

State of Florida



# Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD  
TALLAHASSEE, FLORIDA 32399-0850

**-M-E-M-O-R-A-N-D-U-M-**

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**DATE:** October 24, 2007  
**TO:** Ann Cole, Commission Clerk, Office of Commission Clerk  
**FROM:** Katherine Fleming, Senior Attorney, Office of the General Counsel *KEF*  
**RE:** Docket Number 070626 - Review of Florida Power & Light Company's Sunshine Energy Program

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Please place the attached four documents in the above-referenced docket file. Thank you.

KEF

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General Inquiries Pertaining to the  
FPL Sunshine Energy Program

1. What are the program enrollment levels by year (from inception to present)?
2. What are the corresponding program revenues by year (from inception to present)?
3. What are the corresponding program expenses by year (from inception to present)?
4. What were the allocations of program expenses by year (from inception to present)?
5. Identify all program related solar projects installed to date (name, location, date, capacity, and ownership interest).
6. Identify the specific source (by project, location, ownership interest) of all program related TREC's purchased from Green Mountain Energy Co.
7. Given the substantial cost differential between wind and solar projects, why hasn't the program favored the installation of wind energy projects as opposed to solar?
8. Identify the specific Florida locations where FPL has previously attempted, or is currently attempting, to site wind energy projects (provide reference documentation substantiating all permitting denials).
9. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, why is it reasonable to continue the current program practice of purchasing TREC's from Green Mountain Energy Co?
10. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, why is it reasonable to continue purchasing solar energy from Green Mountain Energy Co. as opposed to owning the solar projects outright for the benefit of your own customers?
11. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, what actions has the program taken to align itself with in-state renewable projects announced by FPL?
12. What actions has the program taken to commit funding for the in-state renewable projects announced by FPL?
13. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, would it not be reasonable to commit all future revenues from this program towards the funding in-state wind and solar energy projects that would be owned outright for the benefit of your own customers?

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**FPL's Green Pricing Program**  
**Staff Questions – Set 2**  
**Conference Call: July 23 at 2:30**

1. Please provide an update on commercial customer participation in the program. Does FPL count the participating commercial customers toward its commitment to provide solar for each 10,000 participating customers. If not, please explain.
2. To this date, has FPL recovered any costs for the program from its general body of ratepayers?
3. How does FPL currently report the program's results to the Commission on an on-going basis?
4. Please provide details of FPL's contract with Green Mountain, or any other third party contracted to administer the program. Include the term of the contract, and discuss the specific services provided by the third party contractor, including the contractor's role in obtaining T-RECs, marketing, and installing or contracting for renewable energy. Explain how the contractor is compensated for the services provided.
5. How does FPL currently market the program to its residential and commercial customers? What roles do the third party providers play in marketing the program? How are third party providers compensated for any marketing services provided?
6. How has the market for renewable capacity and energy developed in Florida from the beginning of FPL's pilot green pricing program to current date? How has the market for T-RECs developed in Florida from the beginning of the pilot program to date?
7. Under the pilot and permanent program, has FPL obtained T-RECs from any wind facilities owned by FPL affiliates? If so, how does FPL determine if these T-RECs are obtained at market price?

## FPL Sunshine Energy Program – Data Request Responses

### 1. What are the program enrollment levels by year (from inception to present)?

	2004	2005	2006	6/30/2007
<b>Program Enrollments*</b>	10,674	23,066	28,742	33,917
<b>Program Revenues</b>	\$ 514,624	\$ 2,258,751	\$ 2,928,225	\$ 2,065,370
<b>Program Expenses</b>	\$ 476,590	\$ 2,101,449	\$ 2,819,106	\$ 1,990,623

\*cumulative participants

### 2. What are the corresponding program revenues by year (from inception to present)?

	2004	2005	2006	6/30/2007
<b>Program Enrollments*</b>	10,674	23,066	28,742	33,917
<b>Program Revenues</b>	\$ 514,624	\$ 2,258,751	\$ 2,928,225	\$ 2,065,370
<b>Program Expenses</b>	\$ 476,590	\$ 2,101,449	\$ 2,819,106	\$ 1,990,623

\*cumulative participants

### 3. What are the corresponding program expenses by year (from inception to present)?

	2004	2005	2006	6/30/2007
<b>Program Enrollments*</b>	10,674	23,066	28,742	33,917
<b>Program Revenues</b>	\$ 514,624	\$ 2,258,751	\$ 2,928,225	\$ 2,065,370
<b>Program Expenses</b>	\$ 476,590	\$ 2,101,449	\$ 2,819,106	\$ 1,990,623

\*cumulative participants

### 4. What were the allocations of program expenses by year (from inception to present)?

Please see attached excel spreadsheet.

### 5. Identify all program related solar projects installed to date (name, location, date, capacity, and ownership interest).

Program related solar projects installed to date include:

- 8 kW of solar installed in cooperation with the SunSmart Schools - 2 kw each at Palm City Elementary, MAST Academy, South Miami Senior High School and Edgewood Jr/Sr High School.
- 2 kW solar arrays installed at the Miami Science Museum.
- 40 kW of rooftop solar being installed on homes at “The Quarry” subdivision by Centex Homes in Naples – 16 homes (32 kW) have been interconnected as of July 17, 2007.
- 250 kW solar array at Rothenbach Park in Sarasota, to be completed in September.

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**6. Identify the specific source (by project, location, ownership interest) of all program related TREC's purchased from Green Mountain Energy Co.**

Confidential.

**7. Given the substantial cost differential between wind and solar projects, why hasn't the program favored the installation of wind energy projects as opposed to solar?**

The presumption that wind is less expensive than solar in Florida, may not necessarily be the case, due to the need for the wind turbine Manufacturers to develop a wing turbine generator that will withstand hurricane winds and as well as the corrosive saline coastline environment. Typically the wind resource needed to build a wind power project requires that the wind blow constantly at a minimum of 7.5 m/s with a net capacity factor of at least 38%. In Florida, offshore coastline wind resource is approximately 6.5 m/s, and is reduced on the coast and further reduced inland. The resulting net capacity factors off of Florida's coast are most robust at approximately 25% and reduced further on the coast to below 19% and further reduced inland.

Solar installations have additional benefits for the Sunshine Energy program. First, solar PV is essentially modular, starting at about 130 Watts per panel. These panels are ganged to produce the size installation needed. Commercial wind turbines are basically in the 1.5 MW size or larger at the present time.

Sunshine Energy provides 150 kW of PV installations for each 10,000 customers who sign up. If commercial wind installations were used, we would need 100,000 customers per wind turbine to achieve a similar ratio.

The smaller scale of the PV installations eases the process of acquiring and permitting a site. Additionally, it enables the program to further encourage the general public's knowledge and exposure to renewable energy by allowing a number of sites to be established throughout our service territory, reaching the widest possible audience with an education about renewables.

**8. Identify the specific Florida locations where FPL has previously attempted, or is currently attempting, to site wind energy projects (provide reference documentation substantiating all permitting denials).**

Commissioned three wind studies of the State of Florida (i.e. Florida; SW FL; NE FL).

Lessons learned:

- Overstated wind resource potential (echoes provide false wind resource potential).
- Wind resource limited to coastal area; wind resource declines significantly inland.

- Wind resource limited to winter season (October through March) whereas FPL load peak is in the summer.

Wind development attempts:

- New Smyrna Beach (lost 4 to 1 count commission vote) – Voted against wind turbine generation.
- Cape Canaveral Air Force (lost due to aviation and electronic signal interference issue).
- Sarasota County (land issues remain unsolved).

Current wind development:

- Announced St. Lucie Wind Project, size of project not yet known or timeline for construction since we are currently in discussions with the wind turbine generator ("WTG") equipment manufacturers regarding the need for a WTG that can withstand Florida hurricanes and the corrosive saline environment. Due diligence on potential site in progress. Environmental and avian studies required. Permitting issues dependent upon site location as well as unique hurricane requirements.

**9. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, why is it reasonable to continue the current program practice of purchasing TREC's from Green Mountain Energy Co.?**

As a method to address the critical need for the installation of additional renewable generation capacity in the State of Florida, it is reasonable to continue the current program practice of purchasing TRECs of 1000kWh for every customer. By purchasing TRECs, the Sunshine Energy Program promotes the development of renewable energy by creating an additional revenue stream for renewable energy project developers. Typically, when a renewable energy project is being developed there are at least two potential revenue streams that a developer can use to ensure the project is viable. The first revenue stream is to sell the energy and/or capacity to a utility. Typically the price paid by the utility is based on its avoided cost. The costs of developing these types of projects, in certain cases, are greater than the utilities avoided costs and as a result this revenue stream may be insufficient. An additional revenue stream is created through the sale, to third parties, of the TRECs associated with the project. When this revenue stream is combined with the revenues associated with sale of the energy and/or capacity, the financial viability of these projects improves. Thus, the purchase of TRECs by Sunshine Energy Program is specifically targeted to encourage the development of additional renewable energy projects in Florida.

**10. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, why is it reasonable to continue purchasing solar energy from Green Mountain Energy Co. as opposed to owning the solar projects outright for the benefit of your own customers?**

As discussed in FPL's response to the previous question, due to the Sunshine Energy Program's TRECs, 3rd party market entrants have been supported in the development of renewables in Florida. Therefore, the Sunshine Energy Program and Green Mountain Energy Co. support the critical need for the installation of additional renewable generation capacity in Florida and complement the efforts of FPL and other Florida companies to promote in-state renewable development.

**11. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, what actions has the program taken to align itself with in-state renewable projects announced by FPL?**

FPL has a "three pronged" approach to supporting in-state renewable energy projects. One approach is to seek construction of projects in Florida through third party developers, with a recent initiative to this end being the Request for Proposals (RFP) for 3rd party renewable projects. A second approach is for FPL to develop and construct its own renewable projects; the proposed St. Lucie Wind Project is an initiative under this approach. And the third, complementary approach is through the Sunshine Energy Program which also supports renewable development efforts by third parties in Florida.

**12. What actions has the program taken to commit funding for the in-state renewable projects announced by FPL?**

The in-state renewable projects announced by FPL are complementary efforts to the Sunshine Energy Program. However as discussed in response to question 9, the Sunshine Energy Program has the ability to purchase TRECs that would assist 3rd party renewable energy developers responding to company issued RFP's, to propose financially viable projects. Through this mechanism, the Sunshine Energy Program encourages and assists the development of new renewable energy projects in Florida by third party market entrants.

**13. Given the critical need for the installation of additional renewable generation capacity within the State of Florida, would it not be reasonable to commit all future revenues from this program towards the funding in-state wind and solar energy projects that would be owned outright for the benefit of your own customers?**

No, as previously discussed to maximize the amount of new renewable resources in Florida it is desirable to have multiple complementary approaches. These include development of renewables by FPL, construction of renewable resources funded directly by the Sunshine Energy Program and the support of 3rd party renewable project developers through the purchase of TRECs. Relying only on the ability and feasibility to solely build wind and solar facilities in Florida would severely limit the potential for renewable projects in Florida.

Development of wind and solar projects in Florida has proven to be as complex as siting and building a power plant. There are issues with availability; significant real estate

resources are needed (for example, would need approx. 9 acres for a 1.5 MW solar PV site). Permitting, wildlife, aviation, impedance and wind sheer are some of the significant barriers that have to be addressed. FPL's approach to using multiple paths to support and develop renewable energy supplies in Florida maximizes the potential for more renewables.



<b>2006</b>	Depreciation & Return	Payroll & Benefits	Materials & Supplies	Outside Services	Advertising	Incentives	Vehicles	Other	Sub-Total	Program Revenues	Total for Period
Green Power Pricing Research Proj.		36,678	14,950	2,761,297			152	6,029	2,819,106	(2,928,225)	(109,119)
Business Green Energy Research Project		29,907						5,456	35,363		35,363

<b>2005</b>	Depreciation & Return	Payroll & Benefits	Materials & Supplies	Outside Services	Advertising	Incentives	Vehicles	Other	Sub-Total	Program Revenues	Total for Period
Green Power Pricing Research Proj.		37,552		2,057,331			156	6,410	2,101,449	(2,258,751)	(157,302)
Business Green Energy Research Project		27,108							27,108		27,108

<b>2004</b>	Depreciation & Return	Payroll & Benefits	Materials & Supplies	Outside Services	Advertising	Incentives	Vehicles	Other	Sub-Total	Program Revenues	Total for Period
Green Power Pricing Research Project		40,488		431,433			156	4,513	476,590	(514,624)	(38,034)

**Sunshine Energy - Source of TREC's**

Year	Renewable Source Type	Total TREC's Purchased (MWh's)	TREC's Purchased (MWh's) in Florida	In Florida	% of Total
2004	Wind	12297			23.96%
	Landfill Methane	20531	20531	Yes	40.00%
	Biomass	18500			36.04%
2005	Wind	98742			43.96%
	Landfill Methane	106885	106885	Yes	47.59%
	Biomass	18967			8.45%
YTD June 2006	Wind	60831			33.77%
	Landfill Methane	96000	96000	Yes	53.29%
	Biomass	23300			12.94%

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August 28, 2006

**VIA HAND DELIVERY**

Mr. Tim Devlin, Director  
Division of Economic Regulation  
Florida Public Service Commission  
Betty Easley Conference Center  
2540 Shumard Oak Boulevard  
Tallahassee, Florida 32399-0850

Re: Docket No. 030752-EI  
In re: Florida Power & Light Company's Sunshine Energy Program  
Semi-Annual Progress Report

Dear Mr. Devlin:

Pursuant to Order No. PSC-03-1442-TRF-EI, enclosed for filing on behalf of Florida Power & Light Company (FPL) is the semi-annual progress report on our Sunshine Energy Program.

Please contact me if you or your Staff have any questions regarding this filing.

Sincerely,

A handwritten signature in black ink that reads "Korel M. Dubin".

Korel M. Dubin  
Regulatory Issues Manager  
(305) 552-4910

KMD:cjd  
Enclosures

cc:  
Tom Balinger  
Judy Harlow

**Florida Public Service Commission  
 Florida Power and Light Co.  
 Sunshine Energy Program  
 Semi-Annual Progress Report  
 July 31, 2006**

Reference:

Director of Commissions Division – Economic Regulation

DOCKET NO. 030752-EI

ORDER NO. PSC-03-1442-TRF-EI

Report Period: January 1, 2006 – June 30, 2006

Pursuant to Order number PSC-03-1442-TRF-EI, Florida Power & Light is required to provide a semi-annual progress report on FPL's Sunshine Energy Program. The report addresses the following: 1) customer participation data; 2) program revenues and expenses; 3) quantity and sources of Tradable Renewable Energy Credits (TREC's) purchased; 4) progress on solar installations; and, 5) copies of marketing materials. Florida Power and Light is also providing a semi-annual report of all of the Florida-based renewable energy sources that were identified for this program, what consideration was given to those sources, and, if those sources were not utilized as part of this program, an explanation for that decision.

**1. Customer Participation Data**

Through month ending June 2006, FPL has 25,286 customers participating in the program.

**2. Program Fiscal Expenditures and Revenues**

Program fiscal revenues for the period of January 2006 through June 2006 were \$1,388,730. Program fiscal expenditures for the period of January 2006 through June 2006 were \$1,320,787.

<u>Expenditures</u>	<u>Jan '06-Jun'06</u>	<u>Program Totals (Jan '04-Jun'06)</u>
• Payroll & Benefits	\$ 14,859	\$ 92,899
• Outside Vendor Services	\$1,298,306	\$3,787,120
• Employee Related Services & Other		
Vehicle/Travel/Meals/Lodging	\$ 7,622	\$ 18,807
Total:	\$1,320,787	\$3,898,826
 <u>Program Revenues:</u>	 <u>\$1,388,730</u>	 <u>\$4,162,105</u>
 Total (Net) for Period:	 <u>\$ 67,943</u>	 <u>\$ 263,279</u>

**3. Quantities and Sources of TREC's Purchased**

For January 1, 2006 – June 30, 2006, FPL has purchased the following TREC's (in MWh's):

<i>Name(s) of Renewable Energy Project Used to Supply Program</i>	<i>Resource Type (e.g., Wind, PV)</i>	<i>Annual Nameplate Capacity Installed (kW)</i>	<i>Year Installed</i>	<i>TREC's Purchases (MWh's)</i>
	Wind	240,000	2003	28,000
	Landfill Methane	88,000	1998	96,000
	Wood waste biomass	23,300	2003	12,732
	Wind	320,000	2001	32,831
<b>Total</b>				<b>169,563</b>

**4. Progress on Solar Installations**

Due to the 2005 hurricane season, progress in siting new solar projects was delayed, hence no solar projects were brought on-line in 2005. FPL has secured host sites for two solar projects; a small site at the Museum of Science in Dade County - construction is planned for 4<sup>th</sup> quarter 2006; and a second site in Sarasota County for 250 kw. The Sarasota County Commission has approved the site and permits are currently being pursued. Construction estimates are for the site to be completed by first quarter 2007.

**5. Marketing Material**

Marketing material is consistent with collateral provided on July 30, 2004 Semi-Annual Report.

**6. Florida Supply**

Projects under consideration are evaluated on:

- a) Location of developer
- b) New and existing supply sources
- c) Attestation process - Documentation defining source purchased and amounts of MWh's sold by developer

In Florida, the following renewable source sites were considered for the Program

**REDACTED**

**SUPPLY CURRENTLY ONLINE, WHOSE START DATE WAS AFTER 1/1/1999**

Year	City/Landfill	Owner/Operator	Fuel Type	Output (annual MWhrs)	Comments
[REDACTED]					

**SUPPLY CURRENTLY ONLINE, WHOSE START DATE WAS BEFORE 1/1/1999**

Year	City/Landfill	Owner/Operator	Fuel Type	Output (annual MWhrs)	Comments
[REDACTED]					



Natalie F. Smith, Attorney  
Florida Power & Light Company  
700 Universe Boulevard  
Juno Beach, FL 33408-0420  
(561) 691-7207 (Telephone)  
(561) 691-7135 (Facsimile)

August 3, 2007

Katherine Fleming, Senior Attorney  
Office of General Counsel  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee, FL 32399-0850

Re: Sunshine Energy Program

Dear Katherine:

This letter is in response to staff's data requests concerning the Sunshine Energy Program, which we discussed last week. Specifically, question number 8 said:

Identify the specific Florida locations where FPL has previously attempted, or is currently attempting, to site wind energy projects (provide reference documentation substantiating all permitting denials).

Enclosed please find documents associated with the NASA/Cape Canaveral attempts, which failed due to lack of support from the United States Fish and Wildlife Service, which NASA felt it needed. FPL has no documents concerning the attempt in New Smyrna, which failed primarily due to aesthetic concerns. Regarding the ongoing attempt in Sarasota County, land issues remain unresolved and there are no documents concerning permitting denials.

Also enclosed, pursuant to staff's verbal request to FPL, please find FPL's updated matrix of TREC sources for the Sunshine Energy Program through mid-2007.

Please let me know if you have additional questions or if I can be of assistance.

Thank you.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Natalie F. Smith'.

*fox*  
Natalie F. Smith, Esq.

NFS:bam

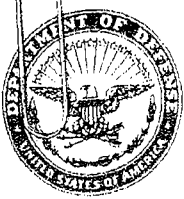
Encls.

an FPL Group company

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DEPARTMENT OF THE AIR FORCE  
45TH SPACE WING (AFSPC)

Brigadier General Mark H. Owen  
Commander, 45<sup>th</sup> Space Wing  
1201 Edward H. White II Street  
Patrick AFB FL 32925-3299

APR 27 2006

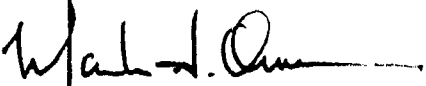
Mr. Mark Hillman  
Government Account Executive  
Florida Power and Light Company  
9001 Ellis Rd  
W. Melbourne, FL 32904

Dear Mr. Hillman,

Thank you for meeting with my staff on 16 Feb 06 to discuss possible placement of energy wind turbines on Cape Canaveral Air Force Station. We support energy conservation, and applaud your initiative in helping us meet our energy goals. Unfortunately, the only possible site on Cape Canaveral Air Force Station identified in your study will conflict with our future operational master plans for the area. Regrettably, we are not able to support your proposal.

Please direct any questions to our director of plans and programs, Mr. Rick Blucker, at 321-494-4054 or [patrick.blucker@patrick.af.mil](mailto:patrick.blucker@patrick.af.mil).

Sincerely,

  
MARK H. OWEN  
Brigadier General, USAF  
Commander



## WIND GENERATORS

I have further reviewed the Fish & Wildlife Policy on Wind Turbines. The first three recommendations are:

1. Avoid placing turbines in documented locations of any species of wildlife, fish, or plant protected under the Federal Endangered species Act.
2. Avoid locating turbines in known local bird migration pathways or in areas where birds are highly concentrated. Examples of high concentration areas for birds are wetlands, State and Federal refuges, etc.
3. Avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies, in migratory corridors or in flight paths between colonies and feeding areas.

All this points to the critical point that location is the key to any discussion on wind-powered generators. The Service recommends any proponent of this activity identify several sites for evaluation. Site selection should also include pre and post construction research/monitoring. Pre-construction monitoring should last three years or have an extension clause after one year.

Any proposed siting on refuge administered property would have to be determined a compatible use under the National Wildlife Refuge System Improvement Act.

I spoke with the Manager of Horican National Wildlife Refuge in Wisconsin. There is no proposal to site the wind generators on the refuge but within a four mile limit of the refuge. When it became known this was being proposed, local citizens formed a group known as the Horican Marsh Advocacy Group to oppose the proposal. At one point they sued the Public Service Authority over the issuance of a permit for the project. Other law suits are currently pending. She also told me that FAA had issued a moratorium on new wind tower structures until a study could be completed by the Air Force. There is some question as to the impact of these towers on radar. Could this be an issue here? Her parting words were "I have been on your refuge, it is not the right place for type of activity".

I can not support this proposed activity in any form based on the precedent setting nature. Development of wind energy is a priority of the Secretary of the Interior when it can be properly sited and designed.

**Sunshine Energy - Source of TRECs**

Year	Renewable Source Type	Total TREC's Purchased (MWh's)	TREC's Purchased (MWh's) in Florida	In Florida	% of Total	% In Florida
2004	Wind	12297			23.96%	40%
	Landfill Methane	20531	20531	Yes	40.00%	
	Biomass	18500			36.04%	
2005	Wind	98742			43.96%	48%
	Landfill Methane	106885	106885	Yes	47.59%	
	Biomass	18967			8.45%	
2006	Wind	99921			33.00%	45%
	Landfill Methane	87810	87810	Yes	29.00%	
	Biomass	115061	48447	Yes	38.00%	
YTD 2007	Landfill Methane	15000	15000	Yes	15.64%	63%
	Wood Waste	20000	0		20.85%	
	Wind	0	0		0.00%	
	Biomass	60905	45679	Yes	63.51%	