Synapse
Energy Economics, Inc.

# Protecting Consumers in a Warming World

NASUCA Roundtable on Global Warming
Denver, Colorado
June 11, 2007
Presented by Ezra D. Hausman

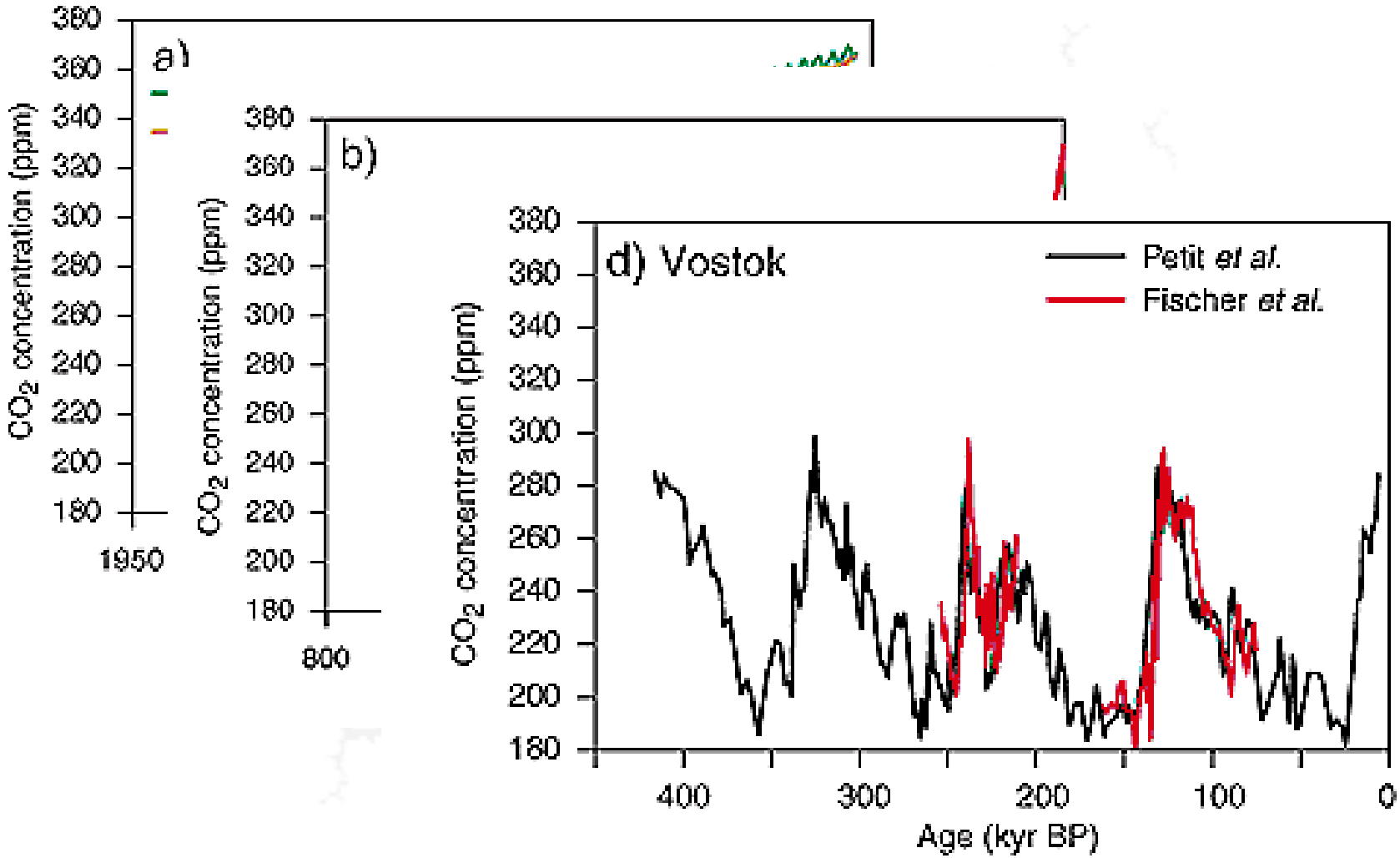
# Overview

- Science
- Setting a Price for $CO_2$ Emissions
- Possible Solutions
- Prudence
- How to Protect Consumers

…All in 10 minutes!

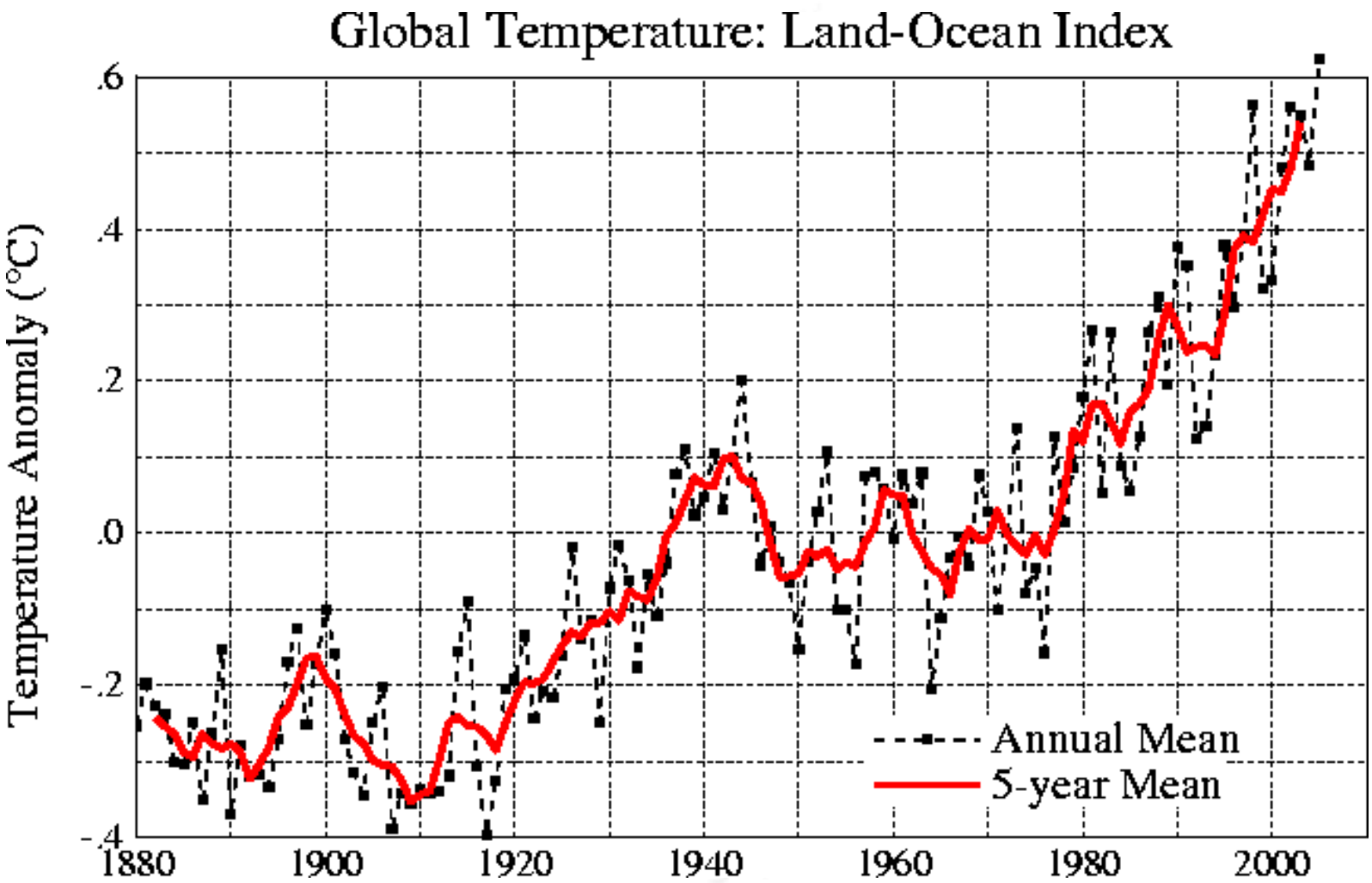
  

# Atmospheric $CO_2$ – A Brief History



# Surface Temperature History

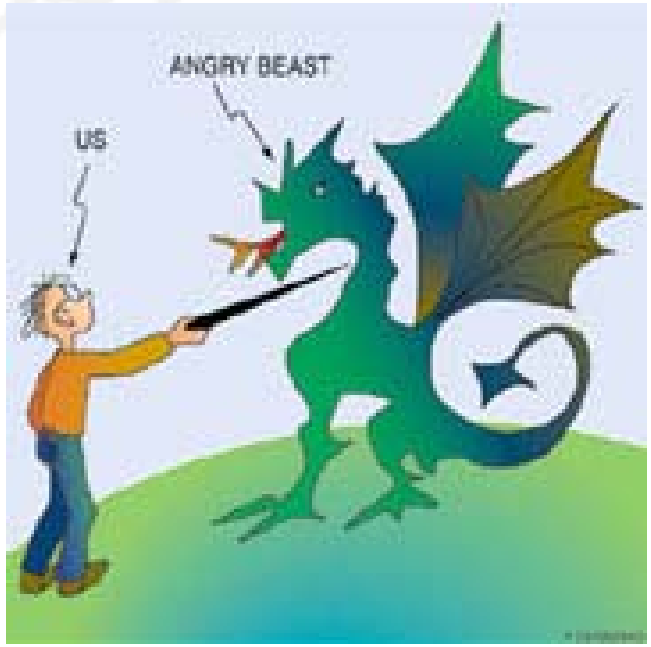



http://data.giss.nasa.gov/gistemp/

# Uncertainty

- There is a lot that is unknown about how the climate system will react to increasing levels of amospheric $CO_2$.
- This is not a good thing.
- Poking the angry beast?




(Courtesy Wally Broecker, 1998)

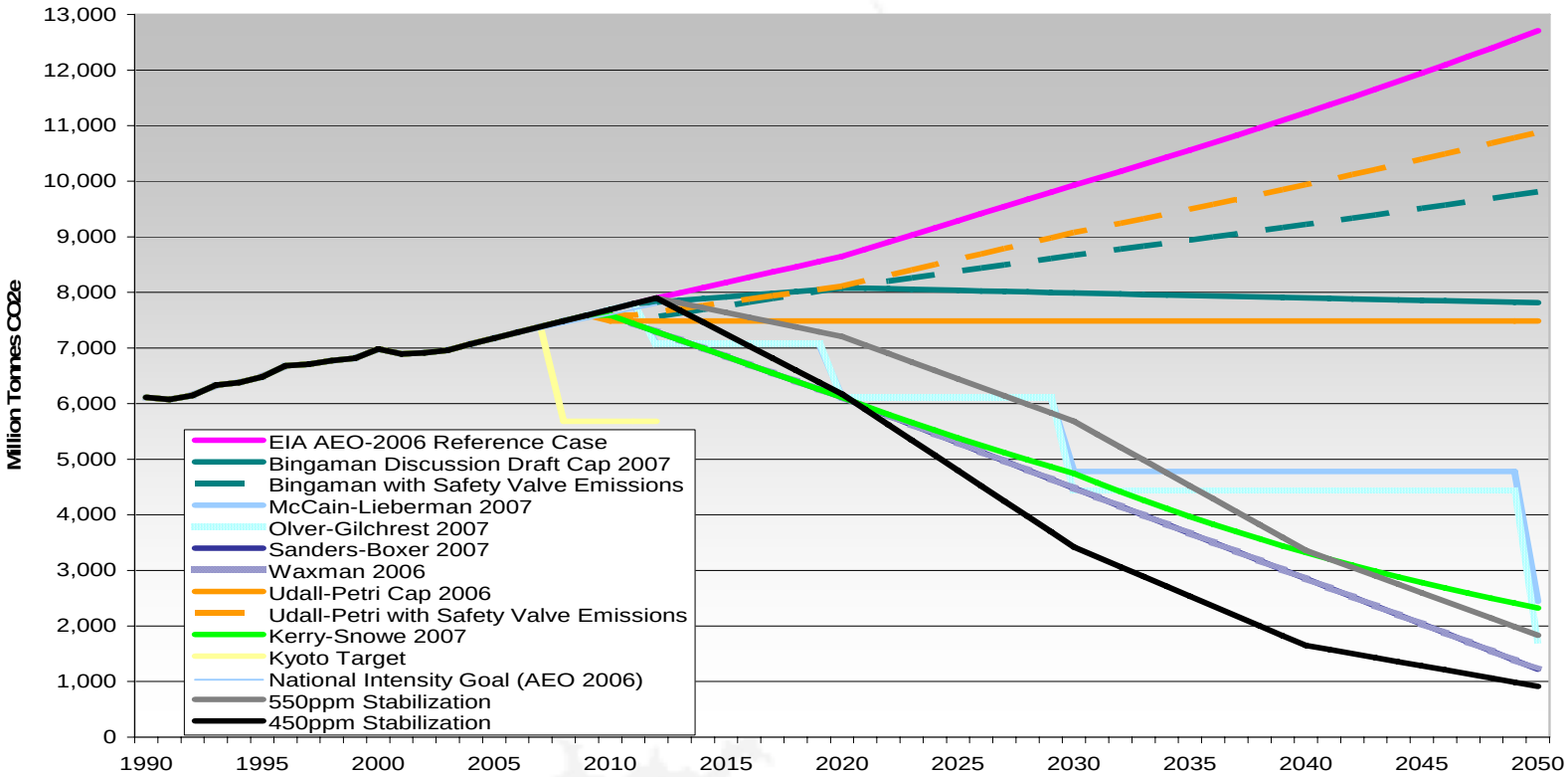
# Forecasting a $CO_2$ Emissions Price

- Synapse price forecast from 2006.
- Based on several factors *including* analyses of four bills proposed in Congress prior to 2006 and a proposal from the National Commission on Energy Policy.
- Activity picking up steam.

| Policy proposal | Analysis |
|---|---|
| McCain Lieberman – S. 139 | EIA 2003, MIT 2003, Tellus 2003 |
| McCain Lieberman – SA 2028 | EIA 2004, MIT 2003, Tellus 2004 |
| Greenhouse Gas Intensity Targets | EIA 2005, EIA 2006 |
| Jeffords – S. 150 | EPA 2005 |
| Carper 4-P – S. 843 | EIA 2003, EPA 2005 |

# Bills in 110th Congress are more aggressive than the bills used to develop Synapse $CO_2$ price forecast




Source: World Resources Institute

- Most aggressive proposal prior to May 2006 was capping emissions at 1990 levels. Most proposals now are looking at reductions of 60-80 percent below 1990 levels.

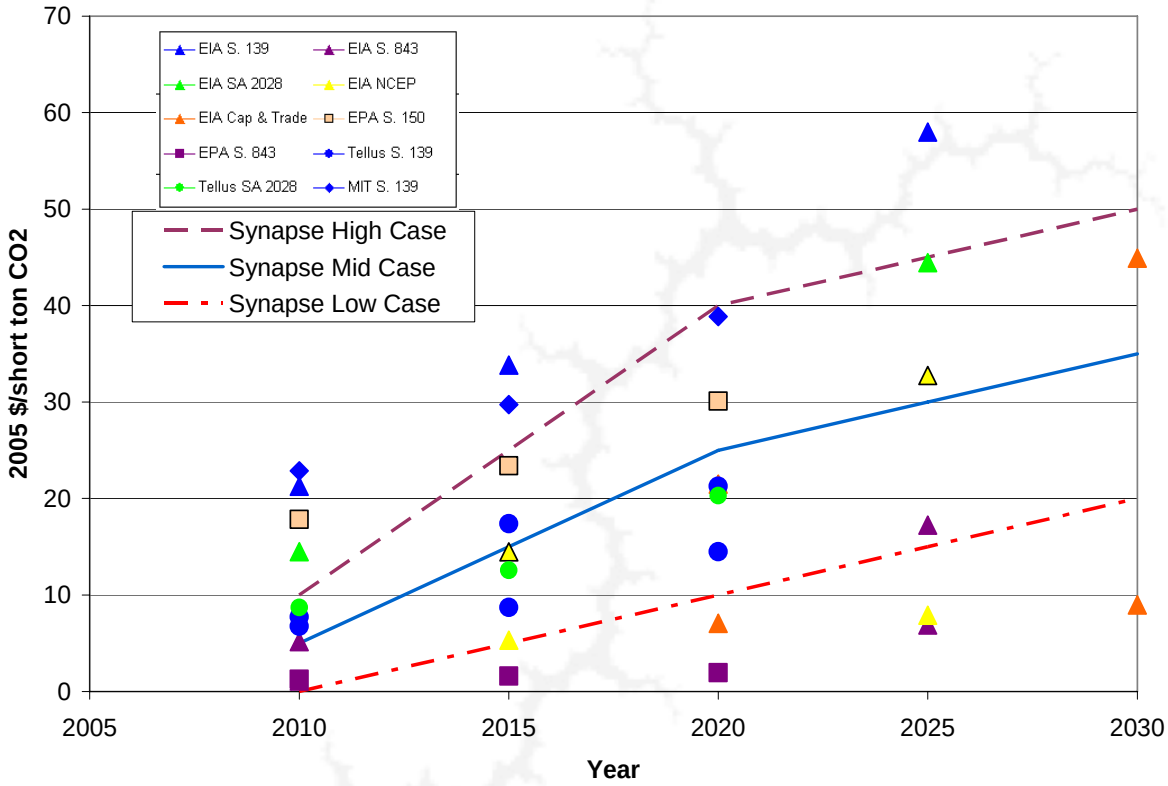
  

# Factors that Affect Future Carbon Emissions Policy Costs

- "Base case" emissions forecast
- Complimentary policies
- Policy implementation timeline
- Reduction targets
- Program flexibility
- Technological progress
- Emissions co-benefits

# The Current Synapse $CO_2$ Price Forecast

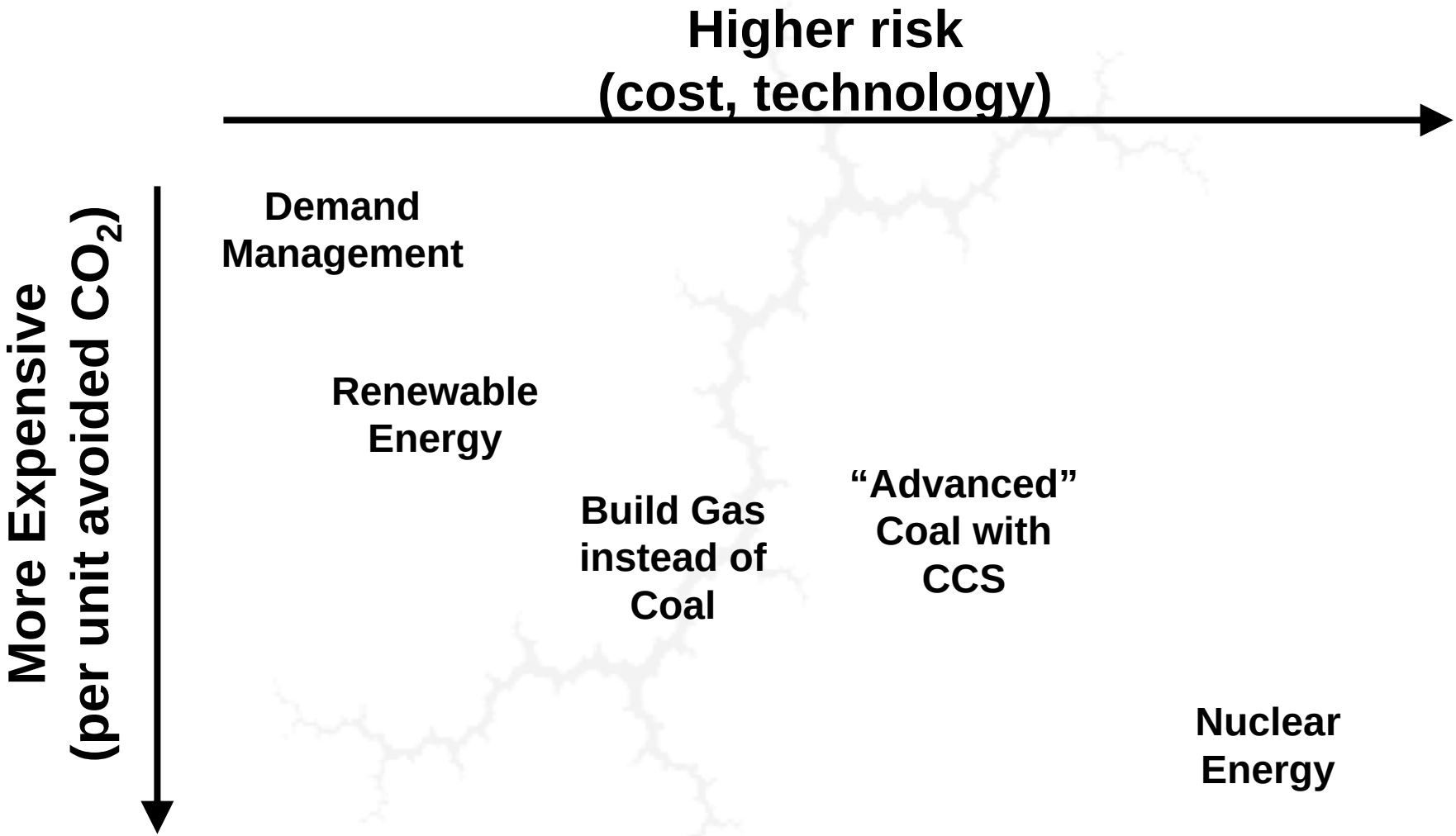



**Synapse's Levelized Carbon Price Forecast (2005$/ton)**

| Low Case | Mid Case | High Case |
|---|---|---|
| $7.80 | $19.10 | $30.50 |

# GHG Mitigation Solutions Space



# Examples of Imprudence IMHO

- Ignoring $CO_2$ emissions costs in utility resource planning
- Building IGCC without a guarantee of *permanent* carbon storage
- Failing to fully exploit the most cost-effective, least risky resources first (see previous slide)

# Looking Out for Consumers

- See previous slide on prudence
- Make sure allowances are auctioned, with the proceeds used for:
  - Complimentary policies that reduce demand
  - Other measures to offset the cost of GHG emissions mitigation
- The issue is consumer cost, not rates!