

# FIPUG ENERGY EFFICIENCY OBSERVATIONS

The background of the slide features a stylized, semi-transparent image of two hands shaking, symbolizing agreement or partnership. The image is rendered in shades of teal and light blue, blending with the overall color scheme of the slide.

# THE LEGISLATURE GAVE DIRECTION 27 YEARS AGO

- § 366.82 *Florida Statutes* Definition; goals; plans; programs; annual reports; energy audits.—
- “... 2) The commission shall adopt appropriate goals for increasing the efficiency of energy consumption and (1) increasing the development of cogeneration, specifically including goals designed to (2) increase the conservation of expensive resources, such as petroleum fuels, to (3) reduce and control the growth rates of electric consumption, and (4) to reduce the growth rates of weather-sensitive peak demand ...”
- (Numbers and emphasis supplied for reference below).

- 1. What is each cost effectiveness test designed to achieve ?

STAKEHOLDERS DESIRES  
WITH RESPECT TO  
CONSERVATION PROGRAMS  
ARE DIFFERENT

- A. The utility problem: Meet the directive without reducing revenue. They focus on item (4) to achieve compliance by managing peak load
- B. Environmentalists. Focus on items (2) and (3) to reduce expensive fuel use and curb growth. Customer bill increases are less important than stemming growth. They propose a plan to pay utilities to refrain from producing electricity. It is called “decoupling and is similar to the parity programs to support depression era farmers.
- C. FIPUG and other large business that must show a profit to survive focus on the cost of electricity. They use (1) when they have waste heat or can use the fuel they buy for multiple tasks.
- They work diligently to achieve (2) - (4) to reduce their electric bill
- Large businesses would use other devices with very little additional incentive to do so. Congress, DOE and other observers conclude that industry is a fertile field for greater energy efficiency efforts.
- Mr. Lilly’s presentation will give examples of viable conservation programs that have been rejected by utilities on the premise that they are not cost effective.

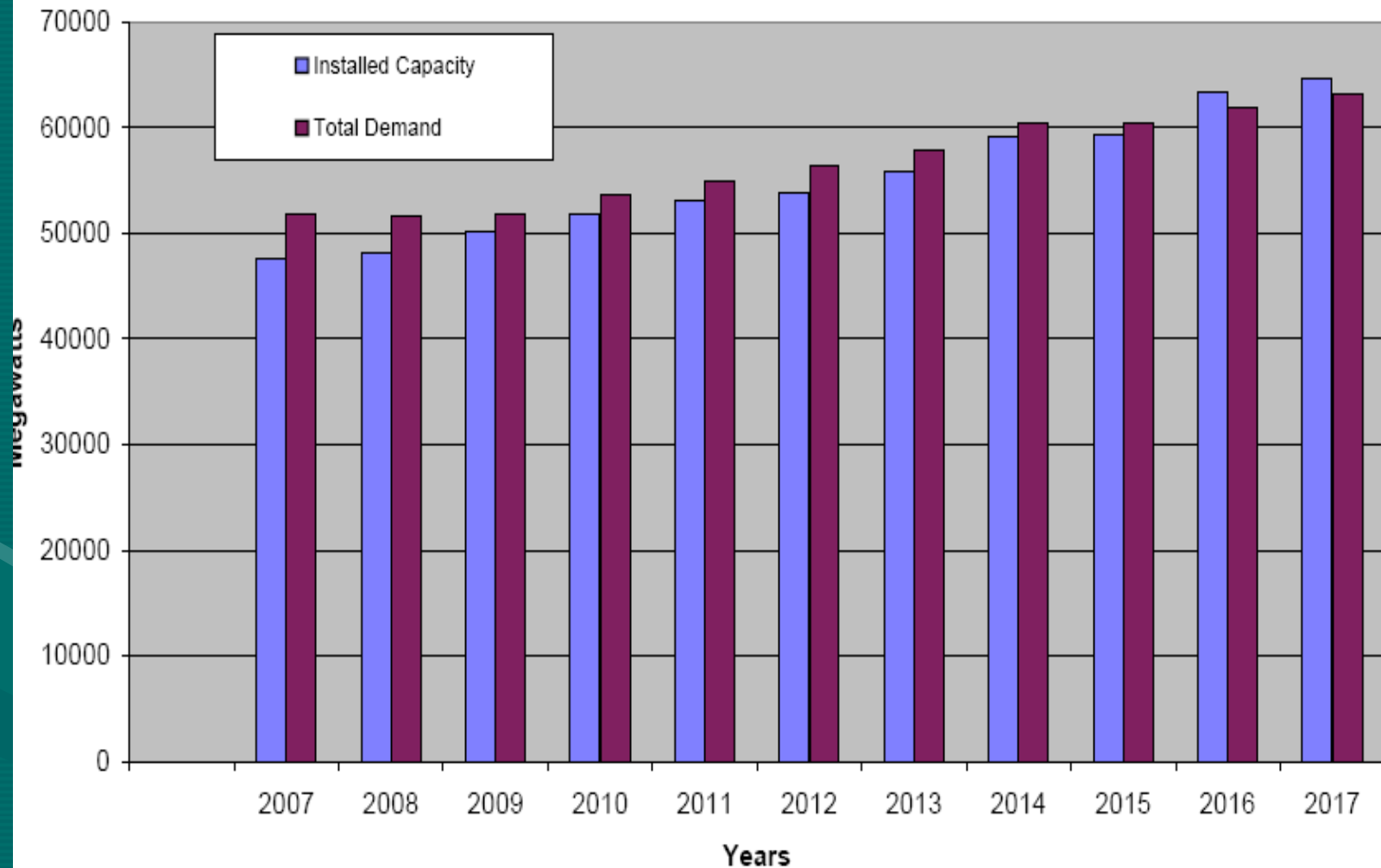
RECENTLY FILED UTILITY 10  
YEAR SITE PLANS AND THE  
COST OF POWER PLANT  
CONSTRUCTION SHOW A  
COMPELLING NEED FOR  
MORE CONSERVATION

# Analysis of Florida's Largest Utilities at Time of Summer Peak Without Purchased Capacity

Summer Period

Biggest Utilities					Statewide		
Installed Capacity	Forecast Total Demand	Capacity Shortfall in MW	Forecast Growth Rate		Actual Demand	Actual Growth Rate	
					1991	27662	1.56%
2007	47,655	51,747	(4092)	3.57%	1992	28930	4.58%
2008	48,120	51,696	(3576)	-0.10%	1993	29748	2.83%
2009	50,223	51,792	(1569)	0.19%	1994	29321	-1.44%
2010	51,727	53,656	(1929)	3.60%	1995	31801	8.46%
2011	53,064	54,960	(1896)	2.43%	1996	32315	1.62%
2012	53,845	56,468	(2623)	2.74%	1997	32924	1.88%
2013	55,846	57,799	(1953)	2.36%	1998	37153	12.84%
2014	59,088	60,507	(1419)	4.69%	1999	36788	-0.98%
2015	59,314	60,398	(1084)	-0.18%	2000	37541	2.05%
2016	63,395	61,796	1599	2.31%	2001	42,296	12.67%
2017	64,590	63,235	1355	2.33%	2002	43,397	2.60%
					2003	44,095	1.61%
					2004	45,236	2.59%
					2005	47,789	5.64%
					2006	49,964	4.55%
Average for Forecast Period				2.18%	Average 1991-2006		3.94%

## Consolidated Supply Demand Comparison of Florida's Largest Utilities at time of Summer Peak



# FIPUG OBSERVATIONS

This summary shows that the principal regulated utilities in the state do not plan to generate enough electricity to meet the summer peak demand of the customers in their service area until 2016 when PEF completes its proposed nuclear unit.

Forecasted growth is less than experienced for the preceding 16 years

There are 56 regulated utilities in the state. Only 21 produce electricity.

The ten utilities in this summary provide over 90% of the state's regulated capacity

The Capacity Shortfall is met with:

1. Purchase from out of state utilities and non utility generators.

[ Florida has limited out of state access and inadequate transmission from the state line]

2. Purchases from one another.

[ If all plants are operating and they don't peak at the same time]

3. Load management.

[ Doesn't reduce fuel consumption. One million residential customers can demand firm service with 30 days notice.]

4. Conservation and Energy Efficiency.

[ The best option for the next eight years]



## 2. Are the methods capturing all of the benefits and costs of energy efficiency?

- FIPUG: No. Because utility fuel cost is now recovered through the guaranteed fuel cost recovery mechanism. Fuel cost savings don't count. They are off set by lost fuel cost recovery revenue. The RIM test effectively enables utilities to maintain sales by finding that most fuel saving and growth control programs are not cost effective.

# Simplified Hypothetical Application of RIM Test to Industrial Program that Saves 1 Million KWH

Cost / Benefit Items	Impact on Utility Revenue	Fuel Cost Savings
Base Energy Charge (at \$0.018 )	(18,250)	
Fuel Charge (at \$0.045)	<u>(45,190)</u>	<u>45,190</u>
Total	(63,440)	45,190

### 3. How these methods impact the level of conservation goals.

- Ironically demand side programs are controlled by the supply side operators who profit from sale of electricity. Tends to discourage conservation
- Present application of the RIM test kills most potential industrial programs.
- Mr. Lilly's presentation and the preceding example of the application of the RIM test shows how.

COMPARISON OF COST EFFECTIVENESS TESTS

	<i>RATE IMPACT</i>	<i>TOTAL RESOURCE</i>	<i>PARTICIPANT</i>
<i>BENEFITS</i>	Revenue Gain	Avoided Appliance Costs	Bill Reductions and Incentives
	Avoided Supply Costs	Avoided Supply Costs	Avoided Appliance Costs
<hr style="border-top: 1px dashed black;"/>			
<i>COSTS</i>	Increased Supply Costs	Increased Supply Costs	Equipment Costs and O & M Costs
	Utility Program Costs	Utility Program Costs	
	Incentives	Participant Costs	
	Revenue Loss		

## 4. Whether the methods should be modified to address other concerns

- FIPUG: In a democratic society regulatory policy responds to perceived opportunities and crises. In the 1950's nuclear was the way to go. In the 1970s after the OPEC oil crisis the fuel use act was enacted to discourage the use of oil and gas as a fuel. Coal became the fuel of choice. The FPSC authorized surcharging customers to build transmission lines to get coal generated electricity from Georgia and to pay the extra cost of building new coal plants. After 3MI, nuclear became a scourge to be avoided at all costs. In the 1990s when gas deregulation resulted in a 75% drop in the price of natural gas, natural gas became the way to go, but the low cost of building gas plants resulted in these plants being used to evaluate avoided plant cost in conservation plans. This adversely impacted many conservation programs. The new generation plan of choice focuses again on nuclear. The cycle is now complete and starting over with climate concerns in the wind.
- One of the unanticipated results of not building new power plants is the monumental cost increase during the interim. FPL states that the cost to build a combined cycle natural gas burning power plant will be \$565/KW compared to \$4,431/KW to "uprate" a nuclear plant. PEF's rate base expands 400%.
- **The use of these new avoided plant costs need to be incorporated into cost effectiveness tests for conservation programs. The rim test should be amended to remove fuel cost recovery revenue.**
  - **CONCERN: CAN CUSTOMERS AFFORD BIG RATE INCREASES TO SUPPORT CONSERVATION?**

- A NATIONAL COMPARISON OF RESIDENTIAL RATES SORTED BY THE SIZE OF CUSTOMER'S MONTHLY BILLS SHOWS THE LIMITED OPPORTUNITY IN FLORIDA TO RAISE RATES TO ACHIEVE CONSERVATION.

YEAR	UTILITY_ID	UTILITY_NAME	State	Type	Res\$ (000)	Res Sales (MWh)	Average Monthly KWH Consumption	Average Monthly Residential Bill
2006	19327	TXU Energy Retail Co LP	TX	Marktr	4,322,018	29,314,580	1,328	\$195.84
2006	15847	Reliant Energy Retail Services, Inc	TX	Marktr	3,573,029	23,431,787	1,171	\$178.49
2006	15871	Direct Energy, LP	TX	Marktr	769,630	5,555,489	1,171	\$162.17
2006	11171	Long Island Power Authority	NY	State	1,865,935	9,277,824	782	\$157.30
2006	7806	Entergy Gulf States Inc	TX	IOU	596,272	5,211,126	1,297	\$148.43
2006	3265	Cleco Power LLC	LA	IOU	390,891	3,551,702	1,309	\$144.06
2006	7806	Entergy Gulf States Inc	LA	IOU	518,971	4,899,127	1,311	\$138.85
<b>2006</b>	<b>18454</b>	<b>Tampa Electric Co</b>	<b>FL</b>	<b>IOU</b>	<b>956,740</b>	<b>8,720,867</b>	<b>1,264</b>	<b>\$138.63</b>
<b>2006</b>	<b>6452</b>	<b>Florida Power &amp; Light Co</b>	<b>FL</b>	<b>IOU</b>	<b>6,493,585</b>	<b>54,567,510</b>	<b>1,164</b>	<b>\$138.53</b>
<b>2006</b>	<b>6455</b>	<b>Progress Energy Florida In</b>	<b>FL</b>	<b>IOU</b>	<b>2,360,716</b>	<b>20,020,717</b>	<b>1,165</b>	<b>\$137.40</b>
2006	4176	Connecticut Light & Power Co	CT	IOU	1,682,705	9,623,321	763	\$133.36
2006	12685	Entergy Mississippi Inc	MS	IOU	567,272	5,386,994	1,254	\$132.00
2006	15270	Potomac Electric Power Co	MD	IOU	667,387	5,445,274	1,029	\$126.14
2006	12686	Mississippi Power Co	MS	IOU	214,472	2,118,106	1,196	\$121.05
2006	17539	South Carolina Electric & Gas Co	SC	IOU	749,485	7,598,169	1,203	\$118.64
<b>2006</b>	<b>7801</b>	<b>Gulf Power Co</b>	<b>FL</b>	<b>IOU</b>	<b>510,995</b>	<b>5,425,491</b>	<b>1,253</b>	<b>\$117.98</b>
2006	195	Alabama Power Co	AL	IOU	1,664,304	18,632,935	1,305	\$116.59
<b>2006</b>	<b>9617</b>	<b>JEA</b>	<b>FL</b>	<b>Muni</b>	<b>501,788</b>	<b>5,596,010</b>	<b>1,299</b>	<b>\$116.50</b>
2006	11241	Entergy Louisiana Inc	LA	IOU	784,915	8,512,776	1,263	\$116.46
2006	13407	Nevada Power Company	NV	IOU	975,568	9,033,142	1,075	\$116.07
2006	803	Arizona Public Service Co	AZ	IOU	1,270,412	12,901,612	1,148	\$113.05
2006	16572	Salt River Project	AZ	Govt	1,111,827	12,650,175	1,267	\$111.33
2006	14940	PECO Energy Co	PA	IOU	1,779,769	12,797,386	769	\$106.91
2006	9726	Jersey Central Power & Lt Co	NJ	IOU	1,206,843	9,547,719	830	\$104.87
2006	814	Entergy Arkansas Inc	AR	IOU	704,440	7,655,217	1,112	\$102.35
2006	3046	Progress Energy Carolinas Inc	NC	IOU	1,269,379	14,064,992	1,132	\$102.20
2006	13216	Nashville Electric Service	TN	Muni	376,712	4,666,565	1,265	\$102.16
2006	12293	Memphis City of	TN	Muni	441,675	5,675,662	1,292	\$100.52
2006	11804	Massachusetts Electric Co	MA	IOU	1,263,505	8,187,699	640	\$98.70
2006	7140	Georgia Power Co	GA	IOU	2,326,191	26,206,170	1,101	\$97.76
2006	19876	Virginia Electric & Power Co	VA	IOU	2,309,723	27,049,584	1,142	\$97.53
2006	16604	San Antonio City of	TX	Muni	674,585	8,554,569	1,233	\$97.24

2006	13573	Niagara Mohawk Power Corp	NY	IOU	1,534,860	10,247,534	635	\$95.18
2006	15474	Public Service Co of Oklahoma	OK	IOU	506,360	6,021,196	1,129	\$94.91
2006	17609	Southern California Edison Co	CA	IOU	4,739,296	30,048,395	601	\$94.79
2006	3542	Duke Energy Ohio Inc	OH	IOU	667,338	7,049,188	986	\$93.37
2006	13511	New York State Elec & Gas Corp	NY	IOU	778,322	5,648,612	671	\$92.48
2006	1015	Austin Energy	TX	Muni	375,232	4,009,766	983	\$92.01
2006	14063	Oklahoma Gas & Electric Co	OK	IOU	647,066	8,010,314	1,128	\$91.14
2006	14715	PPL Electric Utilities Corp	PA	IOU	1,291,200	13,645,099	947	\$89.57
2006	4922	Dayton Power & Light Co	OH	IOU	490,514	5,217,604	952	\$89.51
2006	15470	Duke Energy Indiana Inc	IN	IOU	713,264	8,707,170	1,091	\$89.35
2006	9417	Interstate Power and Light Co	IA	IOU	432,427	3,750,503	767	\$88.47
2006	17543	South Carolina Pub Serv Auth	SC	State	134,435	1,616,868	1,062	\$88.30
2006	16609	San Diego Gas & Electric Co	CA	IOU	1,266,825	7,500,838	523	\$88.28
2006	4226	Consolidated Edison Co-NY Inc	NY	IOU	2,631,250	12,589,959	415	\$86.76
2006	5416	Duke Energy Carolinas, LLC	NC	IOU	1,563,159	19,639,855	1,086	\$86.41
2006	12390	Metropolitan Edison Co	PA	IOU	494,655	5,286,865	922	\$86.29
2006	5416	Duke Energy Carolinas, LLC	SC	IOU	447,178	6,089,242	1,174	\$86.21
2006	13998	Ohio Edison Co	OH	IOU	770,042	7,349,003	804	\$84.28
2006	14328	Pacific Gas & Electric Co	CA	IOU	4,523,914	30,957,122	575	\$84.03
2006	1167	Baltimore Gas & Electric Co	MD	IOU	1,092,068	12,816,206	985	\$83.97
2006	9964	Kenergy Corp	KY	Coop	43,955	710,953	1,334	\$82.46
2006	16534	Sacramento Muni Util Dist	CA	Govt	505,544	4,764,852	768	\$81.43
2006	20856	Wisconsin Power & Light Co	WI	IOU	380,126	3,430,535	734	\$81.28
2006	24211	Tucson Electric Power Co	AZ	IOU	343,460	3,778,369	890	\$80.91
2006	15497	Puerto Rico Electric Pwr Authority	PR	State	1,275,239	7,214,533	456	\$80.61
2006	17718	Southwestern Public Service Co	TX	IOU	210,105	2,490,075	952	\$80.31
2006	4062	Columbus Southern Power Co	OH	IOU	632,878	7,270,635	918	\$79.87
2006	18997	Toledo Edison Co	OH	IOU	232,737	2,143,477	726	\$78.80
2006	15477	Public Service Elec & Gas Co	NJ	IOU	1,713,088	13,392,801	616	\$78.77
2006	15248	Portland General Electric Compan	OR	IOU	627,614	7,572,788	912	\$75.59
2006	13756	Northern Indiana Pub Serv Co	IN	IOU	358,214	3,293,908	693	\$75.39
2006	19436	Union Electric Co	MO	IOU	911,002	13,081,168	1,068	\$74.39
2006	14006	Ohio Power Co	OH	IOU	542,405	7,207,804	986	\$74.16
2006	20847	Wisconsin Electric Power Co	WI	IOU	852,990	7,990,314	692	\$73.85
2006	733	Appalachian Power Co	VA	IOU	384,700	6,336,229	1,209	\$73.39
2006	15500	Puget Sound Energy Inc	WA	IOU	798,498	10,654,059	976	\$73.13
2006	9273	Indianapolis Power & Light Co	IN	IOU	363,668	5,027,223	1,008	\$72.95



YEAR	UTILITY_ID	UTILITY_NAME	State	Type	Res\$ (000)	Res Sales (MWh)	Average Monthly KWH Consumption	Average Monthly Residential Bill
2006	19436	Union Electric Co	MO	IOU	911,002	13,081,168	1,068	\$74.39
2006	14006	Ohio Power Co	OH	IOU	542,405	7,207,804	986	\$74.16
2006	20847	Wisconsin Electric Power Co	WI	IOU	852,990	7,990,314	692	\$73.85
2006	733	Appalachian Power Co	VA	IOU	384,700	6,336,229	1,209	\$73.39
2006	15500	Puget Sound Energy Inc	WA	IOU	798,498	10,654,059	976	\$73.13
2006	9273	Indianapolis Power & Light Co	IN	IOU	363,668	5,027,223	1,008	\$72.95
2006	10005	Kansas Gas & Electric Co	KS	IOU	237,001	3,081,078	945	\$72.71
2006	10171	Kentucky Utilities Co	KY	IOU	355,896	5,907,821	1,202	\$72.41
2006	3755	Cleveland Electric Illum Co	OH	IOU	538,040	4,985,554	667	\$71.95
2006	14127	Omaha Public Power District	NE	Govt	249,931	3,375,561	971	\$71.89
2006	20860	Wisconsin Public Service Corp	WI	IOU	306,182	2,803,458	641	\$70.04
2006	733	Appalachian Power Co	WV	IOU	310,440	5,541,907	1,250	\$70.04
2006	14354	PacifiCorp	OR	IOU	379,367	5,553,588	1,014	\$69.28
2006	3253	Central Illinois Pub Serv Co	IL	IOU	274,851	3,783,958	950	\$68.99
2006	12341	MidAmerican Energy Co	IA	IOU	440,372	5,086,363	792	\$68.59
2006	5109	Detroit Edison Co	MI	IOU	1,609,458	15,768,800	665	\$67.84
2006	20387	West Penn Power Co	PA	IOU	494,665	6,903,375	938	\$67.24
2006	9208	Illinois Power Co	IL	IOU	436,336	5,658,054	869	\$67.02
2006	22500	Westar Energy Inc	KS	IOU	249,107	3,374,963	904	\$66.70
2006	9324	Indiana Michigan Power Co	IN	IOU	315,780	4,580,373	958	\$66.03
2006	4254	Consumers Energy Company	MI	IOU	1,237,118	12,975,047	689	\$65.66
2006	14711	Pennsylvania Electric Co	PA	IOU	395,124	4,350,840	722	\$65.57
2006	11249	Louisville Gas & Electric Co	KY	IOU	271,520	4,017,524	957	\$64.68
2006	9191	Idaho Power Co	ID	IOU	289,069	4,868,384	1,083	\$64.32
2006	13781	Northern States Power Co	MN	IOU	812,792	8,876,544	700	\$64.10
2006	17609	Southern California Edison Co	CA	IOU	10,669	140,777	839	\$63.58
2006	12796	Monongahela Power Co	WV	IOU	237,858	3,280,823	845	\$61.29
2006	4110	Commonwealth Edison Co	IL	IOU	2,453,065	28,330,120	698	\$60.43
2006	14354	PacifiCorp	UT	IOU	458,966	6,139,297	770	\$57.57
2006	15466	Public Service Co of Colorado	CO	IOU	756,701	8,557,673	646	\$57.14
2006	13573	Niagara Mohawk Power Corp	NY	IOU	59,310	898,753	793	\$52.33
2006	11208	Los Angeles City of	CA	Muni	778,672	7,609,278	510	\$52.20
2006	12647	Minnesota Power Inc	MN	IOU	71,520	1,011,699	717	\$50.68
2006	16868	Seattle City of	WA	Muni	201,450	3,060,651	751	\$49.43
2006	4226	Consolidated Edison Co-NY Inc	NY	IOU	89,238	1,044,698	432	\$36.88

## 5. Inclusion and quantification of non-economic costs and benefits.

- FIPUG is strongly opposed. Sound regulation should be restricted to a quantifiable economic model. Regulation should refrain from responding to the popular political idea of the moment to promote conservation programs irrespective of their cost consequences. Conservation programs should be evaluated by approving the ones which give customers the biggest bang for the buck.
- Florida's bills are already among the highest in the nation. Customers currently adversely impacted by insurance costs and ad valorem taxes can ill afford exponential electric rate increases. Business can possibly respond by moving production out of the state or increasing the cost for essential commodities, but these actions are counterproductive.