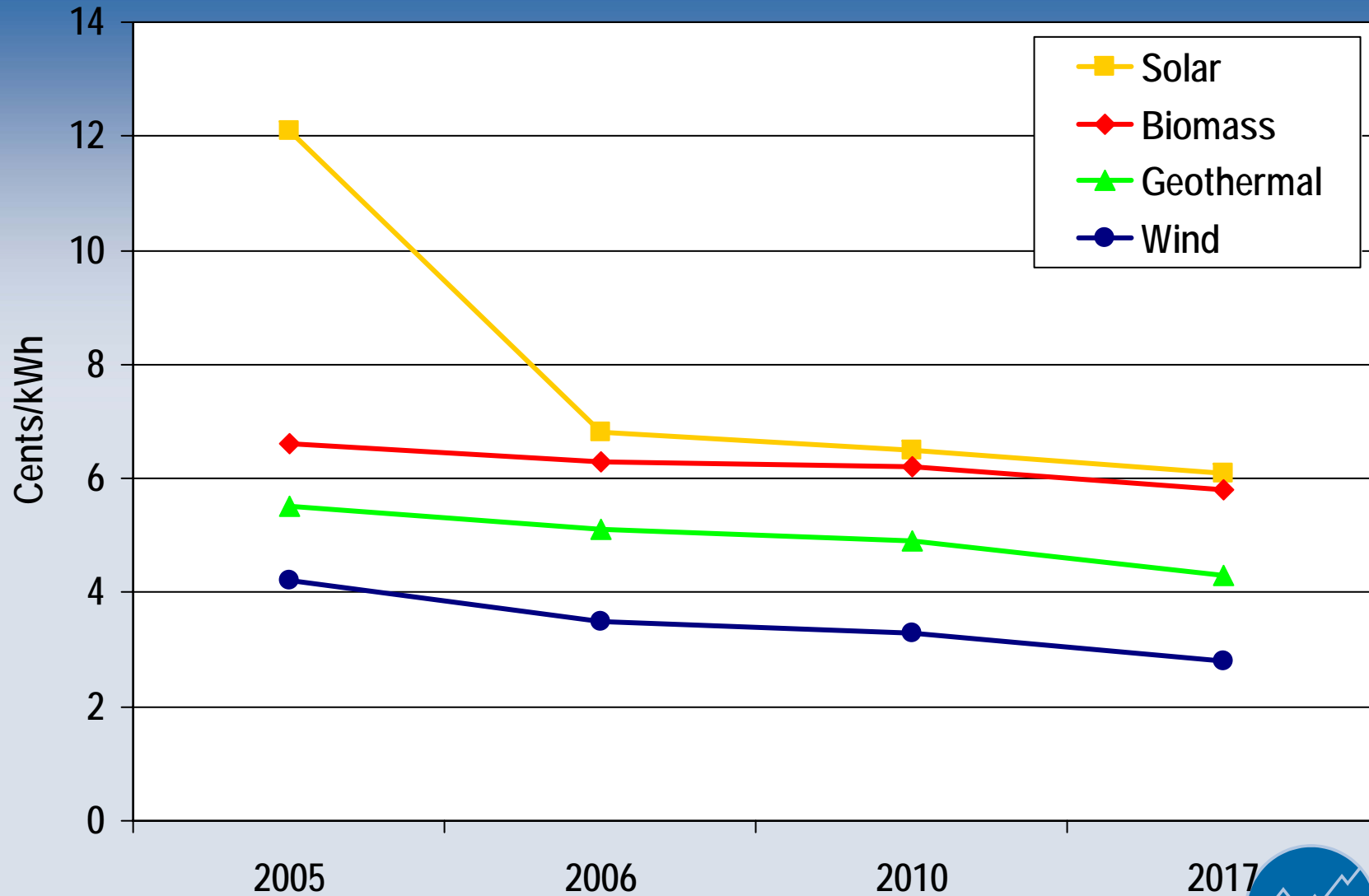
## 2004 to 2007 YTD



Source: U.S. Energy Information Administration & Bloomberg. Updated May 1, 2007



# Cost: Renewables are Projected to Get Cheaper

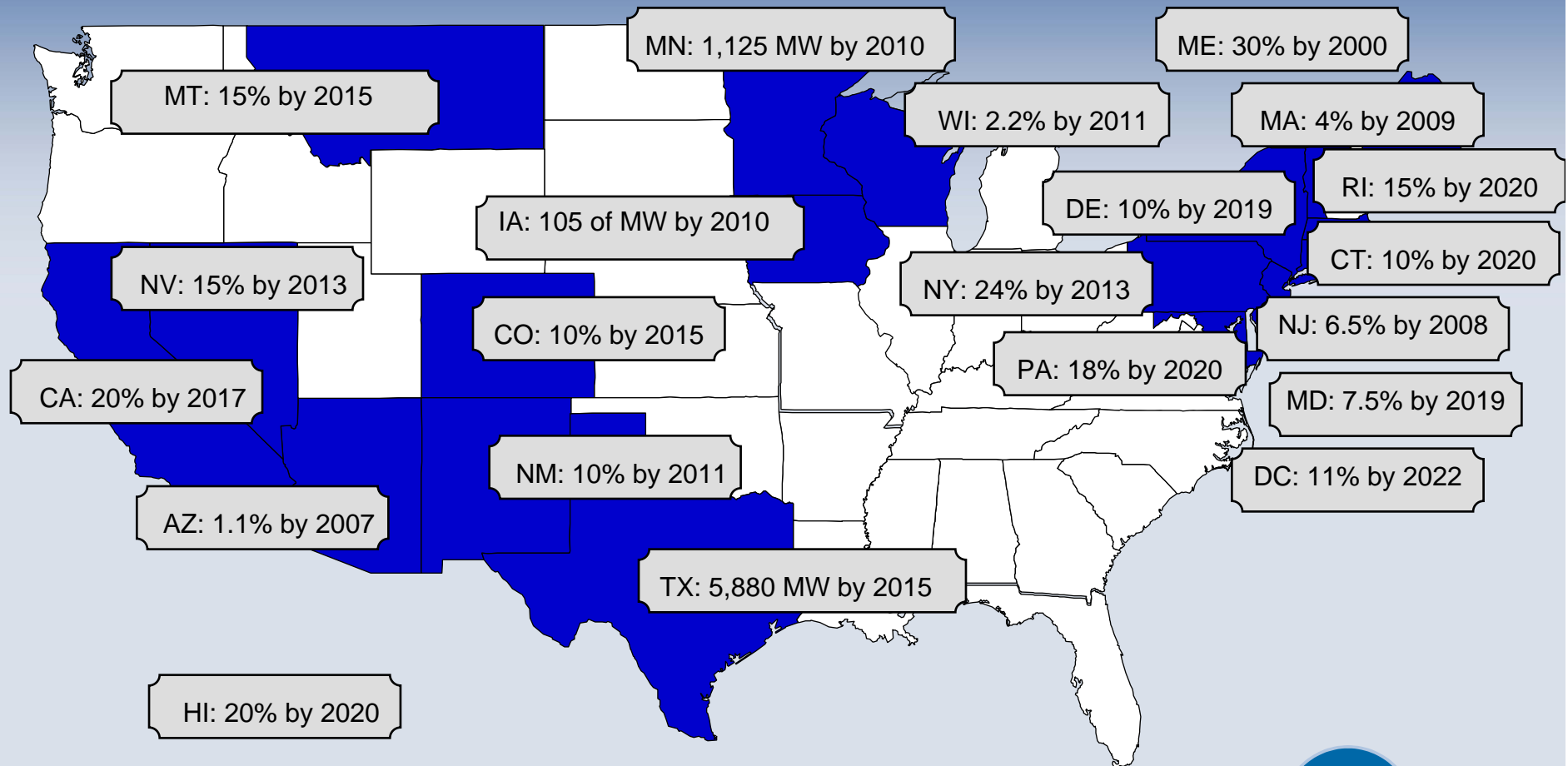


Source: California Energy Commission. Renewable Energy Program.



# Regulations: Renewable Portfolio Standards

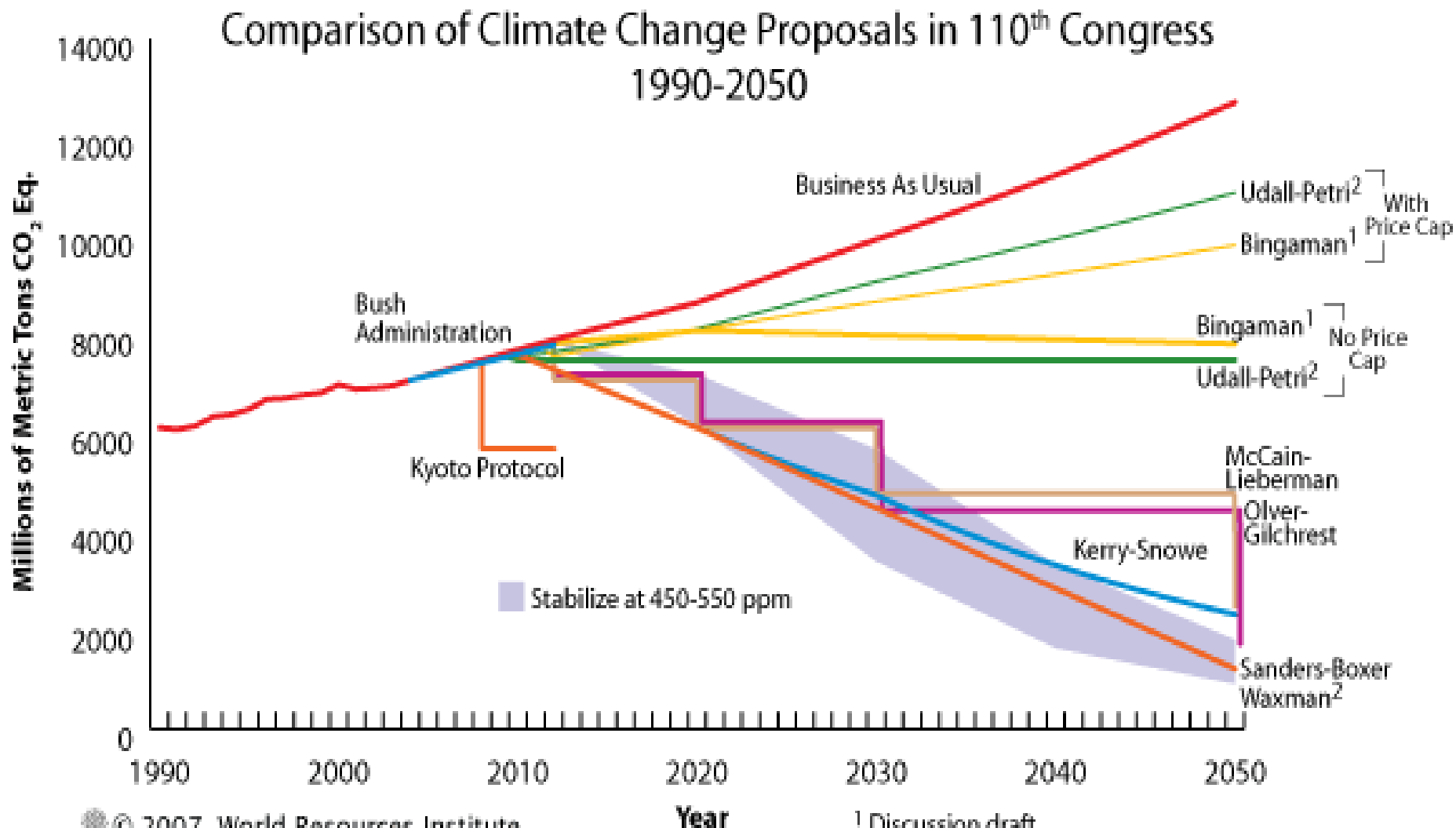
*20 States and Washington DC Have Set Goals*



Source: New York Academy Of Sciences. [www.nyas.org](http://www.nyas.org)

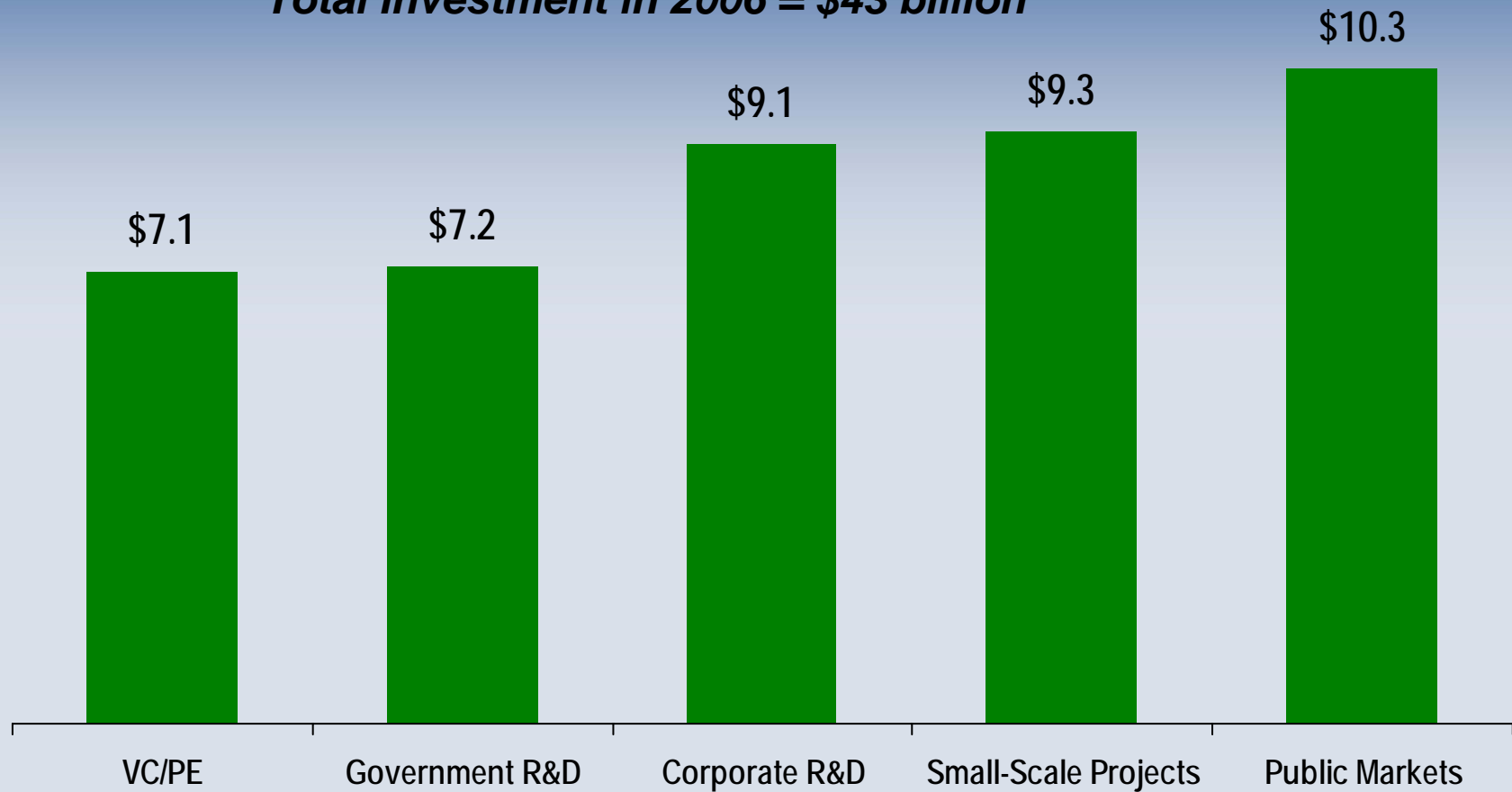


# Regulation: Proposed Carbon Legislation



# From Where is the Funding Originating?

**Total Investment in 2006 = \$43 billion**



*Investment by type of transaction (\$B)*

Source: New Energy Finance



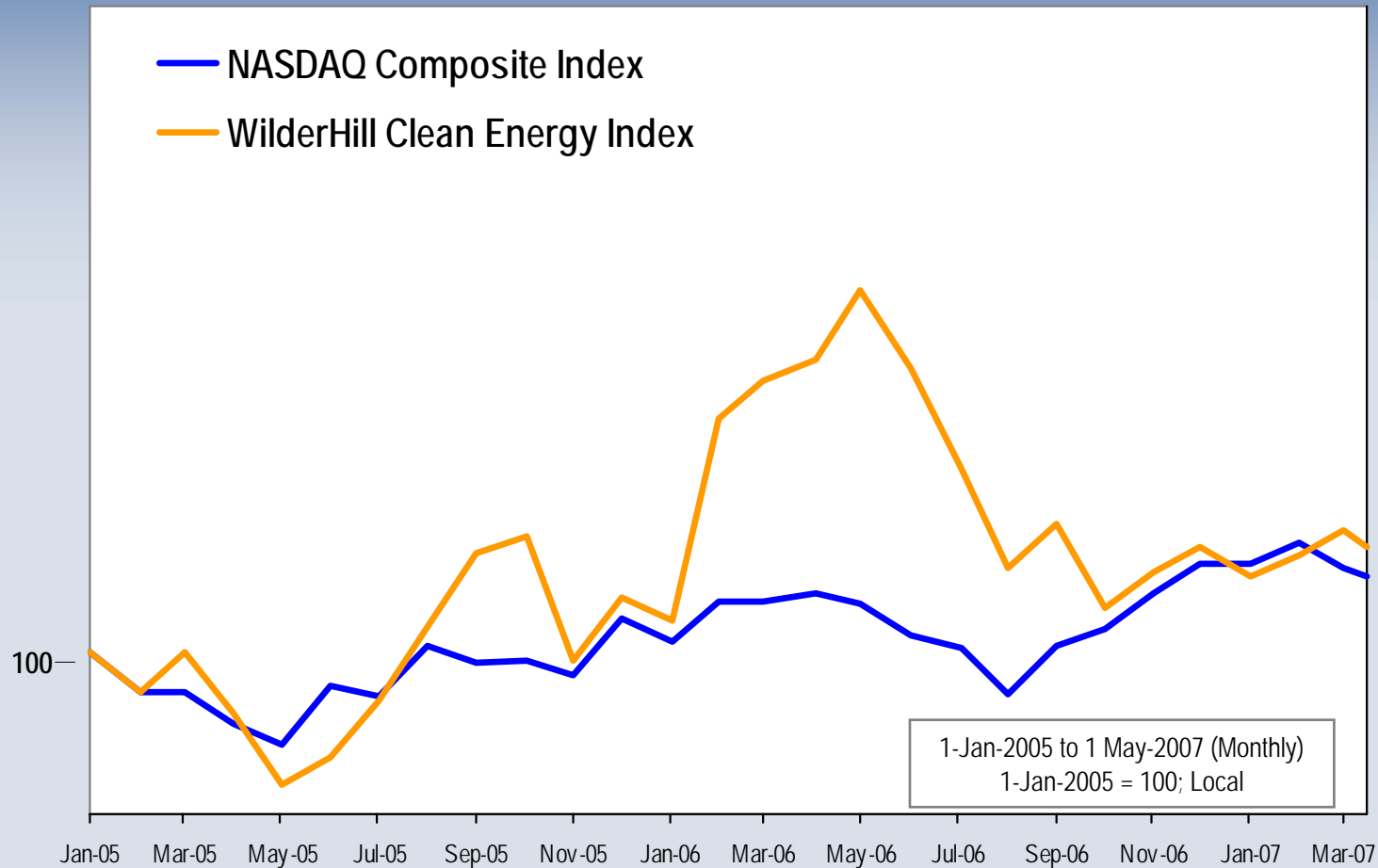
# Corporations Accelerate Activity

- **BP** - \$500 million grant to UC Berkeley Labs
- **Chevron** – Invested in cellulosic biofuels & hydrogen research. Invested in Galveston Bay Biodiesel
- **DuPont** – Commitments to generate \$6 billion in additional revenue by 2015. Pledge to double their R&D investment programs.
- **Exxon Mobil** – Committed \$100 million over 10 years to Stanford University,
- **General Electric** – Ecomagination initiative plans to generate \$20 billion in annual revenues by 2010 from eco-efficient products and services
- **Virgin Fuels** -- \$3 billion committed to biofuel, solar and other investments
- **Wal-Mart** – Three year targets of being 100% powered by renewable energy, making stores 25% more energy efficient, and having a 25% reduction in waste



# Capital: Market Performance

## Energy 2005 – 2007 YTD



### CAGR

NASDAQ Composite Index: 4.1%

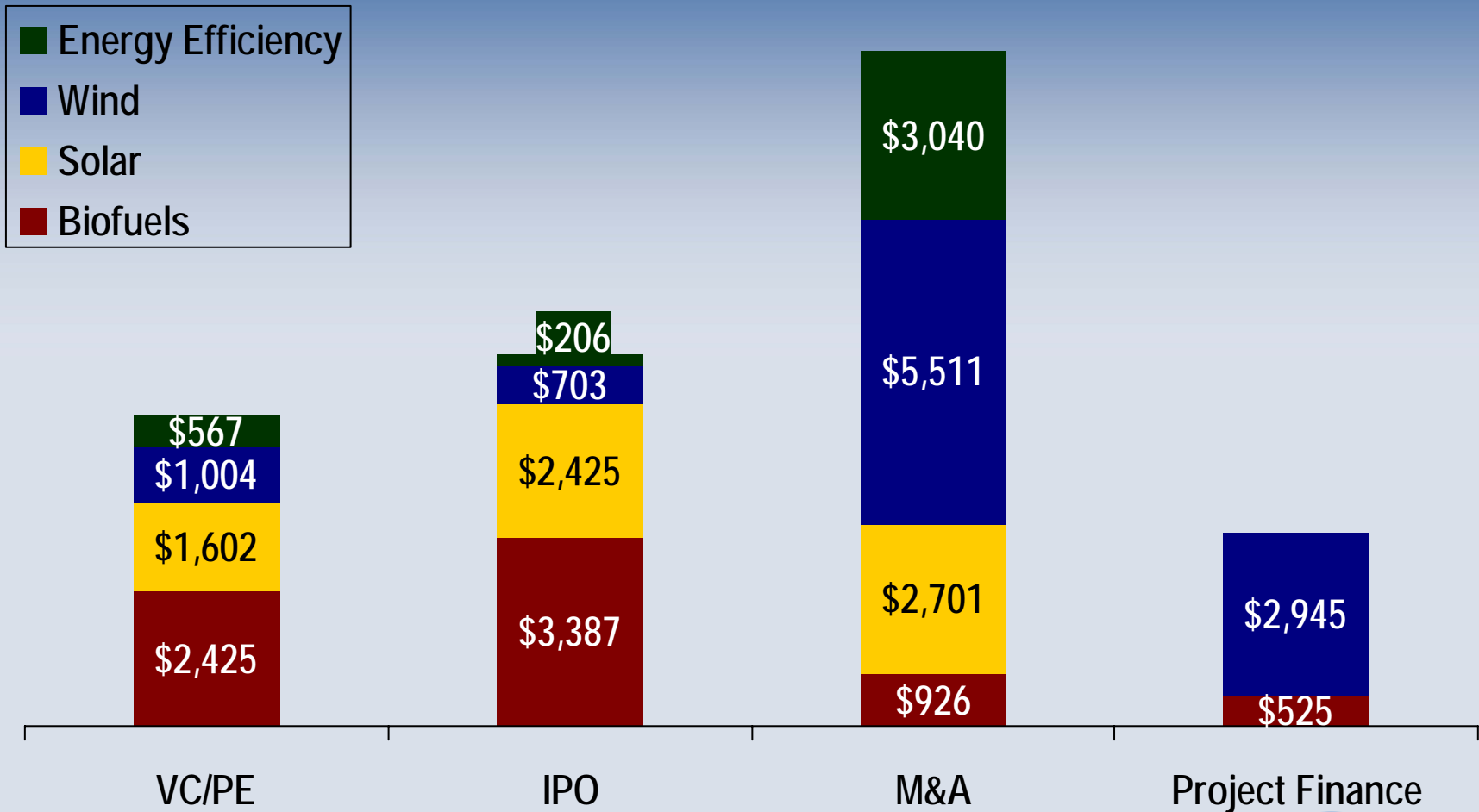
WilderHill Clean Energy Index: 5.8%

Updated May 1, 2007. Benchmarked to 1/1/05.



# Capital: Global Activity by Sub-Sector

## Aggregate 2006 – 2007 YTD (\$M)



Source: New Energy Finance. May 2007.



# Investors Taking Action:

*Pool of US VC Firms Investing Clean Technologies is Increasing*



Source: Dow Jones VentureOne



# 5 Key Clean Technology Drivers: Questions

## 1. Cost



- How will adoption rates be affected by the volatility of fossil fuel prices?

## 2. Regulation



- What will be the impact of regulation and incentives?
- How can government accelerate innovation?

## 3. Customers



- What will cause consumers to “cross the chasm”?

## 4. Innovation



- What commercialization/partnering models will accelerate growth?
- N. America? China? India?

## 5. Capital



- How much capital is needed to reach commercialization
- Where will it come from?
- When will venture backed exits occur?

# It's not luck that'll save the planet. It's leadership.



Face with today's biggest global challenge, it's entrepreneurs who take the lead. And a good thing too: there's no more effective driver for getting new ideas into action. We know this, because our Strategic Growth Markets professionals have been working with some of the most dynamic companies on the planet for around thirty years - many of them from start-up to market leader. It's given us a special knowledge of what turns a good business into an exceptional enterprise - one with leadership potential. Find out more at [www.ey.com/growth](http://www.ey.com/growth).

It's not luck that makes leaders.

 **ERNST & YOUNG**  
Quality In Everything We Do



! @

7