

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-**

---

**DATE:** July 13, 2018  
**TO:** Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk  
**FROM:** Samantha Cibula , Office of the General Counsel *SMC*  
**RE:** Docket No. 20080503-TP

---

Please file the attached materials in the docket file listed above.

Thank you.

Attachment

RECEIVED-FPSC  
2018 JUL 13 PM 4:07  
COMMISSION  
CLERK

---

**From:** Suzanne Brownless [mailto:SBrownless@comcast.net]

**Sent:** Tuesday, September 23, 2008 10:43 AM

**To:** Mark Futrell

**Cc:** Gwen Rose; carrie hitt; Aguillon, Cecilia

**Subject:** FSC quantification of goals

Mark: As promised here is FSC's model of the revenue requirement impacts of a Florida RPS program which reaches a goal of 20% renewables by 2020 as proposed in our comments. This model was prepared by Tom Beach of Crossborder Energy, Berkeley, CA who is available to answer any questions that you have about the model or the results.

Please feel free to give me a call as well if you have any questions that I can help with.

Thanks,

Suzanne Brownless

# **Crossborder Energy**

*Comprehensive Consulting for the North American Energy Industry*

## **The Revenue Requirement Impacts of an RPS Goal for Florida of 20% by 2020**

Crossborder Energy has developed a model of the revenue requirement impacts of a Florida RPS program in which the four Florida investor-owned utilities (IOUs) achieve a goal of 20% renewables by 2020. Generally, the model adds renewables to meet a portion of anticipated load growth from 2008 to 2020 and displaces natural gas-fired combined-cycle generation that would otherwise be needed. The model uses "middle-of-the-road" assumptions for the costs of both renewables and conventional resources, using the set of cost data that the Florida PSC has assembled. The renewables added to meet the 20% RPS goal do not displace the need for the new nuclear units that Progress and FPL are planning to add in 2016-2020. The model assumes that the non-generation portion of the IOUs' rates escalates with inflation at 3% per year.

The model uses the trajectory for the RPS program that the Florida Solar Coalition has proposed, which is shown in Table 1. Renewables would supply 2% of utility sales in 2010, increasing to 20% in 2020. Figure 1 summarizes the growth in renewable generation in Florida, by technology and by year (in MWh); Table 2 shows the yearly capacity additions of supply-side renewables (in MW).

Table 3 shows the bottom-line revenue requirement impacts in 2010, 2015, and 2020 of achieving the 20% by 2020 goal, in terms of the percentage increase in the revenue requirements for the four Florida IOUs compared to the case in which load growth is met with additional gas-fired generation. The table shows that the 20% goal can be met in 2020 with a 3.4% increase in the IOUs' revenue requirements, assuming that renewables are procured through 15-year REC contracts.

A key sensitivity is the term of the REC contracts used to procure new renewable generation. With 10-year REC contracts, the revenue requirement increase is 4.5% in 2020; with 20-year REC contracts the increase in 2020 is 2.9%. We also have examined the impacts of a 10% increase or decrease in the assumed costs of renewables (with no change in the costs of conventional generation). If renewables are 10% lower in cost, the 2020 revenue requirement increase is 1.4% in the base case with 15-year REC contracts; if they are 10% more expensive, the increase to the base case is 5.5%.

If you would like additional information about the model, please contact Tom Beach of Crossborder Energy at 510-549-6922.

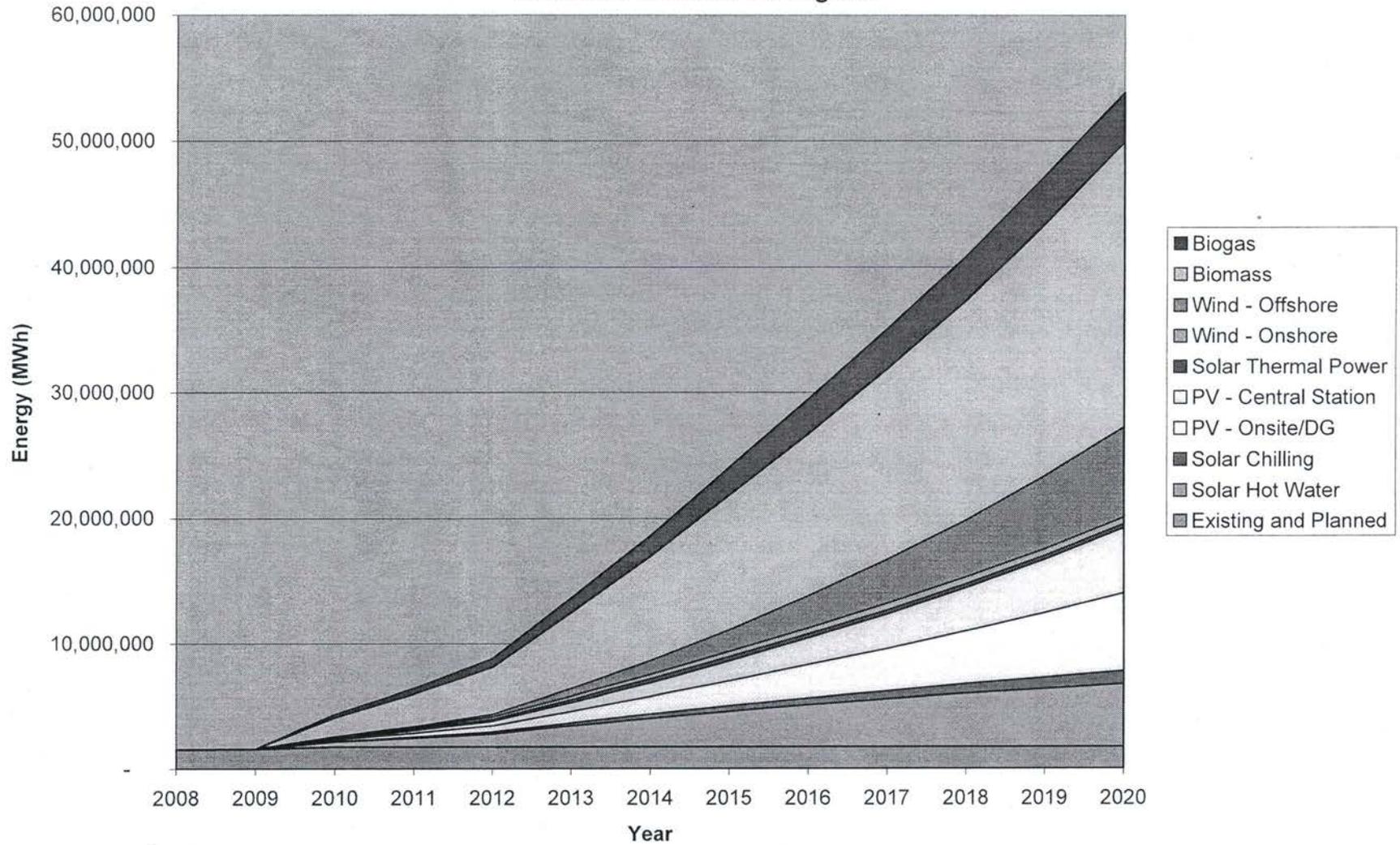
Table 1

**Florida Solar Coalition  
Proposed RPS Program Trajectory**

<u>Year</u>	<u>RPS Trajectory</u> (% of prior year's sales)
2008	0.0%
2009	0.0%
2010	2.0%
2011	3.0%
2012	4.0%
2013	6.0%
2014	8.0%
2015	10.0%
2016	12.0%
2017	14.0%
2018	16.0%
2019	18.0%
2020	20.0%

**Figure 1**

**Cumulative Renewable Additions  
in a 20% Florida RPS Program**



**Table 2**

**Florida RPS Program: Proposed Capacity Additions (MW)**

<u>Year</u>	<u>PV - Onsite/DG</u>	<u>PV - Central Station</u>	<u>Solar Thermal Power</u>	<u>Wind - Onshore</u>	<u>Wind - Offshore</u>	<u>Biomass</u>	<u>Biogas</u>	<u>Total</u>
2009	0	0	0	0	0	0	0	0
2010	97	65	32	64	0	192	33	483
2011	189	131	58	115	18	335	60	906
2012	310	221	88	174	59	485	91	1,427
2013	583	434	148	254	169	777	153	2,517
2014	897	685	210	295	312	1,066	217	3,681
2015	1,275	994	210	340	499	1,381	287	4,985
2016	1,681	1,332	210	384	729	1,658	356	6,350
2017	2,138	1,719	210	430	1,001	1,946	414	7,858
2018	2,649	2,157	210	430	1,299	2,244	459	9,448
2019	3,243	2,672	210	430	1,659	2,567	491	11,272
2020	3,907	3,252	210	430	2,036	2,906	508	13,249

Table 3

**Florida RPS Program Expected Cost Impacts**  
(as % Increase in Revenue Requirements)

**Base Case**

	<u>10-year REC</u>	<u>15-Year REC</u>	<u>20-Year REC</u>
2010	0.8%	0.6%	0.6%
2015	3.4%	2.6%	2.3%
2020	4.5%	3.4%	2.9%

**Sensitivity: 10% Lower Cost Renewables**

	<u>10-year REC</u>	<u>15-Year REC</u>	<u>20-Year REC</u>
2010	0.6%	0.5%	0.4%
2015	1.9%	1.5%	1.2%
2020	1.9%	1.4%	1.2%

**Sensitivity: 10% Higher Cost Renewables**

	<u>10-year REC</u>	<u>15-Year REC</u>	<u>20-Year REC</u>
2010	1.0%	0.8%	0.7%
2015	5.0%	3.9%	3.3%
2020	7.2%	5.5%	4.7%