

**Kimberley Pena**

**From:** Kimberley Pena  
**Sent:** Thursday, December 04, 2008 1:03 PM  
**To:** Kathy Lewis  
**Cc:** Ann Cole  
**Subject:** FW: Place in docket files ;  
**Attachments:** UtilitiesNov3workshop.ppt; Stakeholders.pptx

080407-EG  
080408-EG  
080409-EG  
080410-EG  
080411-EG  
080412-EG  
080413-EG

Kathy, per our phone conversation, we will place in the docket file, instead of the correspondence file, to provide easier access and meet the demands from the public. The attached power points presentations will be placed in the below referenced docket files.

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**From:** Ann Cole  
**Sent:** Wednesday, November 05, 2008 1:22 PM  
**To:** Kathy Lewis  
**Cc:** Kimberley Pena  
**Subject:** FW: Place in docket files ;

Thank you for this information.

Since an email and email attachment does not meet our filing requirements, I will be happy to place these power point pages in the correspondence files.

If, however, you would like this information included in docket files 080407-EG through 080413-EG, CLK will need the power point pages attached to a memorandum along with your filing instructions. The memorandum (and its power point attachments) will then be Document Numbered and processed an official filing.

I hope you find this information helpful and I will await further instructions.

Thank you.

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**From:** Kathy Lewis  
**Sent:** Wednesday, November 05, 2008 11:59 AM  
**To:** Ann Cole  
**Subject:** Place in docket files ;

Please place the attached 2 presentations (from the November 3, 2008 Commission workshop) in each of the docket files 080407-EG through 080413-EG - numeric conservation goals. Thanks - Kathy Lewis

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DOCUMENT NO. DATE  
11198-08 1214108  
FPSC - COMMISSION CLERK

12/4/2008

# Workshop on Commission Review of Numeric Conservation Goals

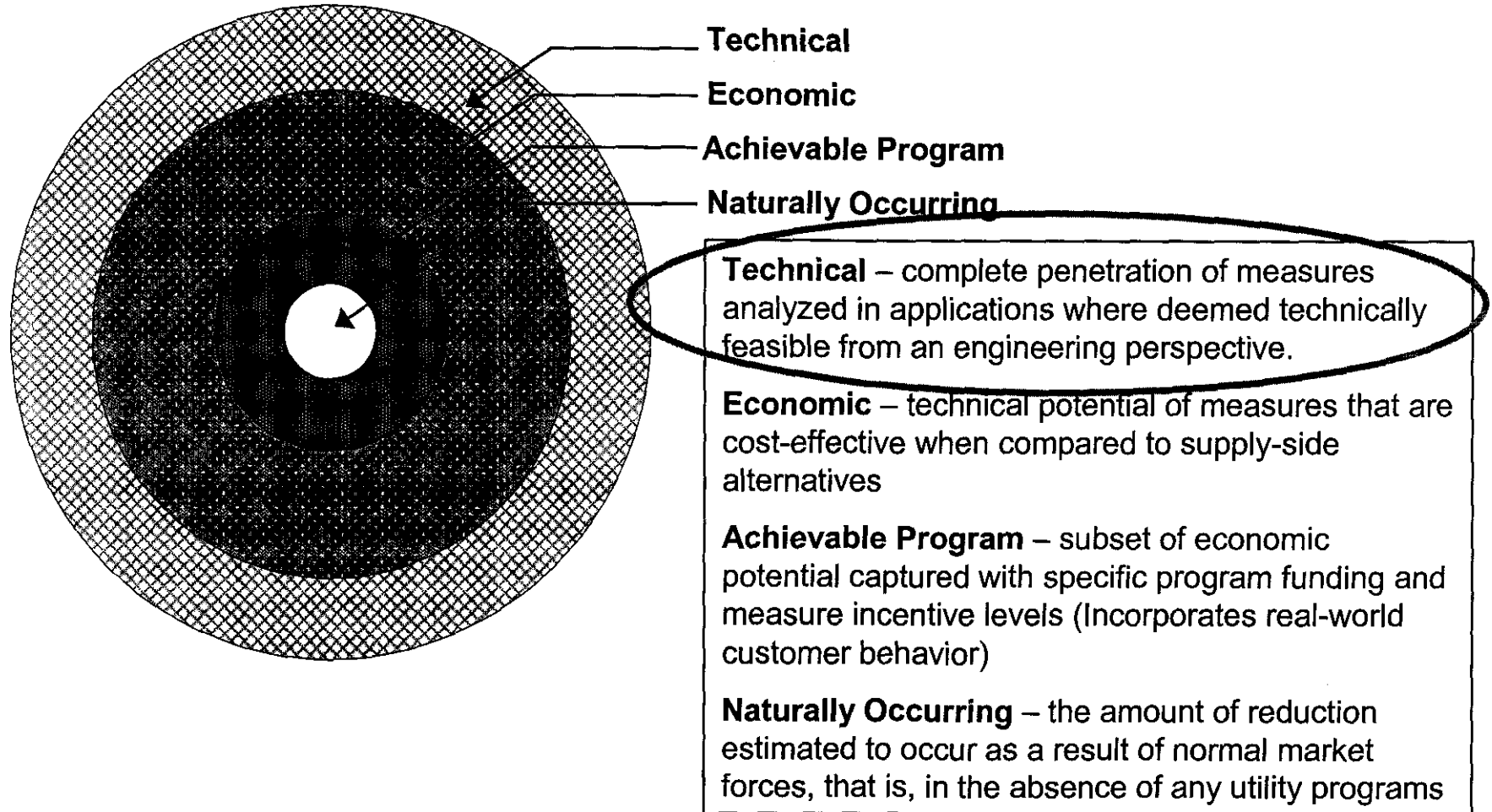
November 3, 2008

DOCUMENT NO. DATE  
11198-08 12/4/08  
FPSC - COMMISSION CLERK

# Review of Numeric Conservation Goals Workshop

- Collaborative formed for Demand Side Management Technical Potential Study
  - FEECA Utilities
    - Progress Energy Florida
    - Tampa Electric
    - Gulf Power
    - Orlando Utilities Commission
    - Florida Public Utilities
    - JEA
    - Florida Power & Light
  - Other Stakeholders
    - Southern Alliance for Clean Energy
    - National Resource Defense Council
    - FPSC Staff
  - Itron/KEMA selected by the Collaborative to perform Study

# There are multiple types of DSM potential



Development of DSM Goals will require a determination of each type of DSM potential

# 1. Technical Potential is the upper limit of energy efficiency in Florida

- Technical potential
  - Upper bound of energy efficiency potential in a technical feasibility sense, regardless of cost or acceptability to customers
    - Feasibility limits measure installation to situations where installation is physically practical (e.g., available space, noise considerations, and lighting level requirements are considered, among other things)
  - Total amount of energy savings that would be possible if all technically applicable and feasible opportunities to improve energy efficiency were taken, including retrofit measures, replace-on-burnout measures, and new construction measures
- Technical potential is not limited by product availability or customer preferences
- A rigorous technical potential study sets a solid foundation for the subsequent potential studies

# Data inputs required for Technical Potential

- Baseline data that support development of calibrated, bottom-up, end-use technology baselines
  - Housing/customer counts
  - Commercial floorstock
  - End-use saturations
  - End-use load shapes
  - Actual utility sales and peak demand (top-down control totals)
- Measure data that capture the average cost-savings relationships in a given market segment
  - Measure costs
  - Measure savings
  - Measure feasibility
  - Current measure saturation

# Analysis Segmentation

Segment Name	Segment Definition		
<b>Sector</b>	<ul style="list-style-type: none"> <li>• Residential</li> </ul>	<ul style="list-style-type: none"> <li>• Commercial</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial</li> </ul>
<b>Building type</b>	<ul style="list-style-type: none"> <li>• Single-family dwelling</li> <li>• Multi-family dwelling</li> <li>• Mobile Home</li> </ul>	<ul style="list-style-type: none"> <li>• College</li> <li>• Food Store</li> <li>• Hospital</li> <li>• Other Health Care</li> <li>• Office</li> <li>• Lodging</li> <li>• Restaurant</li> <li>• Retail</li> <li>• School</li> <li>• Warehouse</li> <li>• Miscellaneous</li> </ul>	<ul style="list-style-type: none"> <li>• Food Processing</li> <li>• Textiles</li> <li>• Lumber</li> <li>• Paper-Pulp</li> <li>• Printing</li> <li>• Chemicals</li> <li>• Petroleum</li> <li>• Rubber-Plastics</li> <li>• Stone-Clay-Glass</li> <li>• Primary Metals</li> <li>• Fab Metals</li> <li>• Ind Machinery</li> <li>• Electronics</li> <li>• Transp Equipment</li> <li>• Instruments</li> <li>• Miscellaneous</li> </ul>
<b>Building vintage</b>	<ul style="list-style-type: none"> <li>• Existing construction</li> <li>• New construction</li> </ul>	<ul style="list-style-type: none"> <li>• Existing construction</li> <li>• New construction</li> </ul>	<ul style="list-style-type: none"> <li>• Existing construction</li> </ul>
<b>End use</b>	<ul style="list-style-type: none"> <li>• HVAC</li> <li>• Lighting</li> <li>• Water Heating</li> <li>• Refrigerator</li> <li>• Freezer</li> <li>• Clothes Dryer</li> <li>• Clothes Washer</li> <li>• Dishwasher</li> <li>• Pool Pump</li> <li>• TV/VCR/DVD/STB/PC</li> <li>• Other Plug Loads</li> </ul>	<ul style="list-style-type: none"> <li>• Space Cooling</li> <li>• Ventilation</li> <li>• Water Heating</li> <li>• Commercial Cooking</li> <li>• Refrigeration</li> <li>• Exterior Lighting</li> <li>• Interior Lighting</li> <li>• Office Equipment</li> <li>• Miscellaneous</li> </ul>	<ul style="list-style-type: none"> <li>• Process Heating</li> <li>• Process Cooling</li> <li>• Pumps</li> <li>• Fans</li> <li>• Compressed Air</li> <li>• Process Drives</li> <li>• Lighting</li> <li>• HVAC</li> <li>• Refrigeration</li> <li>• Other</li> </ul>

# Scope of Technical Potential Study

- 276 unique measures being evaluated (includes measures from the Synergic Resources Company Study)
  - 70 residential
  - 92 commercial
  - 114 industrial
- 58 “new” measures (relative to previous Itron/KEMA studies in other states)
  - 25 residential
  - 33 commercial
- Final Technical Potential report to be completed in early December



# Commercial On-Site Surveys

- There is a need for baseline equipment saturation data by commercial building type
  - This data is typically the most uncertain inputs in potential studies
- The Florida Collaborative is conducting a 600-point on-site survey of commercial facilities throughout the State
  - Survey development, testing, and implementation being administered by KEMA (subcontractor to Itron for this study)
  - Primary data being collected:
    - Building characteristics
    - Baseline end-use equipment saturations
    - Measure saturations
  - Current status: >500 on-site surveys completed
  - Final results will be completed by February 2009

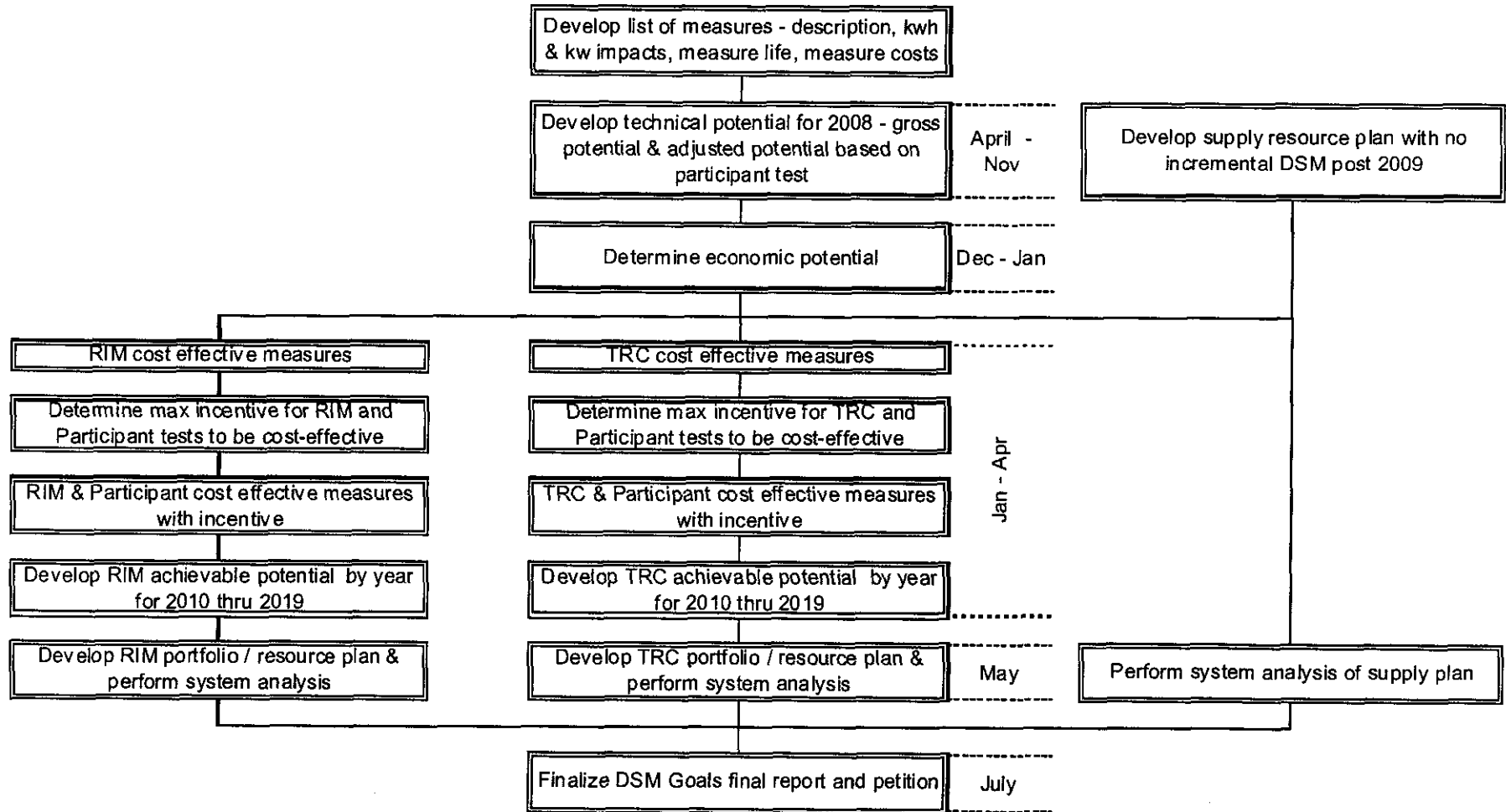
## 2. Technical, Economic & Achievable Potential for Supply-Side Generation and T&D

- For the 2009 goal setting process, focus should remain on the demand-side
- While opportunities to increase the efficiency of energy supply may exist, a methodical process to determine the potential for cost-effective goals does not exist in a robust enough form to be included in 2010-2019 goals proposal
- Provisions of HB 7135 do provide opportunity for use of supply-side measures in meeting 20% of growth goal for an ROE adder
  - That provision should be preserved as an incentive to consider supply-side projects, but not a requirement

## 2. Technical, Economic & Achievable Potential for Supply-Side Generation and T&D

- Consideration for energy efficiency already built-in to evaluation processes for generation, transmission, and distribution
  - Generation - heat rate, availability, and capacity improvements are all measures of energy efficiency
  - T&D - lowest cost alternatives are pursued for meeting system operating needs. T&D planning driven more from reliability and voltage stability
  - 2007 DOE rule increased efficiency requirements of distribution transformers - “free rider”
- For these reasons, consideration of “supply-side” goals should be addressed separately from demand-side goals.

# 3. Determination of Economic and Achievable Potential



## 4. Cost effectiveness methodology for participating customers

HB 7135 Cost Effectiveness Test Language:

Sec 366.82(3)(a) The costs and benefits to customers participating in measure.

### Benefits:

- Incremental energy bill savings are modeled using DOE2 simulation and calibrated with test sites energy reductions
  - Compare to Itron's savings estimates
  - Incentives paid to participants
  - Tax benefits

### Costs:

- Program coordinators survey incremental measure cost (participant out of pocket cost) from vendors around service area
  - Compare to Itron report
  - Incremental cost between baseline efficiency and higher efficiency options

The existing Participant test addresses Sec 366.82(3)(a)

## 5. Cost effectiveness methodology for the general body of customers

- HB 7135 Cost Effective Test Language:
  - Sec 366.82 (3) (b) The costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions.
- Florida's current tests provide all needed information to evaluate economic/financial impacts from the participant, non-participant and total customer perspectives
- No other test is need to address the costs and benefits addressed by Sec 366.82(3)(b).
- In addition, no other single test can more transparently, equitably, and comprehensively (i.e., across different types of programs) balance customer interests and control impacts to the customers electric rate and bill
- This is the right information to balance customer interests and make sound screening decisions
  - By varying threshold levels, the current tests can prevent cross-subsidies between customers and limit rate impacts to all customers

## 6. Impact of emissions of greenhouse gases

- Principal greenhouse gas considered in HB 7135 is carbon dioxide
- To date, no market has been established for carbon dioxide
- Currently, an integral component of a utility's Need Determination before this Commission is to establish costs associated with carbon dioxide emissions
- To incorporate a carbon dioxide emissions cost into energy efficiency cost-effectiveness evaluations, utilities could use the Need Determination methodology for determining carbon dioxide emissions cost
- The Commission's current cost-effectiveness methodology can readily handle the carbon dioxide cost in the appropriate cost-effectiveness tests

## 7. Incentives for Energy Efficiency & Renewable Energy Systems

- Incentives are a key component for both the customer and the utility with respect to both energy efficiency and demand-side renewable energy systems.
- From the customer perspective
  - Customer needs the incentive to consider and implement energy efficiency and renewable resources beyond the code required or typical measure that would otherwise be installed
  - Incentive should be large enough to encourage the customer to make the correct decision while maintaining prudent cost-effectiveness for the utility
  - Incentive should be set at a level that minimizes free riders



## 7. Incentives for Energy Efficiency & Renewable Energy Systems

- From the utility perspective
  - General concept of utility incentives involves the utility receiving incentives that include fixed cost recovery and shareholder incentives as energy efficiency and renewable resources are deployed in its service area
  - Incentive mechanisms can take the form of shared savings of the net benefit of deferred generation and T&D resulting from energy efficiency deployment or an ROE adder on rate base
  - HB 7135 is flexible and contemplates both shared savings and premium ROE incentive mechanisms

**cleanenergy.org**

Southern Alliance for  
**Clean Energy**



**FEECA Energy Efficiency  
Potential Workshop**

**SACE / NRDC Comments**

**October 2008**

# **FEECA Goal: Potential Study**

- 1. Utility plans, procedures, and methodologies being employed, or to be employed, to determine the full technical, economic, and achievable potential for supply-side generation, transmission, and distribution efficiency improvements.**
- We generally agree that the study has proceeded appropriately. The relationship among utilities, consultants and our organizations has been professional and productive.**

# Issues with Potential Study

- **Some shortcomings with measure list**
  - Primarily due to compressed study schedule
  - SACE/NRDC will comment specifically in response to utility filings
- **Cost estimates do not consider economy of scale**
  - Cost data derived from Florida experience which have been jdw2  
relatively small programs
  - Studies show cost of conservation declines with higher levels of achievement

**Slide 3**

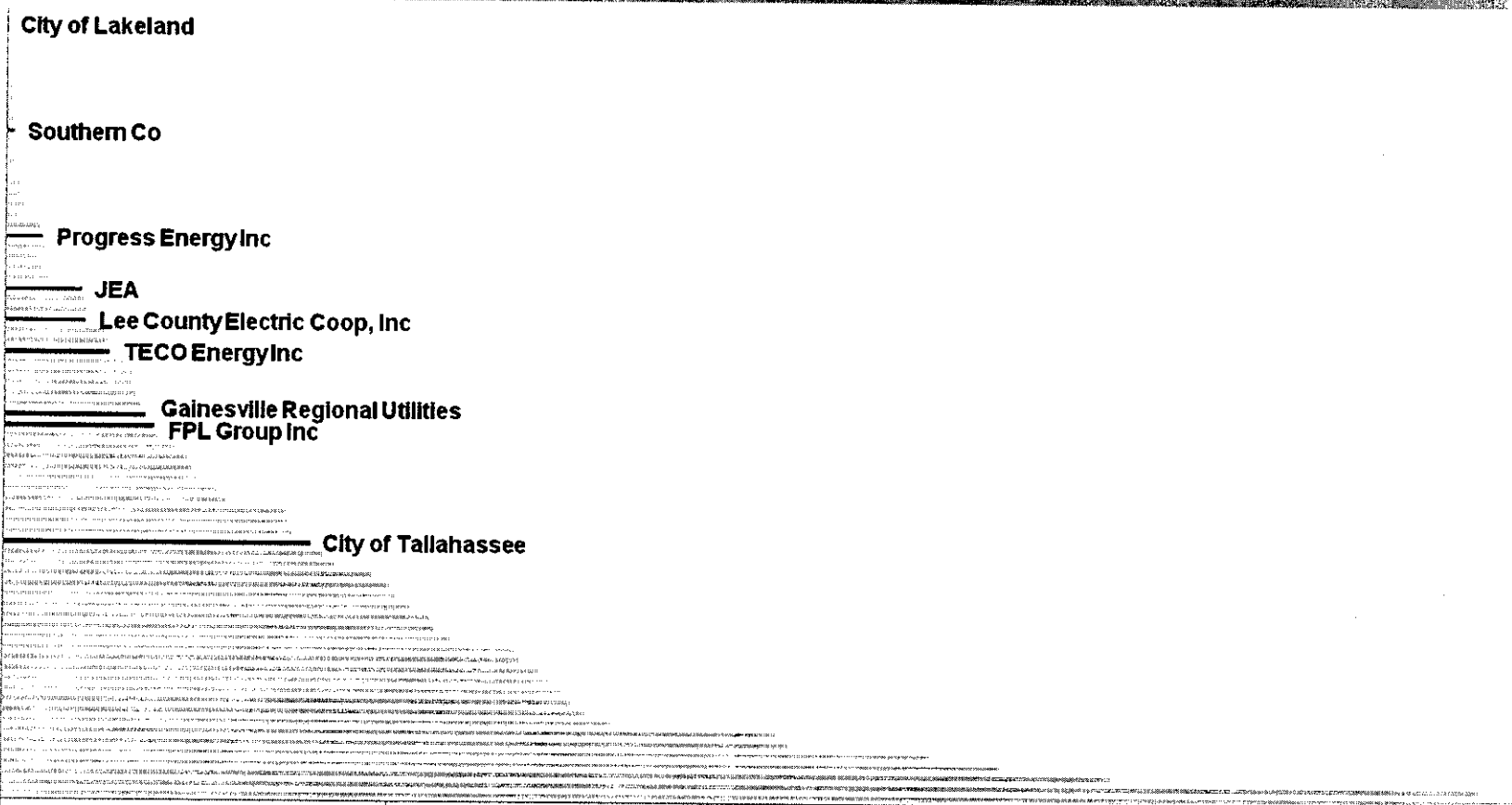
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**jdw2**

Need to verify - asked Tom to look at this point  
John D. Wilson, 10/22/2008

# Small Programs in Florida

## Annual Energy Savings of 75 Largest Utility Systems (Percent of Sales, 2006)



0.0%

0.5%

1.0%

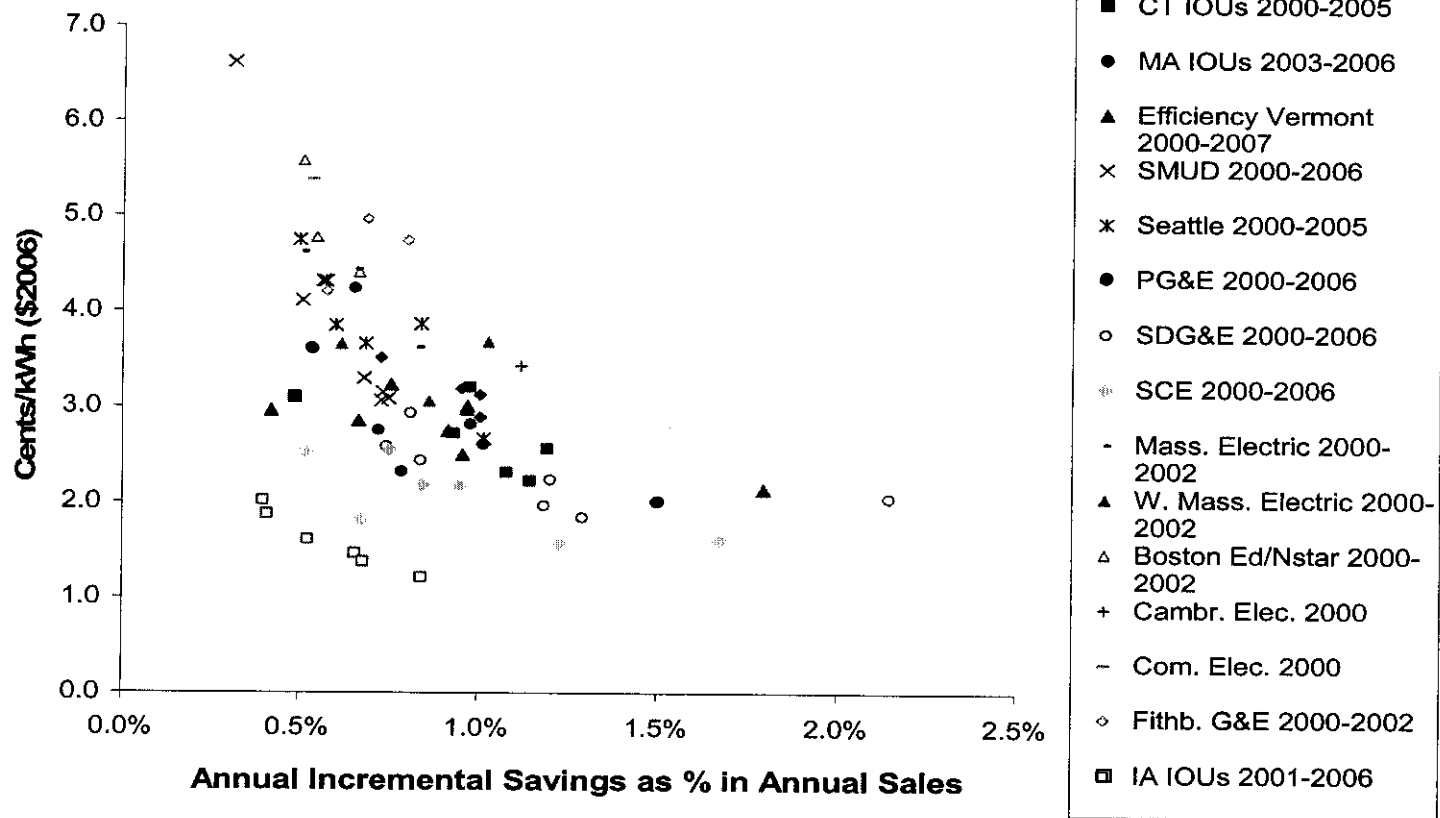
1.5%

2.0%

4

Source: SACE analysis of Energy Information Administration data

# Larger Savings → Lower Cost



# PSC Rule Shortcomings Affecting Potential Study

- Rule 25-17.008 FAC and CE Manual do not address the new authority to “allow efficiency investments across generation, transmission, and distribution.” §366.82 (2)
- CE Manual does not address data collection and analysis requirements respecting “demand side renewable energy systems.” §366.81
- **Recommendation:** Revise CE Manual, or provide informal guidance, as to the data and analysis requirements for these two resource potentials.



# **FEECA Goals: Cost vs Benefit**

2. **Utility plans, procedures, and methodologies being employed, or to be employed, to screen the measures identified in the KEMA/ITRON Technical Potential Study to determine the economic and achievable potential of each measure.**
  - **We are not satisfied that the Commission had provided adequate direction on this point.**
  - **Utilities do not appear to be using consistent approaches, and we do not have enough information about their approaches to evaluate them.**

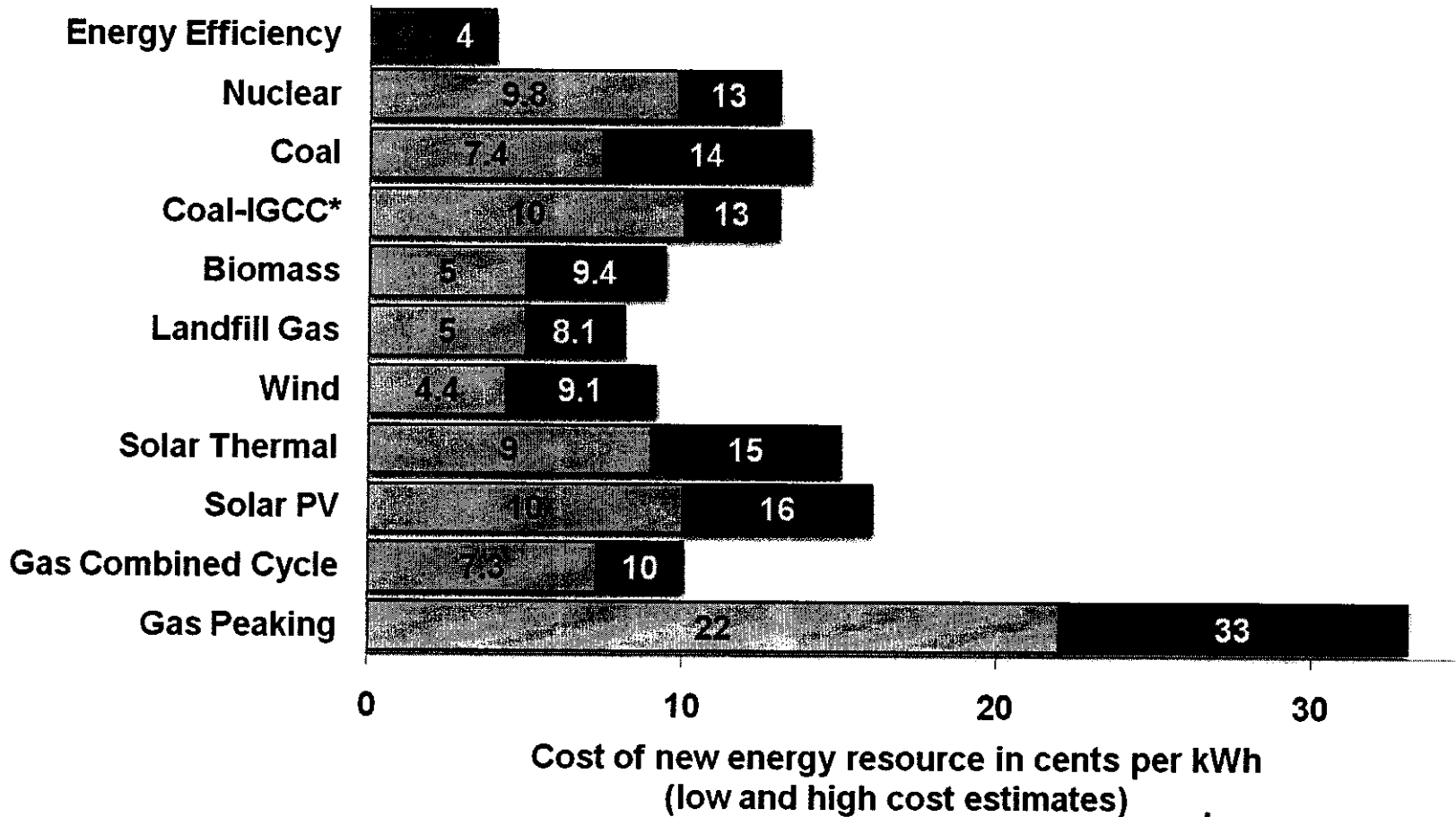
# Measuring Benefits of Efficiency

- **The CE Manual defines benefits to be based on an “avoided generating unit.”**

The term "avoided generating unit" as used in this manual refers to a utility's proposed generating unit that is avoided in whole or in part by the demand-side management program. Avoided capacity charges shall be used in lieu of avoided generating unit costs, where appropriate, to determine cost effectiveness. Use of avoided capacity charges in lieu of avoided generating unit costs may be particularly appropriate by nongenerating utilities, wholesale power purchasers, or members of a power pool arrangement. [§1, the Manual, p.3]

- **EE is widely recognized as less expensive than the cost of avoided generating units**
- **Continued use of the “avoided capacity charges” approach results in underestimating benefits**
- **Are utilities using method to value efficiency based on avoiding a generating unit “in part”?**

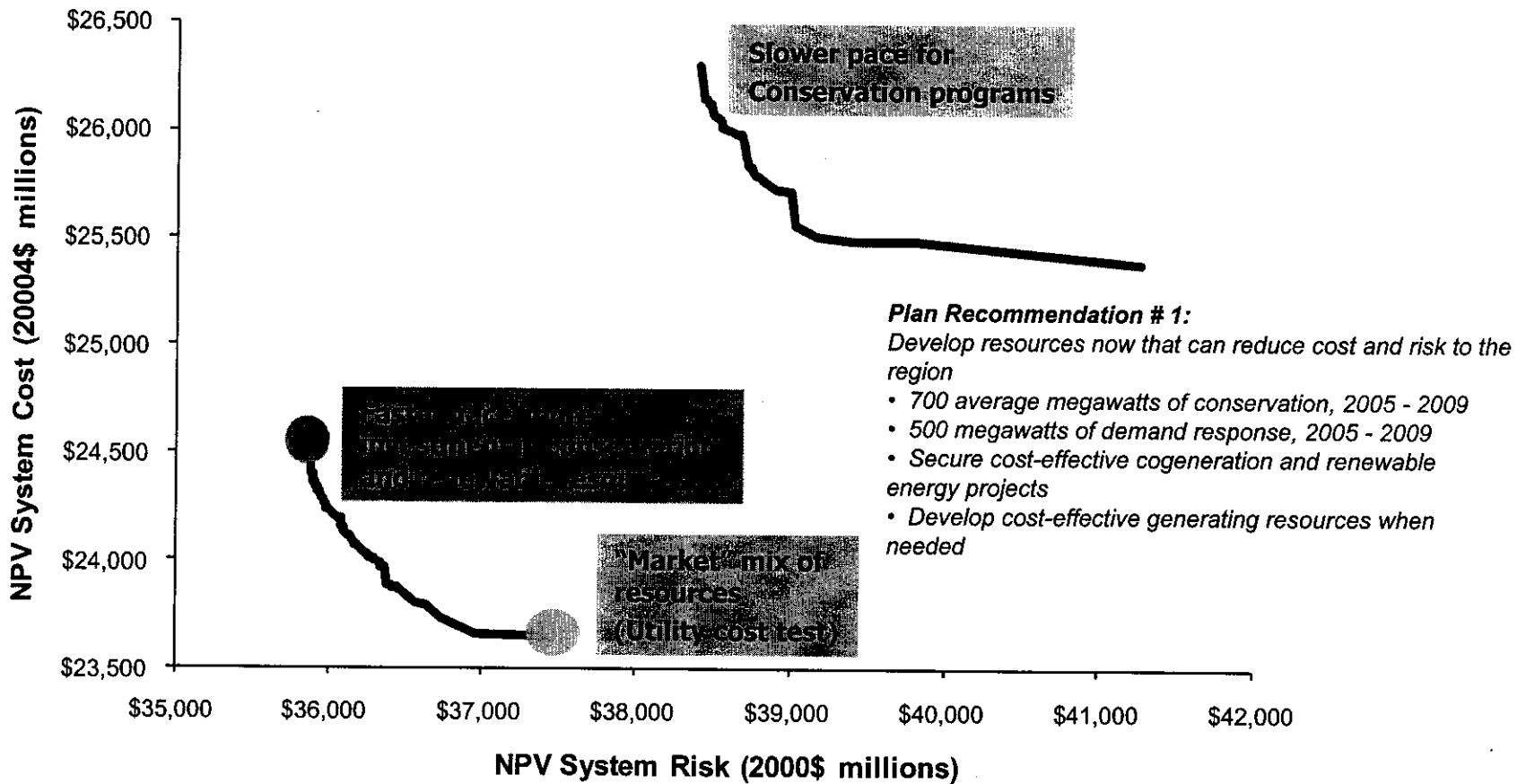
# \$EE << \$Generation



# **Current Method Ignores Value of Fuel Price “Insurance”**

- **The CE Manual provides for an evaluation of a single scenario of fuel costs [Form CE 1.1 Items IV.(16) & (17)]**
- **CE Manual fails to measure value of “insuring” (hedging) against fuel price increases above baseline scenario**
- **The 5<sup>th</sup> Northwest Plan demonstrates impact of measuring risk avoidance benefits**

# EE Reduces Cost *and* Risk



# Valuing Benefits Properly

- **Recommendation: Convene workshop to develop standard for valuing benefits**
  - Invite Northwest Power and Conservation Council
- **Recommendation: Require utilities to submit methods for valuing benefits for Commission approval**
  - Need to complete by early February
- **Recommendation: Revise CE Manual to explicitly allow for valuation of “insuring” against fuel price increases**

# FEECA Cost-Effective Test

- Questions 3-6 relate to statutory criteria for developing FEECA goals.
  - a) *The costs and benefits to customers participating in the measure. §366.82 (3)(a)*
- We interpret this as the Participant Cost Test as historically used.

# FEECA Cost-Effective Test

- b) The costs and benefits to the general body of ratepayers as a whole, including utility incentives and participant contributions. §366.82 (3)(b)*
- **We interpret this as the Total Resource Cost Test as conventionally applied, with one modification:**
    - We believe “utility incentives” refers to any performance-based incentive authorized by the Commission. Such incentives should be considered a “cost” of energy efficiency.



# FEECA Cost-Effective Test

- c) *The need for incentives to promote both customer-owned and utility-owned energy efficiency and demand-side renewable energy systems. 366.82 (3)(c)***
- **Customer-owned systems: We interpret this to refer to the utility's method for determining the appropriate level of incentive payment required to make the offer attractive to the customer.**
  - **Utility-owned systems: We interpret this to refer to the Commission's determination to offer a performance-based incentive.**

# FEECA Cost-Effective Test

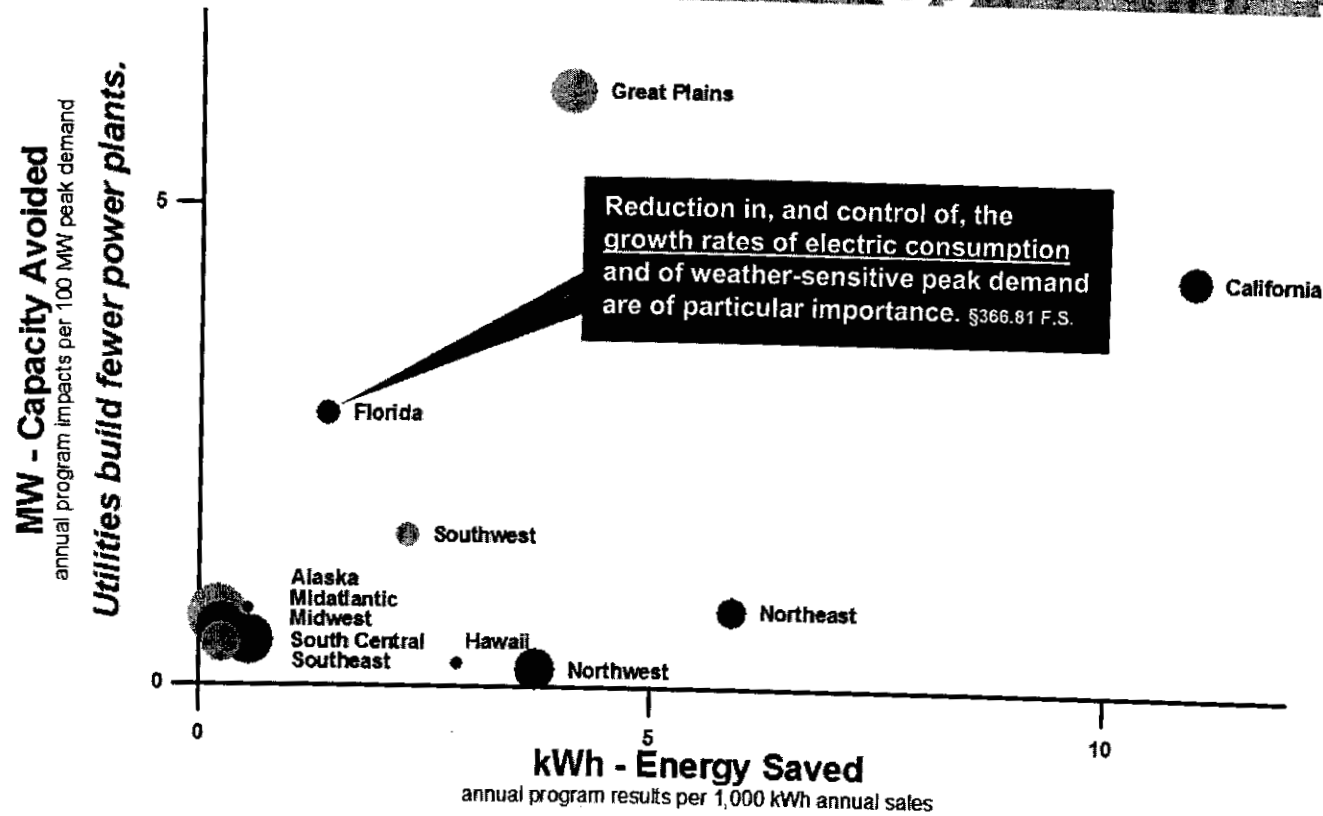
***d) The costs imposed by state and federal regulations on the emission of greenhouse gases. §366.82 (3)(d)***

- **We interpret this as either**
  - a modification of the benefits valued in the Participant and Total Resource Cost Tests to include additional costs; or
  - a modification of our proposed “insurance” or hedging component to the benefits valuation.

# FEECA: No RIM Test

- ***The statute does not establish the RIM test as a basis for determining FEECA goals. §366.82 (3)***
- **Prior Commission policy has led Florida to favor peak-reduction over energy savings**
- **This has resulted in emphasizing resources that are sensitive to fuel price increases**
- ***Recommendation:* Limit use of Rate Impact Measure test (and Utility Cost Test) to program design; exclude from FEECA goal process**

# Florida Emphasizes Capacity Savings over Energy Savings



*Customers buy less electricity, cause less global warming pollution.*