How Do Florida's Utilities Stack Up?

Report Cards for 10 of Florida's Largest Utility Providers Based on Each Utilities' 2020 10-Year Site Plans

VOTE SOLAR

Each year, Florida's biggest electric utilities file a report to the Florida Public Service Commission (PSC) outlining their plans for the next ten years. The plans, called the "10-Year Site Plans," outline how each utility plans to meet its forecasted energy demand over the next decade.

In most states, similar regulatory filings include a cost analysis of each decision, requiring utilities to justify their investments and follow a "least cost" path. Alternatives to expensive new power generation assets are considered, including energy efficiency and demand side management. And robust stakeholder input is considered. In Florida, utilities do not provide any cost or benefit analysis for new power plants. While the plans provide the public some visibility into their utility forecasts, the process does not consider stakeholder input, nor make it easy for Floridians to understand why utilities are making their decisions or how alternatives would fare. Vote Solar combed through hundreds of pages of 10-Year Site Plans to highlight key takeaways.

What Does the Future Hold?

At 70%, Florida's reliance on gas is among the very highest in the country today and twice the national average. Unfortunately, the plans filed by the state's largest utility providers show that we are poised to continue that reliance into the next decade. This pattern creates risks for the state and a missed opportunity for local economic development. Because Florida does not produce its own natural gas, it is required to purchase it from out-of-state sources. As a result, $1 out of every $4 spent by Floridians for electricity is shipped out of state to pay for gas imports.

Trends in Florida

Key trends across the Florida utilities include an over-reliance on natural gas and investment in solar over only the next few years. They generally show a lack of leadership on energy storage, electric vehicles, and energy efficiency, with some of the worst efficiency performance in the nation. While many of the utilities have wisely turned away from coal, others have not, with some planning to invest in even more coal, despite climate concerns and all market signs pointing to cheaper and less risky alternatives. Utilities that had investments in non-solar renewables, including hydropower, wind, biomass, etc. are turning away from these resources. It's a mixed bag on market competition, with some utilities taking advantage of competitive bidding to find the lowest cost generation options, while others reject competition out right.

Overall, Florida utilities are (1) over-reliant on natural gas, (2) making good strides on solar, but only over the next few years, and (3) failing on energy efficiency.

Vote Solar combed through hundreds of pages of 10-Year Site Plans to highlight key takeaways. We've given each utility an overall letter grade of A - F, evaluating their plans in the following eight categories:

1. **Commitment to renewable energy and carbon pollution reduction -** Stated carbon reduction goals tar get at least a 30% reduction by 2030 (consistent with the goals of Duke, Southern Company and FPL parent companies), and move aggressively towards at least 30% renewable energy by 2030.

2. **Independence from fossil gas -** No more than 50% of energy mix from gas, for fuel diversity and mitigated fuel cost and supply risks. Over 50% gas, cease capital investments in new gas capacity and instead opt for cleaner, less risky sources.

3. **Freedom from uneconomic coal -** Phase out coal to less than 5% by 2030. Any increase in coal is extremely concerning given the market dynamics and climate and public health impacts.

4. **Consumer protection and affordability -** Energy efficiency is the cheapest resource and should be the first investment before adding new generation capacity, with a minimum of 1%-2% energy savings. Give top priority to consumer protection during the coronavirus pandemic. Halt all shut-offs for non-payment through the end of hurricane season, waive fees, and forgive arrearages.

5. **Cost reduction through market competition -** Markets work. Use market options to procure the most affordable power, instead of relying on self-built capacity.

6. **Customer choice and demand side options -** Empower customers so they can meet their clean energy goals and keep energy bills stable.

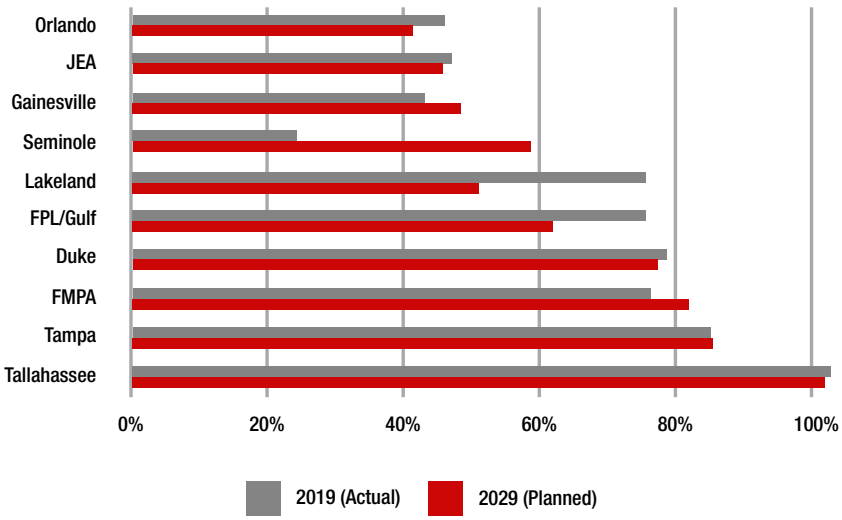
7. **Investment in resilient energy storage -** Resilient energy storage is vital to achieving high penetrations of solar on the grid. Gain knowledge around the value energy storage brings to customers and the grid.

8. **Electric vehicle promotion -** Electric vehicles not only support the decarbonization of the economy but also are a natural area for increased electricity use. Prepare for the proliferation of EVs and support an efficient and competitive build out of charging infrastructure.

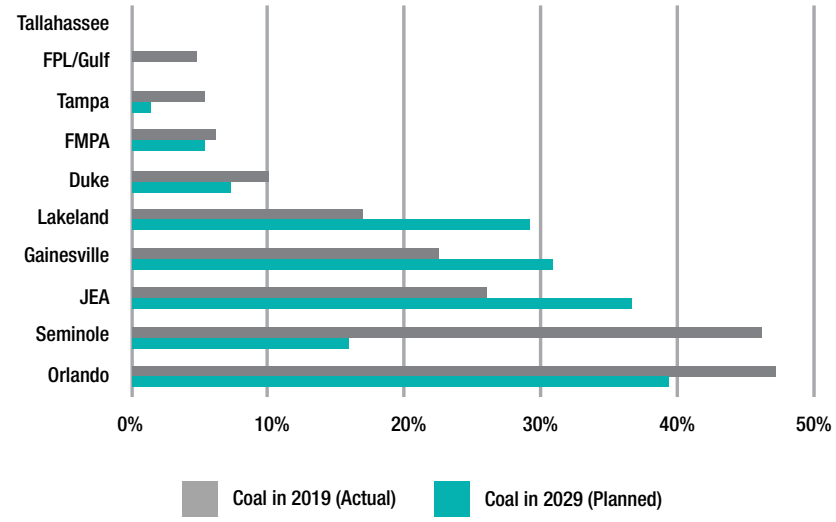
The grades are listed below with additional information on each utility in the following pages.

Utility Provider	Grade	Key Takeaway
Tampa Electric Company (TECO)	B+	Less coal, but not enough fuel diversity
Florida Power & Light (FPL)	B	Leading on solar, but still heavy on gas
Orlando Utilities Commission (OUC)	B-	Well done, but time for aging coal plants to retire
Duke Energy	B-	Making progress, but still too much gas
City of Tallahassee Utilities	C	Capital city could improve. The most reliant on gas
Gainesville Regional Utilities (GRU)	C-	Going the wrong direction: Come on Gators!
Seminole Electric Cooperative	D+	Should do better for Florida's co-ops
Florida Municipal Power Authority (FMPA)	D+	Not living up to potential to lead municipal utilities
JEA	D	Customers beware
Lakeland Electric	F	Doubling coal – 19th century style

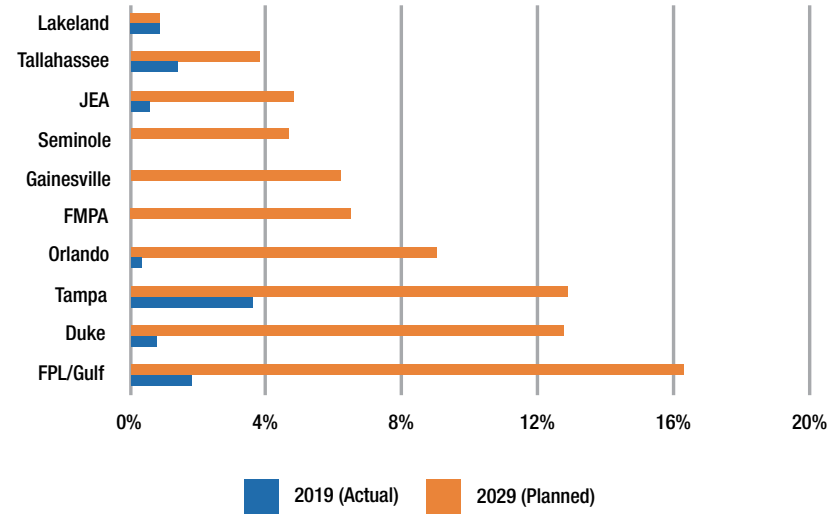
Florida Gas Dependence



Coal, as Percentage of Total Energy Mix



Solar, As Percentage of Florida Utilities' Energy Mix



The following charts show where each of Florida's 10 largest utility providers are in terms of gas, solar, and coal for electricity generation today and where they plan to be in 2029.

"Fuel diversity helps to protect electric companies and their customers from contingencies such as fuel unavailability, fuel price fluctuations, and changes in regulatory practices that can drive up the cost of a particular fuel. Fuel diversity also helps to ensure stability and reliability in electricity supply and strengthens national security."
-Edison Electric Institute

The clear result from these plans is that Florida is not nearly diversified enough when it comes to electricity generation. We invest far too much in volatile natural gas and not nearly enough in cost-effective solar. Moreover, while most utilities are moving drastically away from coal, a few increase their reliance on it.

FLORIDA POWER & LIGHT

GRADE: B

Florida Power & Light (FPL) is Florida's largest utility with over 5 million customers. FPL is merging with Gulf Power, making it into a behemoth, eclipsing the next biggest utility in the state (Duke) planning to produce nearly three times more energy in 2029. FPL receives an overall grade of B, bolstered by its plan to nearly eliminate coal-powered energy and install more solar than the rest of the utilities in this report. FPL loses points for stifling market competition for solar development and continuing to invest in new gas assets, despite its own predictions of increasing gas prices.

Renewable Energy and GHG Reductions: Parent company NextEra has set a goal to reduce its carbon emissions rate by 67% by 2025, from a 2005 baseline, but was recently graded F by the Carbon Disclosure Project. FPL includes a carbon compliance cost in planning, beginning in 2026. FPL plans to build 8,860 MW of new solar, and reach 16% renewable energy by 2030, which puts FPL at the head of the class in Florida. However, FPL remains below its peer utilities around the country, including PG&E with a 2030 target of 60% renewables and APS with a 2030 target of 45% renewables. This new solar is part of FPL's '30 x 30' announcement to add 30 million solar panels to its service territory by 2030. But this year's plan appears to backslide on that commitment by spreading some of the planned solar into Gulf's service territory post-merger.

Gas Over-dependence: FPL plans on investing heavily in gas infrastructure, despite its own prediction that gas prices will nearly double from $2.42 in 2020 to $4.25 in 2029. FPL plans to develop nearly 2 GW of new gas capacity at a possible cost of $1.7 billion dollars, including upgrading combined cycle (CC) units, converting coal plants to gas, and building 4 new combustion turbine (CT) gas plants. Unfortunately for Florida consumers, CC upgrades, conversions from coal units to gas, and new CTs do not require Commission approval or review prior to construction. All this despite FPL's parent company, NextEra stating that gas investments are increasingly uneconomic compared to solar and battery storage. Jim Robo, CEO of NextEra Energy, has described solar as being "very, very competitive" compared to gas-fired generation, and notes "a significant opportunity in almost every part of the country where batteries are now more economic than gas-fired peakers, even at today's natural-gas prices."

Uneconomic Coal: FPL significantly reduces its use of coal to near 0% by the end of the decade. It plans on the early retirement of 4 uneconomic coal units (about 1500 MW total by 2024).

Consumer Protection and Affordability: FPL's SolarTogether program has the largest carveout for low-income customers in the U.S., giving vulnerable households access to solar savings. However, FPL is far behind other Florida utilities in delivering energy-saving efficiency programs to its most vulnerable customers. In fact, ACEEE ranks FPL as second to worst of the nation's top 52 utilities on energy efficiency. In response to the COVID-19 pandemic, FPL has suspended disconnections through July and is waiving late fees and offering additional consumer payment plan options. But, it may be reverting back to normal disconnection operations at the end of July — despite a resurgence of cases and unemployment claims in mid-July.

Market Competition: All of FPL's solar sites are self-built, which shortchanges opportunities for solar market development or for lower-cost third party owned systems. Unlike many of its peers in Florida, FPL has no planned renewable energy power purchase agreements (PPAs) over the next decade.

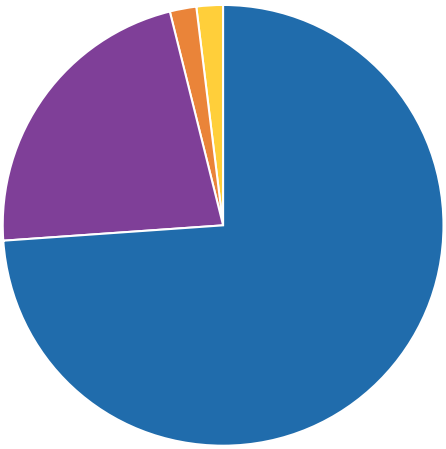
Customer Choice: FPL has nearly 17,000 rooftop solar net metering customers in its territory, and recently launched the largest utility-sponsored community solar program in the country; but customer demand for solar energy still outstrips supply.

Investment in Resilient Storage: FPL has made a strong start on storage, with 469 MW under development now in FPL territory. The company also plans for 700 MW of new battery storage but not until 2028 and 2029, in Gulf territory. The company can improve upon incentivizing solar+storage and microgrid capabilities for customers who need it.

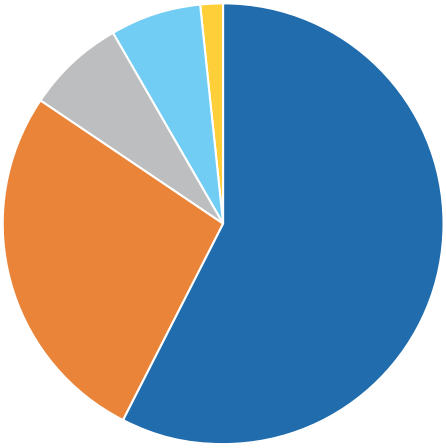
Electric Vehicle Promotion: FPL includes EV growth projections in its energy forecasts, and Gulf has two specially designed rates for residential customers with EVs. FPL is evaluating similar programs or tariffs for PEVs, and has the FPL Evolution pilot, which will install more than 1,000 EV chargers across the state.

Jim Robo, CEO of NextEra Energy, has described solar as being “very, very competitive” compared to gas-fired generation, and notes “a significant opportunity in almost every part of the country where batteries are now more economic than gas-fired peakers, even at today’s natural-gas prices.”

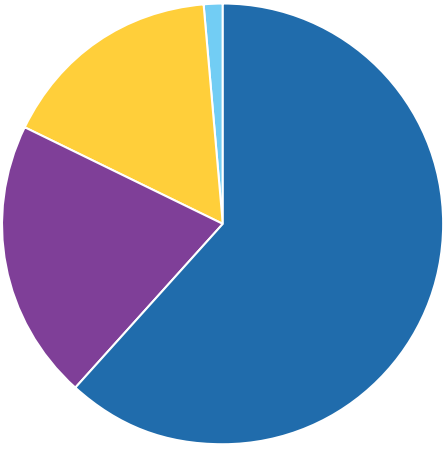
FPL Energy Mix, 2019 (Actual)



Gulf Energy Mix, 2019 (Actual)



FPL/Gulf Energy Mix, 2029 (Planned)



Gas Coal Nuclear Wind PPAs Solar Fuel Oil Residual

DUKE ENERGY

GRADE: B-

Duke Energy Florida (DEF) serves 1.8 million customers in North and Central Florida. DEF receives an overall grade of B- for reducing its dependence on coal, increasing solar to 13% by 2029, offering community solar options, and promoting electric vehicles and energy storage. DEF is still behind the curve on reducing gas reliance and has only lackluster energy efficiency offerings.

Renewable Energy and GHG Reductions: Duke makes good strides increasing solar from 0.5% of its total energy mix in 2019 to 12.7% in 2029. The company has set a nonbinding carbon reduction goal, and uses a carbon compliance cost in its planning starting in 2025.

Gas Over-dependence: Duke relies too heavily on gas, not doing enough to reduce its customers' vulnerability to fuel price risk and stranded assets. Duke's gas reliance hovers between 76-79% over the ten year reporting period. Duke is doubling down on big gas infrastructure, adding 452 MW of new gas (investments that are not subject to pre-construction approval by the PSC).

Uneconomic Coal: Duke shifts away from coal over the ten year planning period, going from 9.7% coal energy in 2019 to 7.7% in 2029 — but still remains higher than the other Florida IOUs and not quite reaching the 5% or less mark.

Consumer Protection and Affordability: Duke has set aside a robust low-to-moderate income carveout in its community solar proposal that matches the percentage of its low-to-moderate income customers (27%), which we see as a new best practice. It proposed deep efficiency savings for low income customers, but is still only reaching a small portion of its neediest customers. Duke's energy efficiency performance is very poor compared to peers nationwide achieving only 0.16% savings as percent of sales. In response to COVID-19, DEF instituted an open-ended disconnection grace period that will continue to protect customers through August, but there is little certainty about when protections will lapse.

Market Competition: There are nearly 6 GW of solar in Duke's interconnection queue, with over 80 active projects being developed. Duke estimates that it will buy 675 MW of independently owned solar over the next decade. That said, qualifying facility purchases fall from 4.1% in 2019 to 0% in 2029. As a sign of progress, Duke has committed to competitively solicit solar projects for its proposed Clean Energy Connect program, including some third party developed projects.

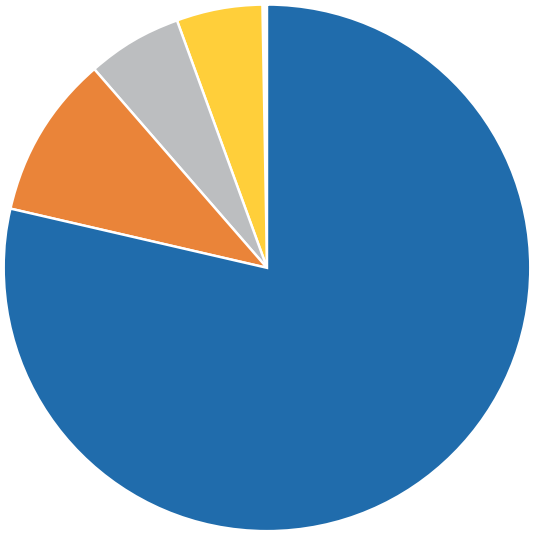
Customer Choice: Duke Energy Florida's service territory has an active rooftop solar market, and Duke anticipates total production to continue to grow. In fact, Duke has the highest percentage of NEM customers of all the utilities reviewed in this report, at 1.3 percent. It has also followed FPL's lead and has a large community solar program in the works with strong access provisions for low-income customers.

Investment in Resilient Storage: Duke is falling behind peer utility FPL in terms of grid-scale storage investments. But, it is leading on microgrids with its recent commitment to study solar and storage projects on critical emergency facilities for back-up power. Duke has a microgrid energy storage pilot underway with the University of South Florida, and is planning a 50 MW storage pilot for early 2021.

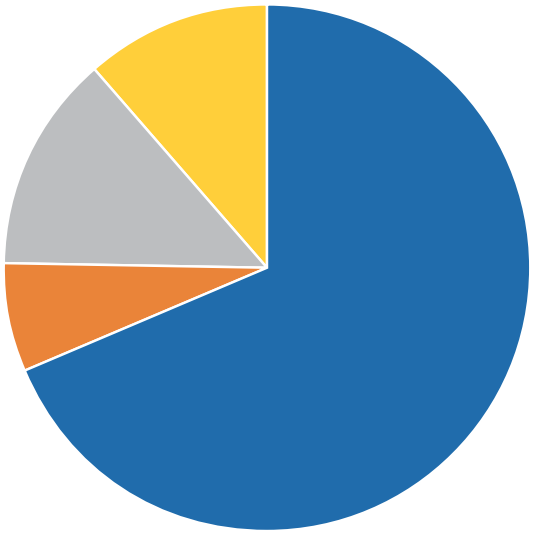
Electric Vehicle Promotion: Duke includes projections of EV adoption in its load forecasting. It is also conducting a three year $400,000 pilot on EV education and awareness, and data collection.

Duke's energy efficiency performance is very poor compared to peers nationwide, achieving only 0.16% savings as percent of sales.

Duke Energy Mix, 2019 (Actual)



Duke Energy Mix, 2029 (Planned)



TAMPA ELECTRIC COMPANY (TECO)

GRADE: B+

Tampa Electric (TECO) is an investor owned utility with over 770,000 customers in the Tampa region. TECO earns a B+ with the highest percentage of solar installed in 2019. It also increases its solar to 13% in 2029, scales back on coal, and offers community solar options and an energy storage pilot. It is very reliant on gas and faces risks of increased fuel costs over the next ten years.

Renewable Energy and GHG Reductions: TECO more than triples its solar energy production from 756 GWh in 2019 to a peak of 2,964 GWh (or 14% of its energy mix) in 2024. That said, it does not plan to continue investing in additional solar after 2024.

Gas Over-dependence: TECO is very heavily dependent on natural gas, a resource that it admits is subject to price volatility and supply risks. The company's gas dependence only gets worse over the next ten years, going from over 17,000 GWh of gas in 2019 to almost 19,000 GWh in 2029. TECO plans to spend ratepayer dollars on gas infrastructure, including making improvements to seven combustion turbine plants over the decade. The utility is retiring 891 MW of natural gas capacity at the Big Bend facility, a natural opportunity to diversify its energy mix. But, instead of investing in new renewable energy, it plans to build even more new gas capacity — 1542 MW.

Uneconomic Coal: TECO made good progress between 2018 and 2019 cutting its coal-based energy output in more than half from 2,982 GWh (or 14% of its total energy mix) to 1,214 GWh (or 6% of total energy mix). Coal continues to decline to around 2% of TECO's energy mix in the years 2023-2029.

Consumer Protection and Affordability: TECO's energy efficiency programs are better than most Florida utilities, and it plans to reach nearly a quarter of its low income customers with energy saving programs over the next decade. TECO has voluntarily suspended disconnections through the end of August, offers 12 month repayment plans, and has donated $1 million to the Salvation energy bill support program. Unfortunately, that is unlikely to address the growing problem of energy debt. TECO can do more to support its neediest customers during this time of crisis including arrearage forgiveness and expanded energy efficiency programs to lower customer bills.

Market Competition: TECO states it "will continue to assess competitive purchase power agreements and DSM programs that may replace or delay the scheduled [new natural gas] units. Such optimizations must achieve the overall objective of providing reliable power in a cost-effective manner." Yet TECO decreases its use of purchased energy from 6.3% in 2019 to less than 1% of its total energy mix by 2029.

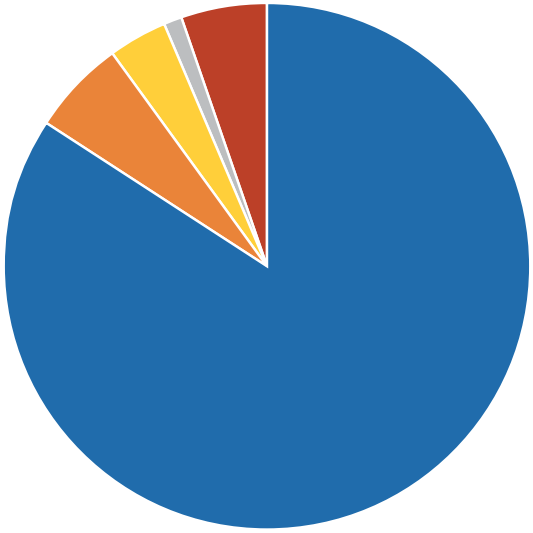
Customer Choice: TECO offers a robust solar net metering program to its rooftop solar customers, and also launched a 17.5 MW shared solar program called SunSelect in 2019, with plans to add additional solar capacity to meet the large demand from customers. It has also run a solar power purchase program called the Sun to Go program for 13 years.

Investment in Resilient Storage: TECO points to the value that storage can bring to the grid, and has proposed a pilot program to study the interactions of a fully integrated renewable energy system that contains solar, batteries, car charging and industrial truck charging, which will inform demand response programming and storage options for C&I customers. It is also gaining experience with solar + 13MW battery for energy arbitrage and peak shaving at the Big Bend facility. It plans to add 220MW of distributed battery storage capacity this decade.

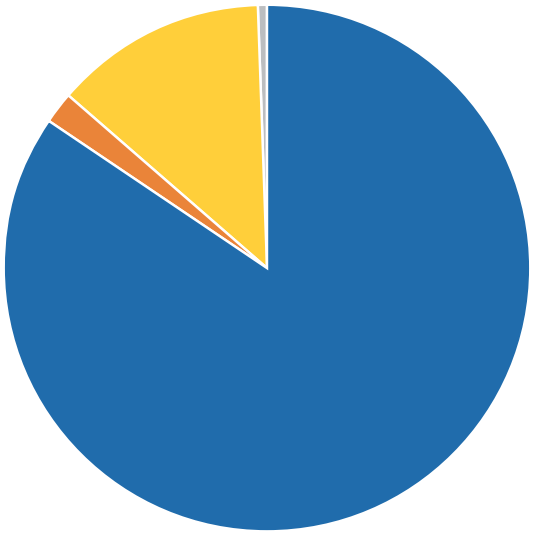
Electric Vehicle Promotion: TECO included EV loads into its forecasts, and is participating in an R&D project. But, it does not currently offer any incentives for EV deployment.

Placing energy storage closer to the load can improve customer resiliency, effectively shave the peak, and defer or avoid transmission and/or distribution system upgrades.

TECO Energy Mix, 2019 (Actual)



TECO Energy Mix, 2029 (Planned)



SEMINOLE ELECTRIC COOPERATIVE

GRADE: D+

Seminole Electric Cooperative is a not-for-profit generation and transmission utility that serves nine distribution cooperative utilities. Seminole is not a customer-facing company, but provides power to its member companies which represent approximately 800,000 customers in 42 of Florida's 67 counties. The information provided below is therefore a proxy for the combined generation mix of those 9 utilities, which do not file their own TYSPs. Seminole receives a grade of D+ because it increases its reliance on gas by investing in 3 new gas plants, and plans to maintain only a small amount of renewables (4%). On the positive side, it reduces its coal use and relies on a competitive process for its power purchases.

Renewable Energy and GHG Reductions: Seminole has no utility-owned renewable energy generation now or planned for the future. That said, it increases its purchased renewable energy slightly from 610 GWh in 2019 to 768 GWh in 2029. It expands solar purchases from 0% to a total of 4.5% of energy sources in 2029, but at the same time, plans to eliminate nearly 600 GWh (4.1% of its energy mix) from other renewable energy sources, including municipal solid waste, biomass, and landfill gas, making its clean energy commitment essentially flat.

Gas Over-dependence: Seminole is significantly ramping up its reliance on natural gas from 25% in 2019 to 60% in 2029 despite it stating that fuel diversity has "significant strategic value."

Uneconomic Coal: Seminole decreases its reliance on coal, going from nearly half of its energy sources powered by coal (46%), down to 16% in 2029. However, it is not reaching the 5% or less target by 2030 that would be prudent given the costs and risks associated with coal.

Consumer Protection and Affordability: Seminole's members are currently implementing a smart thermostat demand response pilot program to evaluate the cost effectiveness of a potential larger scale program. However, they appear to be backsliding as the residential peak load management decreased by a third from 99MW avoided during the summer peak demand in 2010 to 58MW avoided in 2020. As a wholesale utility, Seminole has not offered any public commitments of protection of its customers due to the coronavirus economic and public health crisis.

Market Competition: Seminole will continue to utilize competitive bidding as one of its tools for acquiring least cost conventional and renewable generating resources. All of Seminole's future bid solicitations for non-peaking power will include the solicitation of renewable energy proposals.

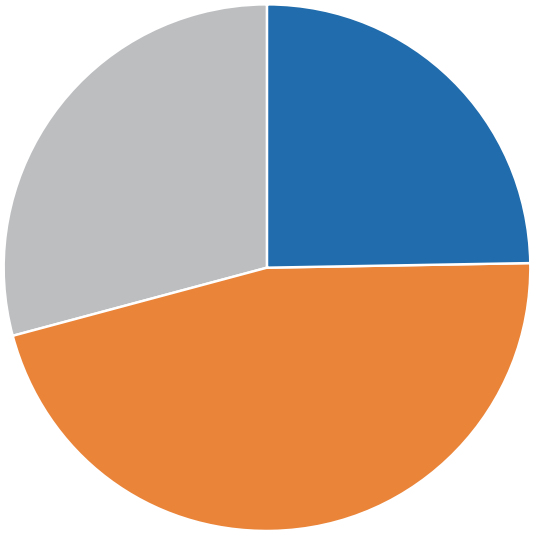
Customer Choice: Seminole includes net metering data in its load forecasts. As a wholesale utility, it doesn't have a direct interaction with customers, but could still do more to promote customer options through its retail partners.

Investment in Resilient Storage: Unlike other Florida utilities, Seminole has not pursued storage options to date, including pilots, and has none announced over the next decade.

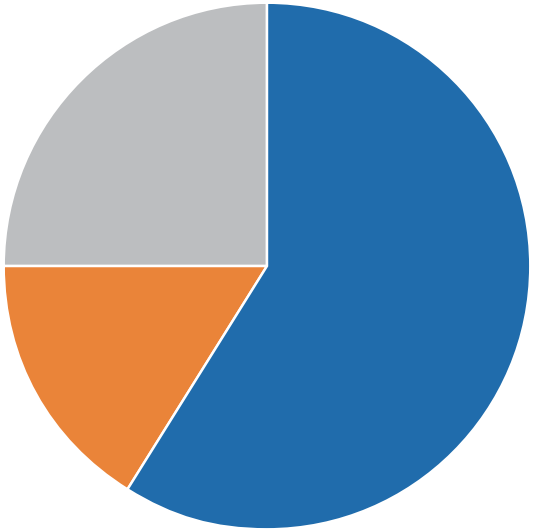
Electric Vehicle Promotion: As a wholesale utility, Seminole does not interact directly with EV customers. It could include electric vehicles in its load forecast, but has not.

Seminole operates Florida's least economic coal plant. According to the "Coal Cost Crossover" report from Vibrant Clean Energy, the Seminole Generating Station is 98% more expensive to operate than replacing it with local wind or solar.

Seminole Energy Mix, 2019 (Actual)



Seminole Energy Mix, 2029 (Planned)



JEA

GRADE: D

JEA is the state's largest local government-owned utility with nearly half a million customers in Northeast Florida. JEA receives a grade of D as it increases solar use to only 5% by 2029, and simultaneously increases its dependence on coal, an energy source that has proven unsustainable economically and environmentally. While strong on competition, JEA can improve on consumer protection and affordability.

Renewable Energy and GHG Reductions:

Despite stating a goal of having 30% carbon-neutral energy sources by 2030, JEA plans to produce only 5% of its energy mix from carbon-neutral owned generation assets by 2029. JEA plans to invest in solar from 2019-2022, increasing its use tenfold compared to today (from 58 GWh in 2019 to a peak of 682 GWh in 2022). Despite this early progress, solar stalls at 5.2% of total owned energy sources in 2022, and falls far short of our 30% by 2030 recommendation. JEA also eliminates 130 GWh of renewable landfill gas and all use of wind credits. JEA sells RECs associated with the renewable energy it produces, raising concerns about its claims to the environmental attributes of those MWhs.

Gas Over-dependence:

JEA's reliance on fossil gas increases from just under 50% in 2019 to a peak of 64.8% in 2020. Over time, it falls to 45.5% in 2029, which is still high, but better than most Florida utilities.

Uneconomic Coal:

While most of the country is shifting away from coal due to clear market dynamics, JEA actually increases its coal use by 55% from over 3,000 GWh in 2019 (26% of its energy mix) to over 5,000 GWh in 2029 (37% of total energy mix).

Consumer Protection and Affordability:

JEA was one of the first utilities in Florida to threaten shutting off its customers during the coronavirus pandemic and economic crisis. After an initial one-time discount to customers, JEA notified over 24,000 customers (or 5% of all their customers) that their power may be shut off due to nonpayment beginning on July 7, right in time for dangerous summer heat. JEA resumed disconnecting consumers in mid-July.

JEA offers a demand response option to large industrial customers. It began a residential Demand Rate pilot program, which unfortunately is not a good deal for its customers. JEA does not forecast an improvement in the impact of these offerings over the ten year reporting period, with the amount of energy saved stagnating at 2020 levels. That said, JEA has made progress over the years, as the 2020 level of 35GWh saved is a significant increase from the 2019 reported level of 26GWh saved and 14GWh saved in 2010. And JEA leadership has acknowledged, "The cheapest megawatt is the one we don't have to build."

Market Competition:

JEA excels in competition compared to its Florida peers, and has led competitive bidding processes to procure renewable resources. It relies heavily on PPAs and purchased power, which enables it to select the least cost option.

Customer Choice:

JEA offers a solar option to large commercial and industrial customers through its SolarMax program. That said, JEA notoriously gutted its solar net metering program in 2017, drastically changing the economics of its customers' rooftop solar investments and stifling families' ability to use solar to control their energy bills.

Investment in Resilient Storage:

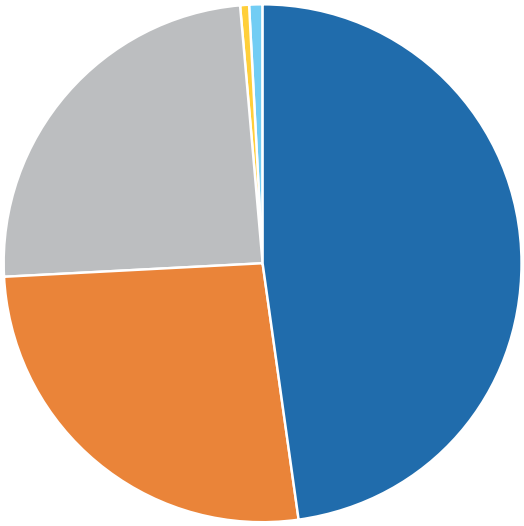
JEA is investigating a storage pilot project to provide resiliency to wastewater systems, and acknowledges solar + storage systems can be valuable while the grid is operating and when the grid is down due to severe weather. It also began a 20 year PPA in 2019 from a 5MW solar system with 2MW of battery storage, and offers a battery incentive program for residential solar customers.

Electric Vehicle Promotion:

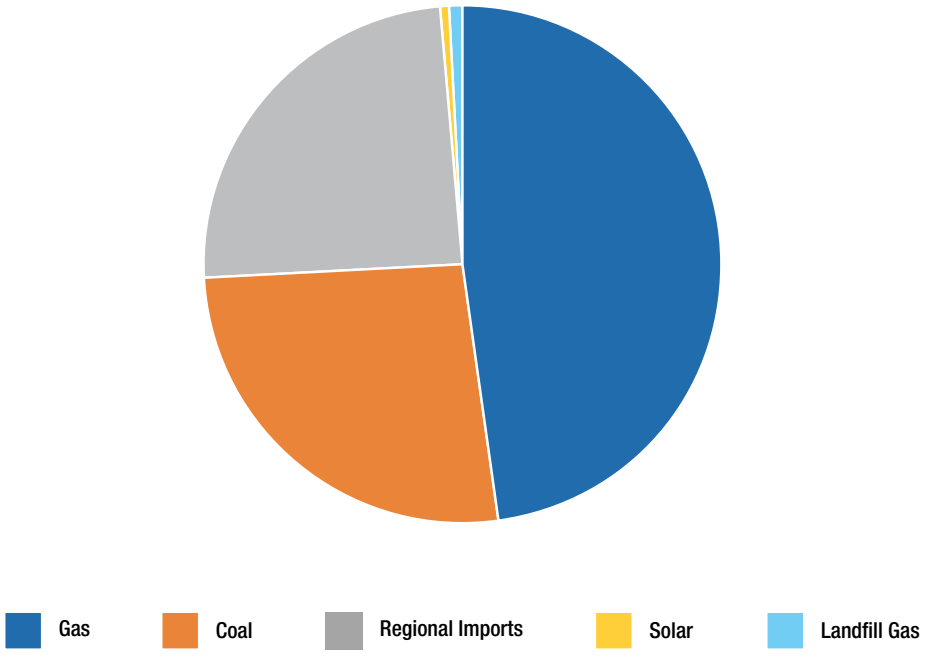
JEA offers rebates for the purchase of plug-in electric vehicles — $500 for a battery sized at less than 15 kWh and $1,000 for 15 kWh and higher.

Vibrant Clean Energy's "Coal Cost Crossover" report finds JEA's Northside coal plant was 57% more expensive to operate than the cost to replace it with local solar or wind in 2018.

JEA Energy Mix, 2019 (Actual)



JEA Energy Mix, 2019 (Actual)



ORLANDO UTILITIES COMMISSION

GRADE: B-

Orlando Utilities Commission (OUC) is a municipally owned utility with over 200,000 retail customers. It receives an overall grade of B+ excelling in electric vehicles, storage, and competition. However, it is the most reliant on coal of all the utilities in this report, and does not invest enough in renewables.

Renewable Energy and GHG Reductions: In 2020, Orlando Utilities Commission established clean energy goals of a 50% reduction from a 2005 baseline, escalating to net-zero carbon emissions by 2050. In its ten-year site plan, OUC increases solar and landfill gas from 3% to 13% of its total energy mix. That said, it could do more to reduce its overall GHG by pivoting away from coal.

Gas Over-dependence: OUC increases its share of gas generation from 39% to 41% over the ten-year planning period. While this is substantially less than other utilities, the benefit is offset by the prominent role of coal in OUC's generation portfolio.

Uneconomic Coal: In 2019, OUC still received nearly half of its energy from coal-fired power plants, the most of any Florida utility. That reliance reduces slightly to just under 40% in 2029, maintaining OUC's position in last place among its peers. OUC owns coal-fired assets that are under threat of becoming uneconomic. It should follow the nationwide trend to retire coal capacity now.

Consumer Protection and Affordability: OUC provides sliding-scale support for its home audit & retrofit efficiency program, and it has provided substantial monetary support to economically disrupted customers due to COVID-19. However, its shutoff ban expired July 13 and late fees will be reinstated Aug 3.

OUC's plan did not consider supply side efficiency alternatives because it has excess supply. As a result it is missing an opportunity to take advantage of cost effective efficiency measures and early retirement of expensive and polluting assets.

Market Competition: OUC makes use of independently developed power purchase agreements, including for 108.5 MW of the Florida Municipal Solar Project.

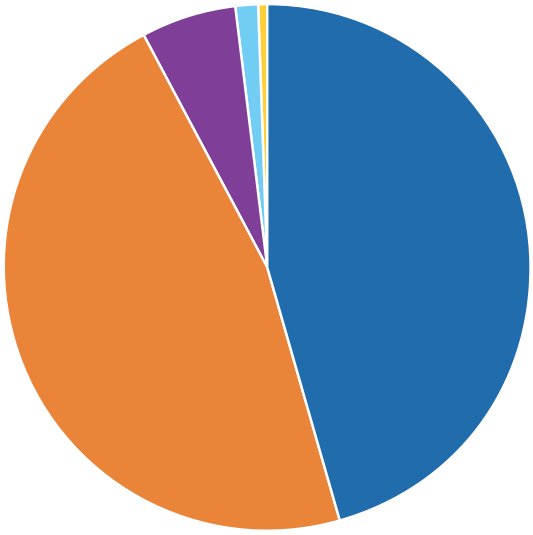
Customer Choice: OUC offers a wide range of options for customers who want to go solar on their terms. OUC enables net metering, but it also offers a collective purchase program (called OUCollective), one of the first community solar programs in the country, and a residential solar plus storage rebate.

Investment in Resilient Storage: OUC is one of the only utilities in Florida to offer up-front incentives for solar plus storage systems on residential homes. It's also gathering input from customers and citizens on the role of resiliency in its 2020 Energy Integrated Resource Program.

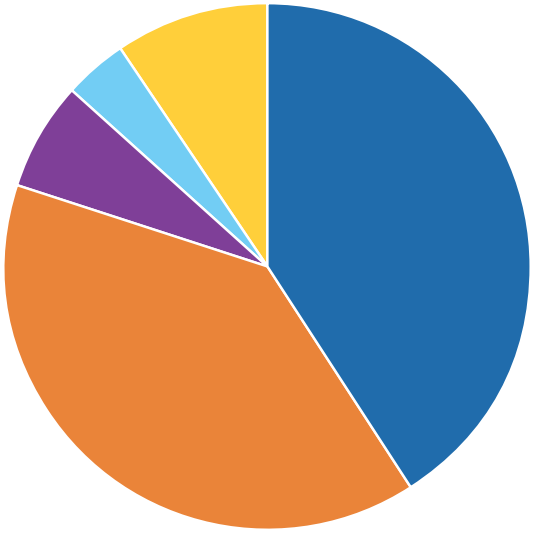
Electric Vehicle Promotion: OUC has installed 150 level 2 and DC fast chargers, propelling Orlando to one of the top 5 cities for electric vehicles in the nation. It also forecasts for EV adoption using inputs from the National Renewable Energy Lab and Siemens.

In 2019, OUC still received nearly half of its energy from coal-fired power plants, the most of any Florida utility.

Orlando Energy Mix, 2019 (Actual)



Orlando Energy Mix, 2029 (Planned)



FLORIDA MUNICIPAL POWER AUTHORITY

GRADE: D+

Florida Municipal Power Authority (FMPA) is a wholesale power company owned by Florida's 30+ municipal electric utilities, 13 of which receive all of their power from FMPA. The information below is therefore a proxy of the combined generation mix of those utilities, which do not file their own TYSPs. FMPA receives an overall grade of D+ as it remains dangerously reliant on gas and does little to advance storage, demand side management or electric vehicles. However, it does expand its use of solar energy, reduce coal, and take advantage of competitive bidding to purchase solar from PPAs.

Renewable Energy and GHG Reductions: FMPA will be entering into solar PPAs for the first time — totaling 154 MW over the next ten years. But solar still only provides 6.5% of FMPA's power supply in 2029.

Gas Over-dependence: The company will increase its already-extreme overcommitment to gas from 75.6% in 2019 to 81.2% in 2029.

Uneconomic Coal: As a percentage of total energy generated, FMPA plans to reduce its reliance on coal from 17.8% to 5.9% in the next ten years. But it will also maintain its ownership stake in the Stanton power plant, which is uneconomic compared to renewables.

Consumer Protection and Affordability: While FMPA is a wholesale power company, and does not have control of customer-facing programs, it does discuss the energy conservation program created by its 13 core retail companies. Unfortunately, the program's impact is too negligible to be included in FMPA load forecasts.

Market Competition: FMPA's solar procurement to-date has exclusively used power-purchase agreements, which enables FMPA to take advantage of the most competitive market prices for renewable resources.

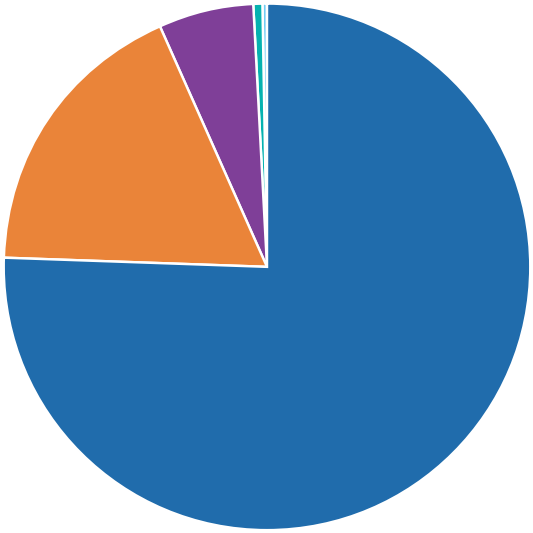
Customer Choice: Customers from FMPA's 13 dedicated retail companies currently enjoy net metering and the territory currently holds 12,000 kW of net metering capacity. However, unlike other wholesale providers, FMPA is not pursuing community solar programs. FMPA's CEO, Jacob Williams, has also encouraged member utilities to raise fixed fees on residential customers to $50 per month in September 2019 to make net metering customers "go away."

Investment in Resilient Storage: FMPA's TYSP does not mention storage as a viable technology, or even one the company is paying attention to.

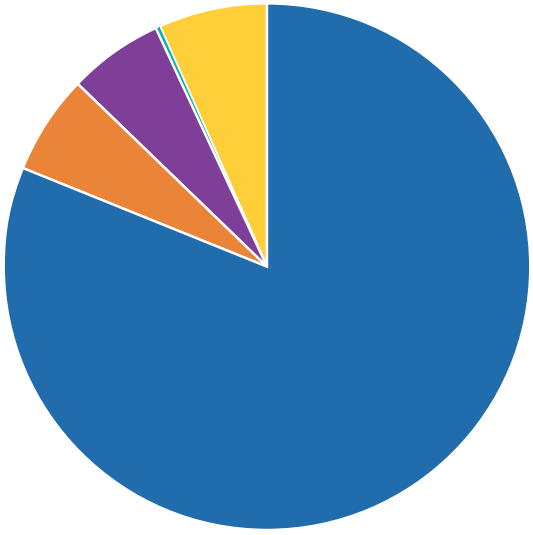
Electric Vehicle Promotion: FMPA does not take electrification of any load or the proliferation of electric vehicles into account through its load forecasts.

FMPA's CEO, Jacob Williams, has encouraged member utilities to raise fixed fees on residential customers to $50 per month in September 2019 to make net metering customers "go away."

FMPA Energy Mix, 2019 (Actual)



FMPA Energy Mix, 2029 (Planned)



LAKELAND ELECTRIC

GRADE: F

Renewable Energy and GHG Reductions: Lakeland has no plans to install new solar (despite the city contracting for 24 MW in 2007), and more than doubles its reliance on carbon-heavy coal over the next decade. Lakeland sells its RECs on the voluntary market, raising concerns about double-counting with respect to its existing solar investments.

Gas Over-dependence: Despite the fact that Lakeland Electric already has enough generation capacity to meet projected demand, such that reliability issues based on one measure were "so small that [they] would be non-existent," Lakeland completed a new gas turbine in 2020. Gas makes up 74% of Lakeland's generation in 2019 and maintains the majority of generation through the next decade.

Uneconomic Coal: Lakeland Electric is one of only three utilities in Florida that expects to **substantially increase** its reliance on uneconomic coal in the next decade — even though it could exit its coal supply deal pain-free in 2023. Lakeland's ten-year site plan notes that it maintains a coal supply reserve "due to market uncertainty of supplier availability due to potential bankruptcies."

Consumer Protection and Affordability: Lakeland resumed disconnections on economically disrupted customers due to COVID-19 on June 15 — far earlier than other Florida utilities.

Market Competition: Over the next decade, Lakeland increases imports from the Florida municipal power pool, which dispatches generation pooled among OUC, FMPA, and Lakeland. Increased use of the power pool is likely to result in more economic generation. However, Lakeland has not entered into any power purchase agreements and its last requests for proposals for solar generation and water heating were in 2007.

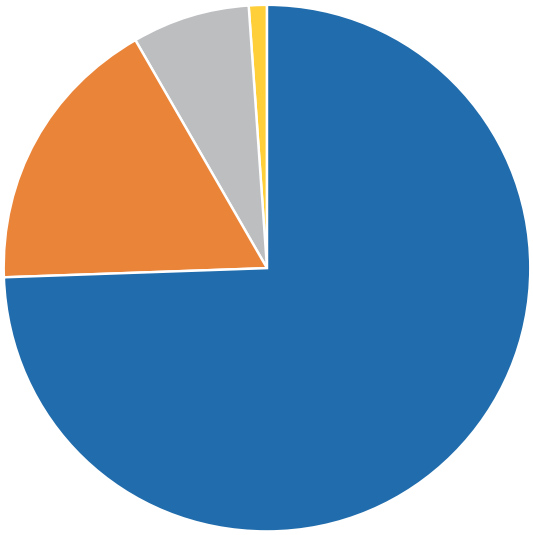
Customer Choice: Customers have access to rooftop solar net metering, but those who want to participate in the program are hit with a punitive demand charge during peak hours. Also, no community solar programs are currently being offered.

Investment in Resilient Storage: Lakeland doesn't consider customer resilience programs, local storage or storm preparedness in its Ten Year Site Plan. Its 90-to-120-day coal reserve relies on an outdated notion of "resilience." It also launched a miniscule storage pilot in 2017 of a single 0.006MW battery, about the size of a residential storage system.

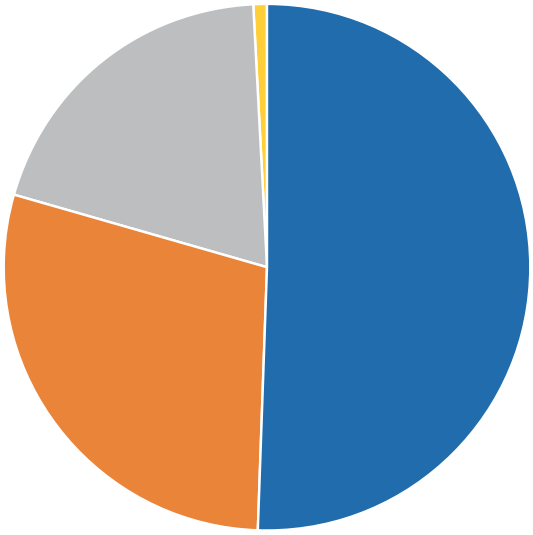
Electric Vehicle Promotion: Lakeland doesn't promote or plan for electric vehicles in its ten-year site plan. In fact, the terms 'electrification' and 'electric vehicles' do not appear in its 88-page plan.

Lakeland's ten-year site plan notes that it maintains a coal supply reserve "due to market uncertainty of supplier availability due to potential bankruptcies."

Lakeland Energy Mix, 2019 (Actual)



Lakeland Energy Mix, 2029 (Planned)



CITY OF TALLAHASSEE UTILITIES

GRADE: C

The city of Tallahassee owns, operates, and maintains an electric generation, transmission, and distribution system that supplies electric power to over 123,000 customers. The City scored a grade of C, winning points for competition, demand side management, and avoidance of coal; but it is the most reliant on gas of all the utilities included in this report.

Renewable Energy and GHG Reductions: The City of Tallahassee adopted a Clean Energy Plan in 2019 that commits city facilities to be 100% clean by 2035 and the Tallahassee community to be powered by 100% renewable energy by 2050. This plan does not come close to achieving that goal. While the City supports net metering for its citizens, this ten-year site plan includes no new utility-scale solar investments or PPAs beyond the one they executed in 2019; instead, it expands the City's reliance on gas. It also fails to include CO2 costs in its forecasts.

Gas Over-dependence: The City of Tallahassee generates more energy than it needs in total from natural gas alone every year, and more than two-thirds of its energy needs are satisfied by just two facilities. While the City has an Energy Risk Management policy in place, it is likely not enough to mitigate the City's substantial fuel and capital risk from gas.

Uneconomic Coal: The City does not get any power from coal directly because it is completely powered by gas.

Consumer Protection and Affordability: The City is proactive and expansive in its demand-side management offerings to customers, including specialized programs for low-income customers. The city is also providing six-month utility payment relief for its customers. But the City's disconnection moratorium ended on May 12, potentially subjecting COVID-impacted customers to extreme summer heat.

Market Competition: Tallahassee signed PPAs for 20 and 42 MW of solar in 2016 and 2017 and appears to be actively seeking other opportunities to do so.

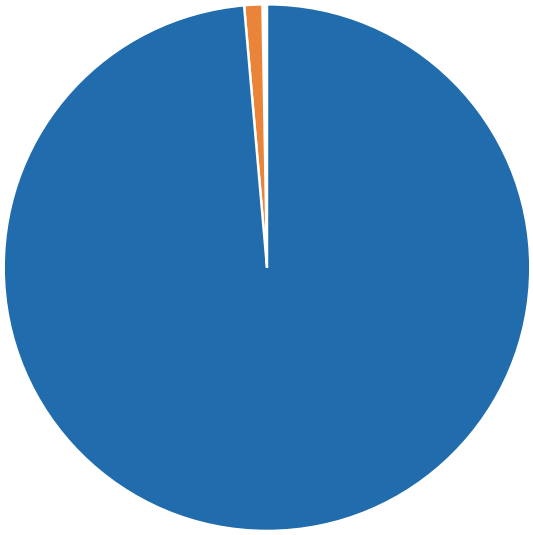
Customer Choice: Tallahassee is continually exploring demand-side resources that could be of assistance to its customers, including solar net metering and piloting a demand response program. Tallahassee includes no plans to explore community solar.

Investment in Resilient Storage: The City continues to investigate demand-side management and demand response tools that would allow customers to enjoy a more resilient power supply, but it has not yet embraced storage technologies as a cost-effective tool for affordable, renewable, and resilient energy.

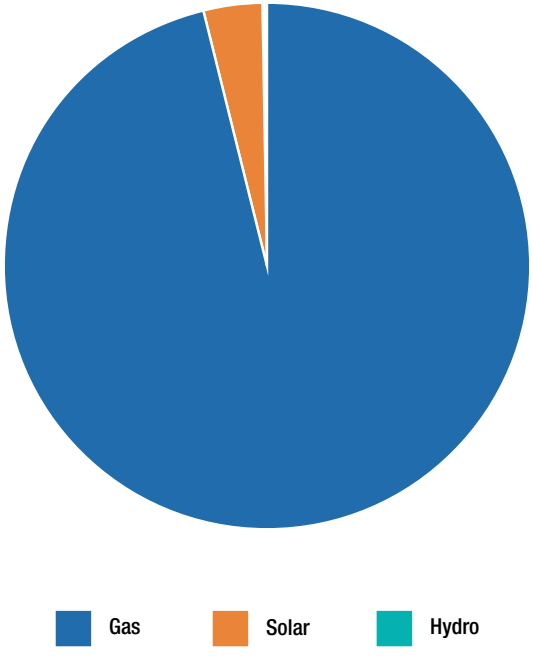
Electric Vehicle Promotion: Tallahassee's Clean Energy Plan commits the city to 100% electric light-duty vehicles by 2035, with medium- and heavy-duty vehicles following as feasible. That said, the utility does not incorporate electrification into its load forecast this year, and does not appear to offer rebates or EV-specific rates for customers.

Despite having a city-wide goal of 100% renewable energy by 2050, the City of Tallahassee Utilities' plan includes no new solar investments between 2020-2029.

Tallahassee Energy Mix, 2019 (Actual)



Tallahassee Energy Mix, 2029 (Planned)



GAINESVILLE REGIONAL UTILITIES

GRADE: C-

Gainesville Regional Utilities (GRU) is a municipal utility for the city of Gainesville and serves approximately 93,000 retail and wholesale customers. GRU received a grade of C-. Over the next ten years, despite a city-wide clean energy commitment, it plans to increase its reliance on gas, invest in more coal, eliminate renewables like landfill gas, and decrease its use of biomass. The company appears to have too much generation with very high reserve margins. On the positive side, GRU increases investments in solar, and is considering developing an electric vehicle off peak rate or incentive in the future.

Renewable Energy and GHG Reductions: Despite having a city-wide 100% clean energy goal by 2045, GRU has no solar farms on its system until 2023, and then only to meet 6.5 percent of its energy needs, with no additional solar investments through 2029. Overall, GRU's renewable energy will drop from 30.9% to 17% over the next decade (largely due to reductions in biomass from nearly 30% in 2019 to less than 8% in 2029, despite predictions that biomass fuel will lower in price). GRU assumes that there will be no costs associated with its carbon emissions over the next decade — which is out of sync with the large Florida utilities.

Gas Over-dependence: GRU's reliance on gas stays under 50% over the decade. But GRU notes that it is evaluating the possibility of adding gas generation to the Deerhaven site in 2021 by fuel switching from coal to gas. It's unclear whether GRU is considering more cost effective alternatives such as efficiency and solar paired with battery storage.

Uneconomic Coal: Despite conceding that coal carries significant price risks for consumers related to both fuel and transportation, GRU is increasing coal from 22.5% in 2019 to 31.2% in 2029.

Consumer Protection and Affordability: GRU stopped shut-offs and waived late fees from March 17-July 17th. GRU lowered its customers' bill by 17% over a six month period through September 2020. GRU will also auto-enroll customers in its "Coronavirus Payment Plan," which spreads any accumulated debts over six months.

Market Competition: GRU has no PPAs for fossil energy sources. In 2017, it purchased the biomass plant from the company with which it held a 30 year PPA, and curiously plans to reduce its energy output from 594GWh in 2019 to 159 GWh in 2020, despite expectations of lower fuel costs. GRU also plans to purchase solar from a 50 MW solar system with 12MW battery via a 20 year PPA starting in 2023.

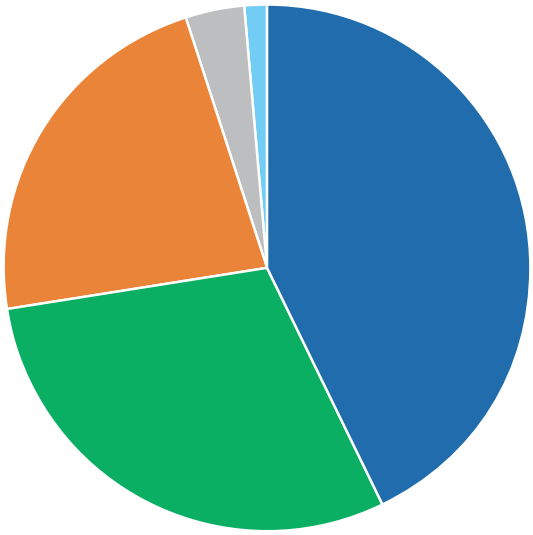
Customer Choice: GRU offers rooftop solar net metering with a cash credit at the end of the year for any excess generation. It also continues to purchase over 18 MW of customer-owned solar from a legacy 2009 feed in tariff. But GRU does not offer a community solar program for customers who can't use rooftop solar.

Investment in Resilient Storage: GRU's plan doesn't give much consideration to how storage fits into its system, and GRU has no storage on the grid currently. However, GRU is planning to enter into a PPA in 2023 from a 50 MW solar system with 12MW battery — using storage for ramp rate control.

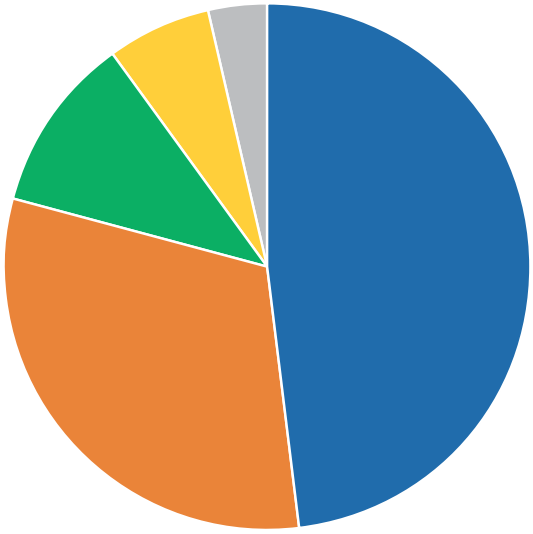
Electric Vehicle Promotion: GRU includes forecasts of PEV adoption in its load forecasts, but does not offer any programs or tariffs for EVs. GRU is considering developing an EV off peak rate or incentive in the future.

Gainesville Regional Utilities plans to use less renewable energy in 2029 than it does today: dropping from 31% to 17%.

GRU Energy Mix, 2019 (Actual)



GRU Energy Mix, 2029 (Planned)



Florida Power & Light, Gulf Power

	2019 FPL (Actual)		2019 Gulf (Actual)		2029 Merged (Planned)	
Gas	74.6%	93,373 GWh	75.0%	8,808 GWh	61.5%	87,157 GWh
Nuclear	22.2%	27,791 GWh	0%	—	20.2%	28,590 GWh
Coal	2.0%	2,488 GWh	35.1%	4,125 GWh	0.2%	232 GWh
Solar	1.9%	2,396 GWh	2.0%	232 GWh**	16.2%	22,947 GWh
Residual	0.2%	224 GWh	0%	—	0%	—
Fuel Oil	0.2%	224 GWh	0%	—	0%	5 GWh
Purchases	-1.1%	-1,328 GWh	9.4%	1,101 GWh	1.3%	1,789 GWh
Wind PPAs	0%	—	8.8%	1,031 GWh	0.7%	1,031 GWh
Exports	0%	—	-30.3%	-3,556 GWh	0%	—
TOTAL		125,168 GWh		11,742 GWh		141,751 GWh

Duke Energy Florida

	2019 (Actual)		2029 (Planned)	
Gas	78.8%	35,092 GWh	77.3%	35,671 GWh
Coal	9.7%	4.322 GWh	7.7%	3,540 GWh
Imports/ Exchanges	5.3%	2,352 GWh	0.1%	34 GWh
Purchases	4.1%	1,803 GWh	0%	2 GWh
MSW	1.5%	670 GWh	2.1%	949 GWh
Fuel Oil	0.1%	30 GWh	0.1%	65 GWh
Solar	0.5%	222 GWh	12.7%	5,862 GWh
Biomass	0%	15 GWh	0%	0 GWh
TOTAL		44,505 GWh		51,985 GWh

Tampa Electric

	2019 (Actual)		2029 (Planned)	
Gas	84.2%	17,493 GWh	84.6%	18,981 GWh
Coal	5.8%	1,214 GWh	2.0%	444 GWh
Import/ Export	5.2%	1,085 GWh	0%	-7 GWh
Purchases	3.6%	756 GWh	12.9%	2,902 GWh
Solar	1.1%	220 GWh	0.5%	122 GWh
Fuel Oil	0%	1 GWh	0%	—
Other	0%	—	0.1%	-12 GWh
TOTAL		20,770 GWh		22,430 GWh

Seminole Electric Cooperative

	2019 (Actual)		2029 (Planned)	
Coal	46.1%	6,952 GWh	16.0%	2,677 GWh
Imports	25.1%	3,785 GWh	20.3%	3,383 GWh
Gas	24.8%	3,745 GWh	59.1%	9,868 GWh
MSW	3.3%	493 GWh	0%	—
Biomass	0.6%	88 GWh	0%	—
Fuel Oil	0.1%	18 GWh	0%	7 GWh
Landfill Gas	0.1%	10 GWh	0%	—
Solar	0%	4 GWh	4.6%	768 GWh
TOTAL		15,095 GWh		16,703 GWh

JEA

	2019 (Actual)		2029 (Planned)	
Gas	49.3%	6,312 GWh	45.5%	6,240 GWh
Coal	25.7%	3,287 GWh	37.4%	5,121 GWh
Imports	23.8%	3,050 GWh	12.3%	1,679 GWh
Landfill Gas	0.7%	88 GWh	0%	–
Solar	0.5%	58 GWh	4.8%	663 GWh
Fuel Oil	0%	2 GWh	0%	1 GWh
Residual	0%	1 GWh	0%	–
TOTAL		12,798 GWh		13,704 GWh

Orlando Utilities Commision

	2019 (Actual)		2029 (Planned)	
Coal	46.6%	3,614 GWh	39.2%	3,250 GWh
Gas	45.8%	3,554 GWh	41.1%	3,405 GWh
Nuclear	5.8%	449 GWh	6.7%	554 GWh
Landfill Gas	1.6%	123 GWh	3.9%	320 GWh
Solar	0.3%	22 GWh	9.2%	766 GWh
TOTAL		7,762 GWh		8,295 GWh

Florida Municipal Power Authority

	2019 (Actual)		2029 (Planned)	
Gas	75.6%	4,757 GWh	81.2%	5,507 GWh
Coal	17.8%	1,121 GWh	5.9%	403 GWh
Nuclear	5.9%	368 GWh	5.9%	399 GWh
Biofuels	0.4%	28 GWh	0.3%	23 GWh
Landfill Gas	0.2%	13 GWh	0.1%	6 GWh
Fuel Oil	0%	3 GWh	0%	–
Solar	0%	–	6.5%	443 GWh
TOTAL		20,770 GWh		22,430 GWh

Lakeland Electric

	2019 (Actual)		2029 (Planned)	
Gas	74.7%	2,382 GWh	50.8%	1,767 GWh
Coal	17.2%	548 GWh	28.8%	1,003 GWh
Imports	7.2%	231 GWh	19.6%	682 GWh
Solar	0.9%	28 GWh	0.8%	28 GWh
Fuel Oil	0%	0 GWh	0%	1 GWh
TOTAL		3,189 GWh		3,481 GWh

City of Tallahassee Utilities

	2019 (Actual)		2029 (Planned)	
Gas	101.7%	2,900 GWh	100.7%	2,998 GWh
Solar	1.4%	41 GWh	3.9%	117 GWh
Hydro	0.2%	7 GWh	0%	—
Exports	-1.7%	-95 GWh	-4.6%	-137 GWh
TOTAL		2,852 GWh		2,977 GWh

Gainesville Regional Utilities

	2019 (Actual)		2029 (Planned)	
Gas	42.7%	854 GWh	48.2%	952 GWh
Biomass	29.7%	594 GWh	10.7%	211 GWh
Coal	22.5%	449 GWh	31.2%	616 GWh
Purchases	3.6%	72 GWh	3.6%	71 GWh
Landfill Gas	1.2%	23 GWh	0%	—
Fuel Oil	0.4%	7 GWh	0%	—
Residual	0.1%	1 GWh	0%	—
Solar	0%	—	6.3%	124 GWh
TOTAL		2,000 GWh		13,704 GWh