



The Carbon Conundrum: Dealing With The Regs to Come



John Stowell

Vice President, EHS Leadership

Remarks to NASEO 2006

Sept. 11, 2006

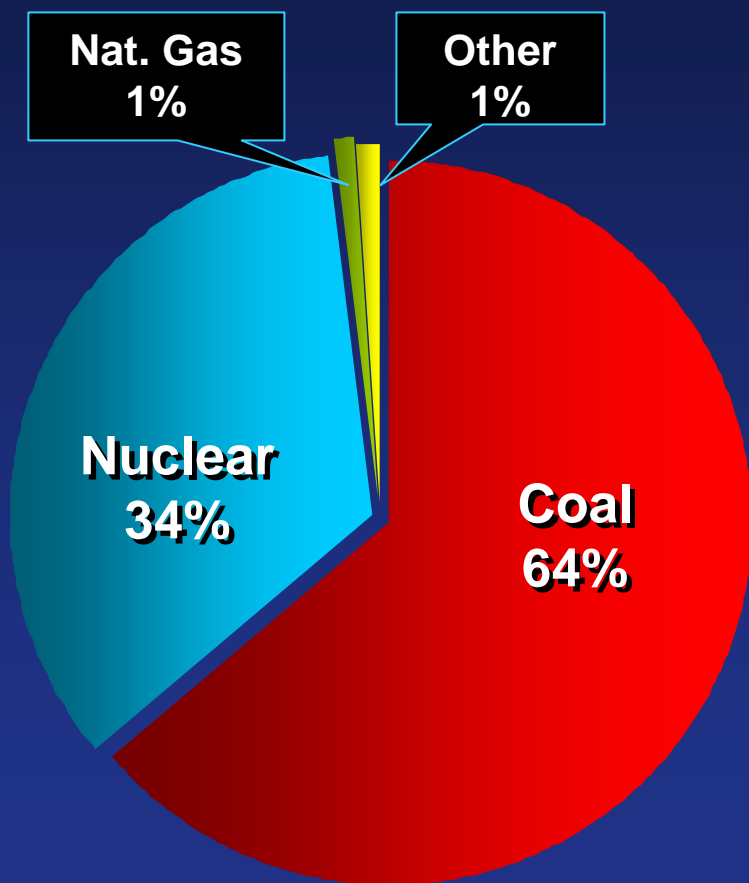
Duke Energy Profile

- Diversified energy company with a portfolio of natural gas and electric businesses
- Supplies, delivers and processes energy for customers in North America and selected international markets
- Customers are regulated and non-regulated

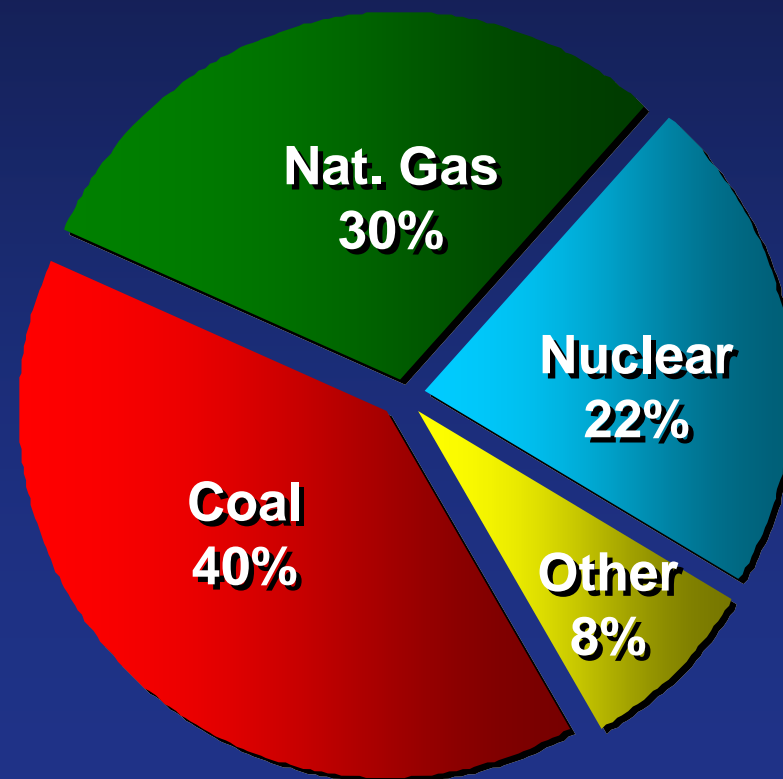


Coal Plays a Vital Role in Duke Energy's Business

64% of Duke Energy's generation in 2005 was fueled by coal



Duke Energy is the third-largest U.S. owner of coal-fired generating capacity in the U.S.



Why Is the (political) Temperature Rising?



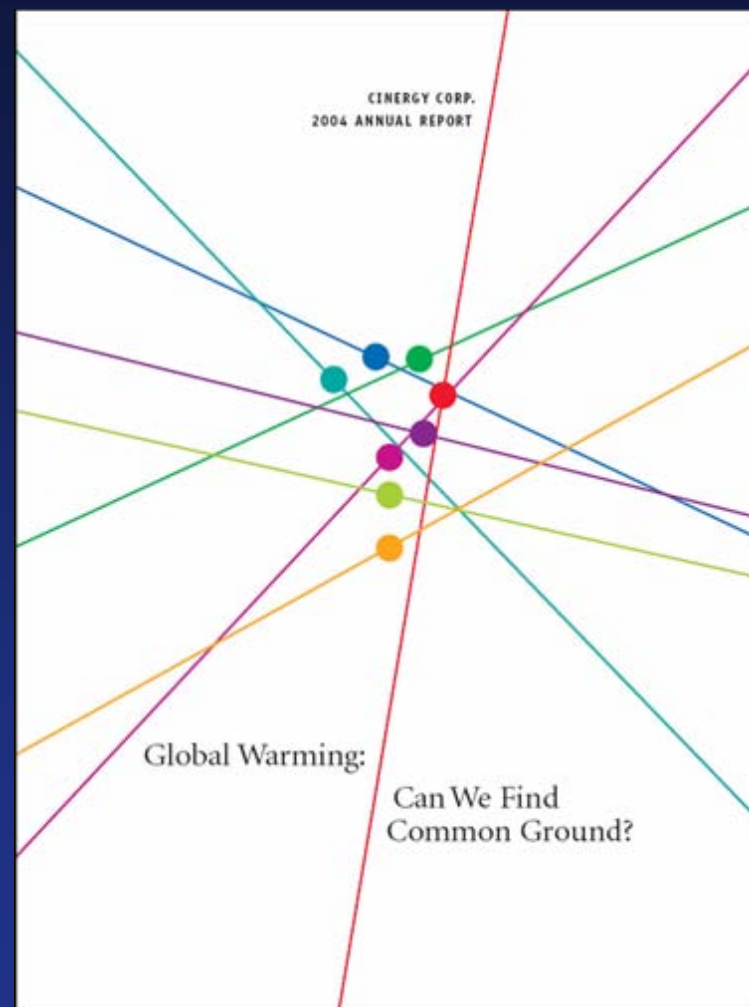
“There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities” – *IPCC 2001*

“GHGs are accumulating in Earth’s Atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise” – *National Academy of Sciences 2001*

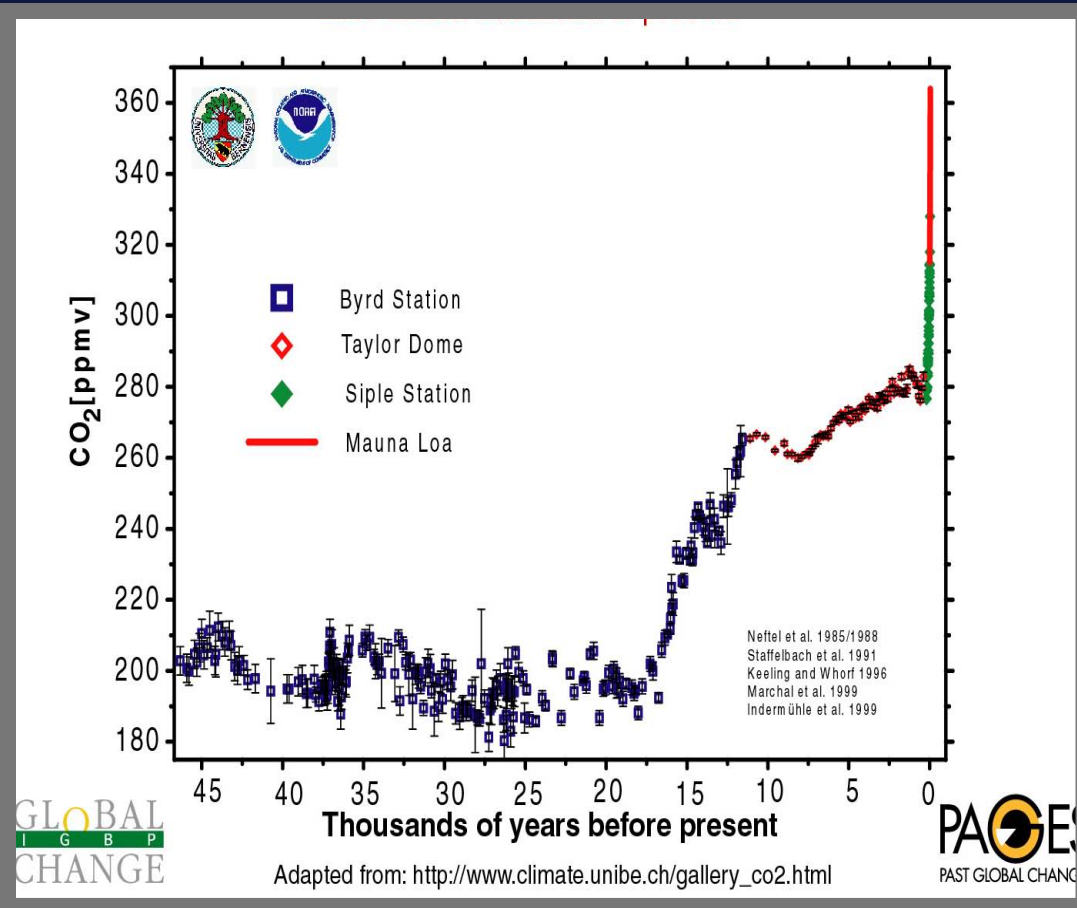
“Studies to detect climate change and attribute its causes using patterns of observed temperature change in space and time show clear evidence of human influences on the climate system” – *U.S. Climate Change Science Program 2006*

Climate Signposts

- States are taking action
- International Pressure
- Shareholder intervention
- Carbon markets are developing
- Issue has moved from the academic to the “water cooler”
- The politics is changing in Washington



Atmospheric CO₂ Concentrations

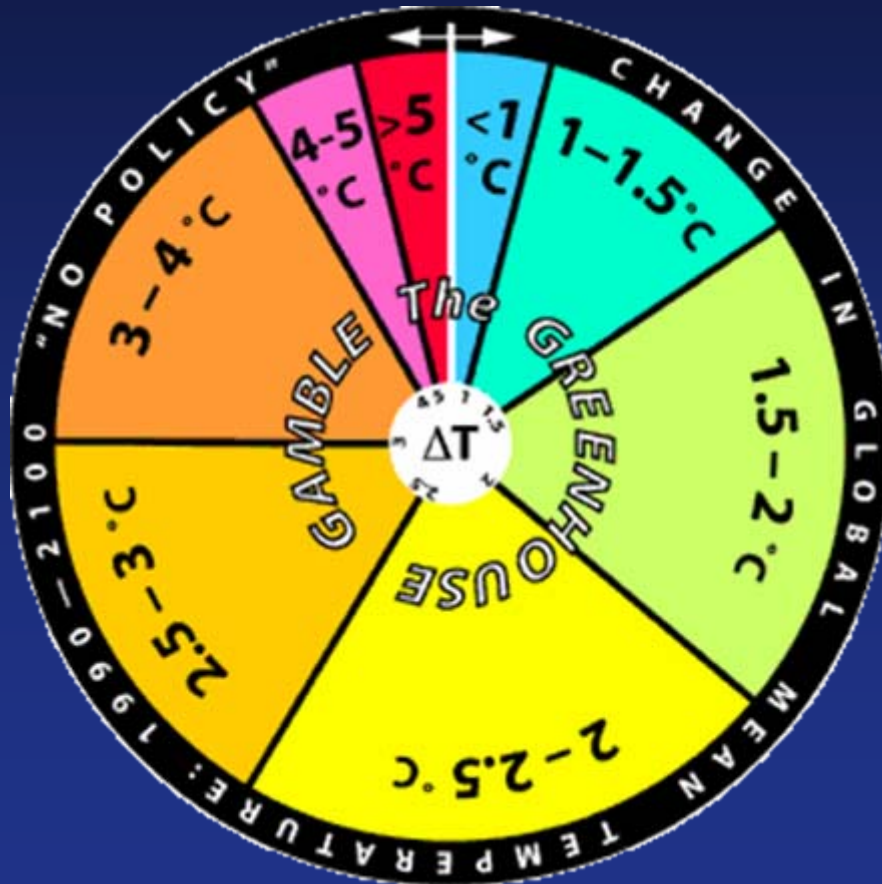


Year	PPM
1000-1800	278
1958	315
2006	382
2100*	450-970

*Note: Projections for 2100 range based on several variables, including on population, technology and economic growth.

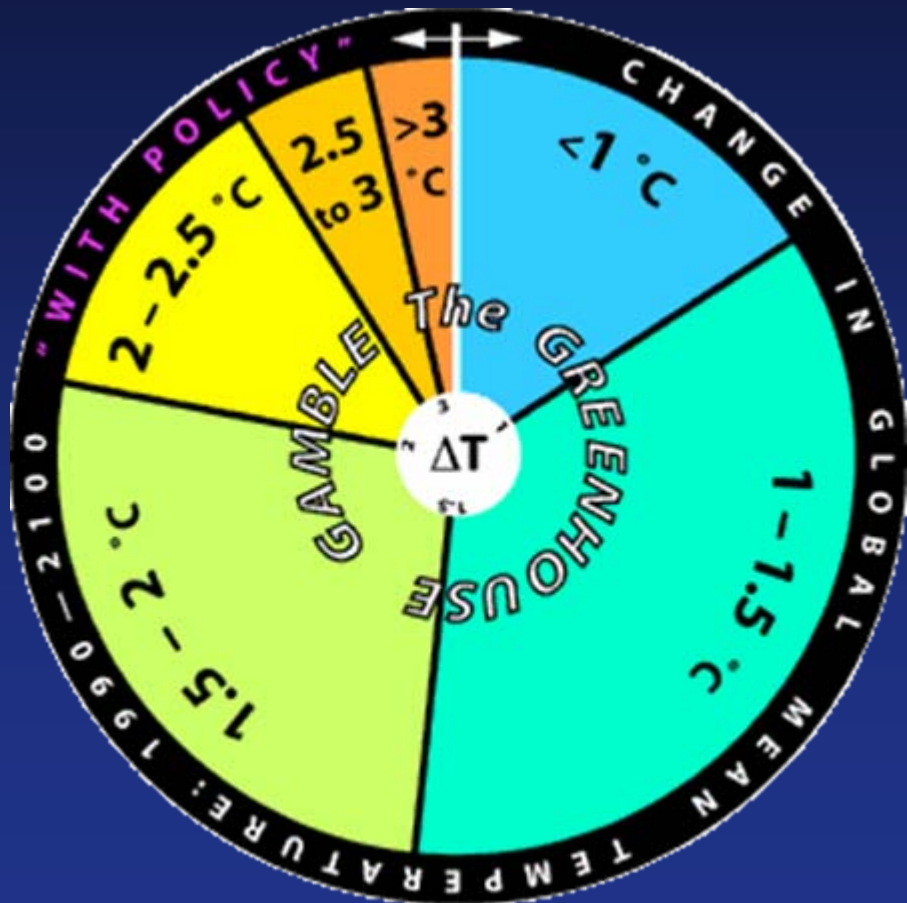
MIT Translation of Climate Change Uncertainty

The Greenhouse Gamble ("No Policy" Reference Case)



- Approximate 40% chance of high temp increase – expensive things begin happening.
- 10% chance of really high temp increase – really bad and perhaps irreversible things happen

MIT Uncertainty if Economically Sensible Policy Implemented

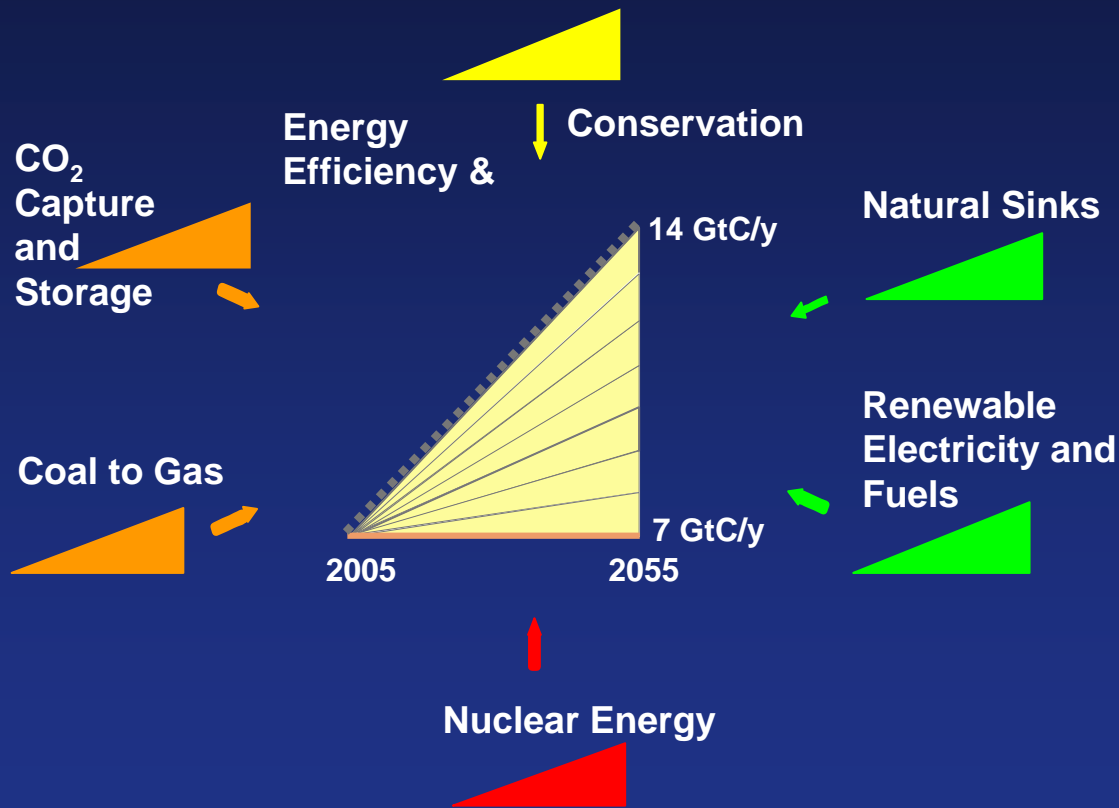


- Risk of high temperature increase drops to about 3.5% (1 in 29)
- Catastrophic change risk greatly diminished
- Shows that it isn't "too late" to affect risks

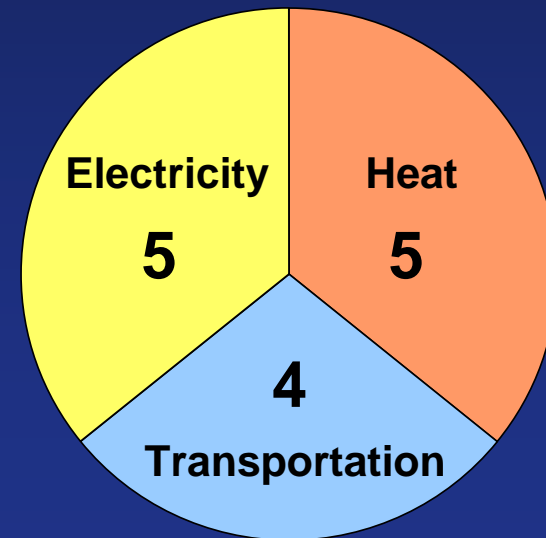
How Do You Think We Should Cut Emissions With Currently Available Technologies And Prepare to Reduce Further After 2050?



7 wedges...



...not all cuts can come from one sector!



Duke Energy's GHG View

- Greenhouse gas legislation is coming, but design details are up in the air...
 - ◆ Must be economy-wide
 - ◆ Must be national in scope
 - ◆ Should avoid price jolts through a slow, stop and reverse strategy
 - ◆ Must be market-based
 - ◆ Must have a technology component

Start with Energy Efficiency

- NAPEE Introduced on July 31
(<http://www.epa.gov/cleanrgy/actionplan/eeactionplan.htm>)
- Efficiency needs a higher profile
- Utilities need timely recovery and incentives
- Collaboratives can build a common vision
- Need a technology component
- States must take the lead



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