

# The Real Climate Change: Planning And Investing Under Uncertainty

Plenary Session  
35<sup>th</sup> Annual PURC Conference  
University of Florida  
February 5, 2008

Armando Olivera  
President  
Florida Power & Light Company



**FPL**<sup>®</sup>

POWERING TODAY.  
EMPOWERING TOMORROW.<sup>®</sup>

# Climate Change Is Real

“The threat of major, long term environmental and economic damage from climate change is real and warrants actions to slow, stop and eventually reverse growth in greenhouse gas emissions such as CO<sub>2</sub>. Because industrial activity is at least partly to blame for the problem, business leaders have a responsibility to be part of the solution. It is critical to put the right policies in place that will be effective in reducing emissions without imposing unacceptable costs or needlessly shocking the economy. Bad policy can be just as damaging as no policy. In addressing this issue we need to think as Floridians because different potential policies can vary dramatically in their impact on our state.”

- Lew Hay  
Chairman and CEO  
FPL Group

# CO<sub>2</sub> Policy Options

## Market-based

### Command and Control

- Inefficient
- Inequitable

### Cap and Trade

- Uncertain and volatile prices
- Attempt to fix emissions levels

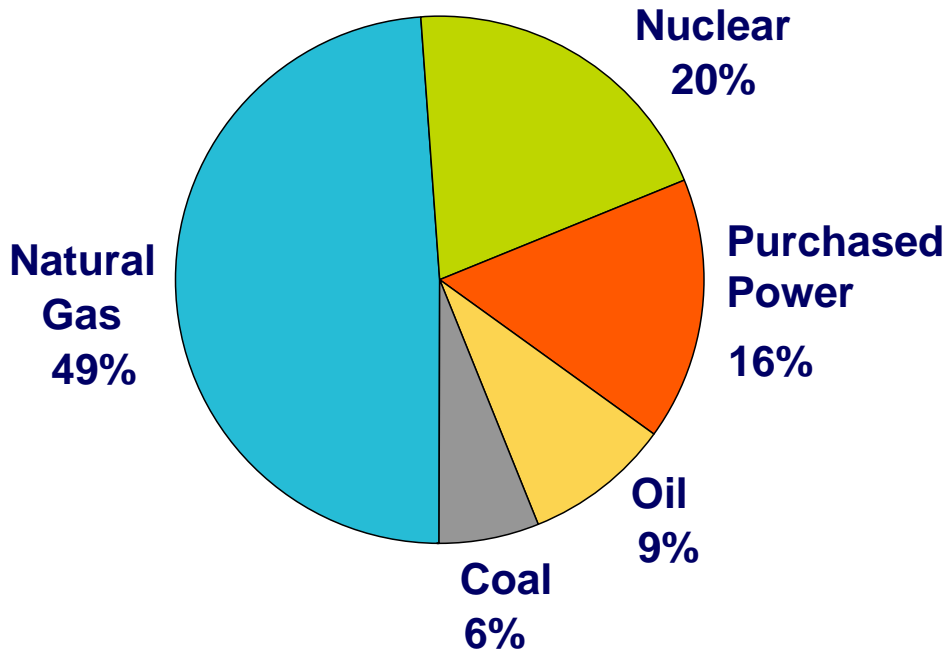
### Carbon Fee

- Pre-determined price profile
- Uncertain short-term emission levels

Both result in a market price for CO<sub>2</sub> emissions

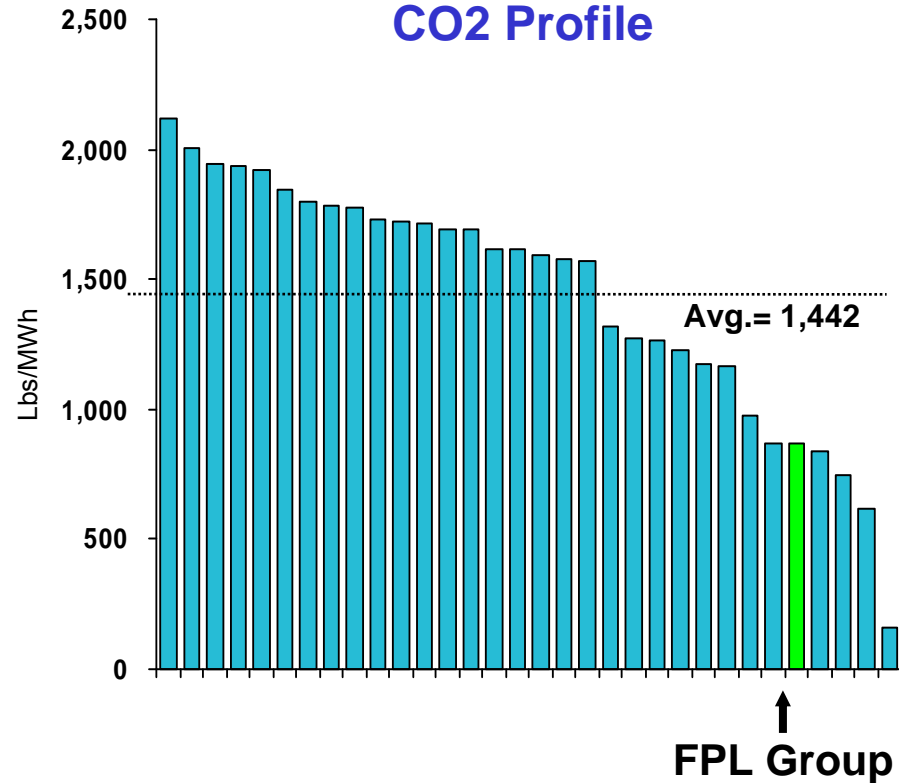
# FPL Is A Clean Energy Leader

FPL fuel mix



Sources of generation for 12 months ending August 2007

CO2 Profile



Source: National Resources Defense Council report - "Benchmarking the Top 100 Power Producers" - 2004 data

# Demand For Power Keeps Growing



- FPL adds about 85,000 customer accounts per year
- Residential customers use about 30% more electricity per household than they did 20 years ago
- Summer peak load<sup>1</sup> (mw)
  - 1996: 16,064
  - 2007: 21,819<sup>2</sup>
  - 2020: 30,091 (forecast)

<sup>1</sup> Source: FPL testimony before Florida PSC, October 16, 2007

<sup>2</sup> Actual 2007 summer peak load not included in 10/16/07 hearing exhibits

# Growing Renewable Energy In Florida

- Florida requires a sound regulatory framework to achieve renewable portfolio standard (RPS) requirements
- An RPS should include:
  - A statewide education program
  - Emissions-free nuclear power
  - Timely and firm approval of renewable projects/costs
  - Long-term RPS targets
  - Preference to renewable energy credits (RECs) produced in Florida
  - Ability for utilities to use RECs from out of state

# Growing Solar Energy In Florida

- \$1.5B investment planned over 7 years in solar thermal generation (Florida/CA)
- This month, FPL will inaugurate the largest photovoltaic solar array in Florida
- Optimum solar technology for the state still evolving



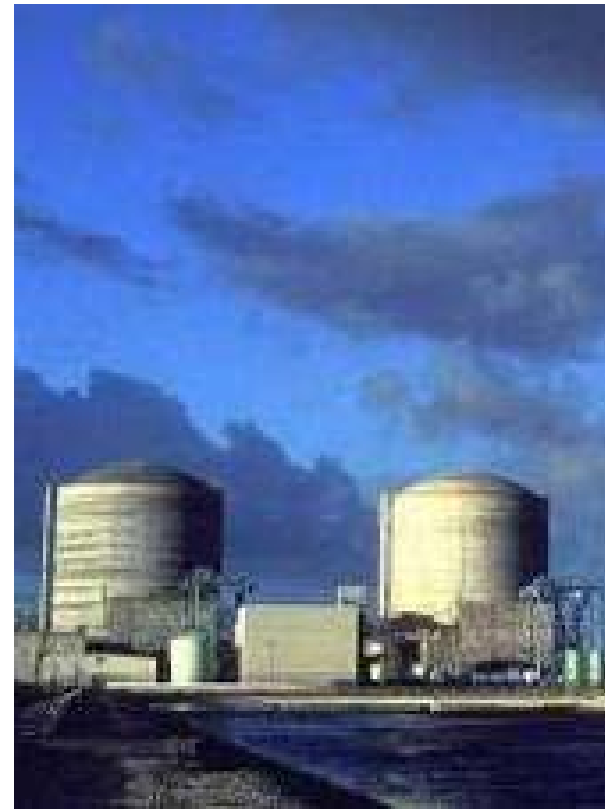
# Wind Power Getting Lots Of Attention

- Drawing upon FPL Energy's expertise
- Pursuing state-of-the-art wind project in Florida
- Challenges: siting issues; amount and location of wind
- Technology and economics improving

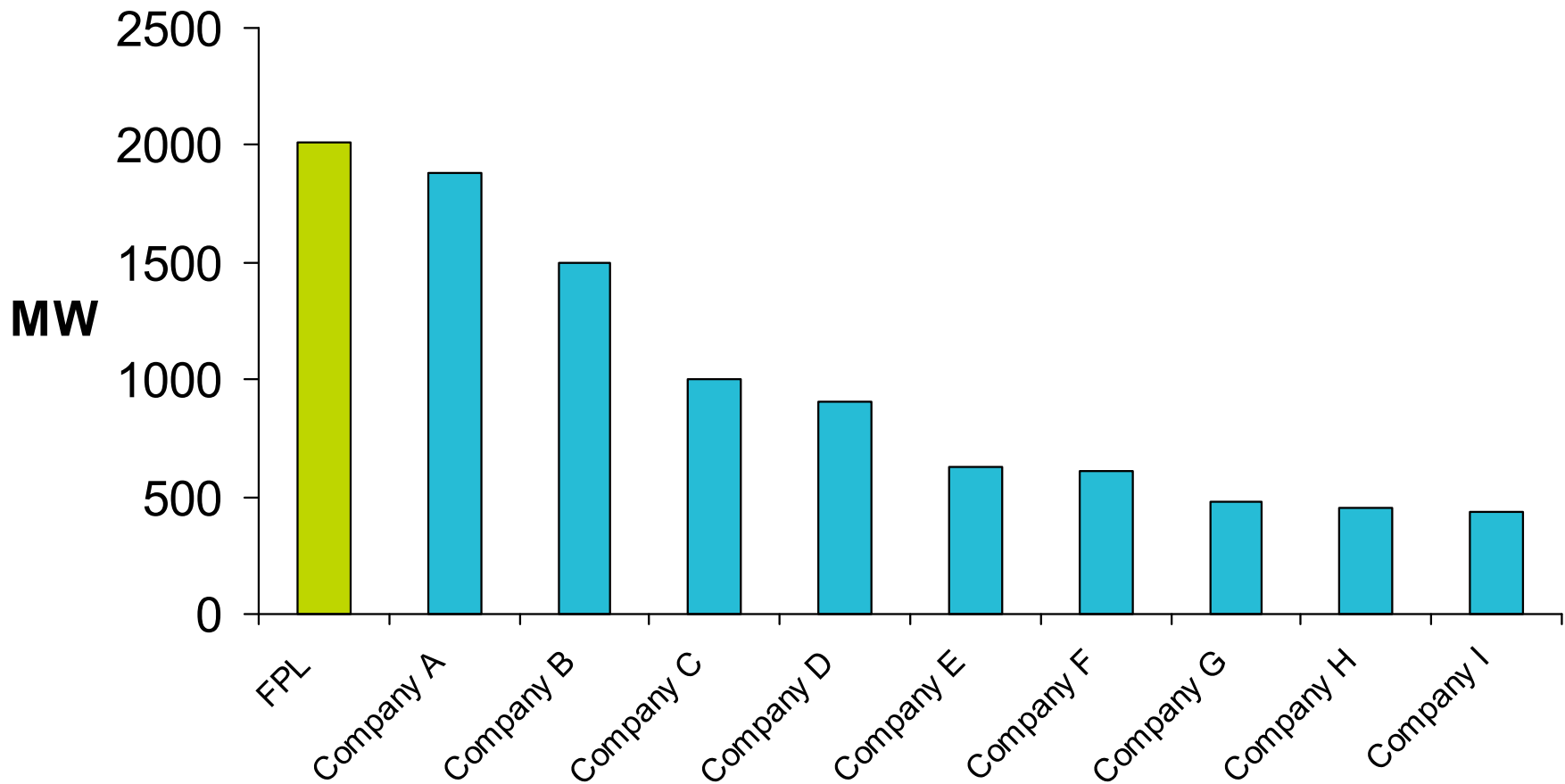


# Nuclear Power Should Be A Key Element Of Our Energy Future

- Safe, reliable, no greenhouse gas emissions
- Challenges: High investment, lengthy development and construction costs/risks
- FPL moving toward major uprate at existing locations; in early stages of developing new nuclear generation in Florida

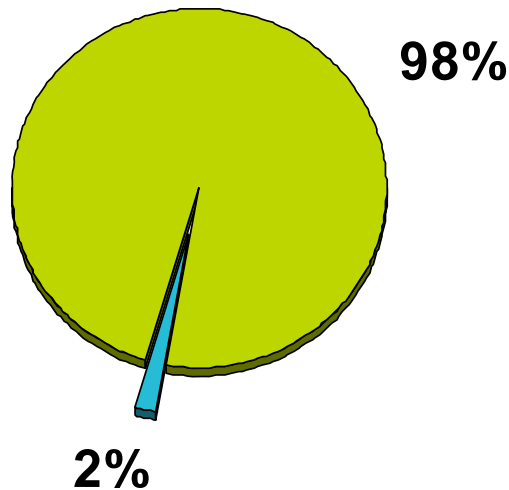


# US DOE: FPL is largest provider of customer energy efficiency programs

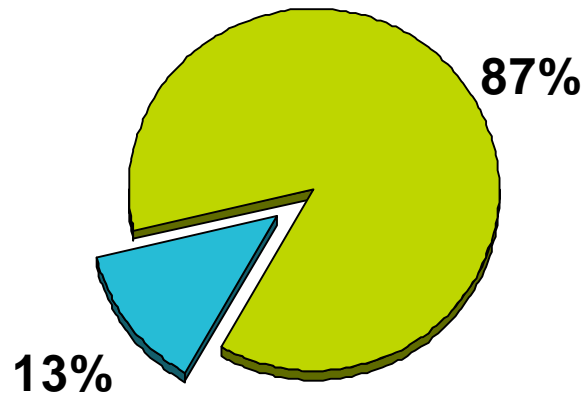


# Doing More Than Our Proportionate Share At FPL

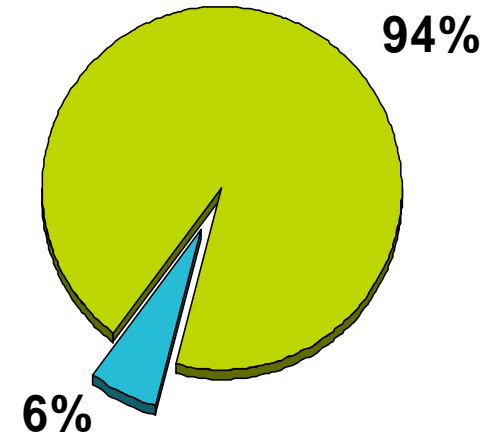
U.S. Peak Demand



U.S. Energy Efficiency



U.S. Load Management



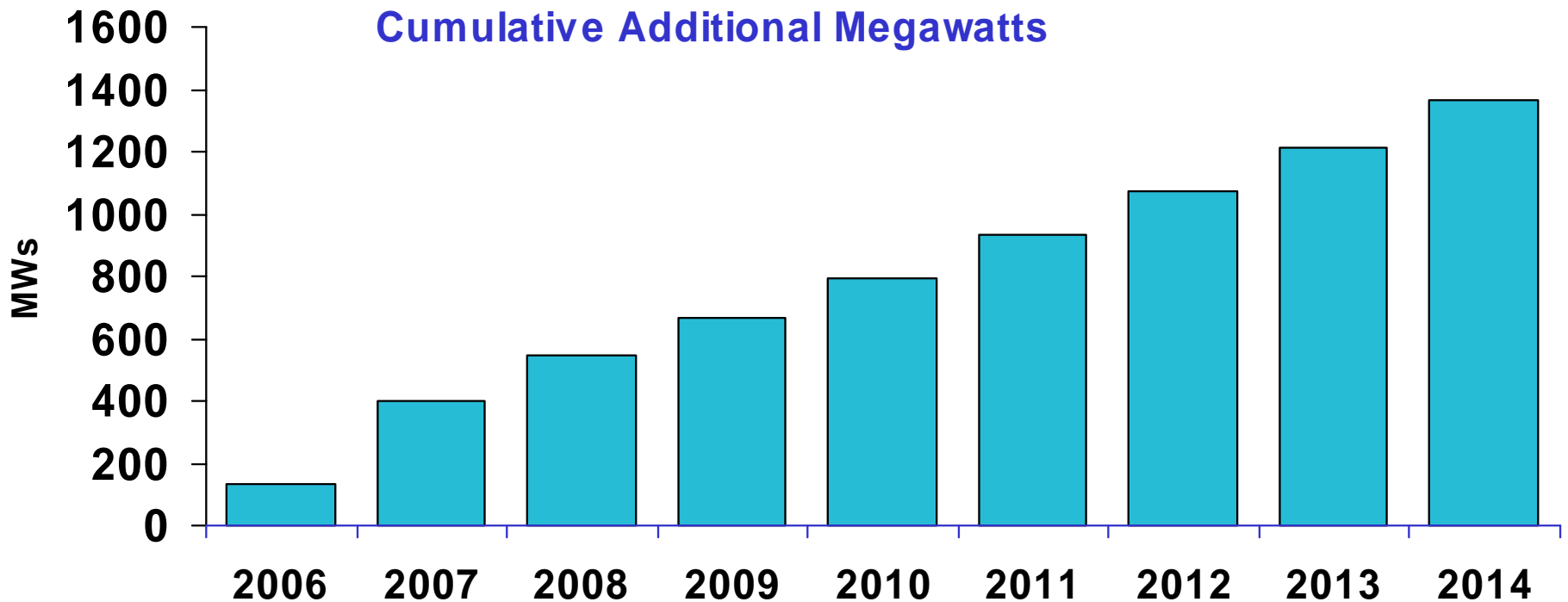
■ FPL ■ Remaining U.S.

While FPL's peak demand is 2% of total U.S. peak demand, we have implemented 13% of the energy efficiency in the U.S. and 6% of the load management

# FPL's Strong Energy Efficiency And Demand Response Performance To Date

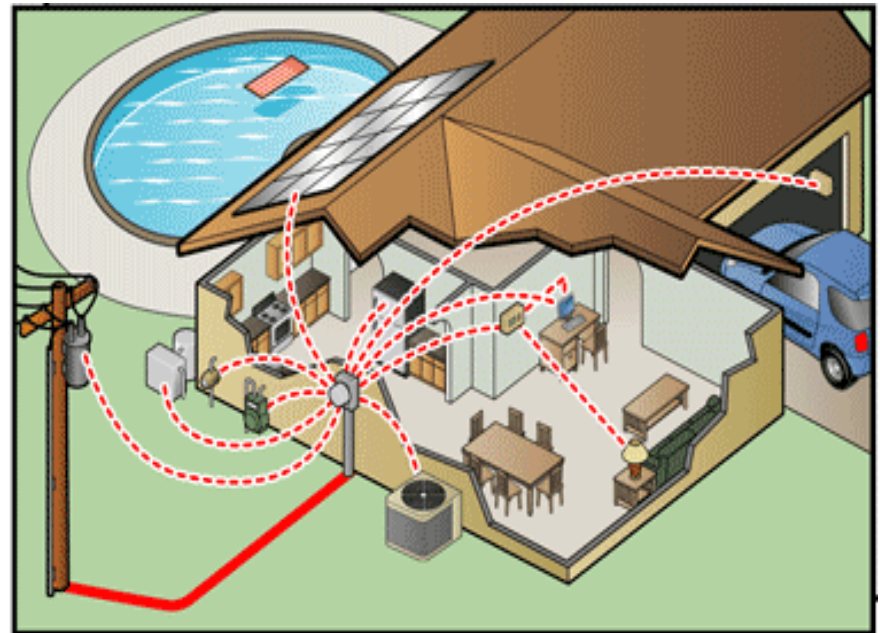
- Over 2.3 million energy saving audits performed
- More than 1 million high efficiency air conditioners installed
- Close to 750,000 customers on load control
- More than 700,000 customers retrofitted to improve energy efficiency of home or workplace
- Over 400,000 air conditioning duct tests conducted and leaks repaired

# Energy Efficiency And Demand Response Will Meet 25% of FPL's Future Capacity Need



# Smart Meter Technology Will Enable A Smart Energy Future

- Empowers customers
- Increases operational efficiencies
- Enhances load management
- Provides opportunities in the future



US Dept of Energy

# Clearing A Path To Achieve Higher Levels Of Energy Efficiency In Florida

- From customer perspective
  - Concern over initial capital investment
  - Desire for short paybacks
  - Misaligned incentives
    - renters vs. owners
    - builders vs. owners
  - Supply chain must be stocked with products at time of purchase

# Clearing A Path To Achieve Higher Levels Of Energy Efficiency In Florida

- From utility perspective
  - Need adequate compensation
    - recovery of program costs
    - recovery of reduction in revenues due to customer participation
    - utilize Rate Impact Measure test
    - return on expenditures at least comparable to what would have been earned if avoided capacity had been built



# Policies We Need To Ensure A Clean Future For Floridians

- A fair, equitable national carbon policy
- An RPS that includes new nuclear
- Policy/regulatory clarity and support on nuclear
- Proper incentives and continued progressive regulatory policy for energy efficiency





# Powering Today. Empowering Tomorrow.

- FPL focused on:
  - Providing clean, reliable energy now and into the future
  - Making a real difference on climate change
- Though we're proud of our long track record of achievement, we're always trying to do even better
- Let's cooperate so we can help make Florida's future the very best it can be



**FPL**®

POWERING TODAY.  
EMPOWERING TOMORROW.