

UNREALIZED POTENTIAL:

EXPANDING ENERGY EFFICIENCY OPPORTUNITIES FOR UTILITY CUSTOMERS IN FLORIDA

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Key Takeaways

- Energy efficiency (EE) is a critical industry in Florida, providing steady income and much-needed energy and cost savings to residents and businesses across the state.
- Florida's utility EE performance lags behind that of other states in the Southeast region and nationwide, largely because Florida's efficiency policies and practices do not follow those that are widely accepted and in place in other states.
- Goal-setting is a crucial step in achieving savings through EE. Florida utilities have proposed lower and lower EE savings goals each year over the past decade, with several utilities proposing a meaningless savings target of zero.
- The use of the ratepayer impact measure (RIM) test to evaluate EE program performance has led to systematic undervaluing of EE's cost effectiveness. No other state uses the RIM as its primary cost-effectiveness test.
- Accounting for program free-ridership with a two-year payback screen is also out of standard practice. This approach unduly restrains program measures and ignores some of EE's benefits.
- Florida's utility business model discourages utilities from making investments in EE.
- Florida's current utility program offerings leave out several important customer sectors, including small businesses and low-income multifamily housing.
- If Florida's Public Service Commission (PSC) adjusts its policies, and if the state's utilities broaden their program options, EE can promote economic growth, revive a struggling industry, and deliver cost savings and health benefits to millions of Floridians.

Florida's Energy Efficiency Performance

Energy efficiency (EE) is a proven utility energy resource that can save customers money, promote economic development, and contribute to meeting clean energy goals. It is also the biggest energy jobs sector in the United States, and it has been steadily growing in Florida to reach a total workforce of 127,000 in 2019 (E4TheFuture 2020). These local jobs provide stability and economic benefits while also delivering cost and energy savings to the customers and communities that need them the most. The COVID-19 pandemic, however, has had major repercussions for those valuable jobs, resulting in a net loss of more than 18,000 of Florida's efficiency jobs and wiping away all growth in that sector from the past three years.

The performance of Florida's utility EE programs greatly lags that of utilities in the Southeast and across the nation. In ACEEE's 2020 *State Energy Efficiency Scorecard*, Florida ranked 27th in the nation, falling from its 2019 ranking of 24th. This mid-range ranking is due largely to Florida's statewide building codes and state government initiatives to advance EE. In contrast to these favorable statewide EE policies, Florida falters in terms of its utility EE policies and programs. In fact, nearly every other state in the Southeast region outperforms Florida for investing in EE programs that provide opportunities for customers to save energy and money.

Electric utilities can play a critical role in delivering EE programs to Florida's families and businesses. However, utilities require the support of state regulators to apply commonly accepted practices to develop and implement cost-effective EE programs. The Florida Energy Efficiency and Conservation Act (FEECA) calls on participating utilities to set energy savings goals every five years. In recent years, however, plans for EE programs have shrunk to almost nothing as utilities set their savings goals at zero, largely due to restrictive screening practices.

Florida's screening practices are out of alignment with those of other states in the region and nationwide and have led to an undervaluing of EE by Florida's electric investor-owned utilities (IOUs). The result is that Florida's utility customers are deprived of EE services and incentives to reduce their energy costs; this is particularly true for households that face disproportionately high energy burdens.¹ Analysis of the EE potential for other Southeast states, such as North Carolina, highlights how EE programs can deliver economy-wide benefits, which are especially critical in the wake of the economic recession due to COVID-19 (Gold et al. 2020). These EE programs can also lower utility system costs, improve reliability, and reduce carbon emissions and other air pollution, resulting in benefits for all customers (Relf, York, and Kushler 2018).

¹ *Energy burden* is the share of total household income that goes toward energy costs, which includes electricity and fuels such as natural gas, propane, or heating oil.

UNDERPERFORMANCE OF UTILITY ENERGY EFFICIENCY PROGRAMS

Florida shows significant room for improvement in EE, particularly in its utility sector. The state’s utilities are underperforming in relation to other utilities in the Southeast region and nationwide in terms of EE outcomes.

The 2020 *Utility Energy Efficiency Scorecard* (Relf et al. 2020) scores the largest 52 electric IOUs nationwide based on metrics relating to EE performance, program diversity, and enabling infrastructure and policies. Three of Florida’s electric IOUs are included in these rankings: Duke Energy Florida (Duke FL), Florida Power & Light (FP&L), and Tampa Electric Company (TECO). These three utilities were some of the lowest performing among electric IOUs nationwide. Of the 52 utilities evaluated, TECO ranked 46th, Duke FL 48th, and FP&L 51st. In addition to those utilities, four other Florida utilities are required to submit demand-side management (DSM) plans under FEECA: Gulf Power, Florida Public Utilities Company (FPU), Orlando Utilities Company, and Jacksonville Electric Association (JEA).

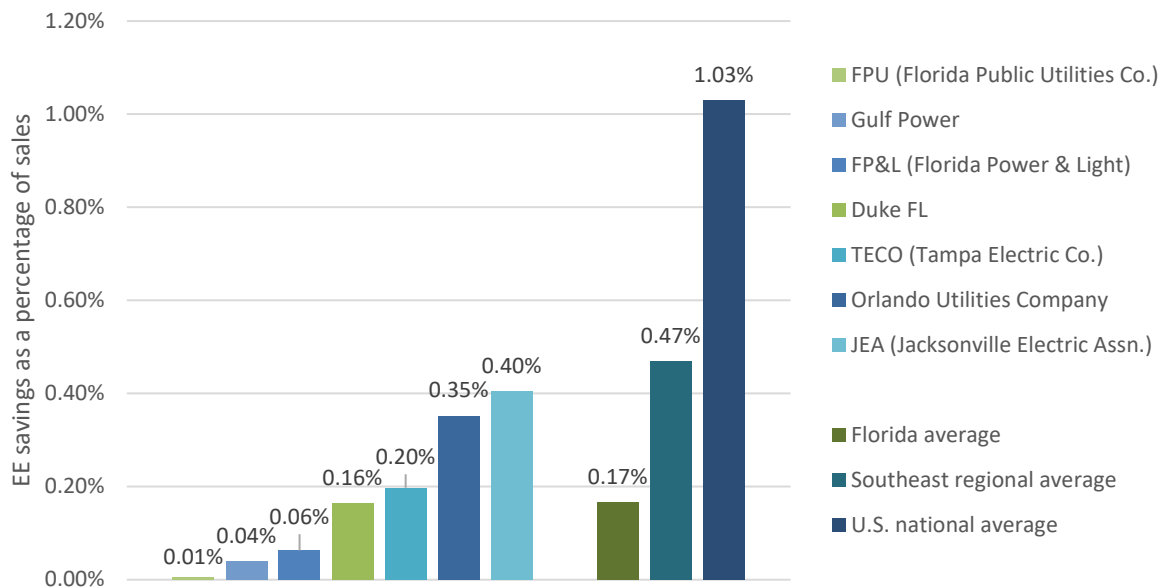


Figure 1. Energy efficiency savings as a percentage of sales—Florida utilities vs. regional and national averages. Averages are weighted based on GWh sales. Sources: FPL, Duke FL, TECO, and regional average data are from the ACEEE *Utility Scorecard* (Relf et al. 2020); all other utilities data are from EIA 2020.

Figure 1 compares Florida utility performance to average performance among utilities in the Southeast and nationwide. Using efficiency savings as a percentage of total sales allows for comparison of EE program performance regardless of sales volume. We can thus compare smaller utilities such as TECO, with 19,000 GWh in annual sales in 2019, to much larger utilities such as FP&L, which at 110,000 GWh is the state’s largest electric IOU by volume. Overall, Florida utility performance is substantially lower than that of other regional utilities and less than a quarter of the national average.

Florida utilities’ low energy savings are correlated with low spending levels on EE programs. Figure 2 shows spending as a percentage of total revenue for the seven FEECA utilities in 2019. None of Florida’s electric IOUs invested more than 0.80% of their total

annual revenue into EE. By contrast, the average spending on EE in the Southeast region was 1.64% of revenue, whereas the national average was even higher at 2.58%.

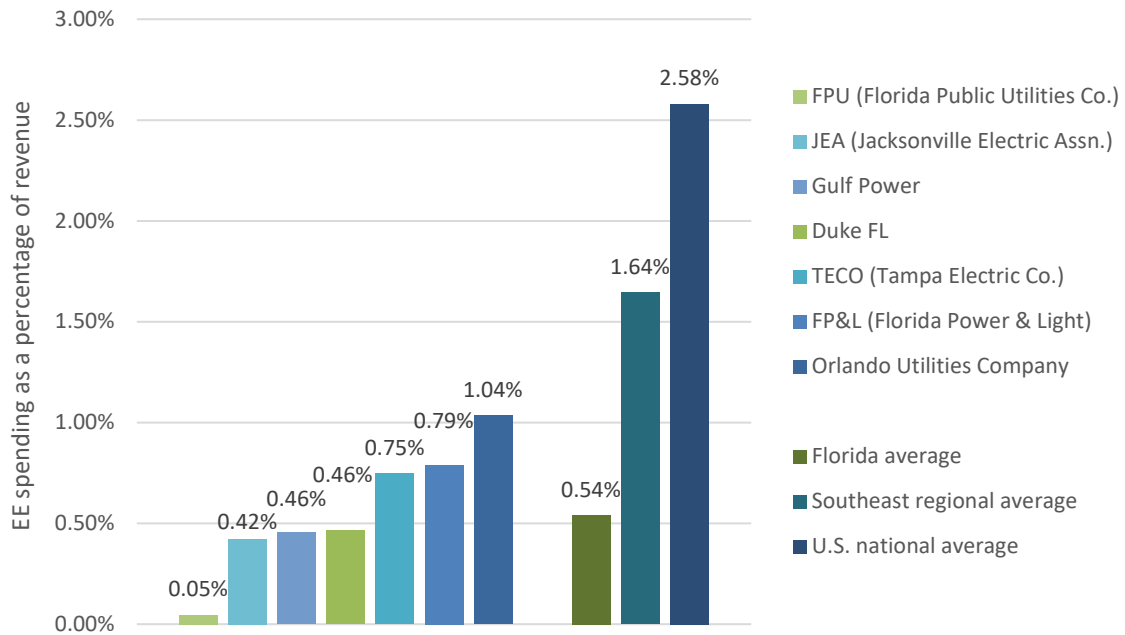


Figure 2. Energy efficiency spending as a percentage of revenue. Sources: FP&L, Duke FL, TECO, regional, and national average data are from the ACEEE *Utility Scorecard* (Relf et al. 2020); other utilities data are from EIA 2020.

After peaking at nearly 600,000 MWh saved in 2012, Florida’s annual savings from efficiency have declined. As figure 3 shows, current (2020–2029) utility goals are far below the 2012 peak level. For the next 10 years, FEECA utilities have proposed an annual target of 59,402 MWh in energy savings from electric efficiency programs, which is only 41% of achieved savings in 2017. Further, three FEECA utilities set electricity savings goals of zero during the last goal-setting cycle, based on the claim that no programs can pass an unduly restrictive cost-effectiveness test. That test – the ratepayer impact measure (RIM) – is not used as a primary test for program cost effectiveness in any state other than Florida. We discuss the RIM and the impacts of its application later in this paper. In any case, setting ambitious goals is an important first step toward achieving significant savings. Without increasing their targets, Florida utilities will likely continue to lag in this critical area.

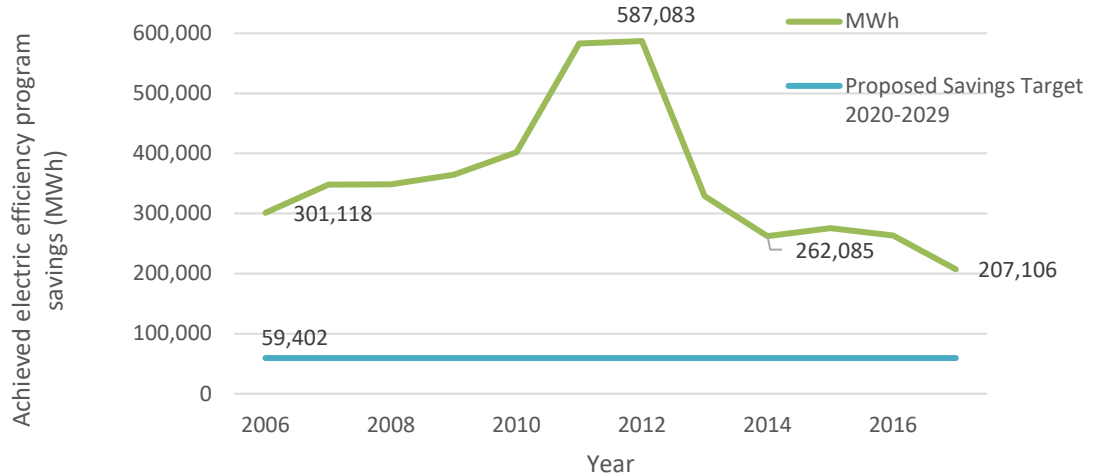


Figure 3. Total energy savings from utility EE in Florida for 2006–2017. *Source:* annual ACEEE *State Scorecard* series.

As figure 4 shows, Florida electric IOU program offerings reflect a lack of diversity in the types of customers and end uses served. Florida utilities offer fewer types of programs on average than other utilities in the region and the nation.² As a result, customers lack access to programs, services, and incentives to help them better manage their energy costs and realize other benefits that increased EE can provide, such as improved workplace productivity and health. This is especially important for economically disadvantaged households with high energy burdens, as well as for small businesses that are under stress due to COVID-19. Duke FL is the only electric IOU that offers any type of small business program. FP&L lacks many programs that are commonly offered by other utilities in the region, including incentives for multifamily housing efficiency, a sector that frequently overlaps with low-income and other marginalized groups. These sectors often struggle to adopt efficiency without external incentives, but they represent a significant opportunity for energy and cost savings. FP&L has not offered any new DSM programs in its portfolio since 2005 (FPL 2020).

² A list of program types and descriptions can be found in the 2020 *Utility Energy Efficiency Scorecard* under Category 2: Energy Efficiency Programs. See www.aceee.org/research-report/u2004.

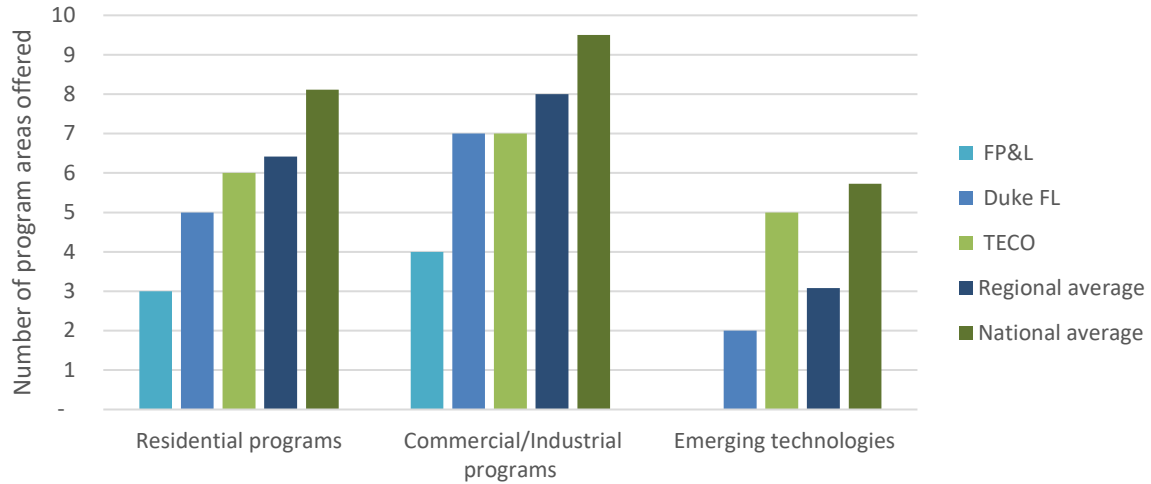


Figure 4. Energy efficiency programs offered by Florida utilities. *Source: ACEEE Utility Scorecard (Relf et al. 2020).*

REDUCING ENERGY BURDENS FOR FLORIDA'S MOST VULNERABLE POPULATIONS

Florida's utilities are required to offer specific income-qualified EE programs, but there is no mandated level of spending and savings.³ The Public Service Commission (PSC) directed the FEECA utilities to educate and assist low-income customers on EE opportunities.⁴ The need among low-income households is great. For example, 23% of homes in Miami and 21% of homes in Tampa are considered *energy burdened*—that is, they spend more than 6% of their income on energy costs. Of these households, 12% are *severely energy burdened*, spending more than 10% of their income on energy costs. Average burdens increase when combined with other disadvantaged demographics, including Black, Latino, and older (65+) adult households (Drehobl, Ross, and Ayala 2020).

³ Under Florida Statute, Section 366.82.

⁴ Order PSC-14-0696-FOF-EU, issued in 2014 and reaffirmed in November 2019 with Order No. PSC-2019-0509-FOF-EG.

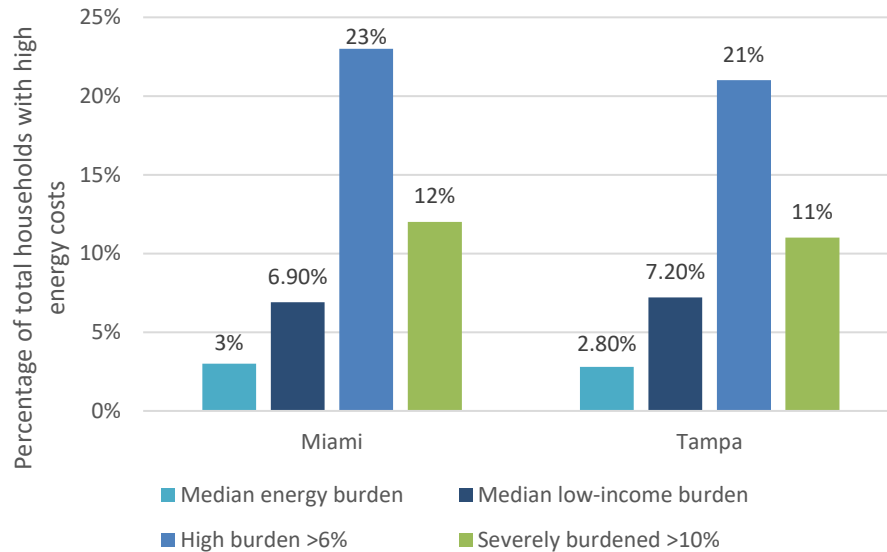


Figure 5. Energy burdens in Miami and Tampa, FL. *Source:* ACEEE (Drehobl, Ross, and Ayala 2020).

A variety of programs can effectively target and reduce household energy burdens. Low-income weatherization programs can reduce household energy use by 25% or more (Drehobl, Ross, and Ayala 2020). The National Renewable Energy Laboratory (NREL 2017) estimates that the average Florida single-family household can reduce its energy use by 23% through cost-effective efficiency improvements, particularly in HVAC, water heating, and lighting. Utilities are some of the best-situated entities to deliver these services to these households due to their existing relationship with customers and access to energy usage and bill data. Florida’s electric IOUs are currently not achieving this potential due to their underinvestment in EE and the resulting lack of available customer programs, services, and incentives.

To ensure that low-income customers are receiving the full benefits of EE programs, some states set a minimum threshold for utility spending on programs for low-income customers or require that the sector achieve a minimum level of energy savings. States that have taken these steps include New Jersey and Virginia, both of which have recently passed comprehensive EE reforms that include targets for utilities to reach more low-income customers with specialized programs (Berg et al 2020).

Regulatory Barriers to Customer Energy Efficiency Programs

Florida utilities’ low rankings and poor performance in comparison to other electric IOUs’ energy savings and program offerings are largely due to systemic barriers within the state’s regulatory environment. Stakeholders have identified three Florida regulatory practices that are out of standard practice for funding, developing, and implementing EE programs: (1) unambitious and ineffective goal-setting for energy savings, (2) use of the RIM test to evaluate cost effectiveness and screen customer programs, and (3) a minimum two-year payback requirement for customer incentives for EE measures. We now examine and discuss how Florida’s practices in these areas unduly restrict the funding and provision of utility EE programs for its residents and businesses.

SETTING GOALS FOR ENERGY EFFICIENCY SAVINGS

Establishing significant, measurable, and achievable goals for utilities is a critical regulatory tool for delivering widespread energy savings. Quantitative analysis by the Brattle Group and ACEEE demonstrates that such EE resource standards are the policy most closely correlated with higher energy savings (Sergici and Irwin 2019; Molina and Kushler 2015). In 2019, the Florida PSC rejected proposals of 0% savings targets from three electric IOUs for 2020–2029. Instead, the PSC opted to continue with goals that were established in the 2014 goal-setting proceeding, which are 13% of 2010–2019 targets (Florida PSC 2020). These low savings targets reflect EE’s undervaluation and the resulting underperformance of Florida’s programs compared to other states. Further, these goals have no savings targets or thresholds for low-income Florida residents. Without reform, Florida’s electric IOUs will likely continue to propose minimal spending and ignore program offerings and potential areas that can deliver long-term value and savings.

The importance of goal setting is illustrated by recent policies enacted in Virginia and Arkansas. Virginia passed comprehensive legislative and regulatory reforms in 2020 that set multiyear energy savings targets for utilities, with specific measures to support low-income customers (Berg et al. 2020). These reforms have made the state a new leader in the Southeast in terms of EE, DSM, and clean energy policy. In Arkansas, the Public Service Commission ordered higher EE goals (1.2% savings) than electric utilities had proposed (1.0%) in the review proceeding for three-year program plans based on the estimated EE potential (Arkansas PSC 2018).

COST-EFFECTIVENESS TESTING

As we noted earlier, Florida is the only state to still rely primarily on the RIM test, which measures cost effectiveness only through EE’s impact on consumer rates rather than accounting for its complete costs and benefits in relation to customer bills and the utility system.⁵ Other states have moved away from the RIM in recent years, recognizing that it does not appropriately value EE as a resource. Until recently, for example, Virginia was the only other state to rely on the RIM as its primary cost-effectiveness test. In 2018, the Virginia General Assembly adopted new rules that reduced its reliance on the test, requiring regulators to approve programs that passed other cost-effectiveness tests even if they did not pass the RIM test.

States have widely rejected the RIM test as a primary test for decision-making about the cost effectiveness of utility EE programs for several reasons.

First, the RIM test does not really measure the cost effectiveness of an EE program. Rather, it indicates the distribution of already-sunk utility system costs. That is, it treats lost sales revenue as a cost, yet those lost revenues address costs that have already been incurred

⁵ A more thorough understanding of how a given program affects consumer costs would need to include three factors: (1) a RIM test, (2) a bill impact analysis to measure the extent to which customer bills might be lowered if they install energy efficiency measures, and (3) a participation analysis to estimate the portion of customers that are receiving such benefits (Neme 2019). Relying on the RIM test alone will not result in the lowest costs to consumers.

elsewhere in the system, which typically reflect the utility's existing fixed costs. They are not actually a cost of delivering the EE program. For this reason, the RIM test does not reveal whether a program is cost effective in terms of reducing total future costs below what they would be absent the program.

Second, the RIM test can produce perverse outcomes. The more energy a program saves, the worse it will do on the RIM test, because the test treats the lost sales revenue as a cost. A simple exercise can demonstrate why the RIM test is an unacceptable device for measuring economic efficiency. Assume a utility with the following typical conditions:

- An average retail rate of 9 cents
- An avoided cost of additional supply of 6 cents
- An EE program that saves electricity at a cost of 2 cents per kWh

Under the RIM test, the benefits of 6 cents would be compared to the program costs of 2 cents plus the costs of the 9 cents of lost revenue; the program therefore would be judged to be cost ineffective, even though saving electricity in this case costs one-third of the cost of acquiring additional electricity. So, even if the EE program is free, it would fail the RIM.

Third, it is both inconsistent and unfair to apply the RIM test to EE programs when it is not applied to supply-side investments such as new power plants or new distribution system infrastructure. By definition, these supply-side investments would all fail the RIM test because they would result in some rate increase over current rates.

All other states with utility EE programs rely on other tests – such as total resource cost or program administrator/utility cost tests – to estimate cost effectiveness and screen potential programs. Dropping reliance on the RIM and using tests commonly employed by other states would increase the cost-effective EE potential in Florida. This, in turn, would enable Florida utilities to expand their portfolios and offer more programs and eligible measures to their customers.

In addition to applying industry-standard cost-effectiveness tests that align with best practices, it is also important that Florida account for the full set of benefits that result from EE programs. While the primary benefit of efficiency from the utility's standpoint is avoided energy (kWh) and capacity (kW) costs, EE programs offer additional benefits to program participants and society in general. These benefits range from improved productivity and comfort in homes and businesses to better indoor air quality, reduced air and water emissions due to avoided generation, improved home and property values due to increased efficiency, job creation, public health improvements, and economic growth. Accounting for some or all of these non-energy benefits of efficiency in cost-effectiveness tests will result in a more complete valuation for EE programs overall.

TWO-YEAR PAYBACK SCREEN

Florida utilities apply a two-year payback screen to eliminate efficiency measures that have a financial payback of two years or less, based on the assumption that customers will adopt such measures on their own. These customers are known as *free riders* – that is, customers who will adopt certain efficiency measures without receiving incentives or other program

services. This treatment of free ridership is unique; most other states instead use well-established analytical techniques, such as surveys and other types of market research (NESP 2020), to estimate free-ridership.

Florida's payback screen blocks low-cost, easily implemented EE measures and discourages low-income participation and investment in EE (because low-income households can often afford only such rapid payback measures). By assuming that consumers will inevitably and independently adopt all programs with less than a two-year payback, the Florida PSC fails to recognize the informational, economic, and motivational barriers that might be keeping consumers from embracing new EE technologies.

UTILITY BUSINESS MODEL

Florida's existing utility business model discourages utilities from investing in EE by treating all energy savings as lost utility revenue. This does not need to be the case, as there are statutory and regulatory tools that better align EE and utility business models. Three primary types of regulatory tools exist to enable utility investment in EE:

- **Program direct-cost recovery.** Utilities traditionally make a profit by investing in infrastructure and recovering those costs—plus a return on investment—through rates charged to their customers. This is the method Florida utilities currently use to earn a return on their efficiency spending. However, because EE reduces kWh sales, the returns on EE investments are lower than other types of utility investments.
- **Decoupling mechanisms.** By decoupling utility revenues from kWh sales, regulators can eliminate the lost revenue issue and remove the disincentive to invest in efficiency under the current business model. Although decoupling addresses a major barrier, utilities may need additional incentives or mandates to properly scale up EE investments.
- **Performance incentives.** By tying utility profits to desired outcomes, regulators can create an environment that encourages utilities to invest in programs that deliver energy savings and other results. A performance incentive can make up for lost revenue, even without decoupling revenues from sales, by increasing the utility's rate of return on programs that achieve certain targets for energy savings or other types of goals.

Florida utilities are allowed to request decoupling or a lost revenue adjustment.⁶ However, they have yet to do so, and Florida regulators have not developed mechanisms for utilities to earn a financial incentive for investing in EE. A first step to improving the utility business model would be to develop a performance incentive for EE programs. Such incentives are most effective when awarded according to achievement of specific program goals, typically for total energy savings, but they may also be aligned with other outcome-related targets such as low-income energy savings or job creation. Other states in the region, such as North Carolina, have adopted outcome-based performance incentive mechanisms. The state's two largest utilities, Duke Energy Progress and Duke Energy Carolinas, have more well-rounded EE program portfolios than Duke Energy Florida, and they are achieving close to

⁶ Under Florida Statute § 366.82.8 and 366.82.9

1% annual energy savings as a percentage of sales as of 2019 (Gold et al. 2020). This savings level is possible in Florida as well, so long as the utilities are working within a structure that better aligns utility profits with socially and economically desirable results.

Recommendations

Effective utility EE programs rely on a standard set of policies. By adopting more representative cost-effectiveness testing protocols, eliminating the unnecessary two-year payback screen, and focusing on delivering a broader variety of programs—including targeted programs for low-income customers—Florida’s regulators can enable greater energy savings for the state’s households, businesses, and industries. Expanded EE programs would not only directly benefit customers by reducing their energy costs, they would benefit Florida’s economy and environment as well. Utilities can also partner with leaders from cities and local governments to deliver targeted EE solutions as a means to reduce costs and achieve clean energy objectives. State agencies can coordinate and support such efforts.

To realize a much greater share of Florida’s EE potential, state regulators should change the rulemaking process to realign policies and practices. The following changes to rulemaking and program development would break down existing regulatory barriers and create new opportunities for realizing EE’s many benefits:

- Set strong energy savings targets for utilities.
- Include specific requirements for delivery of comprehensive programs to low-income and other underserved customer categories, such as small businesses.
- End reliance on the RIM as the primary screen for EE cost effectiveness. For this FEECA cycle, we recommend that the Florida PSC evaluate proposed programs using the utility cost test results presented by utility proposals.
- Eliminate the two-year payback screen to increase the programs and EE measures available to customers. Doing so will expand opportunities for customers to benefit from EE.

Enacting changes to Florida’s screening of EE measures and programs to align with common practices is a much-needed fundamental reform. To achieve its EE potential, Florida needs a full and fair accounting of the benefits and costs of implementing programs. Our recommendations above are for near-term changes that can be enacted during the present FEECA rulemaking proceeding. For future cycles, we recommend that the Florida PSC facilitate a robust stakeholder process to improve cost-effectiveness testing methodologies and inputs to utility potential studies. We suggest that such a proceeding follow the principles and practices in *The National Standard Practice Manual for Distributed Energy Resources* (NESP 2020). This industry guidebook provides a set of economically sound, politically neutral procedures and concepts for evaluating the cost effectiveness of EE and other distributed energy programs and technologies. Different tests measure different priorities, and Florida regulators, utilities, and stakeholders should evaluate which testing method will align with the desired outcomes and industry best practices.

The historically poor performance of Florida’s electric IOUs in the area of EE programs has deprived customers of opportunities to reduce their energy costs and realize other benefits that result from such improvements. EE programs also reduce overall utility system costs, support job growth and economic development, and reduce carbon emissions. Compared to other regional and national utilities, Florida’s utilities stand out for this poor performance. Effectively addressing restrictive regulatory practices would eliminate fundamental barriers to investing in and providing cost-effective EE programs for Florida’s electric utility customers.

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