ENERGY EFFICIENCY IN THE SOUTHEAST

FOURTH ANNUAL REPORT

FOREST BRADLEY-WRIGHT,
HEATHER POHNAN, &
MAGGIE SHOBER

February 2022

Southern Alliance for Clean Energy
P.O. Box 1842 | Knoxville, TN 37901 | 865.637.6055

cleanenergy.org
Southern Alliance for Clean Energy

INTRODUCTION

Energy efficiency is a proven low-cost clean energy resource, but Southeastern utilities and regulators continue to underinvest and deprioritize it. As a result, households in many Southeastern states have some of the highest electricity usage and monthly energy bills in the nation.

In 2020, COVID-19 fundamentally disrupted the Southeast's energy efficiency programs and intensified energy insecurity for millions of already-vulnerable households. This report shows the magnitude of impact from the pandemic on utility efficiency performance in 2020.

This report also explores efficiency as a tool to reduce carbon emissions, a leading cause of the climate crisis. Despite commitments from local governments, utilities, and other corporate interests, to date there have been very few examples of utilities in the Southeast actually including carbon reduction strategies in resource plans or proposals to local regulators – a trend we will continue to monitor and engage with through intervention and advocacy.

The purpose of our "Energy Efficiency in the Southeast" annual report is to document recent policy developments and trends in electric utility efficiency data from 2020.

In this report utility energy efficiency programs are scored primarily on the basis of energy saved in 2020 as a percentage of the utility's total electricity sales. Additional policy context is then added along with comparisons to state, regional, and national averages that highlight recent trends. The appendices include data for each of the utilities that fall within the scope of this report.

ABOUT SACE

The Southern Alliance for Clean Energy (SACE) is a nonprofit organization that promotes responsible and equitable energy choices to ensure clean, safe, and healthy communities throughout the Southeast. As a leading voice for energy policy in our region, SACE is focused on transforming the way we produce and consume energy in the Southeast.

Proper citation for this report: Southern Alliance for Clean Energy (2022). *Energy Efficiency in the Southeast, Annual Report published February 2022.*

TABLE OF CONTENTS

EXECUTIVE SUMMARY

UTILITIES

Despite a decline in savings, **Duke Energy** continues to have the highest efficiency performance in the region. By contrast, savings at **Southern Company** subsidiaries were cut nearly a third from the previous year.

Two of the largest utilities the **Tennessee Valley Authority (TVA)** and **Florida Power & Light (FPL)** continued to underdeliver, significantly driving down the regional average.

STATES

North and South Carolina account for a remarkable 64% of total efficiency savings in the Southeast, despite making up only 24% of the region's retail sales.

Over a span of just two years, savings performance as a percentage of retail sales for the Southeast region as a whole fell by a fifth.

THE PANDEMIC EFFECT

Several recent policy developments would have led to higher efficiency savings in 2020 were it not for the COVID-19 pandemic. Instead, nearly every utility system in the Southeast saw significant efficiency declines. Average efficiency savings for the region as a whole dropped by a fifth from the previous year, and now stands at less than a quarter of the national average. All utilities struggled to adapt, but utilities that implemented new safety protocols and redesigned program delivery strategies performed better.

RISING TO THE CHALLENGE OF DECARBONIZATION

Every major utility system in the Southeast has made some type of announcement to reduce carbon emissions, but so far utility long range resource plans don't live up to the promise. Energy efficiency reduces emissions and helps utilities integrate intermittent renewable energy sources. With the urgent need to stabilize our climate, reducing energy consumption is our least cost and most abundant solution, and key to ensuring equity in a clean energy future.

SERVING THE NEEDS OF VULNERABLE CUSTOMERS

Efficiency program services for low income customers were hit especially hard by the pandemic, with savings falling by 75-84% for Duke customers in the Carolinas. Others, like Georgia Power, propped up savings with a rapid rollout of do-it-yourself efficiency kits late in the year. Having otherwise eliminated all of its efficiency incentive programs, TVA's low income program is all that remains, but it only serves a tiny fraction of the need.

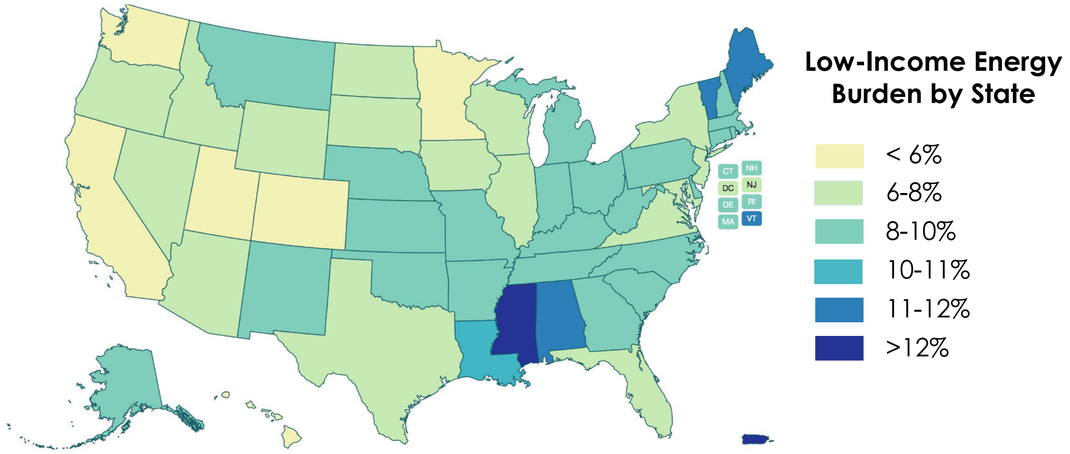
POLICY SHIFTS

Landmark decisions by the South Carolina Public Service Commission raised expectations for transparency and energy efficiency analysis in integrated resource planning, while North Carolina is now requiring carbon planning for utilities. Florida remains a key state to watch as it continues to rewrite its energy efficiency goal setting rules for the first time in 30 years.

IN THE RACE TO DECARBONIZE, PRIORITIZE EFFICIENCY FOR THE SOUTHEAST

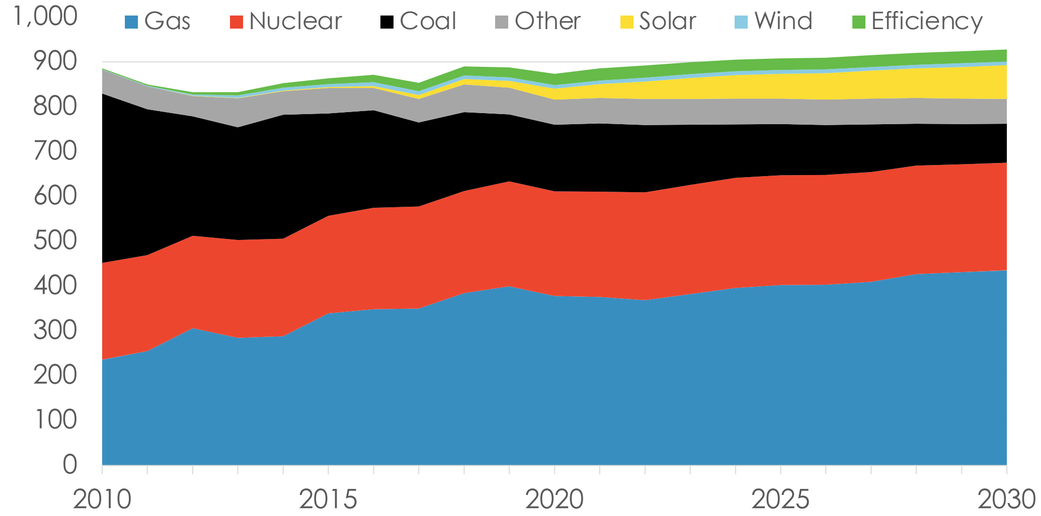
SOUTHEAST OVERRELIANT ON FOSSIL FUEL, UNDERUTILIZES ENERGY EFFICIENCY

Despite the fact that many of the region's utilities have had decarbonization goals for several years now, nearly every Southeastern utility continues to underutilize energy efficiency. Efficiency also has many advantages over supply side resources. It is abundantly available and not subject to massive cost overruns or construction delays that are relatively common with traditional power plants. When attempting to prepare for changes in future customer electricity demand, deployment of efficiency resources is also easier to scale up or down, thereby avoiding the risk of building power plants for load growth that might never materialize.



Source: U.S. Department of Energy Low-Income Affordability Dataset (LEAD) tool

SOUTHEAST GENERATION BY FUEL TYPE, 2010-2030



Generation under current utility resource plans, from "Tracking Decarbonization in the Southeast"

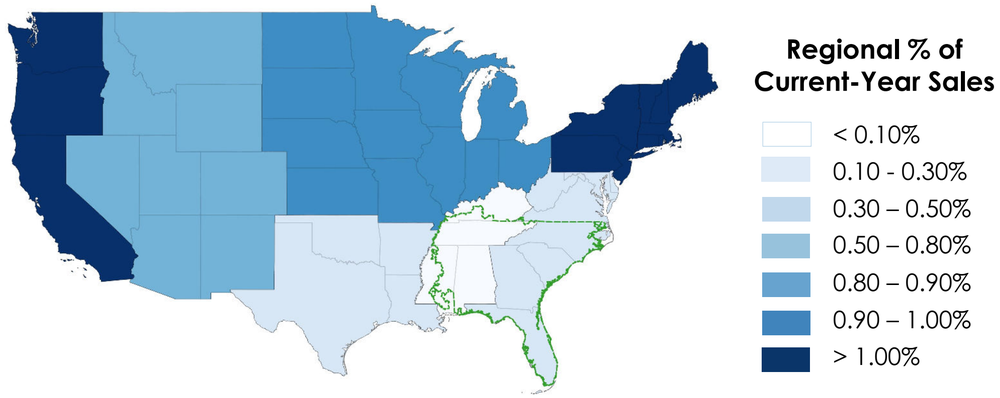
ENERGY EFFICIENCY IS A FIT FOR ENERGY JUSTICE

The Southeast is home to many frontline communities struggling with chronic underinvestment, high energy burdens, and worsening impacts from the climate crisis. By making homes safer, more comfortable, and less costly to keep livable, energy efficiency is proof of concept that the benefits of decarbonization can align with numerous social needs. It can also help avoid the potential for new disparities by offsetting the cost of increased electricity associated with the shift to electrification. With proper care and direction, energy efficiency can be part of an emerging vision for energy justice in the Southeast.

EFFICIENCY PERFORMANCE AND EMISSIONS IMPACT ACROSS REGIONS

PERFORMANCE OF U.S. REGIONS

REGION	% OF SALES
WEST-PACIFIC	1.39%
NORTHEAST	1.27%
MIDWEST	0.92%
WEST-MOUNTAIN	0.89%
U.S. AVERAGE	**0.72%**
SOUTH	0.28%
SOUTHEAST*	**0.20%**



**Area outlined in green is "Southeast" region covered in report.*

REGION-TO-REGION COMPARISON

Efficiency performance in the South and Southeast have consistently lagged far behind other parts of the country, often falling dead last in regional rankings. Between 2019 and 2020, efficiency savings as a percentage of retail sales in the Southeast slipped down to 0.20%. Meanwhile, the national average was three times higher, and utilities in New England delivered savings that were nearly nine times higher.

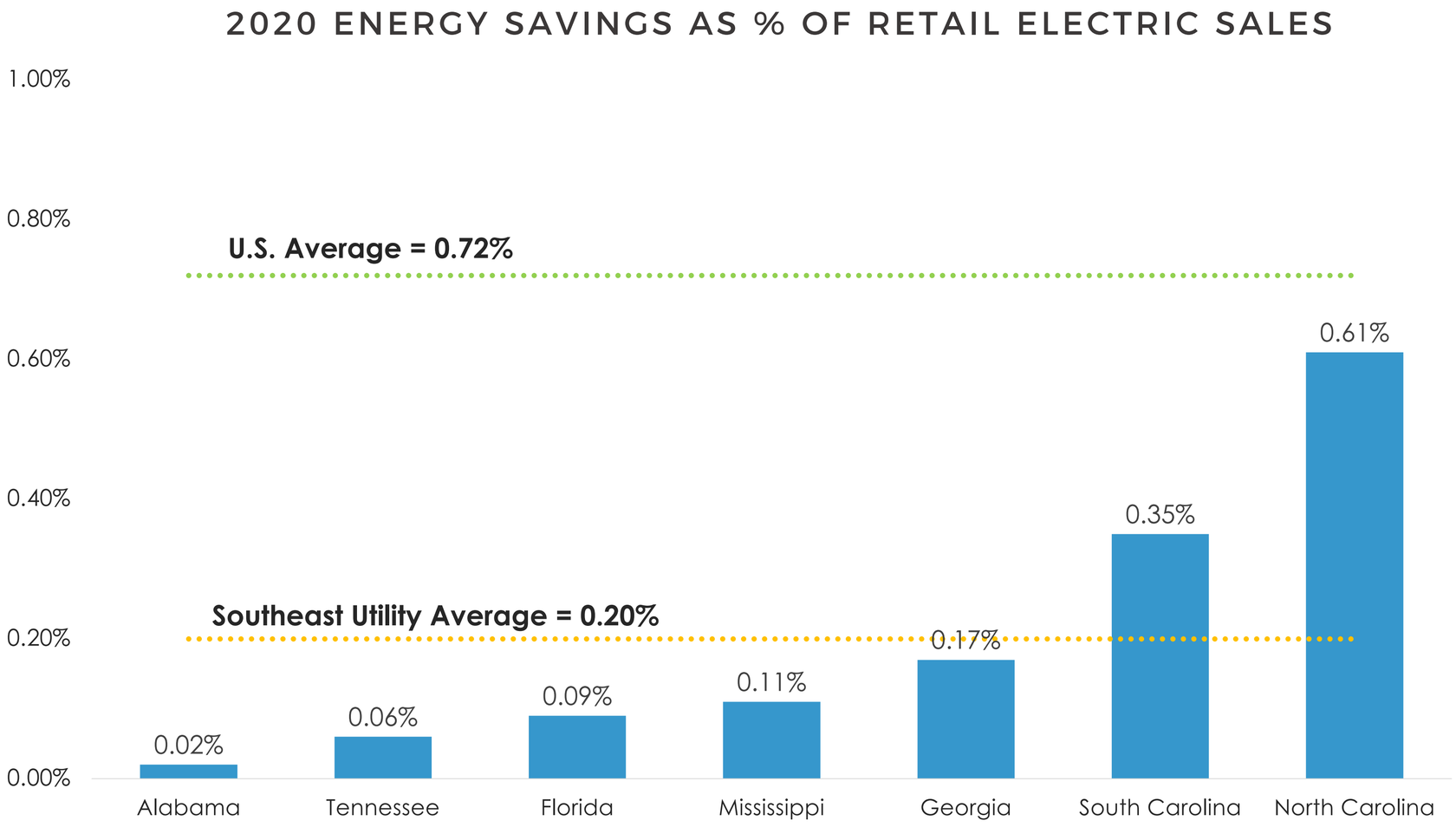
EFFICIENCY REDUCES FOSSIL FUEL EMISSIONS

In 2020, efficiency eliminated an estimated 26,666 gigawatt hours (GWh) of energy waste across the nation. In the Southeast, the 1,597 GWh of efficiency savings was enough to meet the electric power needs of over 120,000 homes', while reducing 600,000 tons of carbon emissions.

EFFICIENCY KEY TO CARBON REDUCTION TARGETS

In recent years, the push to reduce carbon emissions from fossil fuels has gained ever greater urgency. In response, some states and most major investor owned utilities have issued carbon reduction commitments. Energy efficiency is a crucial tool for attaining climate reduction goals, and pays for itself through energy system savings. But to date, utilities in the Southeast have failed to harness efficiency potential for this purpose.

EFFICIENCY PERFORMANCE OF SOUTHEASTERN STATES



STATE RANKINGS IN THE SOUTHEAST

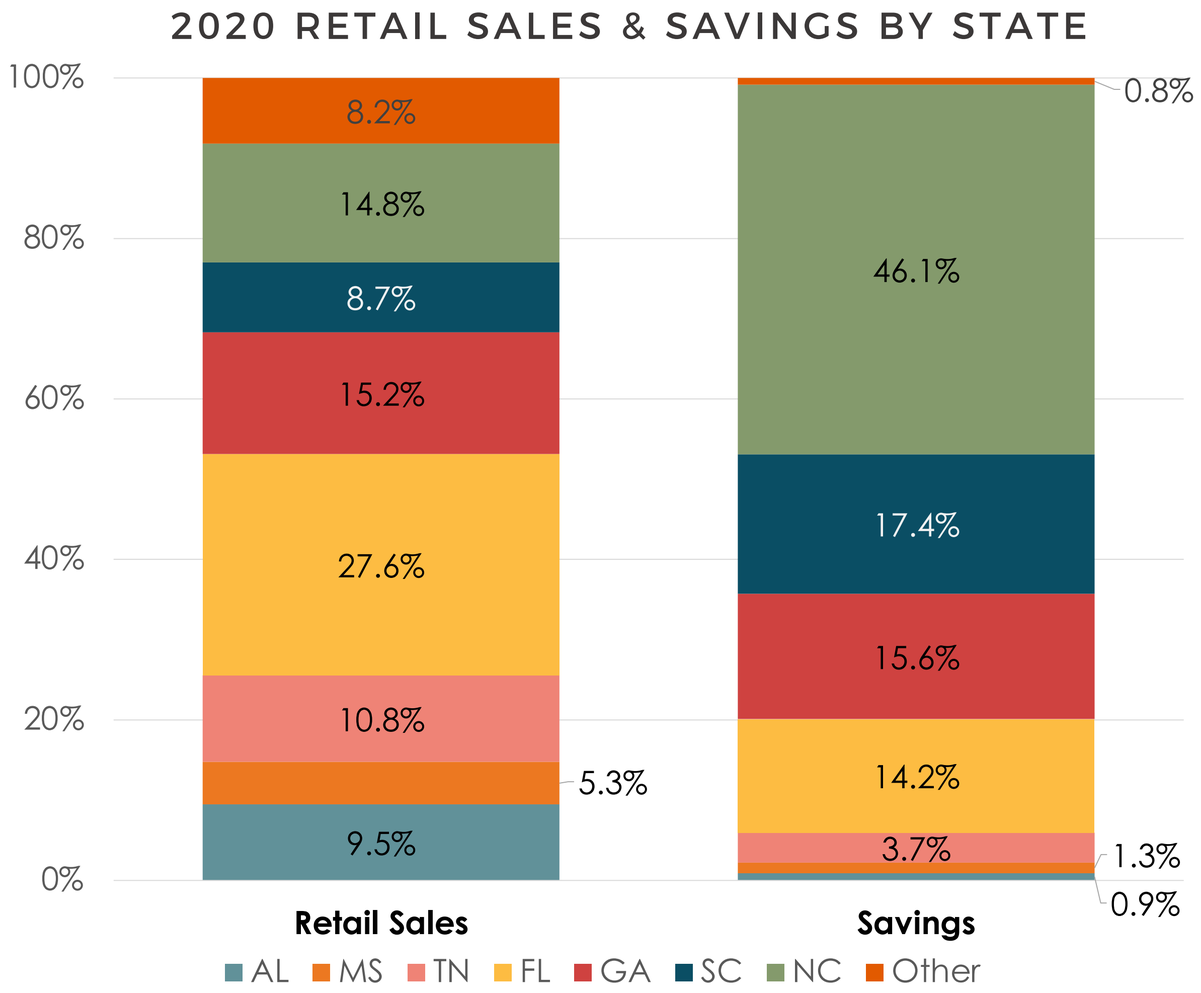
To provide an equitable, unbiased comparison of efficiency performance for various-sized utilities throughout the Southeast, SACE uses a standard metric that compares the percentage of annual efficiency savings to total retail electricity consumption.

In 2020, states in the Southeast saw steep savings declines, with the regional average for efficiency savings falling from 0.25% of retails sales in 2019 down to 0.20%.

North Carolina has been close to the national average in previous years, but in 2020 its relative savings fell further behind.

In 2020, only North and South Carolina exceeded the regional average, while all other states dragged it down.

SOUTHEASTERN STATES EFFICIENCY SAVINGS BREAKDOWN



OVER-ACHIEVERS AND UNDER-PERFORMERS

The differences between states with savings that are substantially higher or lower than their respective percentage of retail sales are primarily driven by:

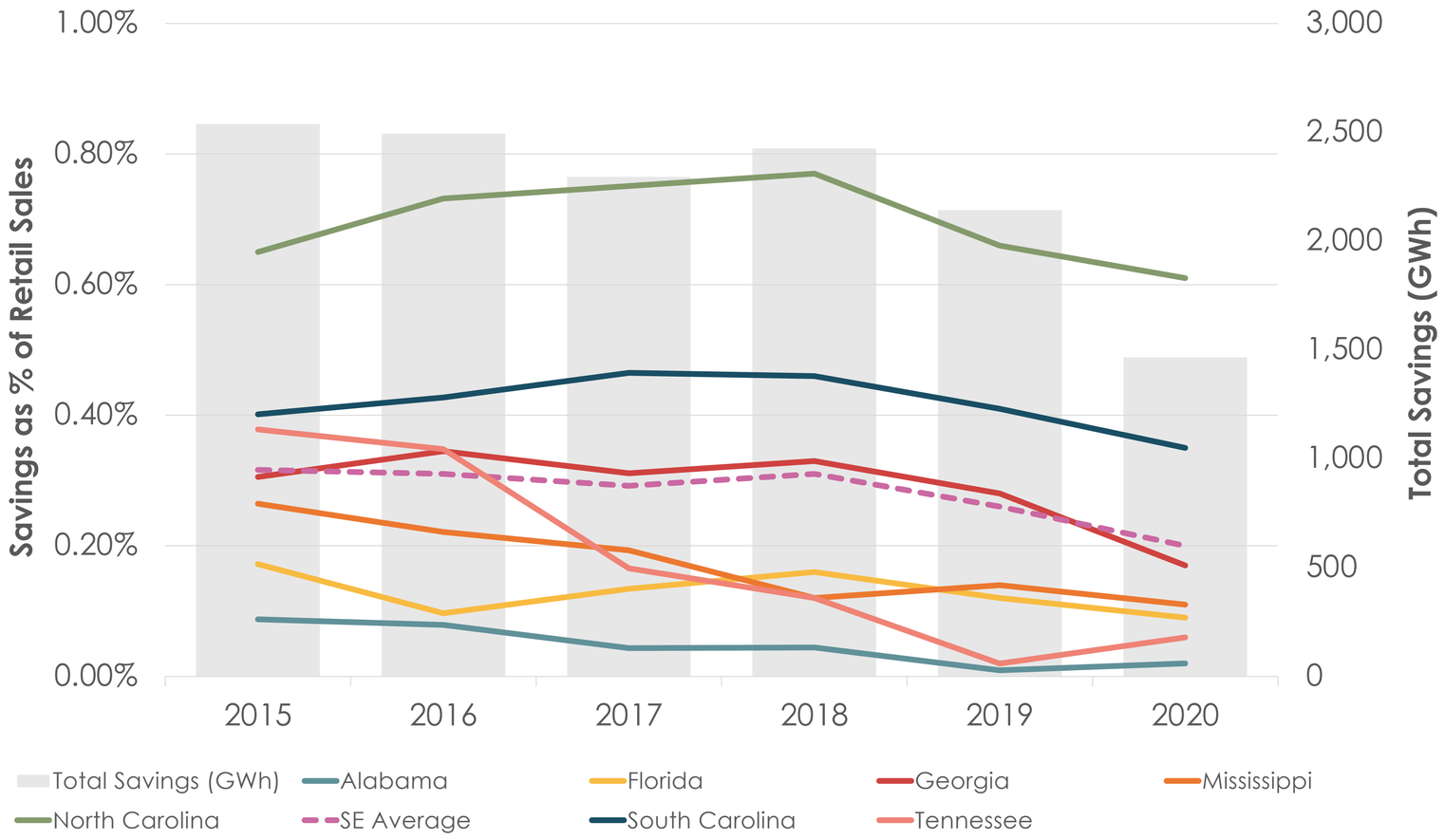
- State energy efficiency policies
- Ratio of regulated vs. unregulated utilities
- Different levels of utility commitment to efficiency

The only states whose relative savings outperform their portion of the region's retail sales are North Carolina and South Carolina.

Alabama, Tennessee, Kentucky, and Mississippi drastically underperformed relative to other states in the region, while Florida delivered barely half as much efficiency savings compared to its share of retail electric sales.

SOUTHEASTERN STATES EFFICIENCY SAVINGS BREAKDOWN

SAVINGS AS A % OF RETAIL SALES VS. TOTAL REGIONAL SAVINGS



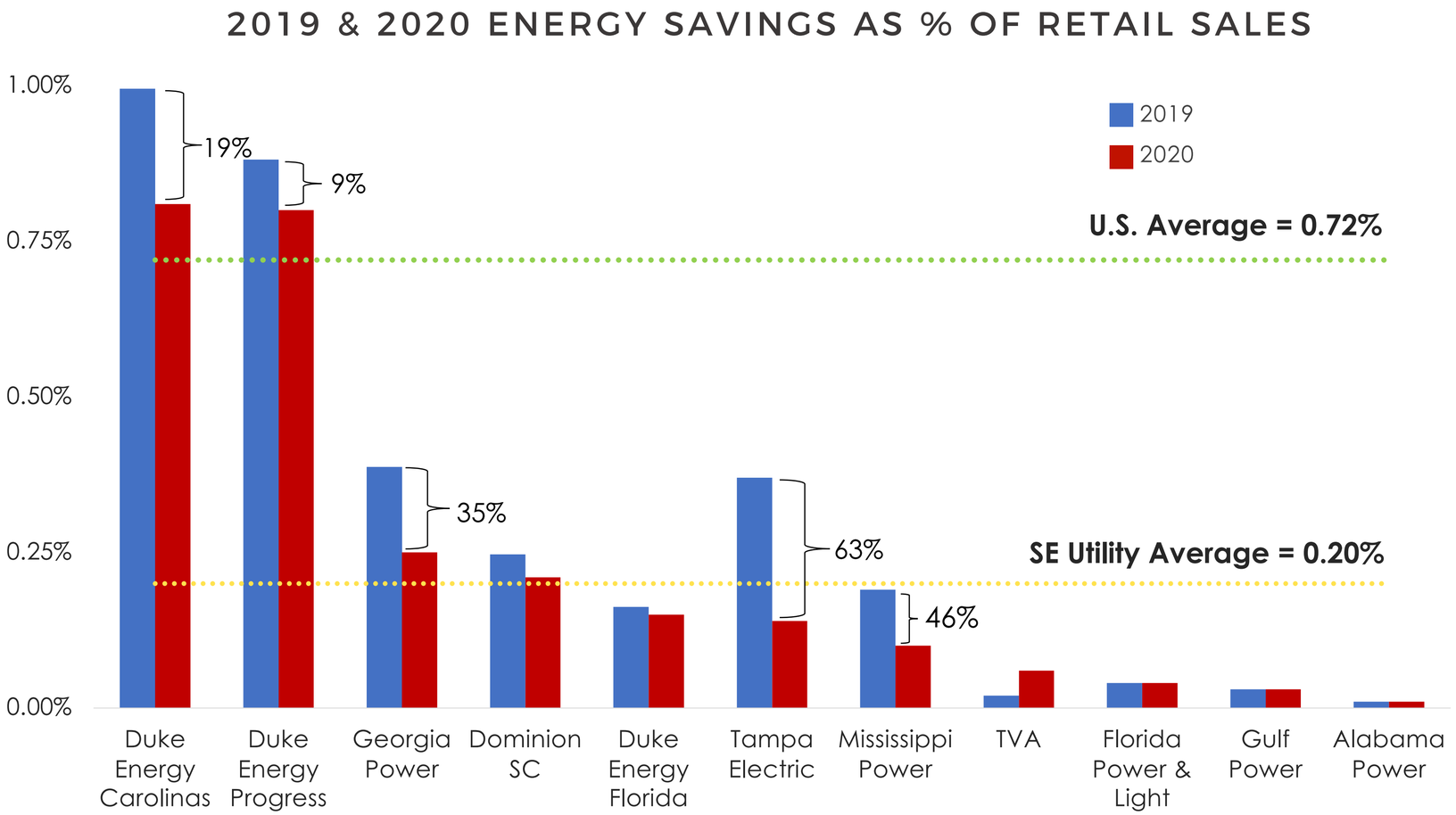
STATES OF DECLINE

North and South Carolina account for nearly all above-average efficiency performance in the Southeast over the past six years, while Georgia has hovered right around the regional average.

Alabama has always been the region's worst performer, while the Southeast's largest state, Florida, has consistently fallen far below the regional average. Mississippi has also always been below the regional average and generally trended downwards over the past five years, butt Tennessee's savings plummet even further than Mississippi from just above the regional average down nearly as low as Alabama.

Over a span of just two years, overall savings in the Southeast region fell an astonishing 40% from 2018 to 2020. Some of this decline can be attributed to the pandemic, but not all. Much of the decline from 2018 to 2019 was driven by reductions in both the most productive state, North Carolina, and one of the least productive, Tennessee.

EFFICIENCY PERFORMANCE OF MAJOR SOUTHEASTERN UTILITIES



FROM THE TOP TO THE BOTTOM

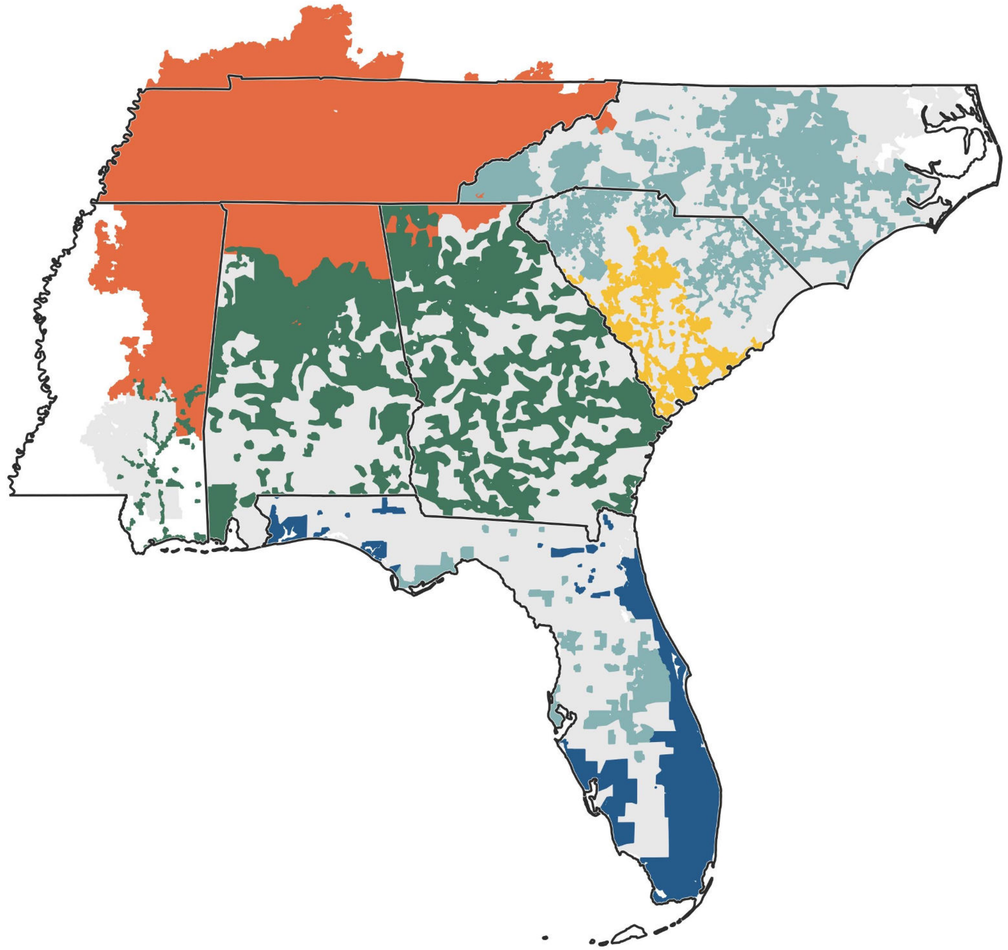
The COVID-19 pandemic had a significant negative effect on utility efficiency performance in 2020. Safety fears led utilities to suspend in home services and economic uncertainty reduced business participation in efficiency programs.

While Duke's utilities in the Carolinas saw declines, they were able to adjust to circumstances better than Tampa Electric, Georgia Power, and Mississippi Power who saw precipitous savings drops.

The pandemic had less effect on Florida Power & Light and the Tennessee Valley Authority, whose savings were incredibly low to begin with. Because these are such large utilities, their lack of efficiency savings continued to drag the entire Southeast average sharply downward.

UTILITY COMPANY PROFILES

- DUKE ENERGY
- DOMINION ENERGY
- SOUTHERN COMPANY
- TENNESSEE VALLEY AUTHORITY
- NEXTERA

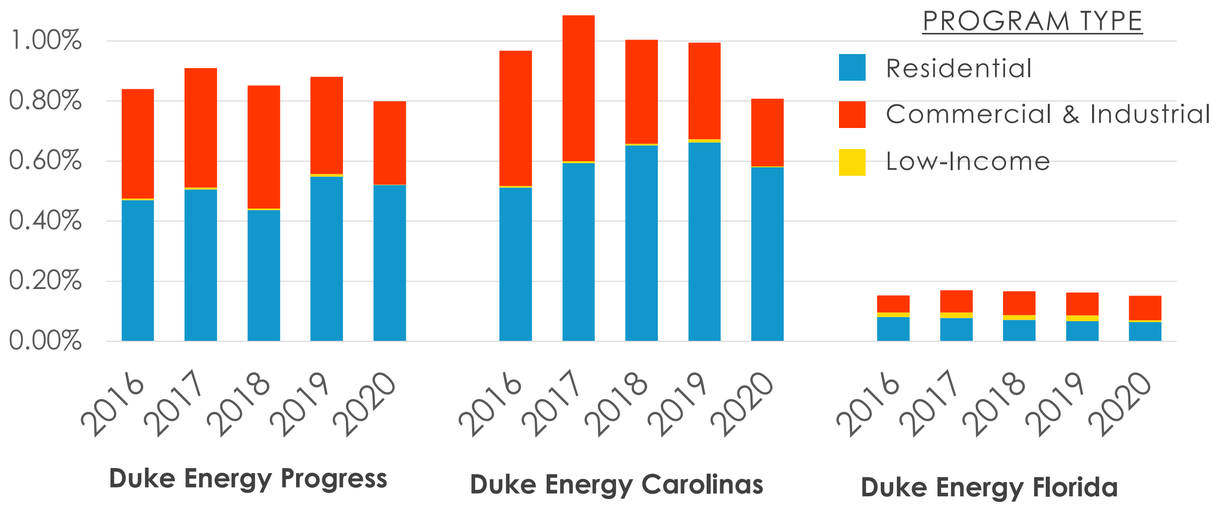


0.64%
System Avg.

DUKE ENERGY

REGIONAL LEADERSHIP IN NATIONAL CONTEXT

ENERGY SAVINGS AS % OF RETAIL ELECTRIC SALES



WHAT IS EFFICIENCY LEADERSHIP?

Duke's two utilities in the Carolinas have led the Southeast in efficiency savings for years, but how do they stack up nationally? They have been consistently near the national average, which includes municipal and co-op utilities that do little or no energy efficiency. With the Southeast region's history of sub-par performance, we've become accustomed to thinking average performance is leadership. But with at least half of all major utilities achieving higher savings, true leadership means reaching much further.

DUKE STILL LEADS, BUT COVID DROVE SAVINGS DOWN

The region's top performing utility, Duke Energy Carolinas, saw a 19% savings drop from 2019 to 2020, which put it nearly even with Duke Energy Progress. These two utilities, which are among the largest in the region, achieved annual savings percentages that were more than twice as high as the next utility. To put this in perspective, the already dismal Southeast average would fall from 0.20% down to 0.14% if these two utilities were removed from the calculation.

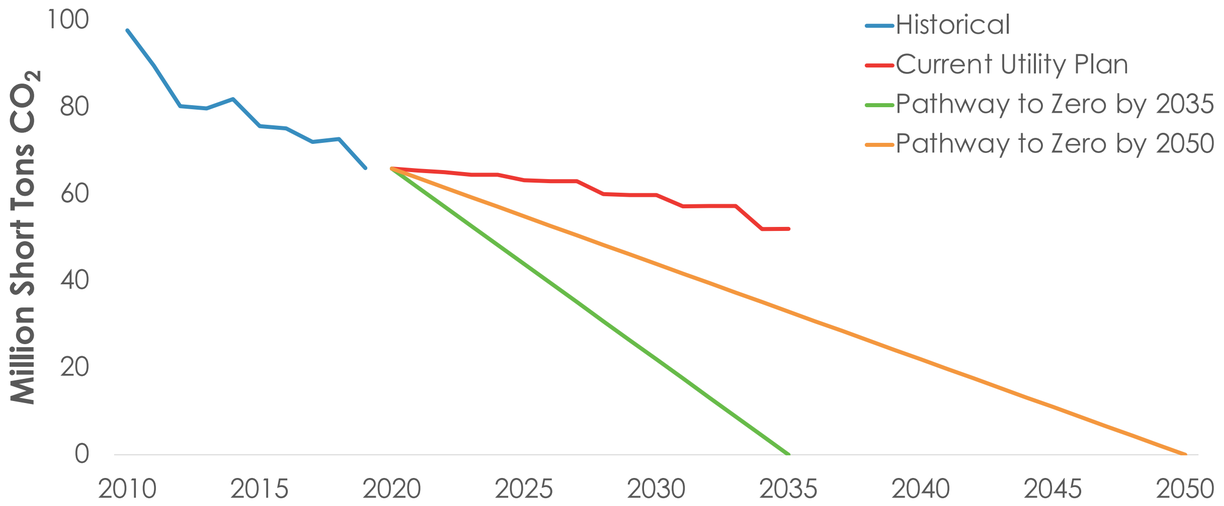
LOW-INCOME HOUSEHOLDS HIT HARD

Programs that serve low-income customers in each of Duke's service areas in the Southeast saw steep savings declines in 2020, ranging from 60-85% lower than the previous year. While Duke was able to resume many of its in-home programs, its low-income programs remained suspended through 2020. These programs rely on door-to-door solicitation across whole neighborhoods, which was incompatible with the safety protocols used in other programs. Widespread economic hardship put serious financial pressure on struggling households, leading to unprecedented levels of unpaid bills in 2020. This experience points to a need for Duke to make further strides to expand efficiency services for low-income customers, both before and during future economic crises.

DUKE ENERGY

NEW DECARBONIZATION PLANNING REQUIREMENTS

DUKE ENERGY PLANS VS. PATHWAYS TO ZERO



INTEGRATED RESOURCE PLANNING

In 2020, Duke's two utilities in the Carolinas filed integrated resource plans with scenarios focusing on decarbonization, coal retirements, and avoiding building new gas plants. However, energy efficiency was limited to just two prescribed levels that were hardwired into each of the modeling scenarios. This meant no analysis was conducted to determine optimal levels for each scenario. Analysis conducted by Synapse Energy Economics showed efficiency has a far more significant role to play in replacing coal plants without building new fossil gas generation.

CARBON GOALS NOW DRIVING POLICY

Utilities across the country, including Duke, have committed to eliminating their carbon emissions in response to the threat of climate change. In 2019, Duke publicly committed to achieving net zero carbon by 2050. The previous year, North Carolina Governor Roy Cooper established a statewide carbon reduction target. Now, passage of HB 951 in 2021 requires the Commission to develop a plan for reducing carbon emissions from North Carolina's electricity generation by 70% below 2005 levels by 2030, and becoming carbon neutral by 2050.

EFFICIENCY EASES THE PATH TO CARBON REDUCTIONS

Energy efficiency and demand response not only reduce emissions, they also help to keep the transition to clean energy affordable and improve grid reliability. Duke's current energy efficiency portfolio already delivers hundreds of millions of dollars in annual customer savings. And strategic deployment of energy efficiency and demand response gives utilities greater flexibility for maintaining grid reliability and meeting peak demands as they increasingly rely on renewable energy generation. Duke must submit its proposed carbon reduction plan to the North Carolina Utilities Commission in May of 2022. To reduce customer bills while reducing carbon, it should maximize its investment in cost-effective energy efficiency.

0.21%
System Avg.

DOMINION SOUTH CAROLINA

NEXT STEPS TO BE DRIVEN BY HIGHER EFFICIENCY POTENTIAL

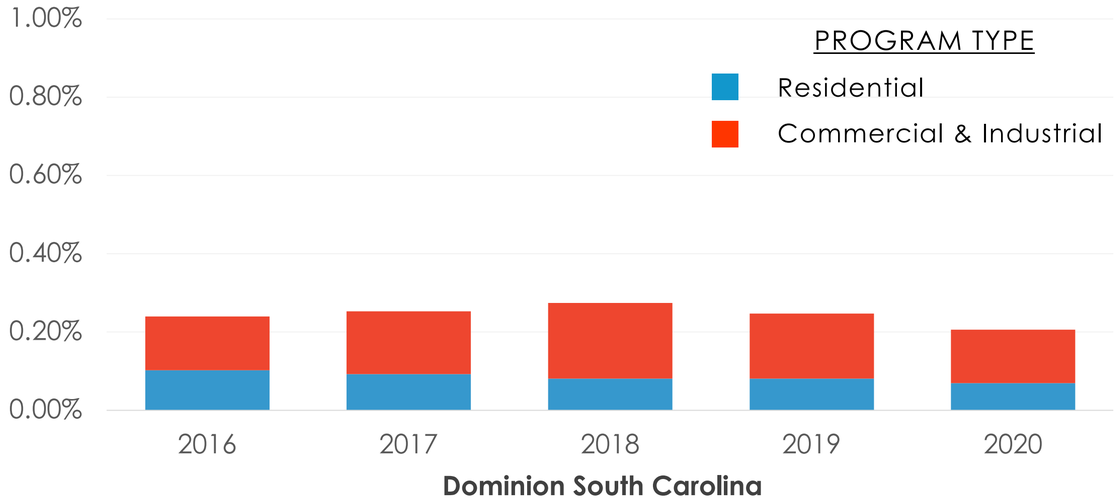
NEW RESOURCE PLANNING REQUIREMENTS

In late 2020, the South Carolina Public Service Commission rejected Dominion's integrated resource plan on the basis that it was not the "most reasonable and prudent means of meeting the electrical utility's energy and capacity needs." This was in part because it failed to evaluate higher levels of energy efficiency as required in the legislature's landmark 2019 Energy Freedom Act. In its next full IRP in 2023, Dominion must now include analysis of energy efficiency up to 2% of annual sales – more than six times higher than it has delivered in previous years. Dominion is further expected to "include potential incentive options and best practices to achieve the modeled level of DSM" (referring to demand-side management).

DOMINION'S CARBON REDUTION GOALS

Like most of its peers, Dominion Energy has committed to cutting carbon emissions. While the amended IRP shows that Dominion plans to increase its rate of decarbonization from previous levels, it still has a long way to go to achieve net zero. Increasing energy efficiency, as recently directed by the Commission, will make the decarbonization target easier to achieve for the utility, and more affordable for customers.

ENERGY SAVINGS AS % OF RETAIL ELECTRIC SALES



COVID UNDERMINES PLANS FOR MORE SAVINGS

Prior to the onset of Covid-19, Dominion had planned to nearly double its energy efficiency savings in 2020. To do so, the company substantially increased its annual efficiency budgets and expanded its portfolio of programs. But as the pandemic continued to grind on, it became clear that Dominion would not reach its goal, instead achieving 56% of forecasted savings. With the pandemic lingering, Dominion once again discontinued in-home programs and foresees a significant decline in future savings for commercial customers.

0.15%
System Avg.

SOUTHERN COMPANY

HIGHLY INCONSISTENT EFFICIENCY AND RESOURCE PLANNING

SOUTHERN'S GOOD, BAD, AND UGLY IRPS

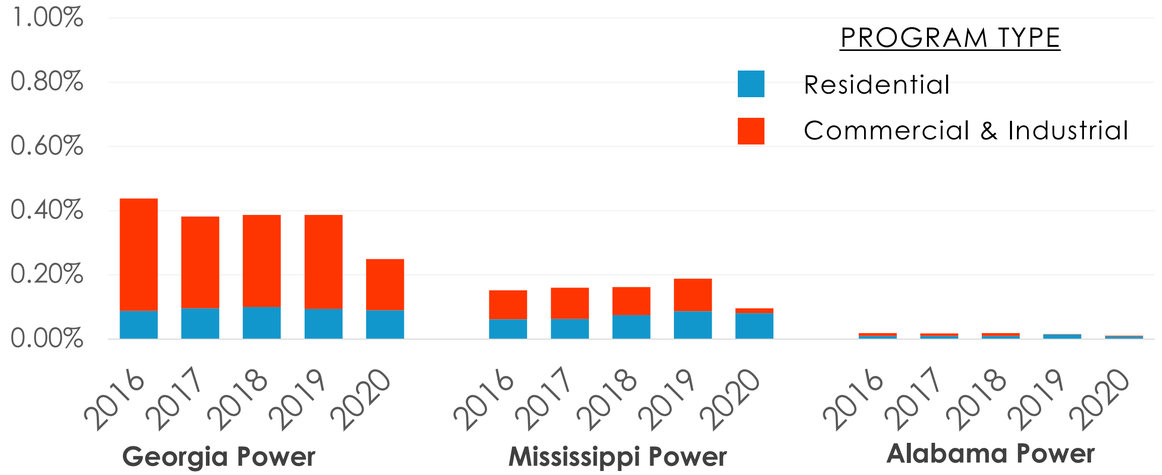
Customer energy needs, technology, and best practices for utility system operations are constantly evolving, but how utilities plan for the future varies by company and jurisdiction. Nowhere is that more apparent than with Southern Company's utility subsidiaries.

- Relatively robust integrated resource planning rules ensure that Georgia Power engages in an energy efficiency stakeholder process, completes a technically rigorous potential analysis, and projects ten year's worth of efficiency savings.
- Despite new IRP rules, Mississippi Power included only a single year's worth of energy efficiency programs with essentially the same projected savings as previous years. There was no potential study, no projections, and no analysis to determine what energy efficiency levels result in the least cost plan.
- Alabama Power does the least of the three, excluding energy efficiency from its resource plans, and undergoing no public or regulatory review for its plans.

ON CARBON, A GOAL WITHOUT A PLAN

Southern Company has committed to achieving net zero carbon emissions by 2050, but you wouldn't know it from the the resource plans filed with regulators. The company has even stated that efficiency will play a big role cutting carbon. But none of the IRPs filed by its subsidiaries actually aim to reach the emissions target.

ENERGY SAVINGS AS % OF RETAIL ELECTRIC SALES



COVID AND INFLEXIBILITY UNDERMINE SAVINGS

Despite a requirement from the Public Service Commission to increase efficiency savings by 15%, Georgia Power nearly halved its savings in 2020. Southern Company utilities suspended in-home and in-business efficiency services for most of the year due to the pandemic. Low-income efficiency programs were particularly hard hit, with Georgia Power making up a portion of the savings through do-it-yourself (DIY) kits later in the year. Concerned with regulatory provisions related to energy efficiency cost recovery, the company stated it won't make up for lost savings in future years. Instead, Georgia Power is unlikely to meet its 2021 target either, as the pandemic continues to drag on.

0.06%
System Avg.

TENNESSEE VALLEY AUTHORITY

PENNIES ON THE DOLLAR, DESPITE NEED AND SOARING USAGE

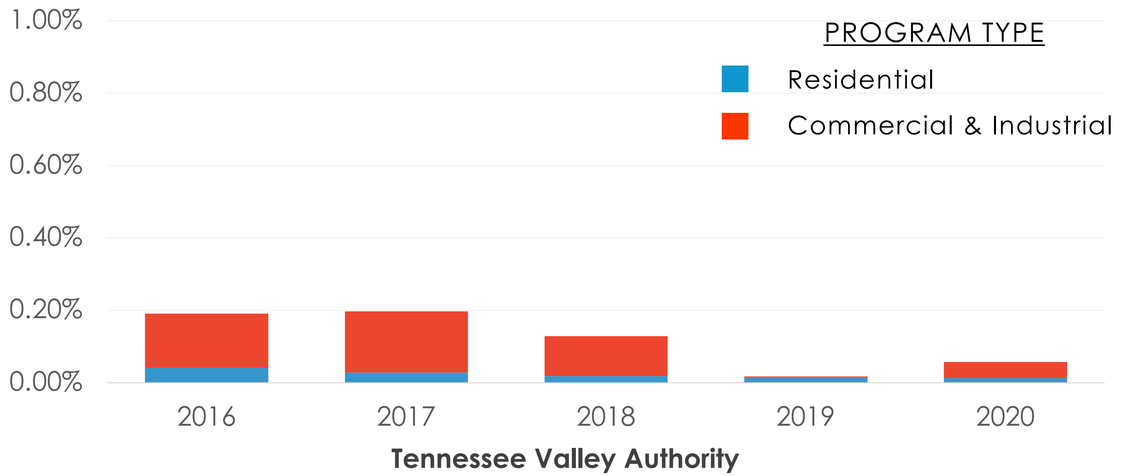
EFFICIENCY SPENDING A DROP IN THE BUCKET, DESPITE TREMENDOUS NEED

Home Energy Uplift, directed at low-income customers, is the only energy efficiency improvement work TVA now funds. According to program representatives, per customer savings are about $350 a year – a substantial sum for households struggling to make ends meet. However, the roughly $11 million budget for 2020 is woefully inadequate for a utility with revenues of over $10 billion each year, and the 768 customers served by the Uplift program barely scratches the surface in a territory with over 4 million residential customers in many different states. That TVA requires local power companies to find and put up equal matching dollars to participate is a major barrier for access in rural communities, some of which have the highest energy burdens.

EFFICIENCY NO LONGER A RESOURCE

TVA's board once set a goal of being the regional leader on energy efficiency and its staff were the first to allow efficiency to compete directly with new power plants to meet future energy needs. But in practice TVA's efficiency investments never lived up to plans. It is less expensive to reduce energy waste than to generate more power supply, but TVA is moving to substantially expand construction of fossil gas plants, rather than investing in more energy efficiency for its customers. As the nation's only federally owned utility, TVA could instead be a leader for the Biden administration's climate goals.

ENERGY SAVINGS AS % OF RETAIL ELECTRIC SALES



TENNESSEE CUSTOMERS' ELECTRICITY USAGE IS THE SECOND HIGHEST IN THE NATION

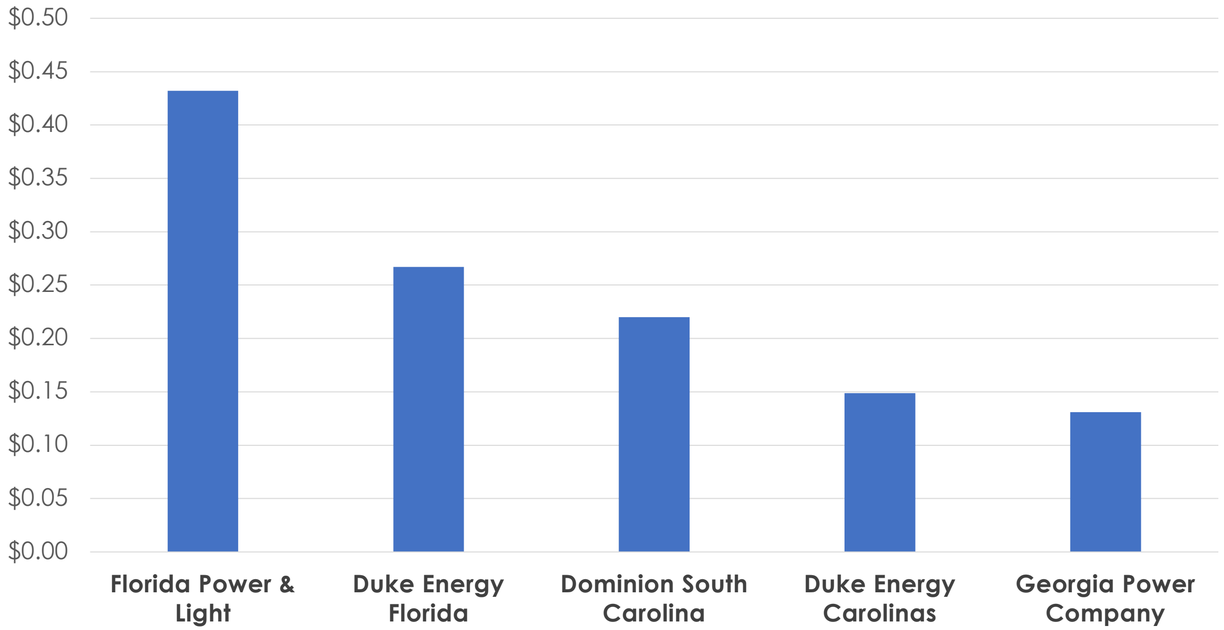
Energy efficiency reduces unnecessary energy waste, making monthly utility bills more affordable. But after years of underinvestment, TVA discontinued all of its efficiency rebate programs after 2018, taking away a vital tool for families trying to lower their electric bills. It is hardly surprising then that residential customers in Tennessee consumed nearly 25% more electricity per month in 2020 than than the national average – second highest in the country. Ultimately, TVA's reliance on ever more expensive fossil gas plants to supply this energy waste, rather than investing in energy efficiency, will drive customer bills higher and higher.

0.04%
System Avg.

NEXTERA ENERGY

BLOCKING FLORIDA'S BEST TOOL FOR DECARBONIZATION

AVERAGE ENERGY EFFICIENCY SPEND PER KILOWATT HOUR BY UTILITY, 2015-2019



DOING TOO LITTLE, BUT SPENDING TOO MUCH

There is very little oversight of utility-administered energy efficiency programs in Florida. Even a cursory check reveals an unpleasant surprise: Florida Power & Light is not only the worst performing utility in the state, it is also spending as much as three times more per kilowatt hour of savings compared to its regional peers. Since Florida utilities do not conduct industry standard program evaluation, it is hard to know what is driving up the cost.

OVERELIANCE ON FOSSIL FUEL REVENUES

NextEra is lauded as one of the worlds largest renewable energy developers, but a huge portion of the company's profits come from its subsidiary Florida Power & Light and the utility's high reliance on fossil gas to generate electricity. As a consequence, the company was removed from the S&P Global Clean Energy Index.

NextEra announced plans to decarbonize, but unlike its peer utilities, it has not set a target to reduce total carbon emissions. Instead, it has a short-term target to reduce its emissions rate (CO2/MWh) 67% from its 2005 levels by 2025. Because the company is projecting load growth over the next decade, it can actually increase its total annual emissions even if it has reduced its emissions rate.

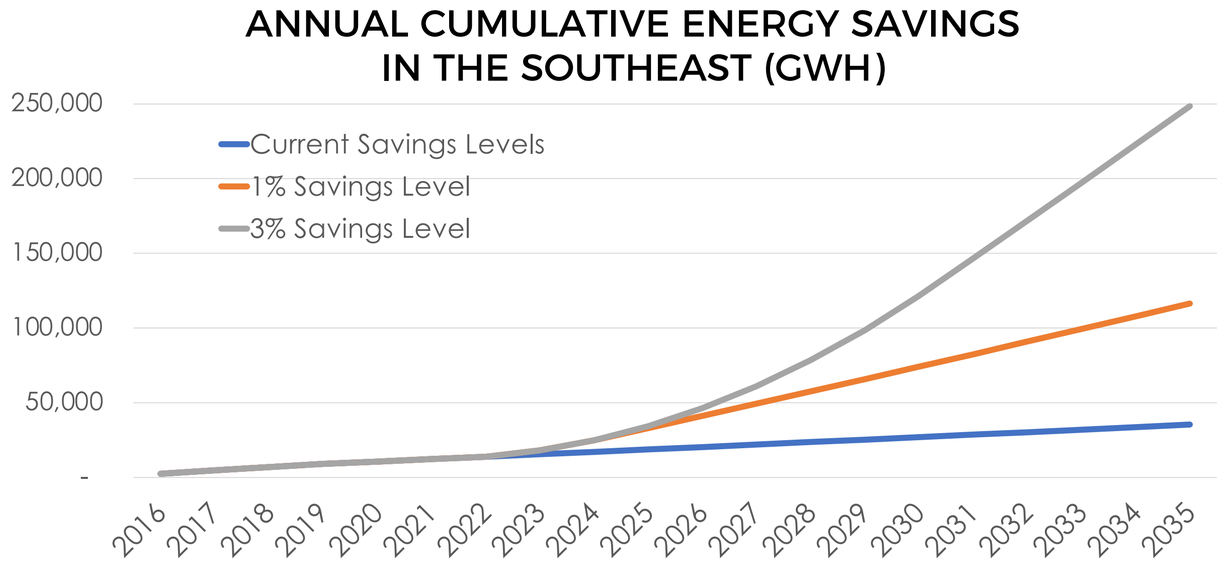
A MAJOR OBSTACLE TO EFFICIENCY AND CARBON REDUCTIONS IN FLORIDA

As Florida undergoes its first energy efficiency rule revision in 30 years, Florida Power & Light continues to push against efforts to modernize. Florida's current efficiency regulations exclude the most cost effective and proven efficiency measures. This undermines the opportunity for millions of families to eliminate energy waste and lower their energy bills, and it deprives Florida utilities of the cheapest and most effective tool for reducing carbon emissions. In a state facing existential risk from sea level rise and climate change, that's a big deal.

UTILITIES COMMITTED TO DECARBONIZE, BUT THEIR RESOURCE PLANS DON'T ADD UP

SAY WHAT YOU MEAN, MEAN WHAT YOU SAY

For several years, every major utility in the Southeast has had decarbonization goals. But integrated resource plans filed with regulators by these same utility companies consistently fail to demonstrate plans for actually reaching their publicly announced carbon reduction targets. For the handful of utilities that meaningfully discuss decarbonization in their resource plans, none have optimized for energy efficiency in their modeling analysis. It's time utilities in the Southeast put their money where their mouth is on decarbonization. Increasing investment in low-cost energy efficiency is a good place to start.



DEMAND SIDE SOLUTIONS COMPLEMENT RENEWABLE ENERGY EXPANSION

The transition to a carbon free energy future means shifting to large quantities of renewable energy. Wind and solar are intermittent sources of power, meaning their production is predictable but not constant. In addition to energy storage, energy efficiency and demand response can ease the transition to renewable energy by lowering demand at times when less renewable power is available or when demand is highest. Efficiency thereby reduces the total amount of renewable power generation required to reliably meet consumer demand.

EFFICIENCY SAVINGS COMPOUND OVER TIME

While the metrics in this report primarily focus on annual efficiency savings, the cumulative impact of efficiency is tremendously important for decarbonization. This is because efficiency measures installed through utility efficiency programs continue producing energy savings for many years. The sooner utilities ramp up their annual savings, the larger the total savings will grow to be. At the current rate, total cumulative efficiency savings for Southeastern utilities will be over 356,000 GWh by 2035 - equivalent to eliminating the electricity-related carbon emissions of 4.6 million homes for ten years. If annual efficiency savings increase to 1% (roughly average for major US electric utilities) the impact would be 11.4 million homes, and if the annual rate increased to 3% (the level of leading electric utilities) this would grow to 19.3 million.

18

STATE PROFILES

ALABAMA

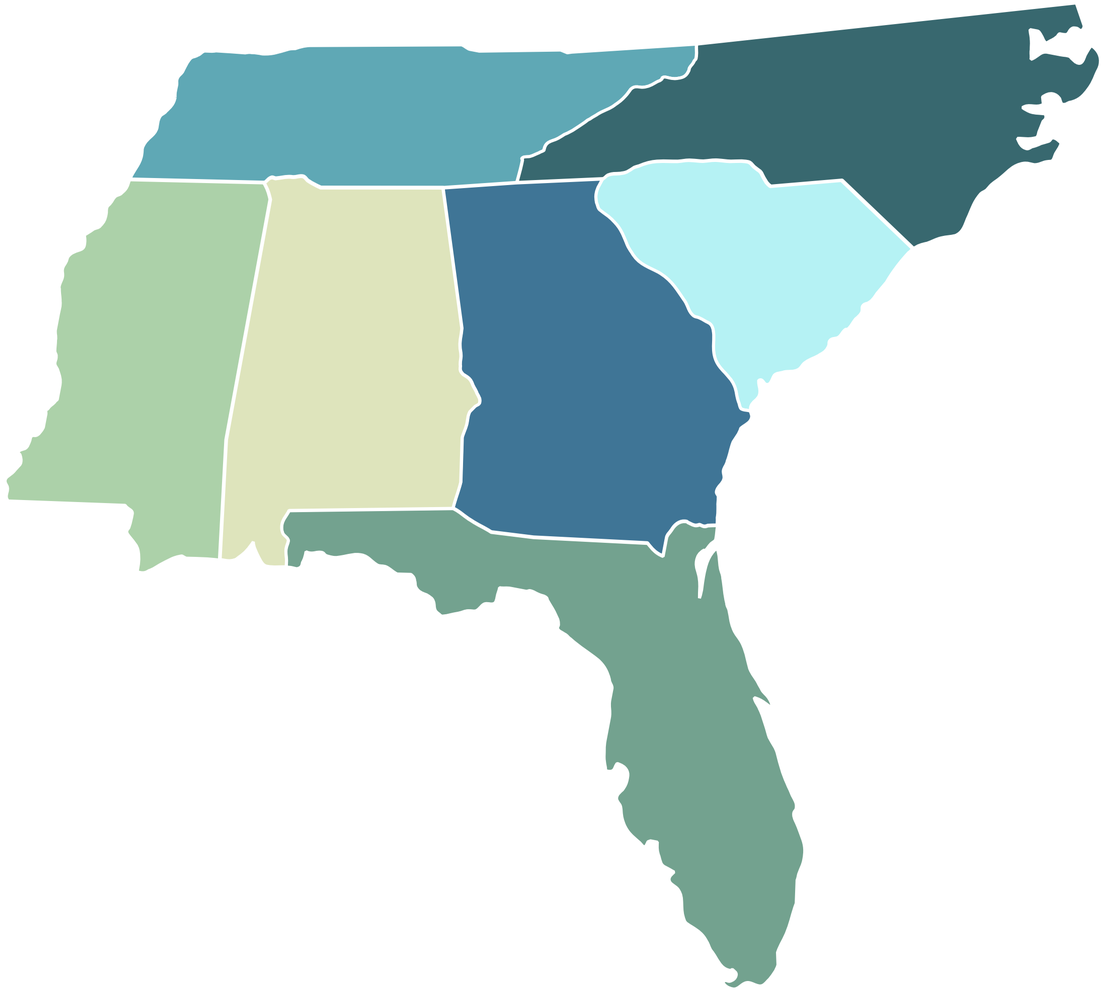
FLORIDA

GEORGIA

MISSISSIPPI

NORTH CAROLINA

SOUTH CAROLINA



For information on Tennessee, please refer to the page on the Tennessee Valley Authority, which provides electricity to most of the state.

0.02%
State Avg.

ALABAMA

LACK OF EFFICIENCY EMBLEMATIC OF BIGGER ISSUES

WITHOUT ENERGY EFFICIENCY, ALABAMA HAS OUT OF CONTROL ENERGY USE AND SKY HIGH BILLS

Alabama was once again in the top five states for highest electricity consumption and highest monthly bills in 2020. Not surprisingly, Alabama has also consistently ranked among the worst performing states for utility energy efficiency, while Alabama Power and the Tennessee Valley Authority are the worst performing major utilities in the Southeast. Historic underinvestment in efficiency suggests that energy waste is a key factor behind high usage and monthly bills. This also means customers who struggle financially are being denied a key tool to break out of the cycle of unaffordable energy bills with energy efficiency. A state with one of the nation's highest percentages of people living in poverty simply cannot afford the high cost of wasted energy.

ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
SOUTHEAST AVERAGE	**0.20 %**
TENNESSEE VALLEY AUTHORITY	0.04 %
POWERSOUTH	0.02 %
ALABAMA AVERAGE	0.02 %
ALABAMA POWER	0.01 %

TALKING THE TALK, BUT NOT WALKING THE WALK

Southern Company has publicly committed to being carbon neutral by 2050, but subsidiary Alabama Power has pursued 2 gigawatts of new gas-burning power plants, approximately 20% of its entire generation portfolio, while taking no action on clean distributed energy resources already approved by its Commission. Fossil gas power plants typically operate at least 40 to 60 years, and could become stranded assets if Southern Company keeps its climate pledge. Investments in energy efficiency could offset at least part of the new gas and go a long way to reduce customer bills. Clearly there is a disconnect between what Southern Company is saying and what its subsidiaries like Alabama Power are actually doing.

WHEN IS AN IRP NOT AN IRP?

Resource planning is meant to ensure transparency and rigor in how utilities analyze and select new energy resources, including renewable energy and energy efficiency. Alabama Power claims to conduct integrated resource planning and submits a filing every three yeas, but there are enormous differences in its process compared to its sister companies and other large utilities. Alabama Power does not reveal or take any feedback on its IRP modeling inputs or methods by stakeholders or the public. Nor do the utility's filings receive regulatory review or approval by the Alabama Commission. Ultimately, Alabama Power's resource planning simply doesn't stand up when compared to standard industry practice.

0.09%
State Avg.

FLORIDA

AT THE CROSSROADS BETWEEN THE PAST AND THE FUTURE

ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
ORLANDO UTILITIES COMMISSION	0.33 %
JACKSONVILLE ELECTRIC	0.25%
SOUTHEAST AVERAGE	**0.20 %**
DUKE ENERGY FLORIDA	0.15 %
TAMPA ELECTRIC	0.14 %
FLORIDA AVERAGE	0.09 %
FLORIDA POWER & LIGHT	0.04 %
GULF POWER	0.03 %

WINDOW DRESSING OR TRANSFORMATIVE CHANGE?

The past 30 years have seen tremendous progress with energy efficiency, as both policy an technology evolved throughout the country. But since the early 1990s, energy efficiency policy in Florida has been stuck in a time capsule. Today, two of Florida's policy practices set it apart from the rest of the country: A) elimination of all measures that pay back in less than two years and B) primary reliance on the RIM test to screen for cost effectiveness. These two practices recently resulted in utilities attempting to file goals with zero savings. Clearly broken, the Commission initiated a proceeding to update these regulations. But it is unclear if the changes will be true reforms. Hanging in the balance is whether Florida will catch up with the rest of the country to reap the financial savings, or stay stuck in the past while customers foot the bill for building more and more power plants to supply wasted energy.

WHAT IF UTILITIES SHARED IN THE SAVINGS?

Energy efficiency is most successful when utilities receive financial incentives for performance. The logic is simple, if utilities save customers money by reducing energy, they get to share in the financial benefits. The Florida legislature authorized utilities to receive performance incentives in 2008, but to date this has not been put into practice. In light of past utility resistance to energy efficiency, perhaps this is what is needed. After all, cutting energy waste saves money for customers and the utilities, so why shouldn't utilities be doing well by doing good?

WHAT HAPPENS NEXT?

It has been over a year since Florida's efficiency rulemaking was announced. But there is currently no clear path to a final decision and, more importantly, the Commissioners themselves have yet to weigh in during the rulemaking process. Due to sunshine meeting laws in Florida, the only opportunity Commissioners have to discuss their concerns about the existing rule, or priorities for the new rule, is at a public meeting. Without leadership from the Commission, meaningful change is unlikely - and after 30 years since the last rule changes, there is no telling when this window of opportunity will open again.

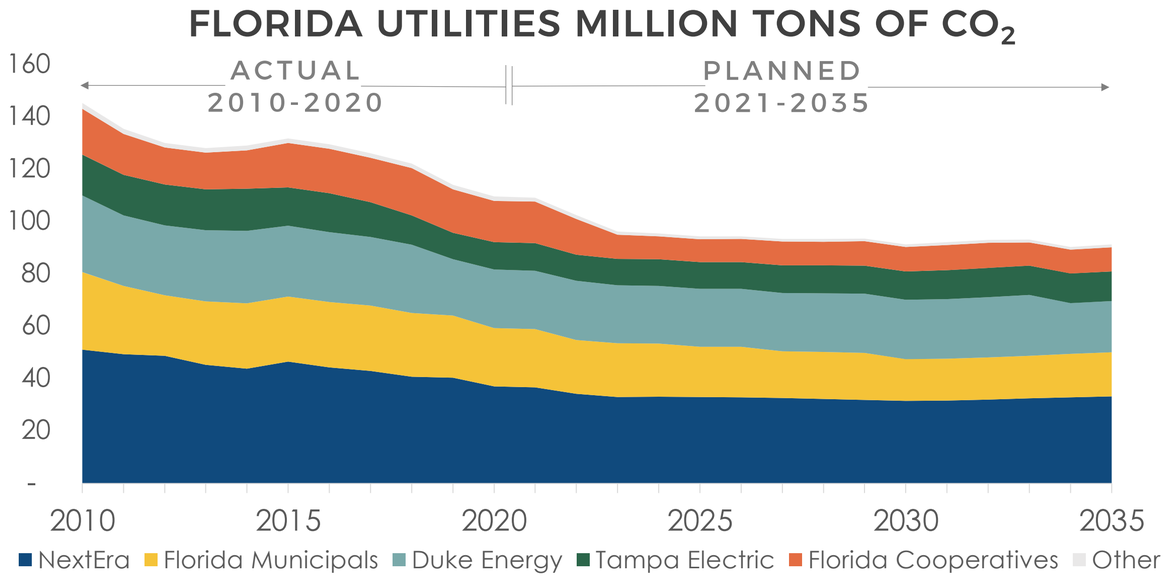
0.09%
State Avg.

FLORIDA

A STATE ON THE FRONT LINES OF CLIMATE CHANGE

FLORIDA'S EXISTENTIAL CLIMATE CRISIS

As a largely coastal state, Florida is on the front lines of climate change due to extreme weather events and rising sea levels. According to opinion polling, the majority of residents in Florida believe that climate change is already harming people in the U.S. With sea-level rise, killer heat, and vector-borne disease on the rise, over 70 U.S. major medical groups, including Florida Clinicians for Climate Action, have declared that climate change is a "true public health emergency."



UNLEASHING THE POWER OF EFFICIENCY

High costs and the need to further develop technologies are often falsely cited as primary barriers to decarbonization. In reality, Florida has had plenty of opportunity to pursue low-cost, zero-carbon energy efficiency. Yet time and time again, Florida utilities have opted for the bare minimum on energy efficiency while continuing to build new fossil gas. Gas makes up approximately three-quarters of the state's generation annually, while energy savings make hardly a dent despite huge potential.

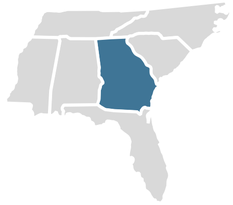
UTILITY CARBON REDUCTION COMMITMENTS

Many utilities have set a goal to reach net-zero annual carbon emissions, but Florida's largest utility NextEra, has only committed to a short-term goal to reduce its per megawatt-hour emissions rate 67% by 2025. Even where a long-term decarbonization goal exists, such as Duke Energy, there is an inconsistency between goals and plans. Duke Energy Florida is an underperformer on energy efficiency despite facing a slowdown of the rate of decarbonization over the next decade. Cities in Florida have also made commitments at varying levels, such as joining climate compacts. The City of Orlando has committed to cutting carbon 90% by 2040, and both Orlando and Tallahassee have goals to use 100% renewable energy by 2050.

0.17%
State Avg.

GEORGIA

EFFICIENCY SOLUTIONS LARGELY UNTAPPED



ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
GEORGIA POWER	0.25%
SOUTHEAST AVERAGE	**0.20%**
GEORGIA AVERAGE	0.17%
OGLETHORPE POWER	0.07%
TENNESSEE VALLEY AUTHORITY	0.00%*
MUNICIPAL UTILITIES	0.00%*

*efficiency savings round down to 0%

ENERGY BURDEN IMPACTS OF THE PANDEMIC ARE FAR FROM OVER

Even *before* the pandemic, many Georgians struggled with high utility bills. But the financial hardship that followed exacerbated this already difficult situation, and led many Georgia families to fall behind on their electric bills. At its peak, over one million Georgia Power residential customer accounts were past due with a total balance of more than $100 million. Like long COVID-19, the lingering effects of this financial hardship will be felt long after the worst part has passed.

THE CHOICE WITH CUSTOMER GROWTH: MORE POWER PLANTS OR MORE EFFICIENCY?

The latest population census shows that Georgia is one of the fastest growing states in the country, with many new residents moving into the state each year. New businesses are also setting up shop in Georgia, leading to growth in customer accounts for large energy users. This means that new opportunities for energy efficiency arise in the state every day. The turnover in building stock creates a timely opportunity for energy efficiency improvements to be made while new housing and office space is being built. The long lasting energy savings that result can offset the need for building expensive new fossil fuel power plants, which is quite simply a smarter way to grow.

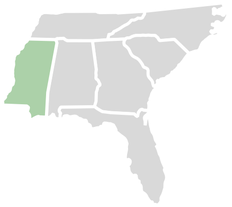
GEORGIA CITIES STEP IN

Many cities in Georgia have overcome the political hurdle of passing clean energy goals that could serve as major drivers of energy efficiency. However, the structure of utility service can make it difficult for cities to follow through on these commitments, due to their dependence on large monopoly utilities that make decisions about their power supply. Despite Savannah, Atlanta, and Athens-Clarke County having all passed goals, they are hampered by a lack of action by regulators. Meanwhile, municipal utilities outside of Georgia Power service territory have taken initial steps towards making homes in their city more energy efficient: cities such as Acworth, College Park, East Point, Fort Valley, Thomasville all offer free energy audits to residents.

0.11%
State Avg.

MISSISSIPPI

WHAT HAPPENS AFTER NOTHING HAPPENS?



IRP RULES FAIL TO MOVE EFFICIENCY FORWARD

Despite brand new rules and good intentions on the part of the Commission, Entergy Mississippi and Mississippi Power both filed Integrated Resource Plans that were inferior to those produced by their sister companies in neighboring jurisdictions. The problems in Mississippi included less transparency, rejecting essentially all stakeholder input, and conducting only a cursory analysis of clean energy resources – all of which were in conflict with the stated intent of the new IRP policy. Energy efficiency was barely considered, and proposed savings levels were essentially unchanged from the low levels the utilities has been achieving for the previous six years. The Commission accepted the plans as-is, with little direction for future IRP proceedings. Participants in the proceeding have been told to give the utilities and the rules another chance before seeking changes – but there is little upon which to base confidence in Mississippi's IRP rules so far.

THIS TALE HAS A TWIST

Each year, Mississippi Power files its Energy Delivery Plan (EDP). Among other things, this includes their forecasted savings and budgets for energy efficiency. As noted above, Mississippi Power failed to evaluate optimal levels of energy efficiency in its IRP, and it included only one year's worth of program savings details. But according to its EDP, the company conducted an efficiency potential study *after* the IRP (albeit with zero transparency or stakeholder input). Based on this, it projects increasing its annual efficiency savings each year until it reaches 0.5% of annual retail sales in 2028. This is still low by national standards, but Mississippi Power has already shown they can do much worse.

WHERE'S THE CARBON PLAN?

Energy Mississippi and Mississippi Power's parent companies have both publicly announced carbon reduction targets. But neither made any indication of its intention to achieve their respective share of carbon reductions in their integrated resource plan. In fact, current plans fall short of meaningful reductions that would allow the company to decarbonize in time to reach its net zero by 2050 goal. The most recent plans from Mississippi Power actually show a slight increase in emissions in the future. Mississippi Power currently has 2,136 GW of fossil fuel. Instead of slowing down on fossil fuels, its IRP calls for the addition of even more gas generation capacity.

ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
ENTERGY MISSISSIPPI	0.21%
SOUTHEAST AVERAGE	**0.20 %**
MISSISSIPPI AVERAGE	0.11%
MISSISSIPPI POWER	0.10%
TENNESSEE VALLEY AUTHORITY	0.05 %

0.61%
State Avg.

NORTH CAROLINA

THE SOUTH'S DECARBONIZATION POLICY LEADER

CUTTING CARBON: FROM VISION TO EXECUTION

In 2018, Governor Roy Cooper issued Execute Order 80, which committed North Carolina to reducing the state's total carbon emissions 40% from 2005 levels by 2025. In 2021, House Bill 951 directed the North Carolina Utilities Commission to develop a plan by the end of 2022 to reduce emissions from the state's electric utilities sector 70% by 2030, and to achieve carbon neutrality by 2050. This plan must include input from utilities and stakeholders, and consider energy efficiency and demand side management alongside storage and supply side resources. North Carolina was the first state in the South to set a clear vision for eliminating carbon pollution, and it will be the one to watch as it follows through to achieve its goals.

ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
DUKE ENERGY CAROLINAS	0.81%
DUKE ENERGY PROGRESS	0.80%
NORTH CAROLINA AVERAGE	0.61%
NC ELECTRIC COOPERATIVES	0.28%
SOUTHEAST AVERAGE	**0.20 %**
NC MUNICIPAL POWER	0.02 %

BUILDING ON A SOLID POLICY FOUNDATION

North Carolina has been implementing policies for many years that foster utility investment in energy efficiency. In 2007, North Carolina became the first state in the Southeast to adopt a Renewable Energy and Energy Efficiency Portfolio Standard (REPS). Through 2020, energy efficiency could account for up to 25% of the REPS requirement. Now it can account for 40% of the REPS requirement. Another foundational policy allows utilities to recoup their investment in efficiency programs annually and to earn a performance incentive, which is based on a share of the financial savings it delivers to customers through its efficiency programs. Integrated Resource Planning also includes energy efficiency, though more could be done to optimize efficiency savings in future planning cycles.

DECARBONIZATION AND EFFICIENCY NEXT STEPS

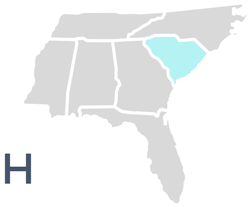
In the transition to a carbon free energy future, efficiency is key to affordability. Rigorous cost-benefit analysis shows that efficiency investments cost less than building new power generation and can help accelerate the retirement of outdated and uneconomic fossil fuel power plants. Energy efficiency and battery storage actually increase grid reliability and make it easier to integrate large quantities of intermittent renewable energy. And efficiency savings are cumulative over time, resulting in an ever increasing reduction to carbon emissions. For all these reasons, the 2022 North Carolina carbon plans should feature a significant expansion of energy efficiency – followed by increased investment, savings, and annual performance tracking.

Note: The Southeast region for SACE does not include the portion of North Carolina in the PJM territory served by Dominion Energy.

0.35%
State Avg.

SOUTH CAROLINA

RAISING THE BAR FOR RESOURCE PLANNING IN THE SOUTH



COMMISSION BREAKS NEW GROUND

South Carolina has set a new standard for oversight of utility Integrated Resource Planning (IRP) in the Southeast. In 2020, the Public Service Commission rejected Dominion Energy's IRP based on five words in South Carolina's landmark 2019 Energy Freedom Act (EFA), which set the standard for approval as "the **most reasonable and prudent means** of meeting the electrical utility's energy and capacity needs." In addition, the Commission issued specific requirements related to another provision of the EFA that stated a utility's IRP must include an evaluation of low, medium, and high cases for the adoption of renewable energy, energy efficiency, and demand response.

ENERGY SAVED AS A % OF ANNUAL SALES

UTILITY	2020
DUKE ENERGY CAROLINAS	0.82%
DUKE ENERGY PROGRESS	0.80%
SOUTH CAROLINA AVERAGE	0.35%
DOMINION ENERGY	0.21%
SOUTHEAST AVERAGE	0.20%
SANTEE COOPER	0.05%

TRANSPARENCY AND EFFICIENCY AT DOMINION

Following the Commission's rejection, Dominion Energy was ordered to modify its IRP and will have new guidelines to follow for future resource planning. In the near term, Dominion had to increase energy efficiency levels up to what is nominally 1% of annual retail sales. Going forward, the utility must evaluate successively higher level of energy efficiency up to 2% of annual sales. Because energy efficiency is a least cost energy resource, the new analysis will show how substantially lower energy demand reduces the need for traditional power generation. And to ensure transparency in Dominion's resource portfolio analysis, the company is being required to provide intervenors, like SACE, access to the company's resource planning model, which is typically a black box.

MORE PENETRATION AND NEW TECHNOLOGY AT DUKE

While the South Carolina Commission was far less critical of Duke Energy's IRP, it still ordered several changes that should lead to higher levels of energy efficiency in the future. This included a switch to evaluating efficiency on the basis of utility system costs and benefits, also known as the utility cost test. Duke will also be required to work with stakeholders to evaluate the impact of higher levels of efficiency from greater market penetration and new technologies, which the company had excluded in its own analysis.

CONCLUSION

EFFICIENCY IS KEY FOR TRANSITION TO CLEAN ENEGY IN THE SOUTHEAST

POLICY MAKERS MUST SET THE TERMS FOR A BETTER ENERGY FUTURE

Energy savings in the Southeast are far lower than the rest of the country, largely because efficiency policies in the region are insufficiently rigorous or simply outdated. **But it is not too late for local policy makers to take advantage of enormous untapped efficiency savings potential.**

North and South Carolina have already laid the foundations for higher levels of efficiency, with additional momentum coming from recent policy moves to reduce emissions and improve utility resource plans. Florida is at a crossroads where regulators will soon decide whether to double down on failed policies of the past, or embrace modern practices that support energy efficiency. In the states with the lowest efficiency performance, there is much work to be done, which can only happen if local policy makers step up and establish new policies for a better clean energy future.

TO MEET CLIMATE COMMITMENTS, UTILITIES MUST PUT EFFICIENCY FIRST

Despite the fact that the region's major utilities have had decarbonization goals for several years now, nearly every utility continues to underutilize energy efficiency. Tapping the enormous potential for efficiency in the Southeast is the only way utilities can affordably retire their outdated fossil fuel power plants to meet their decarbonization commitments.

THE HIGH COST OF INACTION

It is no coincidence that the Southeast has among the highest electricity bills in the country, and the lowest investment in energy efficiency. Energy waste in turn worsens the climate crisis. This points to a clear solution: saving energy is the least-cost *and* most abundant solution to stabilize our climate and ensure equity in a clean energy future.

DATA SOURCES, METHODS, & ASSUMPTIONS

The primary metric in this report is net energy savings as a percentage of current-year retail sales. SACE relies on two sources for historical efficiency savings, the first is annual energy efficiency reports that utilities are required to file by state regulators. In most cases, regulatory reporting requirements for investor-owned utilities allow SACE to gather detailed performance and budget data on specific programs on an annual basis. SACE also obtains energy efficiency savings data from EIA Form 861. For example, nearly all of our data for municipal and co-op utilities come from this data source. In some cases, we opt to use EIA data even when program-level data is available for the sake of consistency when it comes to the reporting year, which may reflect the fiscal year in utility filings or other types of reports, and to include savings from programs that are outside the utility's main portfolio of energy efficiency programs.

EIA's reporting instructions have shifted over the years to direct utilities to report data at the meter rather than at the generator, and to clarify who is responsible for reporting (utility or nonutility demand-side management administrators). As a result, there is greater confidence in the consistency and reliability of more recent data that primarily only requires adjustments to utilities that report gross savings. Due to the fact that some utilities report net savings reflecting technical adjustments to energy efficiency program impacts, while others do not, we apply a net to gross ratio of 83.9% where gross savings are reported.

DSM/EE spending is inclusive of the total expenditures for each program approved or certified by a utility's respective regulator. Our review of data specific to programs may not reflect sub-programs, add-ons, or pilot programs if they are not tracked or reported by the utility. For example, income-qualified spending reflects standalone programs only.

Accumulated energy efficiency demand savings (MW) represents the maximum peak reduction to gross system demand. To capture the "maximum peak" and assign a nominal capacity to efficiency, SACE uses the summer demand reduction reported for programs and measures.

For the comparison with other regions of the country, our Southeast regional average is compared to regional and national averages from data sources such as EIA and research in ACEEE's Annual Energy Efficiency Scorecard. Our regional energy savings calculation differs from typical calculations of the U.S. 'South' region due to different geography of electric utility service areas and data sources included.

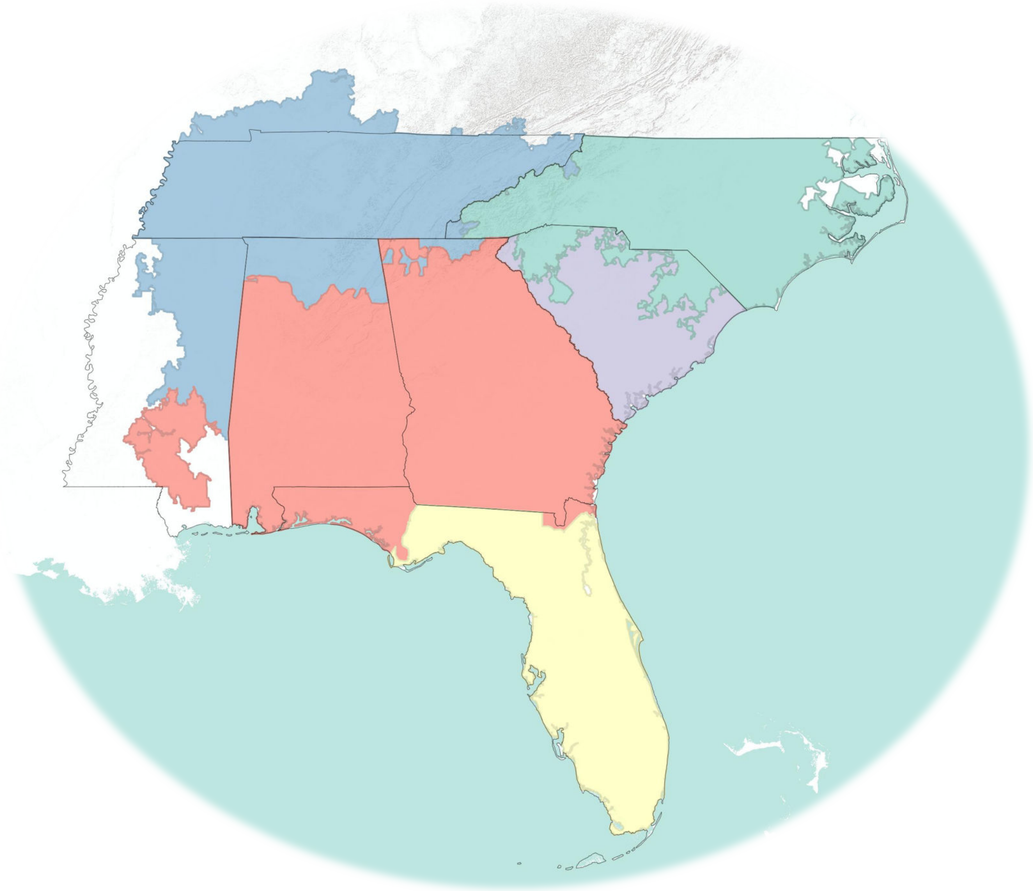
Additional details on sources, methods and assumptions for solar and decarbonization resources are available in

- Southern Alliance for Clean Energy (June 2021). *Solar in the Southeast, Annual Report*
- Southern Alliance for Clean Energy (April 2021). *Tracking Decarbonization in the Southeast, Annual Report*

APPENDIX A & B

APPENDIX A: GEOGRAPHIC COVERAGE

The geographic coverage of data encompasses Southeastern utilities outside of the PJM/MISO regions. The states of Alabama, Florida, Georgia, and South Carolina are fully covered; relatively small portions of the North Carolina and Tennessee are served by utilities that participate in PJM (thus while statewide reports for these states are relatively comprehensive, they may not align exactly with other data sources); only portions of Mississippi and Kentucky that are parts of TVA or the Southern Planning Area are included.



APPENDIX B: ENERGY EFFICIENCY SAVINGS DATA

Retail sales, annual savings from energy efficiency, and % savings as a % of current-year retail sales are available for download. Please note that appendices for previous reports in the series reflect slightly different methodology such as a lower net to gross ratio and were calculated using savings as a % of prior-year sales, rather than current-year.

For utility system and individual utility data for 2016-2020, please visit our website to access the appendix.

ENERGY EFFICIENCY IN THE SOUTHEAST

Fourth Annual Report
Published February 2022

CONTACT INFORMATION

FOREST BRADLEY-WRIGHT
Energy Efficiency Program Director
forest@cleanenergy.org

HEATHER POHNAN
Energy Policy Manager
heather@cleanenergy.org

MAGGIE SHOBER
Research Director
maggie@cleanenergy.org