The Florida Senate

COMMITTEE MEETING EXPANDED AGENDA

COMMUNICATIONS, ENERGY, AND PUBLIC UTILITIES
Senator Benacquisto, Chair
Senator Smith, Vice Chair

MEETING DATE: Tuesday, January 25, 2011
TIME: 8:30 —10:30 a.m.
PLACE: *Toni Jennings Committee Room,* 110 Senate Office Building

MEMBERS: Senator Benacquisto, Chair; Senator Smith, Vice Chair; Senators Altman, Bogdanoff, Diaz de la Portilla, Evers, Fasano, Flores, Joyner, Lynn, Margolis, Negron, and Sachs

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
1		Presentation by the Florida Public Service Commission	
2		Presentation by the Florida Energy & Climate Commission	
3		Presentation by the Governor's Energy Office	

Electric Utility Regulation and the Impact of Renewable Energy

Presentation to the

Senate Committee on Communications, Energy, and Public Utilities

January 25, 2011

Bob Trapp
Division of Regulatory Analysis
Florida Public Service Commission

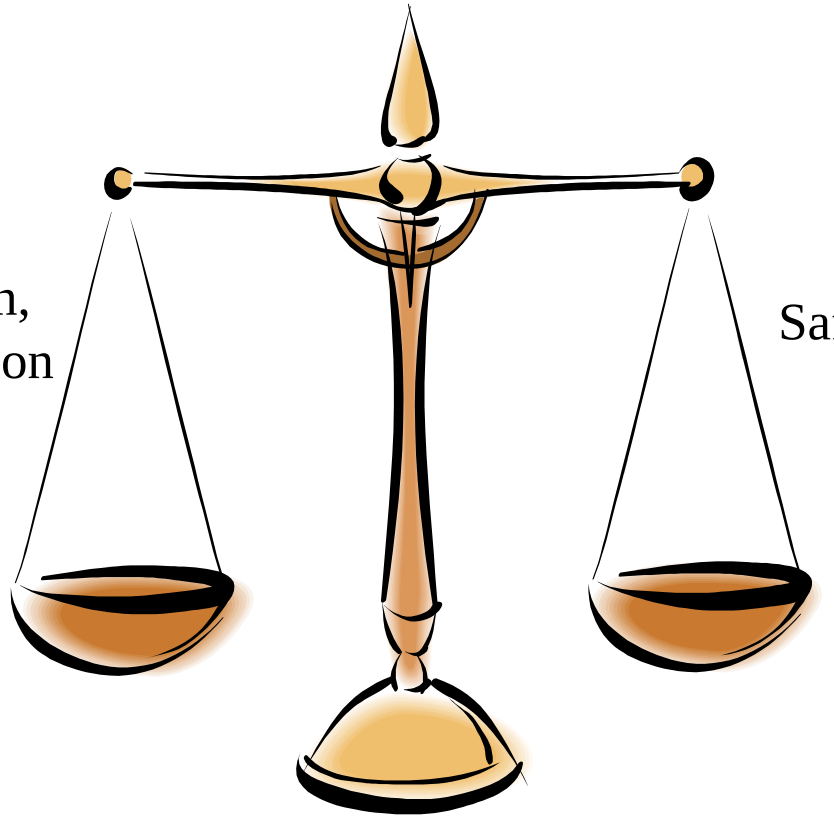
Florida Public Service Commission

PSC is charged by the Legislature to ensure that Florida's consumers receive safe, adequate, and reliable electrical service at the lowest cost possible.

Electric Utility Regulation

Achieve a balance between the cost of providing service and the reliability of the service provided.

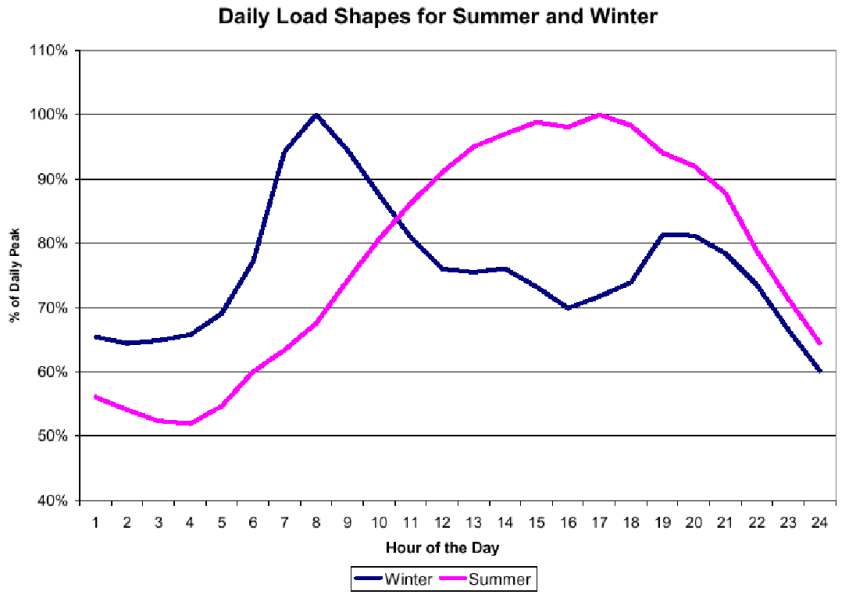
Cost
Conservation, Renewables, Purchased Power, Generation, Fuel, Transmission, Distribution



Service
Safe, Adequate, Reliable

How to Achieve the Balance?

- By statute, utilities are obligated to serve all customers .
- A utility considers all feasible resources to meet customer requirements:
  - Conservation
  - Energy purchases from renewable & alternative generators
  - Energy purchases from other utilities
  - Refurbish or upgrade existing generation
  - New utility-owned generation
- Customer load and energy requirements change during the day and during the year.
- A utility selects a mix of resources that minimize total costs and meet reliability criteria.



Recent Legislative Direction

- Emphasis on fuel diversity due to increasing reliance on natural gas-fired generation and the volatility of natural gas fuel prices.
- Increase conservation.
- Initiatives to increase development of renewable resources for electric generation.
- Encourage the development of nuclear generation.

Recent Legislative Direction

Fuel Diversity

- Florida's utilities should strive for a balanced fuel supply to mitigate potential swings in electricity cost due to fuel price fluctuations.

Conservation

- The PSC has established aggressive new conservation goals for reductions in the growth of seasonal peak demand and annual energy consumption.
- Utility conservation plans include measures that are cost effective from a system-wide basis (Total Resource Test) and take into consideration the potential for costs associated with reducing green-house gas emissions.
- Utility plans also include incentives for customer-based thermal and photovoltaic solar installations.

Recent Legislative Direction

Renewables

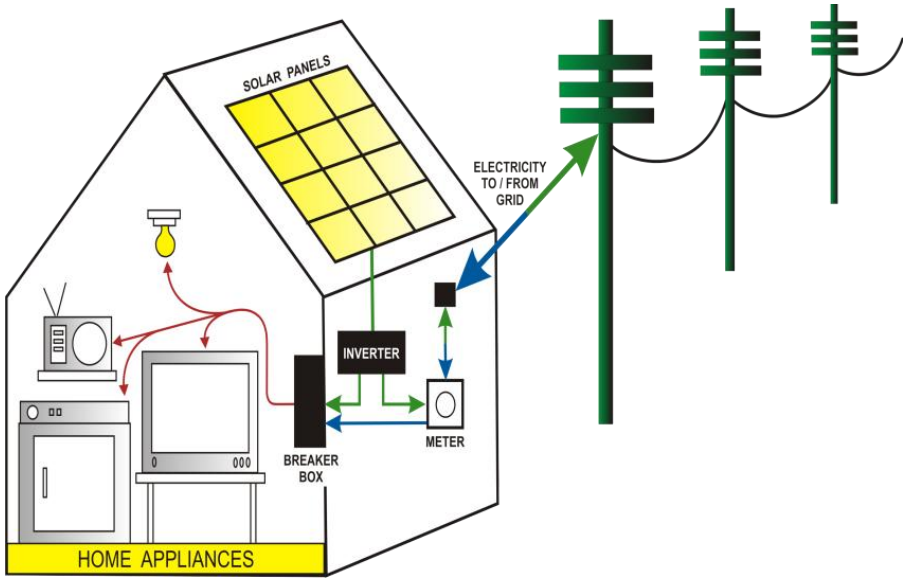
- Continuous standard offer and negotiated contracts for the purchase of capacity and energy from renewable generators.
- More flexible pricing options, including the payment of levelized costs and fixed energy payment options.
- Standard interconnection and net metering of demand-side renewables, including small solar systems.
- PSC submitted for ratification a draft Renewable Portfolio Standard (RPS).
- Authorized cost recovery for up to 110 MW of utility-owned demonstration solar energy projects.

Nuclear

- PSC required to consider fuel diversity in determining the need for new nuclear units.
- Rulemaking to allow recovery of preconstruction costs and carrying charges prior to the in-service date of the unit.

Customer-Owned Renewable Generation

- Florida statutes require all utilities to offer standard interconnection agreements and net metering.
- Renewable systems act as a conservation measure by first reducing a customer's purchases from the utility.
- FPSC rules require the investor-owned utilities to meter excess energy the customer delivers to the grid.
- The excess energy is carried forward to the next month's bill, for up to 12 months at the retail rate, thus reducing future bills.
- Municipal and rural electric cooperatives offer varying types of net metering policies.



Customer-Owned Renewable Resources in Florida

Standard interconnection, net metering and other policies have resulted in significant development in customer-owned renewable resources, primarily solar photovoltaic.

Customer-Owned Renewable Resources

2008

Utility Type	Interconnections	Non-Firm Capacity (MW)
Investor-Owned	383	1.761
Municipal	137	0.797
Rural Electric Cooperative	57	0.272
Total	**577**	**2.830**

2009

Utility Type	Interconnections	Non-Firm Capacity (MW)
Investor-Owned	1044	7.903
Municipal	303	3.378
Rural Electric Cooperative	243	1.955
Total	**1590**	**13.236**

Purchases from Renewable and Alternative Generators

- Florida statutes require utilities to interconnect with and purchase electricity from renewable and alternative generators.
- Utilities are to purchase capacity and energy at rates that do not exceed the utility's cost to produce electricity (avoided cost).
- Thus, customers experience the same level of reliability and cost.

Supply-Side Renewable Resources in Florida

Existing policies have contributed to the development of primarily:

- Municipal Solid Waste
- Waste Heat
- Biomass

Existing Florida Renewable Resources (2010)

Fuel Type	Capacity (MW)
Solar	34.5
Wind	0.0
Biomass	408.0
Municipal Solid Waste	398.1
Waste Heat	288.9
Landfill Gas	35.9
Hydro	54.5
Total	**1,219.9**

Renewable Resources in Florida

- Florida's utilities plan to construct or purchase an additional 762 MW of renewable generation for 2010-2019.
- The expected major contributors to actual energy generation are planned biomass resources.

Planned Florida Renewable Resources (2010-2019)

Fuel Type	Capacity (MW)
Solar	296.2
Wind	13.8
Biomass	400.0
Municipal Solid Waste	20.0
Waste Heat	0.0
Landfill Gas	32.3
Hydro	0.0
Total	**762.3**

Demand-Side Renewables

As part of the implementation of new conservation goals, the PSC authorized Florida's investor-owned utilities to provide a total of $24 million annually for customer based solar pilot programs.

Utility	Commission Approved Annual Expense
FPL	$15,536,870
Gulf	$900,338
PEF	$6,467,592
TECO	$1,531,018
FPUC	$47,233
Total	$24,483,051

Demand-Side Renewables

Percentage of Funds Allocated by Technology Type

Company	FPL	PEF	TECO	GULF	FPUC
PV	41.0%	67.3%	86.7%	63.9%	Not Available
Thermal	37.6%	20.9%	13.3%	19.4%	
The percentages above do not sum to 100% as administrative, education, and R&D costs are excluded.					

Percentage of Funds Allocated by Ownership Type

Company	FPL	PEF	TECO	GULF	FPUC
Public	9.6%	31.7%	10.4%	15.5%	Not Available
Private	68.9%	56.5%	89.6%	67.8%	
The percentages above do not sum to 100% due to administrative and education costs being excluded.					

Solar Demonstration Projects

- To demonstrate the feasibility and viability of clean energy systems, the 2008 Legislature allowed full cost recovery for certain renewable energy projects up to a total of 110 MW (Florida's electric system capacity is 58,420 MW).

- On July 15, 2008, the FPSC approved Florida Power & Light Company's petition for cost recovery of three solar energy projects totaling 110 MW.
  - DeSoto photovoltaic – 25 MW
  - Space Coast photovoltaic - 10 MW
  - Martin solar thermal – 75 MW

- FPL currently estimates that the three solar facilities will cost an additional $535 million above avoided cost over the life of the facilities.

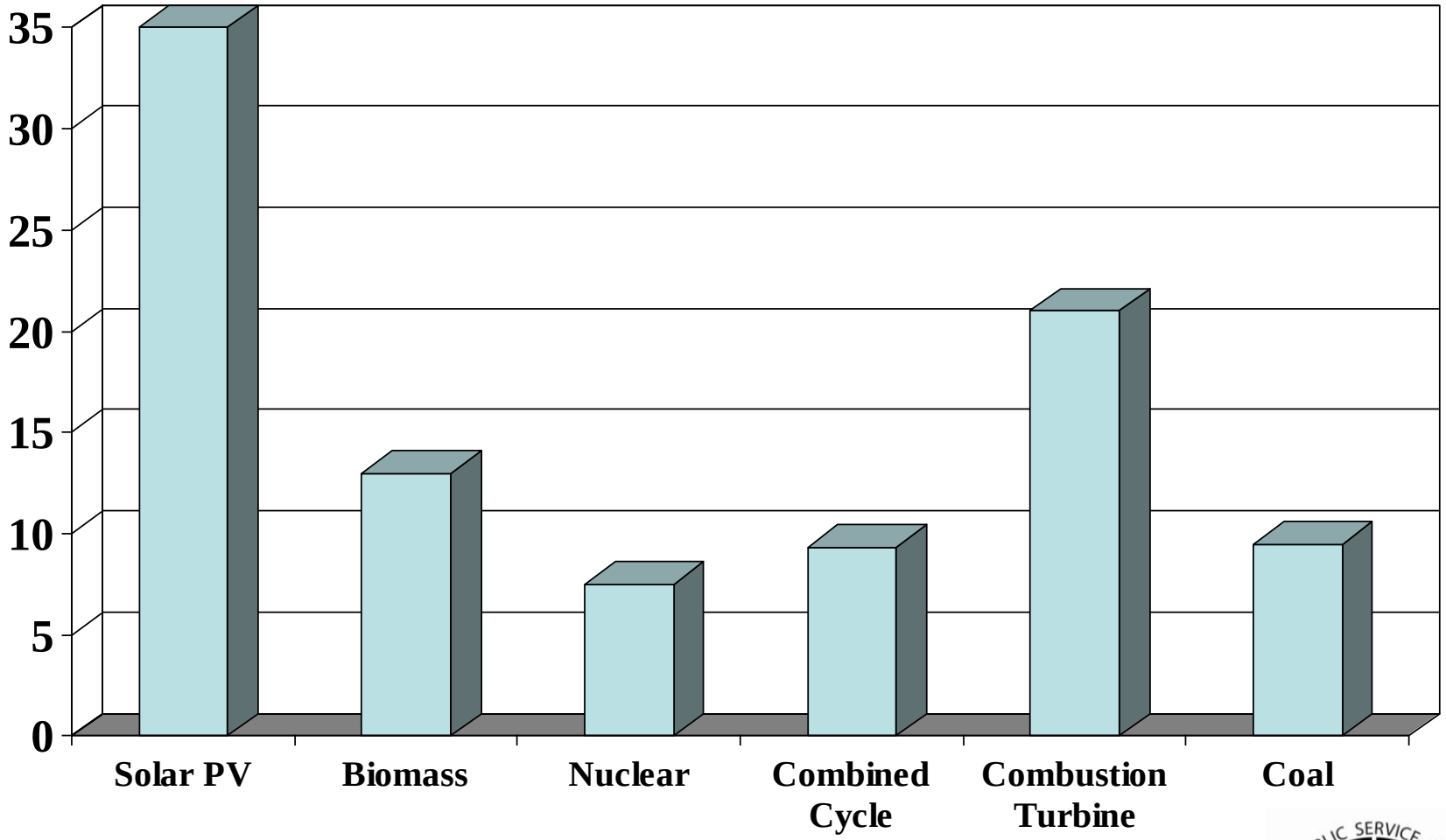
- The result is a monthly increase to a typical residential bill of approximately $1.01 by 2011, which will decline over time.

Performance Monitoring

- Solar photovoltaic systems provide benefits in the form of:
  - Reduced consumption of oil and natural gas.
  - Reduced emissions of carbon dioxide.
  - Strategic benefits if greenhouse gas emissions regulations are enacted which would result in added value for non-emitting generation.
- However, solar panels operate only 25 percent of the time.
- Solar photovoltaic will not replace the need for baseload generation.
- Navigant Consulting estimates that the peak output from solar photovoltaic occurs after the electric system's winter peak hour and before the system's summer peak hour.
- Solar photovoltaic's ability to provide reliability benefits appears limited.
- Additions of significant amounts of variable renewable resources, such as solar and wind, may have impacts on the operation of baseload power plants and costs to customers.

Cost of New Renewable Resources

Cost per kWh of Output in cents/kWh



New Renewable Resources Affecting the Balance

Since renewable energy may cost more than conventional energy generation, significant issue is:

How much more additional cost should consumers be required to pay for renewable energy alternatives?

QUESTIONS?