BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Proposed amendment of Rule 25-17.0021 F.A.C., Goals for Electric Utilities.	**DOCKET NO. 20200181** **Filed: June 28, 2021**

SOUTHERN ALLIANCE FOR CLEAN ENERGY'S
SECOND POST WORKSHOP COMMENTS

Southern Alliance for Clean Energy ("SACE") thanks the Commission and its staff for the opportunity to submit our second post workshop comments that build on our oral comments, and written first post workshop comments filed on February 15, 2021 in the above captioned docket.

Introduction

Energy efficiency is a low cost energy resource. It helps keep bills low for all customers by providing a number of economic benefits to a utility - such as reduced fuel expenses and deferral of costly new power plants. Energy efficiency programs help Floridians lower energy use and save money on bills while making their homes more efficient, safe and secure. Every morning more than 100,000 Floridians head to work to help families and businesses cut energy waste. Ultimately, the money saved through energy efficiency improvements stay in local communities, driving economic development and even more job creation.

Yet, in Florida, the scale of these benefits are far less than the rest of the country, because current practices used to set goals in the Florida Energy Efficiency Conservation Act ("FEECA") are outdated and place efficiency at a significant disadvantage compared to decisions around investment in supply-side resources. That can lead to an over-reliance on more costly power plants. The current rate cases before the Commission are a stark reminder of cost that results from this lack of investment in energy efficiency.

Over the past 20 years, energy efficiency technology, policies, and practices have changed considerably throughout the country. But Florida's energy efficiency rule remains anchored in the 1990's. From a policy perspective, standing still means falling ever further behind standard industry practice, which comes at a real cost to Florida's electric customers and its economy. The current rulemaking process provides a unique opportunity for Florida to update its efficiency rules and to align its goal setting rule with modern industry standard practices. Florida's low efficiency savings performance compared to other states is directly tied to the policies and practices being reviewed in this rulemaking. If the substantive changes proposed in our first comments and below are

implemented, Florida's efficiency performance will move from its present position as an outlier near the bottom of state ranking, towards the national average. Concurrently, the Florida Public Service Commission and the state's major utilities will be reducing utility system costs by hundreds of millions of dollars, while reducing energy waste and savings Florida's families and businesses real money on their monthly energy bills.

Staff's Draft Rule

We understand that the intent of the draft rule filed on December 15th, 2020 is to bring more real-life data to the goal setting process. While we agree that improvements in the use of such data – particularly around free ridership and efficiency costs - is needed to support sound decision-making, we nevertheless cannot support the approach described in the draft rule.

On their own, the draft rule's changes do not provide predictability or consistency on the substantive issues that have frequently led to serious volatility in past goal setting proceedings. These issues center primarily on cost-effectiveness analysis, free ridership, and low-income programs, which are not substantively addressed in the draft rule. Again, we agree with the intent regarding improved data, but one need not merge the goal setting and program planning phases to obtain the real-life data on which to base the efficiency savings goals. Instead, more real-life data can be obtained through formal evaluation of actual efficiency program experience from past years.

The proposed process in the draft rules may also lead to additional confusion. For instance, it is not clear how the proposed programs would be adjusted if the Commission rejects a utility's goals and proposed programs. Notwithstanding the distinction created between "proposed plans" and "final plans," the statute does not appear to support merging the goals and program approval processes, but rather provides for a two-step process - one for approval of goals, one for approval of plans.

SACE's first post-workshop comments identified, and provided type and strike language, that would address issues that have plagued past goals setting proceedings by providing a more balanced approach in considering cost-effectiveness, eliminating arbitrary payback screens, and expanding investment and access to low-income programs across all utilities. We thank the staff for exploring how modern industry standard practices in other jurisdictions can be adapted in Florida to provide the Commission more information and more flexibility in reaching its decision in the next goal setting cycle. In support of that direction, in the our comments below we address the exploratory and clarifying questions raised by staff during the second workshop, and several other considerations.

Additionally, after staff review of this round of stakeholder comments, we respectfully request a subsequent commissioner-led workshop as part of the rulemaking process. There is significant value to the commissioners having an opportunity to directly engage on and explore the stakeholders' recommendations.

Low-income Efficiency Targets – Response to Staff Questions

The Commission has expressed a desire to address the needs of low-income customers with FEECA, and although utilities offer low-income efficiency programs, they vary widely in terms of scale and depth. At present, the FEECA rules provide no guidance for how the unique needs and considerations around low-income efficiency are to be handled in either goal setting or program planning proceedings.

Following the first workshop, SACE provided type-and-strike revisions in its previous comments recommending that each utility be required to allocate fifteen percent of demand side management ("DSM") budgets towards programs for low-income customers, in order to encourage programs that have more scale, deeper savings, and to create consistency across utilities. In response to a question from staff at the second workshop, we do not intend to additionally prescribe specific savings level requirements, which would instead be considered once utilities have indicated which programs they intend to offer and propose corresponding savings levels. We do think it important that intervenors and the Commission weigh in on the appropriateness of the corresponding savings projections with due consideration of how the relative level of savings for each utility compares to its Florida peers and similar programs elsewhere.

Staff also asked whether the proposed budget targets for low-income programs would be inclusive of the demand response costs that are recovered through the Energy Conservation Cost Recovery clause mechanism. We propose that budget targets for low-income efficiency programs should be applied to the funds collected for all energy efficiency and load management demand response programs. We would not expect to include the costs associated with interruptible service, curtailable service, standby generation, or qualifying facilities. Using the apportioned funds, programs designed for low-income customers could include both customized energy efficiency and demand response offerings. At least one such offering should be for physical efficiency improvements with budgets at least equal to or greater than the proportionate share of each utility's total budget for its non-income qualified energy efficiency programs. In other words, low-income demand response programs (if proposed) should be no greater than their relative proportion of the funds allocated to low-income programs. Staff also asked whether the funds for low-income programs would be for educational programs or programs that make physical improvement to homes. The low-income energy efficiency programs should be utilized for physical improvements in homes. While educational and behavioral efficiency programs for low-income households also exist, without rigorous independent EM&V, utilities should not be able to claim savings for such programs against their low-income program budgets (the same point would also apply to standard programs).

We recommend that low-income programs be exempt from the cost effectiveness requirements for standard programs, however, the Commission should remain focused on ensuring the value of efficiency dollars spent on low-income customers. In many states, this is accomplished by applying a modified approach to cost effectiveness evaluation for low-income programs. Examples of such approaches can be found in a database maintained by

the American Council for an Energy Efficient Economy (ACEEE), called Guidelines for Low-Income Energy Efficiency Programs.[1] Ultimately, there needs to be a reasonable level of savings for the dollars spent on such programs, such that no utility should significantly trail their Florida peers or comparable utility investments in other states on a cost per kWh saved basis. That does not mean, however, that efficiency programs for low-income customers should be limited only to inexpensive direct install programs that yield relatively shallow savings per customer. To address unmanageable energy burdens, programs should also be offered to address larger energy end uses in low-income households, such as insulation, comprehensive air sealing, duct replacement, and HVAC replacement. The cost per kWh saved for these deeper efficiency savings programs should instead be compared to other programs with a similar approach.

Staff asked whether we see a conflict between the requirement for a percentage of program budgets dedicated to low-income programs and the cost effectiveness test approach we proposed in our type-and-strike draft rules. As noted above, we propose that low-income programs be exempt from standard cost effectiveness requirements, as is commonly done throughout the country, but each utility's total portfolio should still be cost effective overall. This would be the case whether the multi-test approach is used or adoption of the Utility Cost Test (UCT) as the primary test for determining cost effectiveness. Even though low-income programs would be exempt from the cost effectiveness requirements of standard programs, when utilities file their program plans they should nevertheless continue to report the associated cost effectiveness scores for each low-income program and continue to include both spending and energy savings projections by which comparison can be made to peer utilities. As a matter of policy low-income programs are intentionally treated differently than standard programs on cost effectiveness, but with this accepted we do not see a conflict with the overall cost effectiveness test approach we propose in our recommended rules revisions.

As discussed further below, low-income programs should also be exempt from considerations of free ridership, which are customarily determined to be zero for low-income participants across much of the country.

Evaluation, Measurement & Verification – Response to Staff Questions

Evaluation, Measurement & Verification (EM&V) is standard practice in nearly every state that requires utility-administered energy efficiency programs, so there is a lot of well-documented information from which Florida can draw on how it is done, why it is done, and how the associated costs are handled administratively. During the FEECA rulemaking process, EM&V has been discussed primarily as an alternative to Florida's use of the 2-year screen as a proxy to account for free ridership.[2] But its value *extends far beyond* that to

[1] https://database.aceee.org/state/guidelines-low-income-programs

[2] As has been noted before, Florida is the only state to use the 2-year screen method for estimating free

[2] As has been noted before, Florida is the only state to use the 2-year screen method for estimating free ridership during efficiency goals setting. Despite relying on this method for the past 30 years, there is no empirical basis for this approach, and potential savings for several major Florida utilities were 50% higher or more in the 2019 FEECA cycle prior to applying the 2-year screen – well above the documented national average for free ridership.

include identifying opportunities for program improvement and verifying that utility savings are accurate and the costs passed on to customers are appropriate.

During the second workshop, staff asked at a high level how EM&V would work. Evaluation, Measurement, & Verification is a common practice and a requirement for most utility energy efficiency programs across the country. EM&V is comprised an array of well-developed methods tailored to address a wide variety of circumstances and program types. Rather than describe its mechanics in great detail, we have provided a list of authoritative publicly available resources along with brief descriptions and links in Appendix A that we believe provide a solid foundation for addressing staff's question for how EM&V works.

Staff also asked who would implement the EM&V analysis, and how it would address various program types and circumstances. Industry standard practice across the country shows that EM&V should be implemented by an experienced independent, third party evaluator. Approaches vary between states as to whether it is the utility or the Commission who hires and oversees EM&V consultants. Regardless of which approach Florida chooses, there is a large and robust sector of professionals in the U.S. with the skills to do this work, and an array of well-established tools of the trade. This breadth of methodologies provides the flexibility and rigor needed to evaluate savings from each of the customer classes, as well as custom program designs, and programs that evolve over time. Programs do not have to remain constant for effective EM&V results to be produced. Across the country, most utilities are required by their regulators to conduct EM&V, including for programs that evolve over time. In fact, EM&V often provides both the basis for making such changes and the data to determine whether such modification in fact improve program performance. Suffice to say, EM&V professionals have ample experience evaluating programs at different states of maturity and use an array of evaluation tools capable of producing meaningful data for both relatively new and longstanding programs. The same is true regarding evaluating programs across all customer classes and for custom incentive programs.

There are many benefits from EM&V, with most relating to accountability and program improvement. In most states, EM&V is a crucial tool for independent verification of utility reported efficiency savings, which is particularly important when utilities receive lost revenue adjustments or performance incentive compensation. In other states, EM&V is equally necessary for attribution of savings to educational or behavioral efficiency programs, though these have generally not been counted towards FEECA savings goals.

EM&V can also be used to fill empirical data gaps for program improvements and analysis of efficiency potential. For instance, EM&V can be used to evaluate free ridership to determine what percentage of participants would have made an efficiency improvement even in the absence of a utility efficiency program. One of the authoritative resources on EM&V can be found in publications by the federally funded and facilitated State and Local Energy Efficiency Action Network (SEE Action), which defines a free rider as:

> *"A program participant who would have implemented the program's measure(s) or practice(s) in the absence of the program. Free riders can be (1) total, in which the participant's activity would have completely replicated the program measure; (2) partial, in which the participant's activity would have partially replicated the program measure; or (3) deferred, in which the participant's activity would*

have partially or completely replicated the program measure, but at a future time beyond the program's time frame."[3]

Typically savings by free riders are deducted from the savings attributed to the utility program. Conversely, there are also spillover and market transformation savings additions that account for when non-participants make efficiency improvements that would not have occurred were it not for the existence of the program. Taken together, adjustments for free riders, spillover, and market transformation will yield a net-to-gross (NTG) ratio adjustment to utility efficiency program savings.

The SEE Action Energy Efficiency Program Impact Evaluation Guide identifies several common methods that can be used for determining net-to-gross, including:

- Stipulated net-to-gross ratios
- Self-reporting surveys and enhanced self-reporting surveys
- Panel of trade allies
- Large-scale consumption data analysis approaches
- Cross-sectional studies
- Top-down evaluations[4]

Staff asked how free ridership should be addressed in the next FEECA cycle. We recommend that the Commission direct utilities to apply a Stipulated Net-to-Gross Ratio. This should be done in a way that will better align Florida's accounting for free ridership with those of other states. For example, starting in 2012, the Michigan Public Service Commission established a stipulated NTG ratio of 0.90 that could serve as a model for Florida to follow. This would translate into a 10% reduction to gross savings to account for free ridership. Or the Florida Commission could apply the 0.825 NTG ratio used by ACEEE in its 2020 State Energy Efficiency Scorecard,[5] which reflected the median for states who report both gross and net savings values.[6] If more granularity is desired, the stipulated NTG ratio could be set separately for each program based on a reasonable set of NTG results from similar programs elsewhere. In its 2020 National Survey of State Policies and Practices For Energy Efficiency Program Evaluation, ACEEE found that 20 states ascribe deemed values for free-ridership or net-to-gross factors. It also determined that "Twenty-six states (70%) cite the use of sources or databases from other states," while noting that "In most states, the results of their own in-state evaluations are used to modify and update deemed values over time."[7]

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[3] State and Local Energy Efficiency Action Network. 2012. *Energy Efficiency Program Impact Evaluation Guide*. Prepared by Steven R. Schiller, Schiller Consulting, Inc., *p. 5-1* https://www7.eere.energy.gov/seeaction/publication/energy-efficiency-program-impact-evaluation-guide,

[4] Ibid 3-7

[5] Berg, Weston, et al. American Council for an Energy Efficient Economy, *"The 2020 State Energy Efficiency Scorecard,"* December 2020, page 31. https://www.aceee.org/state-policy/scorecard

[6] ACEEE states: "We based the 0.825 net-to-gross factor used this year on the median net-to-gross ratio calculated from those jurisdictions that reported figures for both net and gross savings in this year's data request. These were Colorado, Connecticut, Delaware, District of Columbia, Illinois, Maryland, Missouri, Montana, Nevada, New York, North Carolina, Pennsylvania, Oklahoma, Oregon, Tennessee, Utah, West Virginia, and Wisconsin.

[7] Kushler, Martin, et al. American Council for an Energy Efficient Economy, *"A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs."* February 2012, page 34.

Notably, low-income efficiency programs customarily have an NTG of 1.0, in recognition that financial constraints make it unlikely that low-income participants would have made efficiency upgrades in absence of utility program offerings, and therefore there would be no free ridership.

In future FEECA cycles, if Florida should choose to require utilities to evaluate free ridership as part of conducting independent, industry standard EM&V practices, this initial stipulated NTG could be refined in accordance with the resulting empirical data. Alternatively, the Commission could issue a rule now requiring utilities to start EM&V for the 2021 or 2022 program years, with results made available in 2023, which could then be factored into stipulated NTG for the next round of FEECA goals.

Notably, consultants who produce energy efficiency and demand side management technical and achievable potential studies customarily address free ridership in their analysis, using one or a combination of the methods identified above. Expectations should be clearly established around when and how the stipulated NTG adjustments will be made - either by the potential study consultant, or applied after the study is complete – to ensure that saving are not reduced twice to account for the same free ridership.

It is also important to note that for consistency, whatever stipulated NTG is applied to the goals, should also be applied to the annual efficiency savings reported by the utilities.

At the second workshop, staff also asked how the costs for EM&V would be handled. Previously, cost has been presented as barrier to conducting EM&V in Florida. But given the widespread adoption of EM&V across the country, the importance it has for ensuring customer dollars are well spent on utility efficiency programs, and the fact that Florida has gone for decades without conducting such an evaluation, *we believe the benefits of EM&V substantially outweigh the costs*, and therefore should be considered during this rulemaking. EM&V costs may be recovered in the same manner as other program administrative costs, through the Efficiency Conservation Cost Recovery clause. Examples abound from other jurisdiction on how precisely to do this, but within the region one could look to see how such costs are recovered by Duke Energy in the Carolinas, Georgia Power, and the investor-owned electric utilities in Arkansas.

EM&V provides a wealth of useful information for utilities, the Commission, the public and intervenors. It is for this reason that there must be a high level of transparency surrounding all aspects of EM&V itself, from its methods and assumptions to its findings and workpapers. One common approach is for a Commission to establish some type of oversight group to establish a level of independence, ensure transparency and public access to information, and can include opportunities for stakeholder engagement, which has been found to reduce disputes in litigation. In answer to staff's question at the second workshop, EM&V should not interfere with an intervenor's ability to offer programs as contemplated in the staff's draft rule. Instead, the opposite should be true, whereby intervenors are able to use EM&V results to provide additional useful information to the Commission when making their case for new programs or program changes. This does not mean, however, that intervenors (or utilities themselves) should be limited to commenting

only on programs that have had EM&V in Florida. For one thing, many program concepts that would be new for Florida are already well established elsewhere and have had EM&V done previously. Regardless, even if no comparable EM&V studies are available, intervenors should still be able to propose new programs using whatever information is available and they deemed best to make their case.

Cost Effectiveness Testing – Responses to Staff Questions

Commission staff inquired whether using one test or the multi-cost effectiveness test method would limit Commission discretion in setting goals, approving programs, and setting low-income goals. Whether the primary cost effectiveness test is the Utility Cost Test (also known as the Program Administrator Cost test), or following the three-test method from Virginia (as described in our fist post workshop comments), the Commission can still exercise its discretion when setting final goals and making program approvals. For instance, the Commission may choose to balance energy savings potential (as determined by the analysis of cost effectiveness) with findings from a bill impact analysis (a better alternative to the RIM test). This approach ensures that the Commission has the information necessary to strike the right balance between total utility system benefits (i.e. the total amount of cost savings for all customers) and corresponding bill impacts for individual customers (both participants and non-participants).

As described in the comments SACE filed following the first FEECA rulemaking workshop, we strongly recommend that the RIM test not be used as the basis for determinations of cost effectiveness or evaluation of rate and bill impact when setting goals or approving programs. The National Standard Practice Manual (NSPM)explains in detail how the RIM test conflates considerations of cost effectiveness with matters of equity and fails on both accounts to provide useful information for the purposes of goal setting. At a high level, the NSPM provides the following explanation for some of the problems with the RIM test, and ultimately recommends alternative approach that separate cost effectiveness and rate, bill, and participation impact analysis, which provide more meaningful information than RIM:

> • *Cost-effectiveness analyses should account for only future, incremental benefits and costs, as required by the Conduct Forward-Looking, Long-term, Incremental Analyses principle. The RIM Test accounts for sunk costs (i.e., lost revenues) and as such is inappropriate to use for benefit-cost analysis.*
> • *The RIM Test attempts to answer two different questions in a single analysis, which conflates the two questions and thus does not answer either one.*
> • *The RIM Test does not provide useful information about what happens to rates, in terms of the magnitude of impact, as a result of DER investments. A RIM benefit-cost ratio of less than one (1.0) indicates that rates will increase (all else being equal) but does not inform the extent of the rate impact—either in terms of the percent (or ¢/kWh) increase in rates or the percent (or dollar) increase in bills. In other words, the RIM Test results do not provide any context for regulators and stakeholders to consider the magnitude and implications of the rate impacts.*[8]

[8] National Energy Screening Project, *"National Standard Practice manual for Benefit-Cost Analysis of Distributed Energy Resources,"* August 2020, page A-4. https://www.nationalenergyscreeningproject.org/wp-content/uploads/2020/08/NSPM-DERs_08-24-2020.pdf

These problems also make RIM of limited value when evaluating programs for approval. While there are better methods available for analyzing rate, bill, and participation impact in general, RIM has a limited degree of value for showing which programs could result in disproportionately greater rate impact compared to other programs or program designs, but it should never be used as the primary basis for program approval determinations. Half of states now give no consideration to RIM whatsoever, according to the National Standard Practice Manual Database of Screening Practices[9] and the ACEEE's 2020 National Survey of State Policies and Practices for Energy Efficiency Program Evaluation.[10] We recommend that RIM either be eliminated from FEECA, or reduced to a minor data point for comparison between programs and utilities.

Commission staff also asked whether the Utility Cost Test should be applied during both goal setting and program planning, and how to analytically account for administrative costs. When used as the primary cost test, the Utility Cost Test should be applied for both goal setting and program approval. Initial screening of measures should be done with incentive costs only. Then relevant measures should be bundled together in a manner that would logically serve customer needs, with an aim to ensure that the group of measures will be cost effective. After initial measure screening, crosscutting expenses like administration, marketing, and evaluation should be applied *at the program level* for evaluating cost effectiveness. The sum of the net benefits from all the measures in each program has to be able carry the non-incentive costs to be deemed cost effective.

While the Total Resource Cost (TRC) test is the primary cost test in many states, ACEEE's 2020 National Survey of State Policies and Practices for Energy Efficiency Program Evaluation found "…a trend away from the TRC test and either toward the more narrow UCT test (which is better balanced because it includes all utility system costs and benefits) or toward more inclusive cost-effectiveness tests, such as the societal test, or state-specific tests developed under a process such as that presented in the NSPM."[11] One possible reason for this is the risk of asymmetrical analysis wherein all costs are included (those borne by both the utility and customer), but only utility system benefits are counted (excluding customer benefits). Another advantage of the UCT is that it provides a better basis for comparison of energy efficiency as a resource against supply side resource alternatives.

Joint stakeholder comments

Duke Energy Florida has filed comments with some stakeholders that don't propose any substantive changes to the Commission's rule to address outdated practices. We appreciate that Duke Energy is the first utility to comment in this docket in recognition of the many benefits of energy efficiency as a resource to the utility system – and referencing the Utility Cost Test as the way to measure these benefits. Yet, we do not support the proposed timing for making changes, nor the more informal approach suggested as an alternative to

[9] https://www.nationalenergyscreeningproject.org/state-database-dsesp/
[10] https://www.aceee.org/sites/default/files/pdfs/u2009.pdf
[11] York, Dan, Charlotte Cohn, and Martin Kushler, *"National Survey of State Policies and Practices for Energy Efficiency Program Evaluation,"* October 2020, page 40.

modifying the rules now. Why wait on an uncertain informal process years from today, when a docket is open now for the express purpose of reviewing and improving the rule?
It must be noted that Duke Energy has had successful experience delivering meaningful energy savings in other states with rules – unlike Florida - that reflect standard industry practice. Let's do the same here.

Florida has the opportunity to make substantive changes to the rule now, changes that must be made to provide:

- meaningful guidance to the state's utilities for the next energy efficiency goal setting cycle,
- - more certainty to the goals setting process in future proceedings, and
- more helpful information to the commissioners on which to establish goals and approve programs. Why wait on an uncertain informal process years from today, when a docket is open now for the express purpose of reviewing and improving the rule?

Performance incentives

The Florida Legislature provided authority to the Commission to consider performance incentive mechanisms when it amended the FEECA statute in 2008, but the Commission has yet to implement it. Currently, 29 states utilize a performance incentive mechanism.[12] We recommend that the Commission consider a regulatory mechanism for Florida that aligns meaningful energy savings performance with the utility business model. Such mechanisms can be structured to provide business opportunities that are competitive with what utilities can earn through investments in assets such as power plants and infrastructure. This in turn can incent the utility to make meaningful levels of energy efficiency a core part of its resource planning process. We support coupling utility incentives to meaningful desired energy savings outcomes. By doing so, the Commission can create an environment that encourages utilities to invest in energy programs that deliver significant savings to customers.

Thank you again for the opportunity to provide post workshop comments.

Sincerely,

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[12] ACEEE, *Snapshot of Energy Efficiency Performance Mechanisms,* at https://www.aceee.org/topic-brief/pims-121118

SACE Second Post Workshop FEECA Rulemaking Comments

Appendix A

The following are a list of reference materials related to EM&V and the evaluation of free ridership that may be useful to staff and commissioners for this rulemaking:

Energy Efficiency Program Impact Evaluation Guide
State & Local Energy Efficiency Action Network (SEE Action) 2012
https://www7.eere.energy.gov/seeaction/system/files/documents/emv_ee_program_impact_guide_0.pdf
"This guide's objective is to support the implementation of effective energy efficiency actions by providing information on standard procedures and best practices for planning and conducting evaluations and reporting results." (xiii)

The Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures
National Renewable Energy Laboratory 2018
https://www.nrel.gov/docs/fy18osti/70472.pdf
"The (Uniform Methods Project) provides model protocols for determining energy and demand savings that result from specific energy-efficiency measures implemented through state and utility programs. The UMP protocols can be used by utilities, program administrators, public utility commissions, evaluators, and other stakeholders for both program planning and evaluation." (iv)

State Net-to-Gross Ratios: Research Results and Analysis for Average State Net-to-Gross Ratios Used in Energy Efficiency Savings Estimates
Prepared by Synapse for the U.S. Environmental Protection Agency 2015
https://www.synapse-energy.com/sites/default/files/NTG-Research-14-053.pdf
"This research focused on: (1) state-specific NTG ratios for 2011 through 2015 at the customer-sector level (residential, low-income, and commercial and industrial [C&I]), and (2) NTG ratios at the regional or national level. This report summarizes the results of that research."(1)

A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs
American Council for an Energy Efficient Economy 2012
https://www.aceee.org/sites/default/files/publications/researchreports/u122.pdf
This study provides "the results of a comprehensive survey and assessment of the current "state of the practice" of utility-sector energy efficiency program evaluation across the 50 states and the District of Columbia….Appendix C provides a state-by-state catalogue of links to state policies and rules regarding the evaluation of ratepayer-funded energy efficiency programs." (iii-iv)

Examining the Net Savings Issue: A National Survey of State Policies and Practices for the Evaluation of Ratepayer-Funded Energy Efficiency Programs
American Council for an Energy Efficient Economy 2014
https://www.aceee.org/sites/default/files/publications/researchreports/u1401.pdf

"The purpose of this project is to examine and document what states are doing in actual practice regarding the issue of net savings. What is in fact being done by states in terms of the use of net savings in making regulatory decisions? What issues are being discussed? What precedents are being set and what lessons are being learned that can help inform decisions by other states? To accomplish this purpose, the project conducted a national survey of regulatory staff in all 50 states plus extensive review of additional materials for states with significant activity relating to defining and measuring savings." (1)

2020 National Survey of State Policies and Practices for Energy Efficiency Program Evaluation
American Council for an Energy Efficient Economy 2020
https://www.aceee.org/sites/default/files/pdfs/u2009.pdf
"*Energy program evaluation remains a critical tool for assessing program performance and cost effectiveness and for guiding administrators and implementers in meeting program goals, which are broadening in many states to include carbon emissions reduction, improved health, energy equity, and other nonenergy benefits. While program evaluation is being called on to address various new, revised, or expanded objectives, evaluators have an increased set of tools, techniques, and resources available today to help them address these new challenges." (v)*