cleanenergy.org
Southern Alliance for Clean Energy

July 14, 2015

Chairman Graham, Comms. Brise, Edgar, Brown and Patronis
Florida Public Service Commission
2540 Shumard Oak Blvd
Tallahassee, Florida 32399

Re: Docket Nos. 150085; 150086; 150083; 150081

Southern Alliance for Clean Energy ('SACE") offers these comments and recommendations in response to the FPL, Duke Energy Florida, Gulf Power, and TECO (collectively referred to as the "Utilities") Demand Side Management ("DSM") plans filed on March 16, 2015. These plans implement the conservation goals established by the Commission in Order No. PSC-14-0696-FOF-EU. SACE was a party in that proceeding and argued that the practice of eliminating measures with a payback to the customer of 2 years or less is an arbitrary methodology that leads to the elimination of high savings and low cost measures from the conservation goal setting process. These measures help customer reduce energy use and lower electricity bills – especially valuable to residential customers on low and fixed incomes.

On May 7, 2015, the Southern Alliance for Clean Energy ("SACE") petitioned to intervene in these proceedings. One of the disputed issues raised by SACE in this docket includes: is the Utilities' evaluation, measurement and verification process adequate to capture empirical data on so called free-ridership? The Commission Staff filed its recommendation in this these dockets on July 9, 2015. Here, SACE's comments address the prospective use of use of evaluation, measurement and verification ("EM&V") to correctly and accurately determine free-ridership, and the benefits associated with the use of EM&V.

It is important to note that in the goal-setting proceeding, the Commission stated:

> Finally, the EM&V approach, as advanced by witness Mims, is not suitable due to costs and time constraints and is more appropriate for program design. Furthermore, the current phase in this proceeding requires us to address goals, not programs.[1]

Therefore, these are the appropriate dockets for SACE to recommend that the Commission require the Utilities to prospectively identify and use well-known best practices to

[1] Florida Public Service Commission, PSC Order No. PSC-14-0696-FOF-EU, Docket Nos. 130199- EI, 130200-EI, 130201-EI, 130202-EI, 130203-EI, 130204-EI, Commission review of numeric conservation goals, December 16, 2014, p. 25.

determine the appropriate amount of free ridership that exists at the program level in their program plans.

In their DSM Program Plans, none of the Utilities discuss identification or quantification of free ridership. There are many benefits to using the EM&V process to determine free ridership, including providing both the Utilities and the Commission accurate information upon which to base future decisions. In the 2014 FEECA goal setting docket, the Utilities did not present the Commission with data on actual free ridership levels.[2] Without quantitative data, the only option the Commission had in the goal setting docket was to continue to use arbitrary levels of customer payback periods to determine free ridership.

We can do better in Florida. Instead of guessing the amounts of free ridership, the Utilities ought to present, and the Commissioners should have the benefit of, actual data upon which to base decisions. SACE believes that providing actual data to the Commission on free ridership will lead to fully informed decisions by commissioners in the next conservation goal proceeding, however, the process of acquiring the data must start now. We provide a summary of best EM&V practices and benefits below.

Properly identifying free ridership is widely regarded as being a critical component to the program planning cycle. A national review of evaluation practices conducted by Skumatz Economic Research Associates (SERA) in 2010 found, "Not examining free ridership and spill over *ex post* will make it impossible to distinguish and control poorly designed/implemented programs, as well as for programs that may have declining performance over time and may have outlived their usefulness, at least in their current incarnation."[3]

The Uniform Methods Project (UMP) is the entity that the U.S. Department of Energy is using to develop a set of protocols for determining savings from energy efficiency measures and programs.[4] In September 2014, the UMP released chapter 23, *Estimating Net Savings: Common Practices,* which addresses estimating net energy savings, which includes calculating free ridership. UMP defines free ridership as[5]:

> Free ridership is the program savings attributable to free riders (program participants who would have implemented a program measure or practice in the absence of the program). There are three types of free riders:
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> - Total free riders: Participants who would have completely replicated the program measure(s) or practice(s) on their own and at the same time in the absence of the program.

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[2] *See eg.* Docket No. 130199-EI, Hearing Transcript, pp. 264-66, July 21, 2014.
[3] 2010 ACEEE Summer Study on Energy Efficiency in Buildings
[4] Department of Energy, Uniform Methods Project, at: http://energy.gov/eere/about-us/ump-protocols
[5] National Renewable Energy Laboratory, Estimating Net Savings, Common Practices, at: http://www.nrel.gov/docs/fy14osti/62678.pdf

- Partial free riders: Participants who would have partially replicated the program measure(s) or practice(s) by implementing a lesser quantity or lower efficiency level.
- Deferred free riders: Participants who would have completely or partially replicated the program measure(s) or practice(s) at a time after the program timeframe.

In the chapter, eight different approaches for estimating net savings are discussed. The use of a two-year payback is not one of the approaches identified by the UMP, which is compiled of a sampling of national authorities on DSM evaluation best practices. There are benefits, limitations and caveats to each of the eight approaches that are discussed in the report, and SACE is supportive of the Utilities using any of them to determine free ridership. Further, SACE is supportive of the Utilities using any approach recommended by any national authority on evaluation to determine free ridership.

Table 1. Applicability of Approaches for Estimating Net Savings Factors[6]

Method	Free Ridership	Spillover	Market Effects
RCTs and quasi-experimental designs	Controls for free riders[15]	Controls for participant spillover[16]	Not generally used
Survey-based approaches	Is applicable	Is applicable	In conjunction with structured expert judgment
Common practice baseline methods	Is applicable	Not applicable[17]	Not applicable
Market sales data analysis	Is applicable	Is applicable	Is applicable
Top-down evaluations	Assess the overall change in energy use, so no adjustment is needed for free ridership, spillover, and market effects		
Structured expert judgment[18]	Is applicable	Is applicable	Is applicable
Deemed or stipulated NTG ratios	Is applicable	Is applicable	Not generally used
Historical tracing	Is applicable	Is applicable	Is applicable

In its recommendation, the Staff also asserts that:

> SACE's disputed issue focuses on the collection of additional data associated with [FPL's] DSM Plan regarding the adoption rates of measures in order to determine free ridership. This data collection, typically done through surveys sent to customers, would result in additional administrative cost with no additional seasonal peak demand or annual energy.

This is simply not true. As stated in the UMP chapter on net savings, "Evaluators and regulators recognize the advantages of consistently measuring net savings over time as a key metric for program performance." Further, according to both the UMP and the State and Local Energy Efficiency Action Network (a state and local led effort facilitated by the U.S Department of Energy and the U.S. Environmental Protection Agency to take efficiency to scale) report on evaluation:

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[6] *Id.*

Evaluators generally agree that net savings research can be useful for:

- Gaining a better understanding of how the market responds to the program and using that information to modify the program design (including eligibility and target marketing and incentive levels).
- Gleaning insight into market transformation over time by tracking net savings across program years and determining the extent to which free ridership and spillover rates have changed over time. This insight might be used to define and implement a program exit strategy.
- Informing resource supply and procurement plans, which requires an understanding of the relationship between efficiency levels embedded in base-case load forecasts and the additional net reductions from programs.
- Assessing the degree to which programs effect a reduction in energy use and demand (net savings is one program success measure that should be assessed).

Finally, Duke Energy Carolinas, Duke Energy Progress and Georgia Power, sister utilities of Duke Energy Florida and Gulf Power, respectively, both use these best practices to identify program level free ridership. While SACE is aware of the regulatory differences that exist between North Carolina, South Carolina, Georgia and Florida, the knowledge of how to use national best practices to determine free ridership already resides within the Utilities. There is no reasonable justification for continuing to use an obviously flawed and inaccurate methodology to determine free ridership in Florida.

SACE would like to note, that in particular Duke Energy Carolinas ("DEC") has determined that a zero percent free ridership rate is appropriate for low income programs. Duke Energy Carolinas addressed the issue of free ridership for low income customers in its most recent EM&V filing. DEC's consultant found that, "Typically, low income evaluation studies have indicated that program participation by people near 150% of federal poverty thresholds have *zero to very low free ridership levels.*" Based on the analysis, Duke Energy Carolinas found "The review of the research conducted on this topic...provides sufficient justification that evaluations for utility energy efficiency programs, including Duke Energy's, continue the use of a 0% free ridership rate for low income programs."[7]

In conclusion, SACE has compiled a variety of documents for the Commission and Staff to review:

- Duke Energy Carolinas' most recent program evaluation, measurement and verification (South Carolina Docket 2015-89-E)[8]
- Georgia Power's most recent program evaluation, measurement and verification (due to be updated later this month)[9]

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[7] DEC, South Carolina Public Service Commission, Docket 2015-89-E. Rider 7 Exhibit 9. Starting at p394, Appendix D: Memo: Low Income Programs and Freeridership, at: https://dms.psc.sc.gov/Attachments/Matter/9868386E-155D-141F-234A3F2179167950

[8] Id.

[9] Georgia Public Service Commission, Docket No. 31082, Certified Demand Side Mgmt Programs – 2011 Impact Evaluation and Process Report, at: http://www.psc.state.ga.us/factsv2/Document.aspx?documentNumber=145402

- The Uniform Methods Project protocols, including the Net Savings Report[10]
- The State Energy Efficiency Action Network report on evaluating energy efficiency impacts.[11]

SACE appreciates the opportunity to provide thoughtful feedback on this topic. Given that this is the docket where the Commission will approve DSM plans, this is the appropriate docket for the commissioners to address the Utilities prospective program EM&V, including collection of data on actual free-ridership. We respectfully recommend that the Commission utilize this opportunity to better inform future decisions on conservation efforts.

Sincerely,

/s/Natalie Mims,
Southern Alliance for Clean Energy

[10] Department of Energy, Uniform Methods Project, at: http://energy.gov/eere/about-us/ump-protocols
[11] State and Local Energy Efficiency Action Network, Energy Efficiency Program Impact Evaluation Guide, December 2012, at: https://www4.eere.energy.gov/seeaction/publication/energy-efficiency-program-impact-evaluation-guide