SOLAR IN THE SOUTHEAST

2018 Annual Report

Southern Alliance for Clean Energy
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Southern Alliance for Clean Energy

INTRODUCTION

Solar in the Southeast illuminates the critical role of utilities in the growing southeastern solar market. Southeastern states, particularly Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee, grant monopoly utilities, rather than a competitive marketplace, the responsibility and control over power supplies. Consequently, the location of a home or business is the primary determinant not only of which utility will supply the electricity, but also the amount of solar within that portfolio.

To provide an equitable, unbiased comparison of various-sized utilities throughout the Southeast, SACE has ranked utilities on the basis of ***watts per customer*** (W/C) of solar power sourced to the customer. SACE has also calculated and forecast total installed capacity of solar power (in megawatts, MW) particularly for state comparisons.

The purpose of this report is to document current progress and trends at both utility and state levels, as well as identify policies and practices to drive continued solar growth in the Southeast.

ABOUT SACE

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

Proper citation for this report: "Southern Alliance for Clean Energy (2019). *Solar in the Southeast, 2018 Annual Report.*"

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EXECUTIVE SUMMARY

UTILITIES

- South Carolina Electric & Gas (SCE&G) emerged as a solar power player in 2018, joining Duke Energy Progress, Duke Energy Carolinas, and Georgia Power at the top of our leaderboard. Each of these utilities offers more than 400 watts of solar per customer (W/C).

- Fellow Palmetto State utility, Santee Cooper, resides at the bottom of the board for both 2018 and our 2022 forecast.

- Florida Power & Light (FPL) announced a bold commitment in 2019 that will propel it to solar leadership for the next decade.

STATES

- Florida is beginning to live up to its reputation as the Sunshine State, surpassing Georgia on installed capacity (MW) in 2018. By 2022, we also forecast solar capacity in Florida to exceed that of North Carolina.

- Even with major announcements from Facebook and Google, Tennessee and Alabama exhibit less than half the regional average throughout our forecast period (2022).

CONTINUED GROWTH

Solar growth continues in the Southeast (adding 65% in 2018). The region will **surpass 10,000 MW in 2019.** SACE now anticipates 19,000 MW by 2022, up from our prior projection of 15,000 by 2021.

CURRENT AND FUTURE LEADERS

Duke Energy Progress, SCE&G, Duke Energy Carolinas and Georgia Power are the current utility leaders ranked by **watts per customer (W/C)** offering unbiased identification of leaders in the southeast solar market. Walton EMC, FPL and Orlando Utilities Commission (OUC) join four returning **"SunRisers"** demonstrating leading levels of planned solar growth.

CORPORATE LEADERSHIP

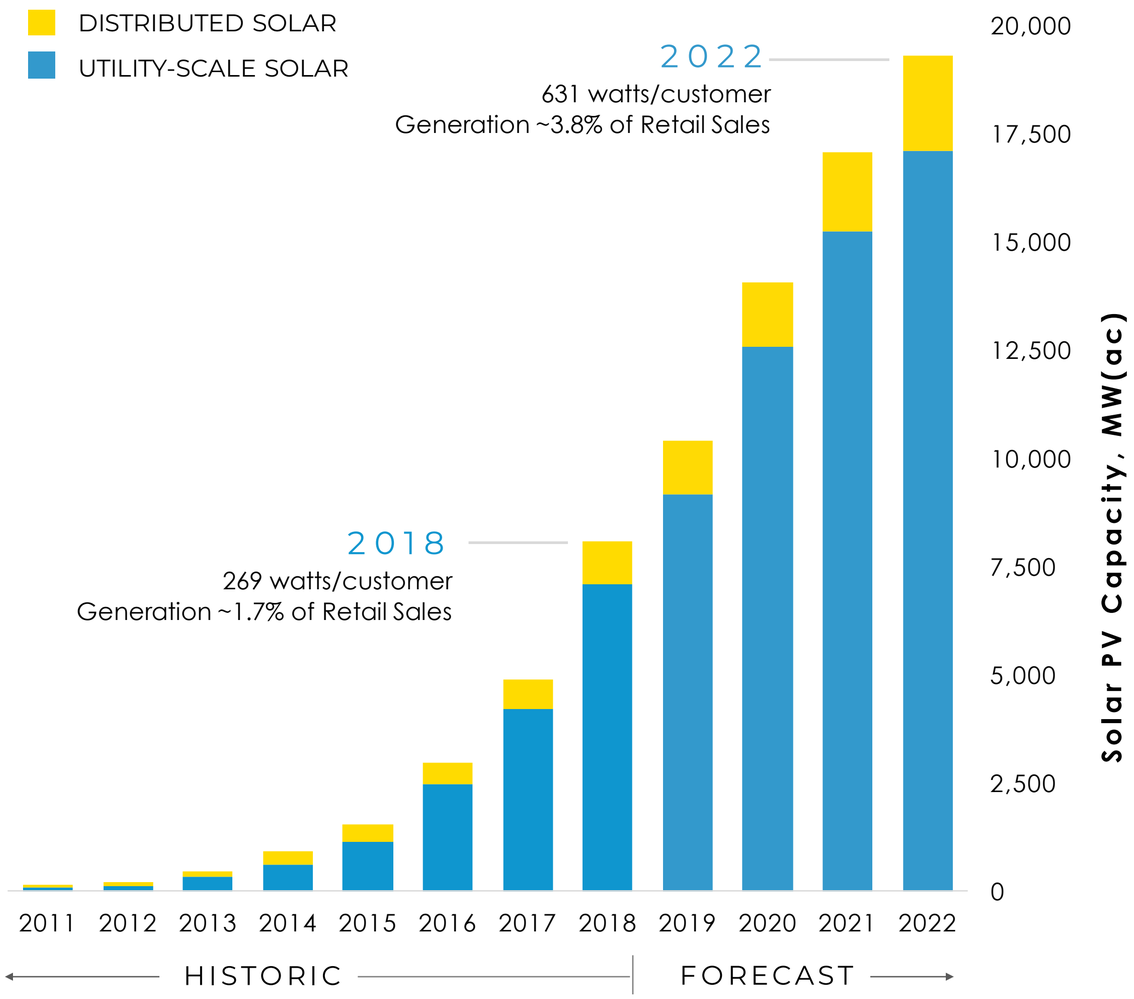
2018 was a banner year for corporate leadership on solar (nationwide 2.8 gigawatts, GW according to Rocky Mountain Institute)[1] and the Southeast was no exception. **Facebook** drove major solar commitments in Georgia (203 MW), Alabama (227 MW) and Tennessee (150 MW). **Google** announced projects for Tennessee and Alabama (150 MW each) and also joined with **Target**, **Walmart**, and **Johnson & Johnson**, to contract with Georgia Power for 177 MW of solar.

"SUNBLOCKERS"

Santee Cooper, North Carolina Electric Cooperatives, and **Seminole Electric Cooperative** are sticking with outdated plans for low levels of solar. Despite being home to several of the corporate projects above, **TVA** falls into this category, as well. We project that solar W/C for these four utilities will remain below today's regional average W/C through at least 2022.

1. PV Magazine, December 18, 2018
Corporate solar procurement knocks it out of the park in 2018

SOUTHEAST SOLAR CAPACITY FORECAST



GROWTH CONTINUES

The seven-state Southeast region featured over 8,000 MW of solar in 2018 and will comfortably surpass 10,000 MW in 2019. Based on utility and other industry forecasts, SACE has increased its forecast to 17,000 MW by 2021 and nearing 20,000 MW for 2022. Much of this growth represents existing contracts and commitments that remain highly certain.

UTILITY-SCALE SOLAR DOMINATES

Utility-scale solar is favored by an economic advantage, policies, and discretionary utility practices that discourage customer-sited solar ("behind the meter"). Individual projects as large as 200 MW are underway in the Southeast.

INCREASED ACCESS

Certain markets are poised for growth in distributed generation solar, as well. Legislation pending in South Carolina will extend net metering. The Florida Public Service Commission (PSC) approved solar lease designs that should promote further growth and opportunity. Florida utilities are also advancing shared/community solar programs that should expand access for customers interested in solar.

LIMITED GRID IMPACTS

Even with over 19,000 MW in 2022, the corresponding solar generation is less than 4% of retail sales, considerably below levels that could trigger changes in grid operation practices.

LARGE UTILITY SYSTEM RANKINGS

SYSTEMS WITH > 500,000 CUSTOMERS	2018 WATTS/ CUSTOMER
DUKE ENERGY PROGRESSS	1,625
SC ELECTRIC & GAS	512
DUKE ENERGY CAROLINAS	508
GEORGIA POWER	426
SOUTHEAST AVERAGE	269
DUKE ENERGY FLORIDA	188
FLORIDA POWER & LIGHT	167
TAMPA ELECTRIC	157
OGLETHORPE POWER	152
TENNESSEE VALLEY AUTHORITY	84
ALABAMA POWER	67
NC ELECTRIC COOPERATIVES	45
SEMINOLE ELECTRIC CO-OP	24
SANTEE COOPER	22

Drivers of solar leadership vary. Currently the top three utilities (DEP, SCE&G, DEC) all hail from the Carolinas – North Carolina with a renewable energy and energy efficiency portfolio standard and South Carolina where major solar legislation is poised to pass for the second time in five years.

SCE&G leapt from below the Southeast regional average in 2017 to nearly double the regional average in 2018.

Georgia Power has continued deployment of its Renewable Energy Development Initiative (REDI). The Georgia Public Service Commission (PSC) has an opportunity to reinforce that legacy of leadership with comparable ambition in the 2019 Integrated Resource Plan (IRP).

A four-year forecast to 2022 showcases three Florida utilities making great strides. FPL embarks on the boldest 10-year solar commitment of any utility in the country; Tampa Electric increases solar penetration almost six-fold; and the portfolio of Duke Energy Florida (DEF) starts to resemble that of its Carolina brethren.

Some southeastern utilities, however, fail to exhibit significant solar ambition. Of these largest utility systems (each serving > 500,000 customers), the bottom four (Santee Cooper, the North Carolina Electric Cooperatives, Seminole Electric, and the Tennessee Valley Authority, TVA) are each forecast in 2022 to remain below the 2018 regional average.

SYSTEMS WITH > 500,000 CUSTOMERS	2022 FORECAST
DUKE ENERGY PROGRESSS	2,618
SC ELECTRIC & GAS	1,706
TAMPA ELECTRIC	934
DUKE ENERGY CAROLINAS	903
GEORGIA POWER	809
FLORIDA POWER & LIGHT	734
DUKE ENERGY FLORIDA	676
SOUTHEAST AVERAGE	631
ALABAMA POWER	335
OGLETHORPE POWER	286
TENNESSEE VALLEY AUTHORITY	251
SEMINOLE ELECTRIC CO-OP	120
NC ELECTRIC COOPERATIVES	71
SANTEE COOPER	42

The 13 largest utility systems in the Southeast each serve more than 500k customers. *This includes individual investor owned utilities like Georgia Power, as well as the combination of utilities organized into cooperatives like Oglethorpe and the federally-owned Tennessee Valley Authority. Also studied, but not exceeding the 500k customer benchmark, are several regional municipal power agencies.*

FORECAST FOR SELECT UTILITY SYSTEMS

DUKE ENERGY LEADS THE SOUTHEAST

Duke Energy has more than half of all the solar in the Southeast. Duke Energy Progress (DEP) remains atop our leaderboard. Duke's Carolinas and Florida utilities (DEC and DEF) are both forecast to be above the regional average in 2022.

SOUTHERN COMPANY

Mississippi Power serves the smallest customer base but exhibits the highest solar ratio within Southern Company. The Georgia Public Service Commission has an opportunity with Georgia Power's 2019 Integrated Resource Plan (IRP) to ensure a legacy of solar leadership. Alabama Power is not yet demonstrating solar ambition comparable to the rest of Southern Company.

FLORIDA POWER & LIGHT

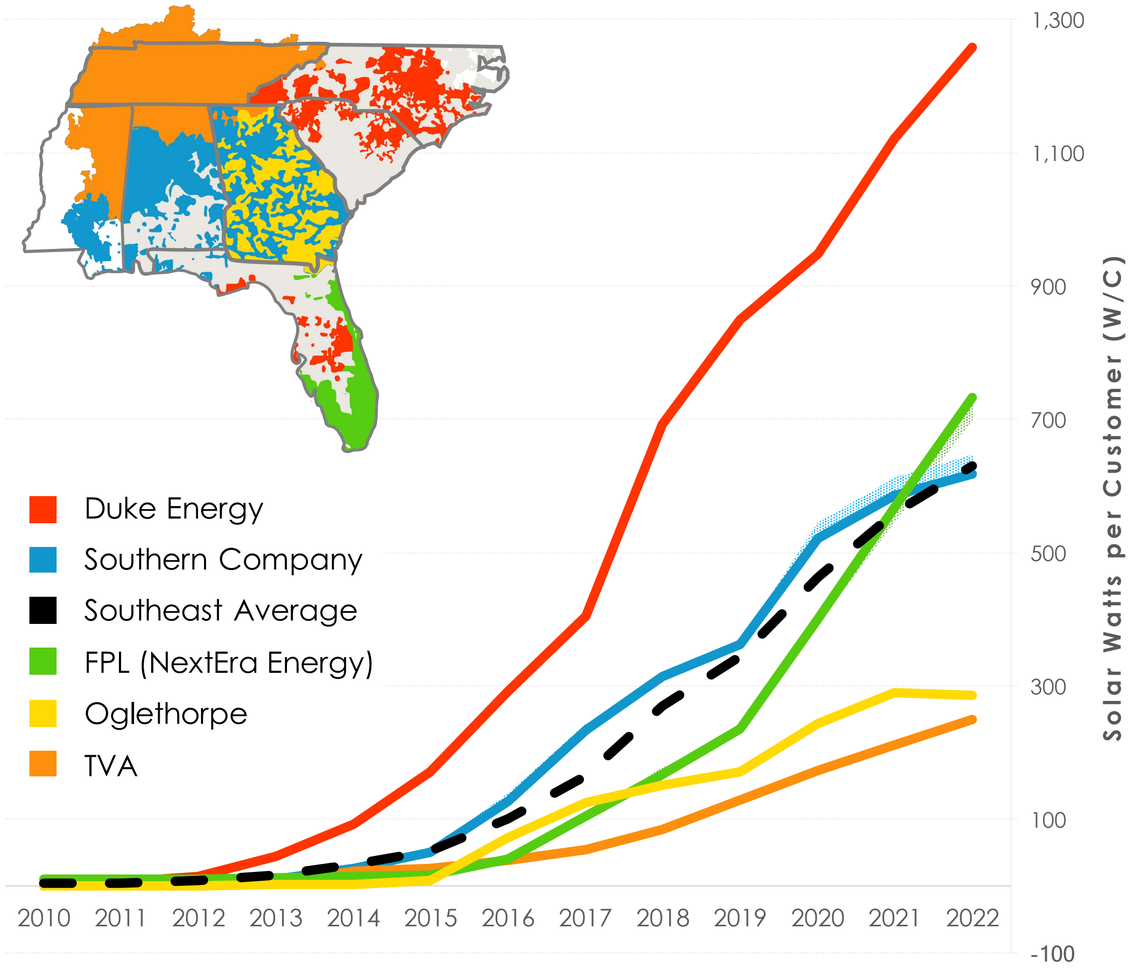
FPL recently announced the boldest 10-year solar commitment of any utility in the country. This will more than double the annual pace of solar expansion for the largest utility in the Southeast (4.9 million customers), FPL will exceed 3,500 MW of solar by 2022 (over 9,000 MW by 2029).

OGLETHORPE POWER

The increase in Oglethorpe's solar ratio over the next two years is largely attributable to the Walton EMC projects for Facebook (3 projects, 202.5 MW total).

TENNESSEE VALLEY AUTHORITY

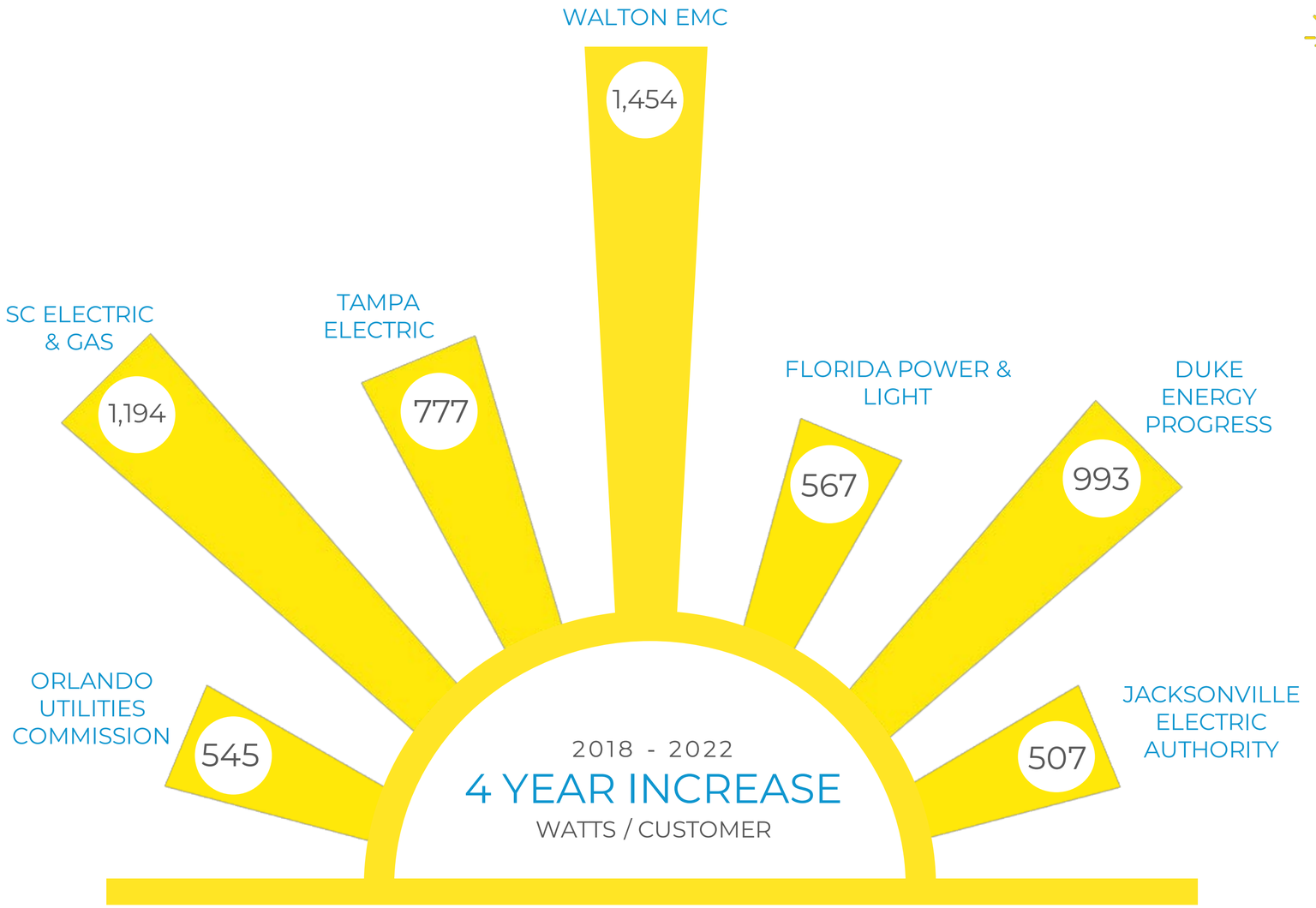
TVA is planning solar exclusively for large corporate customers rather than serving its public power obligation. Despite being home to projects for Facebook and Google, TVA's forecast is just 251 W/C by 2022, well below the Southeast average.



These five utility systems serve 74% of retail customers in the Southeast.

** Note: Gulf Power remained a unit of the Southern Company through 2018. That ownership transfer to NextEra will be reflected in the next update. Blue and green shaded areas illustrate the subtle effect that transaction will have on the forecast for both entities.*

SOUTHEAST SOLAR MOMENTUM: SUNRISERS



SUNRISERS:

Walton EMC burst onto the SunRiser list by commissioning three major solar projects (202.5 MW total with two different developers) to serve a new Facebook datacenter in Georgia.

The other new entrants on the list include FPL with plans to double its annual pace of solar expansion (~750 MW per year for the next decade) and Orlando Utilities Commission (OUC) as the anchor tenant in a 223.5 MW project FMPA commissioned for 12 Florida municipal utilities.

Through fulfillment of their ambitious plans, SCE&G, DEP, TECO, and JEA continue to earn distinction as SunRisers.

UTILITY	2018 W/C	**2022 W/C**
WALTON EMC	115	1,569
SC ELECTRIC & GAS	512	1,706
DUKE ENERGY PROGRESS	1,625	2,618
TAMPA ELECTRIC	157	934
FLORIDA POWER & LIGHT	167	734
ORLANDO (OUC)	168	713
JACKSONVILLE (JEA)	172	679

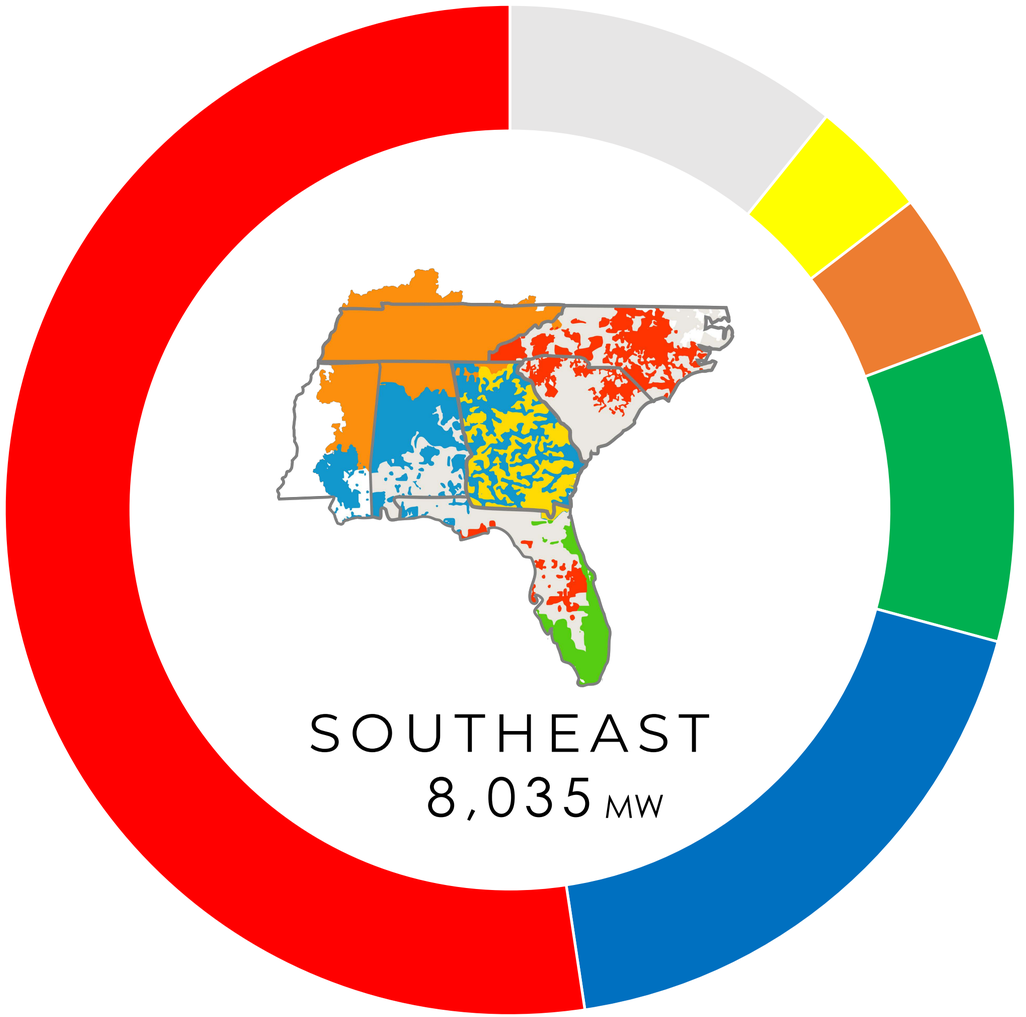
Minimum 100k customers

2018 SOUTHEAST SOLAR SNAPSHOT BY UTILITY

DUKE ENERGY
4,208 MW

SOUTHERN COMPANY*
1,481 MW

FLORIDA POWER & LIGHT
797 MW



OTHER UTILITIES
866 MW

OGLETHORPE POWER
305 MW

TENNESSEE VALLEY AUTHORITY
378 MW

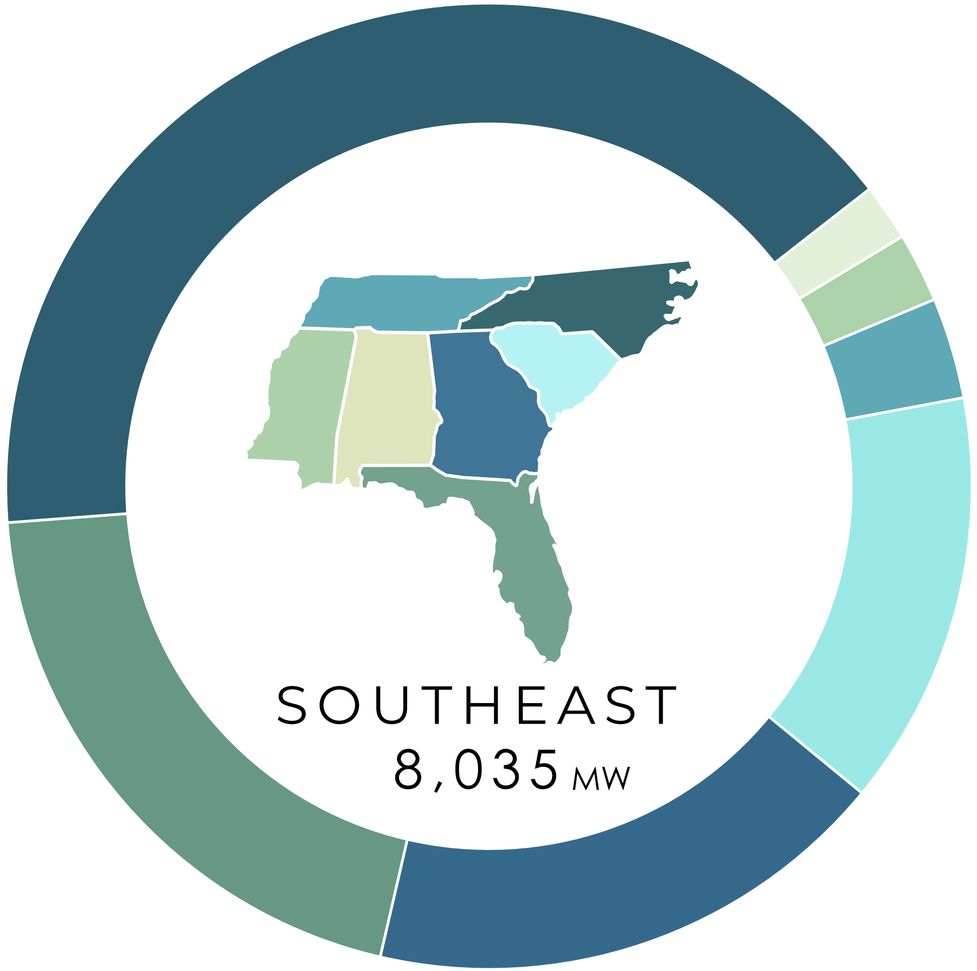
** Note: Gulf Power remained a unit of the Southern Company through 2018. That ownership transfer to NextEra will be reflected in the next update.*

2018 SOUTHEAST SOLAR SNAPSHOT BY STATE

NORTH CAROLINA
3,266 MW

FLORIDA
1,622 MW

GEORGIA
1,419 MW



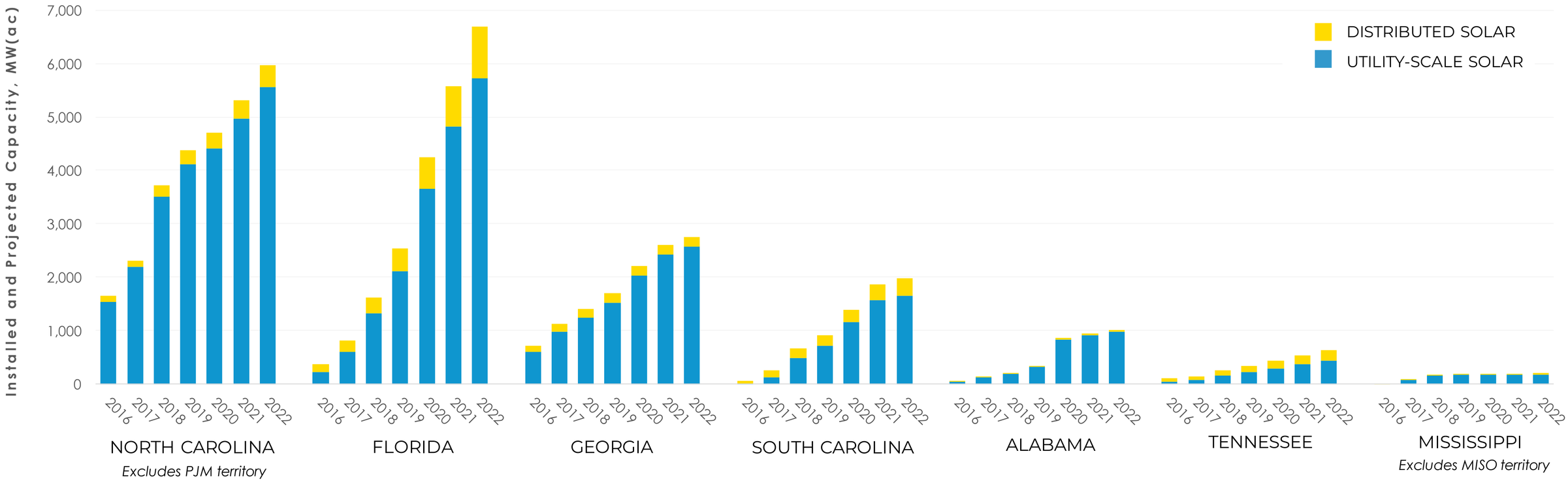
ALABAMA
153 MW

MISSISSIPPI
187 MW

TENNESSEE
272 MW

SOUTH CAROLINA
1,116 MW

FORECAST FOR SOUTHEAST STATES



North Carolina remains the southeast leader in solar capacity and among the highest in the country (currently number 2).[1] Florida utilities surpassed Georgia in installed capacity (MW) during 2018 and will outshine North Carolina within this forecast period (by 2022). The Georgia PSC has an opportunity to ensure a legacy of leadership by insisting on expansion of both utility-scale and distributed solar in Georgia Power's 2019 IRP.

A comprehensive solar bill is currently pending in the South Carolina Senate (after passing unanimously in the House). Among other provisions, the Energy Freedom Act will extend net metering in the Palmetto State. Our forecast includes additional expansion of distributed solar in Florida, as well, with approval last year of solar leasing programs from major parties.

Recent solar development in Alabama and Tennessee has been limited primarily to corporate purchases, rather than as an integrated resource serving all customers.

1. Solar Energy Industries Association. (2019, March 21). Solar Spotlight: North Carolina.

NORTH + SOUTH CAROLINA LEGISLATURES LEAD THE WAY

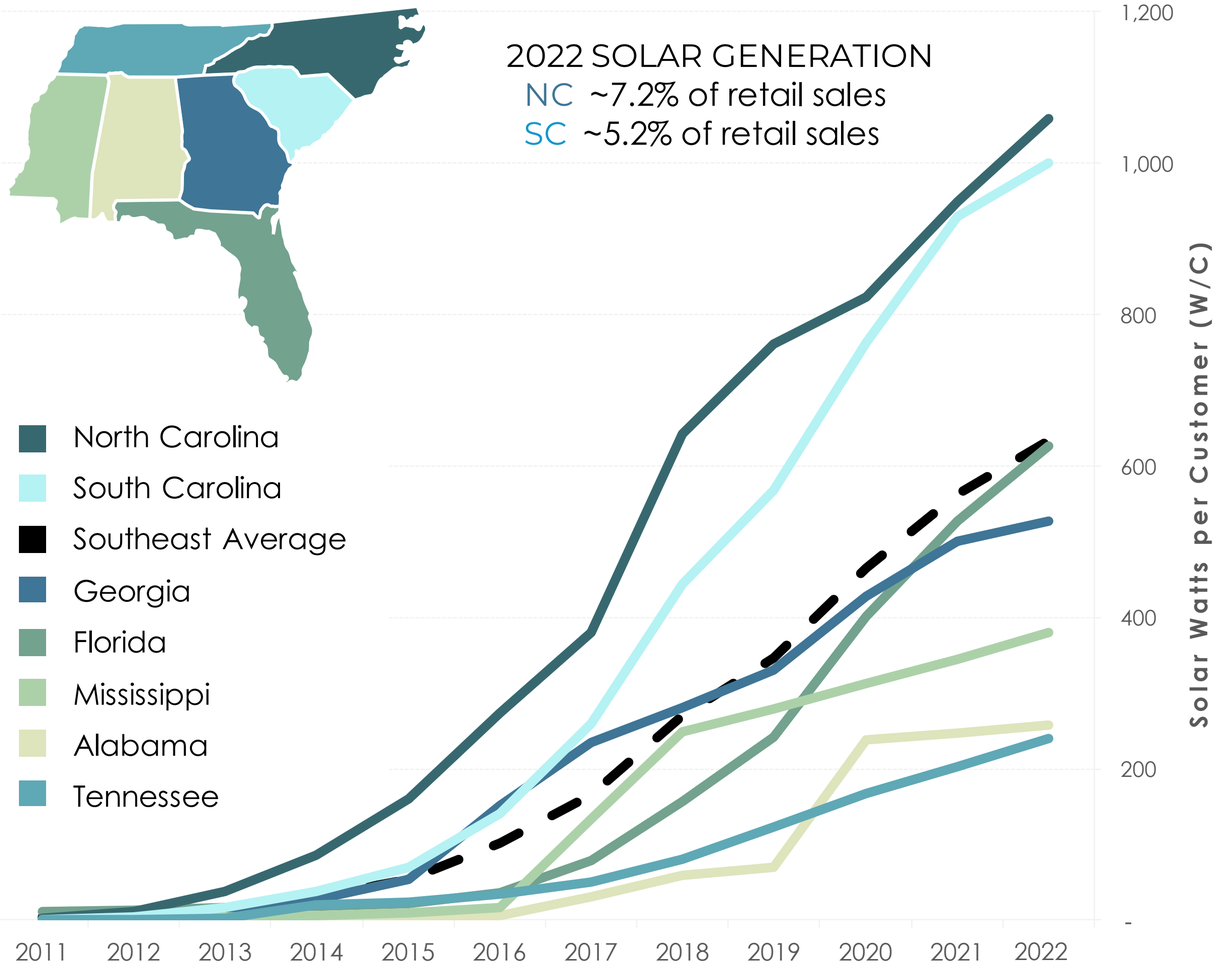
North Carolina's solar markets continue to thrive because of the 2017 Competitive Energy Solutions for North Carolina law (HB 589). That state will reach 6,000 MW by 2022.

South Carolina's Energy Freedom Act, presently pending in the state Senate, is designed to sustain all segments of that vibrant solar market.

Florida is starting to live up to its moniker as the Sunshine State and will surpass Georgia on watts per customer solar ratio by 2021. However, that will only only reflect parity with the region average.

Tennessee, Alabama and Mississippi remain considerably off pace from the other states.

STATE	2017 W/C	**2018 W/C**	2022 W/C
NORTH CAROLINA	379	**643**	1,059
SOUTH CAROLINA	259	**443**	1,000
GEORGIA	235	**280**	527
SOUTHEAST	*165*	***269***	*631*
MISSISSIPPI	134	**248**	381
FLORIDA	78	**157**	626
TENNESSEE	51	**81**	240
ALABAMA	31	**59**	257



** This analysis excludes the portion of Kentucky served by TVA. Similarly, the PJM portion of North Carolina is excluded as is the MISO portion of Mississippi.*

STATE PROFILES

ALABAMA

FLORIDA

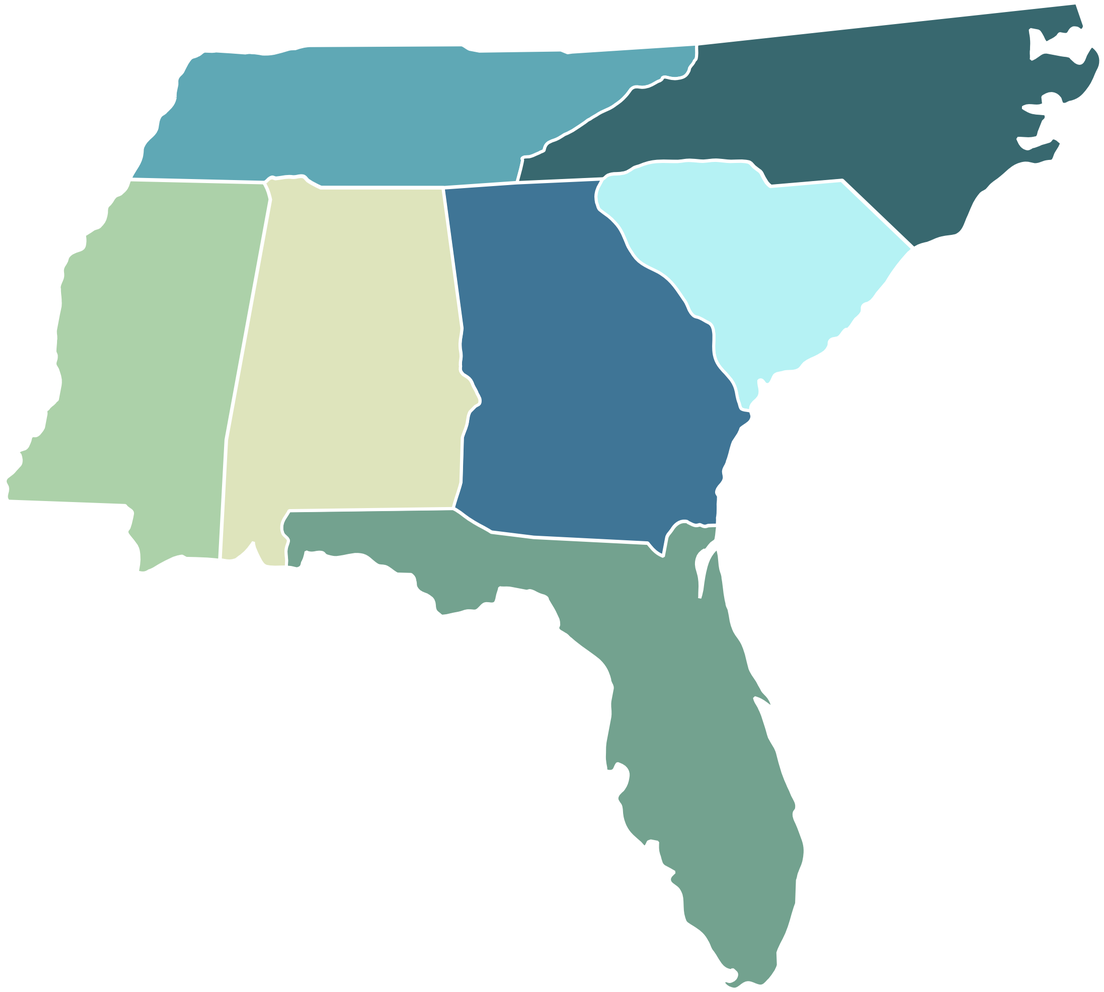
GEORGIA

MISSISSIPPI

NORTH CAROLINA

SOUTH CAROLINA

TENNESSEE



ALABAMA

LARGE PROJECTS ANTICIPATED IN NEXT FOUR YEARS

UTILITY-SCALE SOLAR, MW

UTILITY	2018	**2022**
ALABAMA POWER	97	**502**
TVA	38	**135**
POWERSOUTH	0	**0**

DISTRIBUTED SOLAR, MW

UTILITY	2018	**2022**
ALABAMA POWER	4	8
TVA	14	26
POWERSOUTH	0.5	1.0

- Alabama remains the southeastern state exhibiting the lowest solar watts per customer (W/C) ratio. 59 W/C is less than one-fourth of the regional average from 2018.
- Facebook and Google announced significant solar projects with TVA (677 MW total) and 377 MW of those projects will be located within Alabama. Due to the nature of the TVA system, the majority of its solar power will actually serve load in Tennessee rather than Alabama.

SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
SOUTHEAST AVERAGE	*269*	***631***
ALABAMA POWER	67	**335**
TVA	83	**263**
STATE AVERAGE	*59*	***257***
POWERSOUTH	1.4	**2.7**

- The anticipated expansion of solar for Alabama Power through 2022 reflects authorization received from the Alabama Public Service Commission (APSC) in 2015 to develop or procure up to 500 MW of renewable energy. SACE has maintained this projection and expects to see it validated in the next resource plan.
- PowerSouth has not, to SACE's knowledge, engaged in any substantial solar development. The solar capacity attributed to PowerSouth is an artifact of allocating solar projects geographically when the utility buyer is unknown, along with small pockets of distributed generation solar.

FLORIDA

BECOMING THE SUNSHINE STATE

UTILITY	UTILITY-SCALE SOLAR, MW 2018	UTILITY-SCALE SOLAR, MW **2022**	DISTRIBUTED SOLAR, MW 2018	DISTRIBUTED SOLAR, MW **2022**
FLORIDA POWER & LIGHT	699	**3,254**	98	308
DUKE ENERGY FLORIDA	261	**1,036**	91	294
TAMPA ELECTRIC	95	**623**	21	99
JACKSONVILLE (JEA)	65	**272**	10	33
ORLANDO (OUC)	27	**136**	12	40
GULF POWER	120	**120**	9	27
TALLAHASSEE	20	**60**	3	10
SEMINOLE	2	**42**	15	49
LAKELAND	18	**17**	3	11
GAINESVILLE (GRU)	6	**14**	23	27
POWERSOUTH	0	**0**	2.5	8.0

- Florida utilities are on a path to grow from 1,622 MW to over 6,000 MW of solar by 2022. FPL recently announced a program that will double the annual pace of its solar expansion. SACE projects FPL to have 3,500 MW by 2022, with a watts per customer (W/C) solar ratio considerably above the regional average and a 4-year increase that earns it SunRiser status.
- Florida is home to four designated SunRisers including Tampa Electric projecting the highest W/C ratio for the state in 2022.

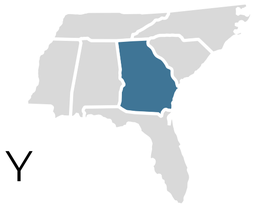
SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**	
TAMPA ELECTRIC	157	**934**	☀
FLORIDA POWER & LIGHT	167	**734**	☀
ORLANDO (OUC)	168	**713**	☀
JACKSONVILLE (JEA)	172	**679**	☀
DUKE ENERGY FLORIDA	188	**676**	
SOUTHEAST AVERAGE	269	**631**	
STATE AVERAGE	157	**626**	
TALLAHASSEE	198	**572**	
GULF POWER	291	**329**	
GAINESVILLE (GRU)	266	**298**	
LAKELAND	161	**208**	
SEMINOLE	24	**120**	⛅
POWERSOUTH	21	**64**	

- The pace of Distributed Solar will increase in part due to Public Service Commission approval of solar leasing designs from key companies: SunRun, Vivint and Tesla. Shared/community solar options are also likely to expand access to solar pending PSC approval of petitions by Tampa Electric and FPL.

GEORGIA

OPPORTUNITY TO SUSTAIN LEADERSHIP TRAJECTORY



UTILITY-SCALE SOLAR, MW

UTILITY	2018	**2022**
GEORGIA POWER	952	**1,972**
OGLETHORPE	291	**595**
TVA	6	**20**
MEAG	0	**0**

DISTRIBUTED SOLAR, MW

UTILITY	2018	**2022**
GEORGIA POWER	140	151
OGLETHORPE	15	21
TVA	6	8
MEAG	4	6

- Georgia's 2018 watts per customer (W/C) solar ratio is higher than the Southeast average – but will require additional ambition to avoid falling below average by 2022.
- The Georgia Public Service Commission (PSC) has an opportunity to demand additional solar development in the Georgia Power 2019 Integrated Resource Plan (IRP) and sustain Georgia's solar leadership.

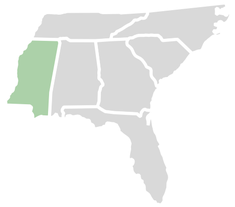
SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
GEORGIA POWER	426	**809**
SOUTHEAST AVERAGE	*269*	***631***
STATE AVERAGE	*280*	***527***
OGLETHORPE	152	**286**
TVA	77	**186**
MEAG	13	**17**

- Georgia Power's proposed 2019 IRP anticipates less solar than approved in its 2016 IRP. Moreover, the plan is designed to offer that solar exclusively to corporate customers rather than as a truly integrated part of its portfolio to serve customers.
- Oglethorpe's increase is largely attributable to the Walton EMC projects for Facebook (3 projects, more than 200 MW total) to serve a new Facebook datacenter in Georgia. That project earned Walton EMC the top rank on our SunRiser list – representing the highest increase in W/C solar ratio over the next four years.

MISSISSIPPI

FORECAST BEHIND THE REGIONAL AVERAGE



UTILITY-SCALE SOLAR, MW

UTILITY	2018	**2022**
MISSISSIPPI POWER	158	**158**
TVA	24	**88**

DISTRIBUTED SOLAR, MW

UTILITY	2018	**2022**
MISSISSIPPI POWER	3	18
TVA	1	9

- Mississippi Power exhibits one of the highest watts per customer solar ratios of any utility in the southeast (826 W/C in 2018). A relatively small customer base (approximately 190,000 retail customers) denominates that ratio.
- SACE is not aware of plans to expand utility-scale solar development within Mississippi Power's territory. Our forecast does include considerable expansion of distributed solar for this Southern Company operating unit.
- An Integrated Resource Planning (IRP) process under development in Mississippi will offer more transparency and opportunity for stakeholder involvement.

SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
MISSISSIPPI POWER	826	**926**
SOUTHEAST AVERAGE	269	**631**
STATE AVERAGE	*248*	***381***
TVA	59	**222**

Note: The Southeast region for SACE does not include the portion of Mississippi in the MISO territory served by Entergy Mississippi.

- Tennessee Valley Authority (TVA) operations in Mississippi offer far less solar at just 59 watts per customer. The consequent state average (248 W/C) is below the region average (270 W/C). Moreover, the state trajectory remains well under the region forecast for 2022.
- Presently, most of the solar provided by TVA to Mississippi customers is generated in Tennessee and Alabama. Less than 5 MW of the 25 MW of solar TVA supplies to Mississippi is installed in-state.
- Mississippi's state average in 2018 (248 W/C) was close to the Southeast average (269 W/C). Limited plans for expansion over the following four years, however, shows the state falling further behind the region.

NORTH CAROLINA

SETTING A GOOD EXAMPLE

	UTILITY-SCALE SOLAR, MW		DISTRIBUTED SOLAR, MW	
UTILITY	2018	**2022**	2018	**2022**
DUKE ENERGY PROGRESS	2,072	**3,304**	75	140
DUKE ENERGY CAROLINAS	884	**1,572**	105	198
NC EASTERN MUNICIPAL	63	**63**	1	3
NC ELECTRIC COOPERATIVES	31	**43**	17	33
TVA	1	**4**	17	32
NC MUNICIPAL POWER	0	**0**	0.7	1.3

- North Carolina has the most solar PV capacity in the Southeast (and second-most in the United States).[1] It is the only state in the Southeast with a renewable portfolio standard, which initiated solar development more than a decade ago.
- Favorable economics and a competitive bid process established by the North Carolina legislature[2] combined to ensure the solar growth in the state through 2022.

1. Solar Energy Industries Association. (2019, March 21). Solar Spotlight: North Carolina
2. 2017 Competitive Energy Solutions for North Carolina law (HB 589).

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

SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
DUKE ENERGY PROGRESS	1,561	**2,516**
STATE AVERAGE	*643*	***1,059***
DUKE ENERGY CAROLINAS	481	**856**
TVA	404	**821**
SOUTHEAST AVERAGE	*269*	***631***
NC EASTERN MUNICIPAL	256	**262**
NC ELECTRIC COOPERATIVES	45	**71**
NC MUNICIPAL POWER	5	**10**

- Duke Energy Progress demonstrates particular solar leadership. DEP consistently tops our ranking of largest utilities in the Southeast. Despite having the highest base (from 2018), DEP still qualifies as a SunRiser, among the highest increases over our four-year forecast period.
- In general, co-ops and munis have been slower to adopt solar than investor-owned utilities. In this year's report, we designate NC Electric Cooperatives as a SunBlocker – one of four large utility systems forecast to have lower solar ratio in 2022 than the current average for the region.

SOUTH CAROLINA

SOLAR LEADERSHIP IN THE PALMETTO STATE

UTILITY-SCALE SOLAR, MW

UTILITY	2018	**2022**
SCE&G	263	**1,058**
DUKE ENERGY CAROLINAS	332	**590**
DUKE ENERGY PROGRESS	350	**557**
SANTEE COOPER	4	**8**

DISTRIBUTED SOLAR, MW

UTILITY	2018	**2022**
SCE&G	110	230
DUKE ENERGY CAROLINAS	31	58
DUKE ENERGY PROGRESS	9	17
SANTEE COOPER	18	33

- South Carolina's "Energy Freedom Act" (currently pending in the state Senate, after passing the House unanimously) is comprehensive solar legislation that will sustain this vibrant market. Targets set in South Carolina's Act 236 from 2014 had underestimated the demand for solar in the state. Instead of propelling growth of the distributed solar market through 2021 as intended, investor-owned utilities began encountering statutory caps three years early.

SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
DUKE ENERGY PROGRESS	2,150	**3,459**
SCE&G	512	**1,706**
DUKE ENERGY CAROLINAS	599	**1,064**
STATE AVERAGE	*443*	***1,000***
SOUTHEAST AVERAGE	*269*	***631***
SANTEE COOPER	22	**42**

- The watts per customer (W/C) solar ratios for Duke Energy Progress (DEP) and Duke Energy Carolinas (DEC) are higher in South Carolina than its neighboring North Carolina utilities. DEP earned a return trip to SACE's SunRiser list – showcasing the leadership of utilities with the highest forecast four-year increase in W/C solar ratio.
- SCE&G dramatically expanded its utility-scale solar capacity in 2018 – joining DEP and DEC above the Southeast average solar ratio in 2018 and with a four-year forecast that reinforced its designation on SACE's list of SunRisers.
- State-owned utility Santee Cooper serves approximately one million retail customers, yet fails to offer sufficient solar resources and remains on SACE's list of SunBlockers for the second year.

TENNESSEE

FALLING FURTHER BEHIND UNDER TVA LEADERSHIP

UTILITY-SCALE SOLAR, MW

UTILITY	2018	**2022**
TVA	171	616

DISTRIBUTED SOLAR, MW

UTILITY	2018	**2022**
TVA	101	185

- The Tennessee Valley Authority, TVA, is unlike most of the other large utilities in the Southeast. They are a self-regulated monopoly not subject to federal or state regulatory oversight.
- TVA was an early leader in small-scale, distributed solar. Recently, however, it is aggressively using a self-regulated rate design process to undercut solar penetration and dis-incentivize distributed solar throughout the Valley.
- Instead of "net metering" – a billing practice to support customer-owned solar that exists in 38 states[1] – TVA implemented a "dual meter" scheme where it buys all the power owners generate on-site, and requires those same customers to buy all the power they consume from the local power company (LPC) at retail rates.
- After decreasing the rate it pays for solar power produced by these customer-generators in 2018, TVA has since announced it will sunset this Green Power Providers program at the end of 2019 with no current plan to replace it, further slowing solar development and planning ability.

SOLAR WATTS PER CUSTOMER

UTILITY	2018	**2022**
SOUTHEAST AVERAGE	*269*	***631***
MEMPHIS (MLGW)	84	**251**
CHATTANOOGA (EPB)	84	**250**
TVA (TN) AVERAGE	*81*	***240***
NASHVILLE (NES)	80	**235**
MIDDLE TENNESSEE (EMC)	76	**218**
KNOXVILLE (KUB)	74	**215**
VOLUNTEER ELECTRIC CO-OP	64	**175**

The 6 largest Local Power Companies (LPCs) in Tennessee are included above.

Kingsport, TN (served by AEP Appalachian Power) is not included in the Southeast region.

- TVA's has released a draft Integrated Resource Plan (IRP). Unfortunately this plan continues to reflect limited solar ambition throughout SACE's four-year forecast period.
- Facebook and Google announced significant solar projects with TVA (677 MW total) and 300 MW of those projects will be located in Tennessee. This reflects leadership by those corporations rather than signifying evolved thinking by TVA management.

DATA SOURCES, METHODS & ASSUMPTIONS

Compiling data from publicly-available reports as well as proprietary forecasts, SACE has curated a system of information about electric power generation in the southeast United States. For the *Solar in the Southeast* Annual Report, primary datasets derive from the Energy Information Administration (EIA) and the Federal Energy Regulatory Commission – particularly, EIA 860 (Annual Electric Generator Data), EIA 861 (Annual Electric Power Industry Report), EIA 923 (Annual Electric Utility Data) and FERC 714 (Annual Electric Balancing Authority Area and Planning Area Report).

Future projections are informed by additional datasets including Wood Mackenzie Power & Renewables (formerly GTM Research), the EIA Annual Energy Outlook, utility Integrated Resource Plans (IRPs), interconnection queues, identified projects as well as utility announcements of ongoing and future plans, along with information gathered from solar developers and professional judgement of staff experts.

Solar data are reported as $MW_{(ac)}$ – alternating current. Where applicable, data identifiable as $MW_{(dc)}$ is derated to $MW_{(ac)}$ equivalent. *AC reporting is becoming increasingly more common, particularly for utility-scale solar projects.*

SACE tracks both capacity as well as generation, $MW_{(ac)}$ and MWh, respectively. Consequently, the capacity of solar projects that begin operation late in the year are only partially attributable in the first year. Tracking solar data in this manner enables a correlation between capacity and generation statistics.

In some cases, the utility that receives the generation from planned or existing solar projects is not known. In such cases, the capacity and generation is allocated to utilities based on proximity and the degree to which utilities needs are met by generation owned or contracted for. The amount of solar capacity allocated to utilities in this manner is a small fraction of all Southeastern generation, but it can make up a substantial portion of the solar generation reported for utilities with small solar portfolios.

SACE projects distributed generation solar (e.g., residential and commercial rooftop solar) independently for large utility systems. Smaller municipal and cooperative systems are projected at an aggregate level based on the averages for those systems.

State-level reports are aggregated using two, complementary methods. Total solar capacity (MW) is reported in the state where the generation originates. Watts per customer calculations are allocated to the state where the load is served. SACE apportions utility-scale solar generation to loads served across multi-state utility service territories. Smaller, distributed generation systems are assumed to serve their local load. This method establishes a close relationship with the retail sales and customers served by the respective utilities. *For example, a solar project in Alabama contracted to the Tennessee Valley Authority (TVA) will proportionally serve customers in multiple states across TVA service territory.*

SOLAR IN THE SOUTHEAST

2018 Annual Report

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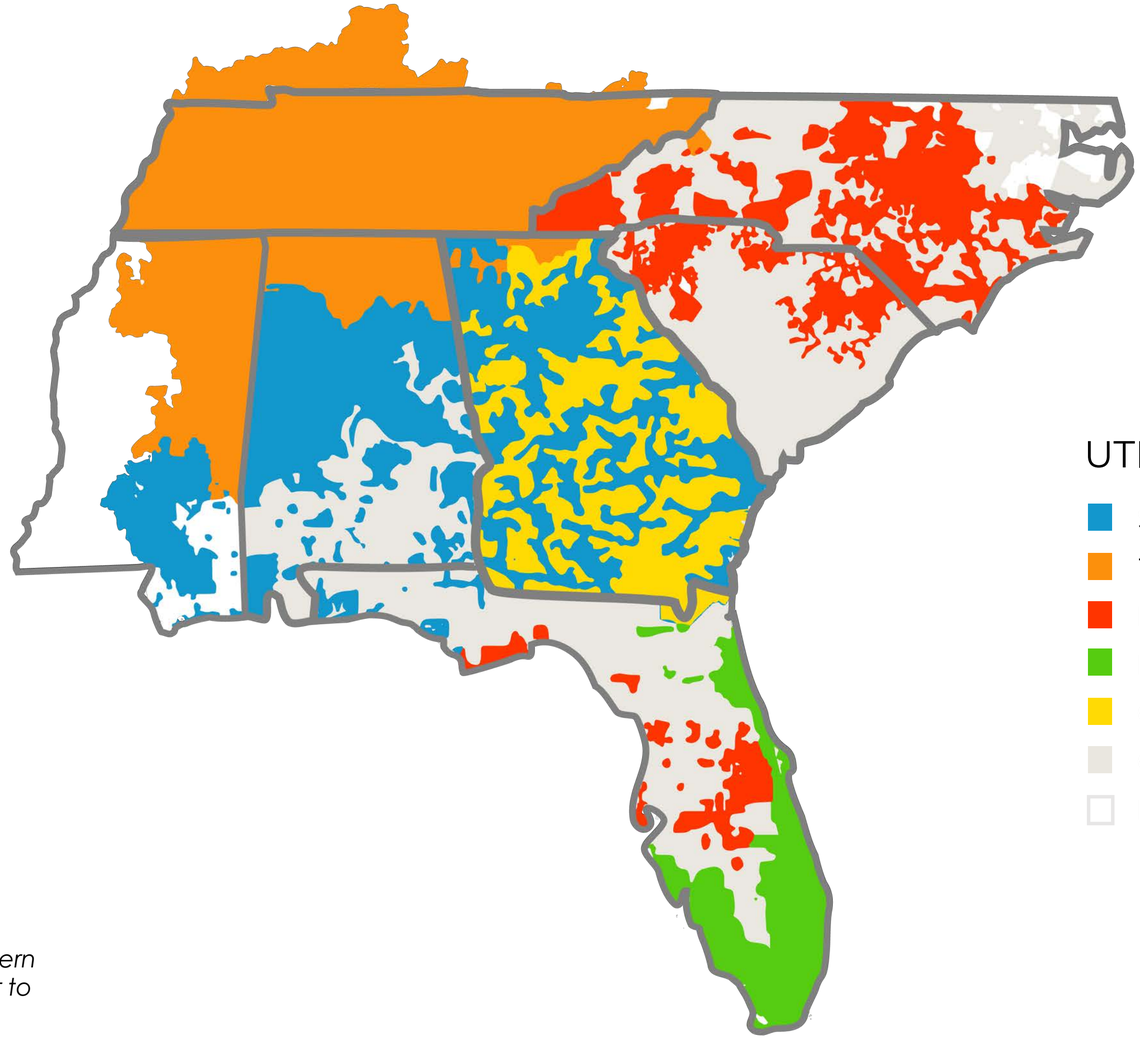
APPENDIX A: SERVICE TERRITORIES OF FIVE SOUTHEAST UTILITY SYSTEMS



** Note: Gulf Power remained a unit of the Southern Company through 2018. That ownership transfer to NextEra will be reflected in the next update.*

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
All SE Utility Systems	29,735,793	165	**269**	631	141	**236**	560	23	**33**	71
Alabama Cooperatives	35,964	-	**1**	3	-	**-**	-	-	**1**	3
Black Warrior Electric Member Corp	26,623	-	**1**	3	-	**-**	-	-	**1**	3
Tombigbee Electric Cooperative	9,341	-	**1**	3	-	**-**	-	-	**1**	3
Alabama Municipals	70,205	-	**0**	0	-	**-**	-	-	**0**	0
City of Alexander City	6,144	-	**0**	0	-	**-**	-	-	**0**	0
City of Dothan	30,581	-	**0**	0	-	**-**	-	-	**0**	0
City of Opelika	12,603	-	**0**	0	-	**-**	-	-	**0**	0
Sylacauga Utilities Board	6,144	-	**0**	0	-	**-**	-	-	**0**	0
Troy Utilities Department	8,095	-	**0**	0	-	**-**	-	-	**0**	0
City of Tuskegee	6,638	-	**0**	0	-	**-**	-	-	**0**	0
Duke Energy	5,891,193	404	**692**	1,257	371	**641**	1,143	33	**51**	115
Duke Energy Progress	1,558,749	809	**1,625**	2,618	778	**1,570**	2,516	31	**54**	102
Duke Energy Carolinas	2,557,117	407	**508**	903	372	**457**	808	35	**51**	96
Duke Energy Florida	1,775,327	45	**188**	676	12	**139**	527	33	**48**	150
Florida Cooperatives	1,025,456	16	**24**	163	1	**3**	98	15	**21**	65
Central Florida Electric Cooperative	33,538	11	**23**	109	-	**2**	44	11	**21**	64
Clay Electric Cooperative	173,804	22	**24**	121	-	**3**	56	22	**21**	64
Florida Keys Electric Cooperative Association	32,792	12	**21**	211	-	**-**	147	12	**21**	64
Glades Electric Cooperative	16,370	11	**24**	125	-	**3**	60	11	**21**	64
Lee County Electric Cooperative	213,636	12	**21**	65	-	**-**	1	12	**21**	64
Peace River Electric Cooperative	41,123	33	**24**	119	-	**3**	55	33	**21**	64
Reedy Creek Improvement Dist	1,447	691	**799**	36,405	691	**746**	36,296	-	**52**	109
Sumter Electric Cooperative	200,526	10	**24**	113	-	**3**	49	10	**21**	64
Suwannee Valley Electric Cooperative	25,932	11	**24**	126	-	**3**	61	11	**21**	64
Talquin Electric Cooperative	53,832	13	**24**	118	-	**3**	54	13	**21**	64
Tri-County Electric Cooperative	18,212	6	**24**	116	-	**3**	52	6	**21**	64
Withlacoochee River Electric Cooperative	214,244	17	**24**	119	-	**3**	54	17	**21**	64

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
Florida Municipals	1,445,737	71	**140**	509	37	**97**	402	34	**44**	107
City of Alachua	4,506	209	**291**	2,102	58	**238**	1,993	151	**52**	109
City of Bartow	12,266	106	**58**	1,121	1	**6**	1,012	105	**52**	109
City of Clewiston	4,100	1	**59**	113	1	**7**	4	-	**52**	109
Fort Pierce Utilities Authority	28,257	4	**57**	217	1	**5**	108	2	**52**	109
Gainesville Regional Utilities	97,245	270	**266**	298	32	**46**	38	238	**219**	260
City of Green Cove Springs	4,192	28	**60**	113	2	**8**	4	26	**52**	109
Havana Power & Light Company	1,458	275	**56**	111	1	**4**	2	274	**52**	109
City of Homestead	24,402	8	**58**	498	1	**6**	389	7	**52**	109
Beaches Energy Services	34,795	19	**58**	409	1	**5**	300	17	**52**	109
JEA	464,116	53	**172**	672	36	**148**	598	16	**24**	74
City of Key West	29,859	11	**59**	113	1	**6**	4	9	**52**	109
Kissimmee Utility Authority	71,770	11	**54**	503	0	**2**	394	11	**52**	109
City of Lake Worth	27,105	1	**56**	458	1	**4**	349	-	**52**	109
City of Lakeland	129,112	110	**161**	208	101	**138**	126	9	**23**	82
City of Leesburg	25,821	14	**57**	112	1	**5**	3	13	**52**	109
City of New Smyrna Beach	27,644	8	**56**	111	1	**4**	2	7	**52**	109
City of Ocala	52,953	22	**59**	290	1	**6**	181	20	**52**	109
Orlando Utilities Commission	237,158	76	**168**	713	40	**115**	550	36	**53**	163
City of Starke	2,801	16	**59**	113	1	**6**	4	15	**52**	109
City of Tallahassee	115,556	100	**198**	572	88	**172**	491	11	**25**	82
City of Vero Beach	35,560	11	**52**	110	-	**-**	1	11	**52**	109
City of Wauchula	2,802	-	**-**	1,751	-	**-**	1,751	-	**-**	-
City of Winter Park	15,061	36	**60**	737	2	**7**	628	34	**52**	109
Florida Power & Light	4,901,846	105	**167**	734	91	**147**	670	14	**21**	63
Florida Public Utilities Company	32,038	21	**30**	94	-	**-**	-	21	**30**	94

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
Georgia Municipals	289,230	32	**32**	36	21	**19**	19	12	**13**	17
City of Adel	2,628	-	**13**	17	-	**-**	-	-	**13**	17
Albany Water Gas & Light Commission	37,083	-	**13**	17	-	**-**	-	-	**13**	17
City of Acworth	6,520	4	**13**	17	-	**-**	-	4	**13**	17
City of Buford	3,465	-	**13**	17	-	**-**	-	-	**13**	17
City of Cairo	4,461	-	**13**	17	-	**-**	-	-	**13**	17
City of Calhoun	5,368	6	**13**	17	-	**-**	-	6	**13**	17
City of Camilla	2,576	-	**13**	17	-	**-**	-	-	**13**	17
City of Cartersville	7,508	240	**13**	17	-	**-**	-	240	**13**	17
City of College Park	7,571	-	**13**	17	-	**-**	-	-	**13**	17
City of Covington	11,773	-	**13**	17	-	**-**	-	-	**13**	17
Crisp County Power Commission	11,948	3	**13**	17	-	**-**	-	3	**13**	17
Dalton Utilities	16,802	411	**391**	386	357	**377**	369	54	**13**	17
City of Douglas	5,868	-	**13**	17	-	**-**	-	-	**13**	17
City of East Point	15,682	-	**13**	17	-	**-**	-	-	**13**	17
City of Elberton	4,395	-	**13**	17	-	**-**	-	-	**13**	17
Fitzgerald Water Light & Bond Commission	5,641	-	**13**	17	-	**-**	-	-	**13**	17
Fort Valley Utility Commission	4,623	-	**13**	17	-	**-**	-	-	**13**	17
City of Griffin	15,019	-	**13**	17	-	**-**	-	-	**13**	17
City of La Grange	13,145	-	**13**	17	-	**-**	-	-	**13**	17
City of Lawrenceville	11,259	-	**13**	17	-	**-**	-	-	**13**	17
City of Marietta	41,413	13	**13**	17	-	**-**	-	13	**13**	17
City of Monroe	6,286	-	**13**	17	-	**-**	-	-	**13**	17
City of Moultrie	6,627	-	**13**	17	-	**-**	-	-	**13**	17
Newnan Water Sewer & Light Commission	10,023	-	**13**	17	-	**-**	-	-	**13**	17
City of Norcross	5,076	-	**13**	17	-	**-**	-	-	**13**	17
City of Sylvania	2,515	-	**13**	17	-	**-**	-	-	**13**	17
City of Thomaston	5,974	-	**13**	17	-	**-**	-	-	**13**	17
City of Thomasville	15,620	2	**13**	17	-	**-**	-	2	**13**	17
City of Washington	2,361	-	**13**	17	-	**-**	-	-	**13**	17

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
Mississippi Cooperatives	116,444	10	**13**	95	-	**-**	-	10	**13**	95
Pearl River Valley Electric Power Association	49,167	16	**13**	95	-	**-**	-	16	**13**	95
Southern Pine Electric Power Association	67,277	6	**13**	95	-	**-**	-	6	**13**	95
North Carolina Cooperatives	1,048,712	29	**45**	71	16	**29**	40	13	**16**	31
Albemarle Electric Member Corp	12,818	11	**32**	52	7	**16**	21	3	**16**	31
Blue Ridge Electric Member Corp	75,859	23	**29**	51	6	**13**	20	17	**16**	31
Cape Hatteras Electric Member Corp	7,731	12	**32**	55	7	**16**	24	5	**16**	31
Carteret-Craven Electric Member Corp	40,110	6	**30**	51	6	**14**	21	-	**16**	31
Central Electric Membership Corp	22,619	8	**33**	56	8	**17**	26	-	**16**	31
Edgecombe-Martin County Electric Member Corp	11,305	9	**34**	59	9	**18**	28	-	**16**	31
Four County Electric Member Corp	33,091	15	**42**	69	12	**26**	39	3	**16**	31
French Broad Electric Member Corp	36,970	28	**29**	50	6	**13**	20	22	**16**	31
Halifax Electric Member Corp	11,736	14	**244**	481	6	**228**	451	9	**16**	31
Haywood Electric Member Corp	26,701	17	**26**	46	5	**10**	15	13	**16**	31
Jones-Onslow Electric Member Corp	74,639	11	**31**	53	7	**15**	23	4	**16**	31
Lumbee River Electric Member Corp	60,825	20	**35**	60	9	**20**	30	11	**16**	31
Pee Dee Electric Member Corp	21,037	22	**33**	57	8	**17**	26	14	**16**	31
Pitt & Greene Electric Member Corp	8,719	10	**37**	62	10	**21**	31	-	**16**	31
Piedmont Electric Member Corp	31,663	67	**30**	52	6	**14**	21	60	**16**	31
Randolph Electric Member Corp	31,845	42	**31**	53	7	**15**	22	36	**16**	31
Roanoke Electric Member Corp	14,294	8	**34**	58	8	**18**	27	-	**16**	31
Rutherford Electric Member Corp	69,490	17	**32**	56	8	**17**	25	9	**16**	31
South River Electric Member Corp	44,258	17	**33**	57	8	**17**	26	9	**16**	31
Surry-Yadkin Electric Member Corp	27,017	17	**29**	50	6	**13**	19	11	**16**	31
Tri-County Electric Member Corp	24,886	250	**320**	346	250	**304**	315	-	**16**	31
Tideland Electric Member Corp	22,899	7	**31**	53	7	**15**	22	-	**16**	31
Union Electric Membership Corp	75,609	34	**32**	55	7	**16**	24	27	**16**	31
Wake Electric Membership Corp	43,323	17	**32**	55	7	**16**	24	9	**16**	31
EnergyUnited Electric Member Corp	128,256	17	**27**	47	4	**11**	17	13	**16**	31
Brunswick Electric Member Corp	91,012	20	**30**	52	6	**14**	21	13	**16**	31

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
North Carolina Municipals	539,850	67	**122**	127	63	**116**	116	4	**5**	10
City of Albemarle	12,124	-	**5**	10	-	**-**	-	-	**5**	10
Town of Apex	18,403	63	**135**	141	57	**130**	131	6	**5**	10
Town of Ayden	4,071	83	**195**	201	83	**190**	191	-	**5**	10
Town of Clayton	6,448	55	**131**	137	55	**126**	127	-	**5**	10
City of Concord	30,131	-	**5**	10	-	**-**	-	-	**5**	10
City of Elizabeth City	12,603	81	**190**	196	81	**185**	186	-	**5**	10
City of Fayetteville Public Works Commission	81,831	-	**5**	10	-	**-**	-	-	**5**	10
Town of Forest City	4,189	-	**5**	10	-	**-**	-	-	**5**	10
Town of Edenton	4,133	79	**185**	191	79	**180**	181	-	**5**	10
City of Gastonia	27,577	34	**5**	10	-	**-**	-	34	**5**	10
Greenville Utilities Commission	66,501	87	**200**	206	86	**195**	196	1	**5**	10
Town of High Point	42,244	2	**5**	10	-	**-**	-	2	**5**	10
Town of Huntersville	5,674	-	**5**	10	-	**-**	-	-	**5**	10
City of Kings Mountain	4,886	-	**5**	10	-	**-**	-	-	**5**	10
City of Kinston	11,604	129	**300**	306	129	**294**	296	-	**5**	10
City of Laurinburg	5,611	81	**190**	196	81	**185**	186	-	**5**	10
City of Lexington	18,692	4	**5**	10	-	**-**	-	4	**5**	10
City of Lumberton	11,560	80	**187**	193	80	**181**	182	-	**5**	10
City of Monroe	10,879	-	**5**	10	-	**-**	-	-	**5**	10
City of Morganton	8,326	96	**5**	10	-	**-**	-	96	**5**	10
City of New Bern	22,519	65	**154**	160	65	**149**	150	-	**5**	10
New River Light & Power	8,116	-	**5**	10	-	**-**	-	-	**5**	10
City of Newton	4,542	-	**5**	10	-	**-**	-	-	**5**	10
Town of Pineville	3,409	-	**5**	10	-	**-**	-	-	**5**	10
City of Rocky Mount	27,831	82	**193**	199	82	**188**	189	-	**5**	10

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
North Carolina Municipals (continued)										
City of Shelby	8,251	-	**5**	10	-	**-**	-	-	**5**	10
Town of Smithfield	4,466	126	**292**	298	126	**286**	288	-	**5**	10
City of Statesville	13,381	16	**5**	10	-	**-**	-	16	**5**	10
Town of Tarboro	5,776	133	**308**	314	133	**302**	304	-	**5**	10
Town of Wake Forest	6,083	86	**202**	208	86	**196**	198	-	**5**	10
City of Washington	13,752	68	**159**	165	68	**154**	155	-	**5**	10
City of Wilson	34,237	117	**273**	279	117	**267**	269	-	**5**	10
Oglethorpe Power	1,900,723	124	**152**	286	118	**144**	276	6	**7**	10
Altamaha Electric Member Corp	20,630	41	**76**	123	40	**69**	114	0	**7**	10
Amicalola Electric Member Corp	48,382	39	**61**	98	31	**54**	88	8	**7**	10
Canoochee Electric Member Corp	21,447	45	**77**	125	41	**70**	115	4	**7**	10
Carroll Electric Member Corp	50,774	45	**82**	132	43	**74**	122	2	**7**	10
Central Georgia Electric Member Corp	56,234	47	**84**	135	44	**76**	126	3	**7**	10
Coastal Electric Member Corp	18,771	56	**101**	164	55	**94**	154	1	**7**	10
Cobb Electric Membership Corp	206,122	587	**588**	591	582	**581**	581	5	**7**	10
Coweta-Fayette Electric Member Corp	79,382	42	**77**	124	41	**70**	115	2	**7**	10
Excelsior Electric Member Corp	22,900	39	**68**	110	35	**61**	100	3	**7**	10
Flint Electric Membership Corp	85,299	244	**268**	304	241	**261**	294	3	**7**	10
GreyStone Power Corporation	130,295	40	**76**	123	39	**69**	113	1	**7**	10
Grady Electric Membership Corp	19,767	36	**63**	100	32	**55**	91	3	**7**	10
Habersham Electric Membership Corp	34,504	39	**59**	94	30	**51**	84	9	**7**	10
Hart Electric Member Corp	36,002	39	**64**	103	33	**57**	93	6	**7**	10
Irwin Electric Membership Corp	12,413	43	**65**	104	34	**58**	95	9	**7**	10
Jackson Electric Member Corp	225,087	16	**38**	58	5	**31**	49	11	**7**	10
Jefferson Electric Member Corp	34,114	35	**67**	108	35	**60**	98	0	**7**	10

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
Oglethorpe Power (continued)										
Southern Rivers Energy	19,197	43	**69**	110	36	**61**	101	7	**7**	10
Middle Georgia Electric Member Corp	8,045	43	**72**	116	37	**64**	106	6	**7**	10
Mitchell Electric Member Corp	25,202	45	**72**	115	37	**64**	106	8	**7**	10
Ocmulgee Electric Member Corp	12,157	34	**63**	101	33	**56**	92	1	**7**	10
Oconee Electric Member Corp	12,608	46	**84**	136	45	**77**	126	2	**7**	10
Planters Electric Member Corp	16,923	34	**65**	105	34	**58**	96	-	**7**	10
Rayle Electric Membership Corp	18,382	36	**59**	94	30	**51**	84	6	**7**	10
Satilla Rural Electric Member Corporation	55,504	62	**78**	126	41	**71**	116	21	**7**	10
Sawnee Electric Membership Corporation	176,599	144	**168**	209	137	**161**	199	7	**7**	10
Slash Pine Electric Member Corp	8,818	43	**80**	130	43	**73**	120	-	**7**	10
Snapping Shoals Electric Member Corp	97,980	40	**77**	124	40	**69**	114	-	**7**	10
Sumter Electric Member Corp	20,512	49	**70**	113	37	**63**	103	12	**7**	10
Three Notch Electric Member Corp	15,291	45	**61**	98	31	**54**	89	14	**7**	10
Tri-County Electric Member Corp	21,405	37	**69**	111	36	**62**	101	2	**7**	10
Diverse Power Incorporated	34,291	46	**79**	127	42	**72**	118	4	**7**	10
Upson Electric Member Corp	9,102	30	**58**	93	30	**51**	83	-	**7**	10
Walton Electric Member Corp	127,189	71	**115**	1,569	68	**108**	1,559	3	**7**	10
Washington Electric Member Corp	15,469	50	**93**	150	50	**85**	140	1	**7**	10
Little Ocmulgee Electric Member Corp	11,373	39	**66**	107	34	**59**	97	4	**7**	10
Okefenoke Rural Electric Member Corp	26,199	124	**62**	99	45	**55**	90	79	**7**	10
Colquitt Electric Membership Corp	66,354	45	**74**	120	39	**67**	110	6	**7**	10

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
PowerSouth	437,390	2	**6**	18	-	**-**	-	2	**6**	18
City of Andalusia	4,594	-	**0**	0	-	**-**	-	-	**0**	0
Baldwin County Electric Member Corp	74,865	-	**1**	3	-	**-**	-	-	**1**	3
Central Alabama Electric Cooperative	43,150	0	**1**	3	-	**-**	-	0	**1**	3
Choctawhatche Electric Cooperative	50,180	9	**21**	64	-	**-**	-	9	**21**	64
Coosa Valley Electric Cooperative	16,690	-	**1**	3	-	**-**	-	-	**1**	3
Covington Electric Cooperative	23,123	1	**1**	3	-	**-**	-	1	**1**	3
Dixie Electric Cooperative	23,769	-	**1**	3	-	**-**	-	-	**1**	3
Escambia River Electric Cooperative	11,012	12	**21**	64	-	**-**	-	12	**21**	64
Gulf Coast Electric Cooperative	20,710	6	**21**	64	-	**-**	-	6	**21**	64
Pea River Electric Cooperative	18,783	-	**1**	3	-	**-**	-	-	**1**	3
South Alabama Electric Cooperative	16,478	-	**1**	3	-	**-**	-	-	**1**	3
Southern Pine Electric Cooperative	21,490	0	**1**	3	-	**-**	-	0	**1**	3
Tallapoosa River Electric Cooperative	26,860	2	**1**	3	-	**-**	-	2	**1**	3
West Florida Electric Cooperative Association	28,494	5	**21**	64	-	**-**	-	5	**21**	64
Wiregrass Electric Cooperative	24,330	-	**1**	3	-	**-**	-	-	**1**	3
Pioneer Electric Cooperative	12,854	1	**1**	3	-	**-**	-	1	**1**	3
Clarke-Washington Electric Member Corp	20,008	-	**1**	3	-	**-**	-	-	**1**	3

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
Santee Cooper	982,268	15	**24**	45	3	**4**	9	13	**20**	36
Aiken Electric Cooperative	47,288	8	**20**	36	-	**-**	-	8	**20**	36
City of Bennettsville	4,549	-	**10**	18	-	**-**	-	-	**10**	18
Berkeley Electric Cooperative	96,457	32	**20**	36	-	**-**	-	32	**20**	36
Black River Electric Cooperative	32,136	20	**20**	36	-	**-**	-	20	**20**	36
Blue Ridge Electric Cooperative	68,075	28	**20**	36	-	**-**	-	28	**20**	36
Broad River Electric Cooperative	20,962	20	**20**	36	-	**-**	-	20	**20**	36
Coastal Electric Cooperative	11,694	10	**20**	36	-	**-**	-	10	**20**	36
Edisto Electric Cooperative	20,204	10	**20**	36	-	**-**	-	10	**20**	36
Fairfield Electric Cooperative	28,790	0	**20**	36	-	**-**	-	0	**20**	36
City of Georgetown	5,027	-	**10**	18	-	**-**	-	-	**10**	18
Horry Electric Cooperative	78,127	8	**20**	36	-	**-**	-	8	**20**	36
Laurens Electric Cooperative	57,354	16	**20**	36	-	**-**	-	16	**20**	36
Little River Electric Cooperative	14,219	0	**20**	36	-	**-**	-	0	**20**	36
Lynches River Electric Cooperative	20,916	13	**20**	36	-	**-**	-	13	**20**	36
Marlboro Electric Cooperative	6,487	9	**20**	36	-	**-**	-	9	**20**	36
Mid-Carolina Electric Cooperative	55,427	11	**20**	36	-	**-**	-	11	**20**	36
Newberry Electric Cooperative	12,916	6	**20**	36	-	**-**	-	6	**20**	36
Tri-County Electric Cooperative	17,967	11	**20**	36	-	**-**	-	11	**20**	36
Palmetto Electric Cooperative	71,545	7	**20**	36	-	**-**	-	7	**20**	36
Pee Dee Electric Cooperative	30,420	6	**20**	36	-	**-**	-	6	**20**	36
Santee Electric Cooperative	43,572	5	**20**	36	-	**-**	-	5	**20**	36
South Carolina Public Service Authority	180,687	21	**42**	84	14	**23**	48	7	**20**	36
York Electric Cooperative	57,449	19	**20**	36	-	**-**	-	19	**20**	36

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
SCE&G	715,592	241	**512**	1,706	157	**361**	1,402	84	**151**	304
South Carolina Municipals	168,115	7	**10**	75	-	**-**	57	7	**10**	18
City of Camden	10,892	0	**10**	18	-	**-**	-	0	**10**	18
Clinton Combined Utility System	4,021	-	**10**	18	-	**-**	-	-	**10**	18
Easley Combined Utility System	14,530	12	**10**	18	-	**-**	-	12	**10**	18
City of Gaffney	7,430	2	**10**	18	-	**-**	-	2	**10**	18
Greenwood Commission of Public Works	13,972	-	**10**	18	-	**-**	-	-	**10**	18
Greer Commission of Public Works	25,073	12	**10**	18	-	**-**	-	12	**10**	18
Lockhart Power	6,183	-	**10**	1,563	-	**-**	1,545	-	**10**	18
City of Newberry	4,965	-	**10**	18	-	**-**	-	-	**10**	18
City of Orangeburg	24,165	-	**10**	18	-	**-**	-	-	**10**	18
City of Rock Hill	36,369	17	**10**	18	-	**-**	-	17	**10**	18
City of Seneca	8,296	-	**10**	18	-	**-**	-	-	**10**	18
City of Union	6,856	3	**10**	18	-	**-**	-	3	**10**	18
City of Laurens	5,363	-	**10**	18	-	**-**	-	-	**10**	18
Southern Company	4,623,158	233	**314**	618	203	**281**	575	30	**33**	43
Alabama Power Co	1,475,042	34	**67**	335	33	**64**	330	1	**3**	5
Georgia Power Co	2,501,473	353	**426**	809	301	**371**	752	52	**54**	58
Gulf Power Co *	459,049	144	**291**	329	131	**271**	269	13	**19**	60
Mississippi Power Co	187,594	432	**821**	924	420	**808**	829	12	**13**	95
Tampa Electric	744,691	49	**157**	934	29	**128**	806	20	**29**	128

** Note: Gulf Power remained a unit of the Southern Company through 2018. That ownership transfer to NextEra will be reflected in the next update.*

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA	4,767,181	54	**84**	251	34	**54**	193	20	**31**	57
Aberdeen Electric Department	3,258	68	**108**	410	66	**104**	373	2	**5**	36
Albertville Municipal Utilities Board	10,183	63	**125**	406	62	**98**	353	1	**27**	53
Alcorn County Electric Power Association	18,775	37	**56**	209	34	**53**	192	4	**2**	17
City of Amory	4,010	35	**61**	238	35	**56**	202	-	**5**	36
City of Alcoa Utilities	28,981	32	**65**	182	22	**35**	127	10	**30**	55
Appalachian Electric Cooperative	46,292	29	**64**	177	21	**34**	121	8	**31**	57
Arab Electric Cooperative	15,474	40	**46**	145	21	**34**	121	19	**12**	24
City of Athens Electric Department	45,917	33	**69**	203	26	**42**	150	7	**27**	53
Athens Utility Board	13,206	95	**112**	350	52	**82**	296	43	**30**	55
Benton County Electric System	10,403	22	**61**	169	20	**32**	114	2	**30**	55
Benton Electric System	2,523	49	**84**	239	29	**47**	169	20	**38**	69
City of Bessemer Utilities	11,152	30	**73**	218	29	**46**	165	1	**27**	53
Blue Ridge Mountain Electric Member Corp	52,028	305	**177**	362	14	**21**	77	291	**156**	285
Bolivar Energy Authority	11,060	26	**64**	178	22	**34**	124	4	**30**	55
Bowling Green Municipal Utilities	29,729	32	**88**	251	32	**50**	181	1	**38**	69
Bristol Tennessee Essential Services	33,580	45	**74**	214	28	**44**	160	17	**30**	55
Brownsville Utility Department	5,382	41	**95**	289	41	**65**	235	-	**30**	55
Central Electric Power Association	36,382	29	**42**	159	25	**40**	143	4	**2**	17
Caney Fork Electric Cooperative	32,332	100	**63**	171	20	**32**	114	80	**31**	57
Carroll County Electric Department	15,563	43	**76**	220	29	**46**	166	14	**30**	55
Electric Power Board of Chattanooga	169,615	67	**84**	250	36	**54**	195	31	**30**	55
Cherokee Electric Cooperative	23,669	22	**47**	149	22	**35**	125	-	**12**	24
Chickamauga Electric System	975	26	**81**	212	26	**42**	159	-	**39**	52
CDE Lightband	69,157	26	**66**	185	23	**36**	130	3	**30**	55
Cleveland Utilities	31,481	51	**86**	256	35	**56**	202	16	**30**	55

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA (continued)										
Clinton Utilities Board	29,859	31	**74**	213	28	**44**	158	3	**30**	55
Columbia Power & Water Systems	27,560	30	**68**	193	24	**38**	139	6	**30**	55
Columbus Light & Water	12,918	31	**54**	212	31	**49**	176	-	**5**	36
Cookeville Electric Department	17,745	48	**82**	244	33	**53**	189	15	**30**	55
Covington Electric System	4,711	54	**115**	360	54	**85**	306	-	**30**	55
Cullman Power Board	8,666	38	**81**	245	34	**53**	193	5	**27**	53
Cullman Electric Cooperative	43,229	55	**53**	169	26	**41**	146	29	**12**	24
Cumberland Electric Member Corp	94,555	42	**77**	221	29	**46**	164	13	**31**	57
City of Dayton Electric Department	10,584	31	**74**	215	28	**45**	161	3	**30**	55
Decatur Utilities	26,595	57	**103**	324	48	**75**	271	9	**27**	53
Dickson Electric Department	34,796	48	**71**	205	26	**42**	150	22	**30**	55
Duck River Electric Member Corp	74,369	37	**72**	203	26	**41**	146	11	**31**	57
Dyersburg Electric System	11,861	36	**87**	260	36	**57**	205	-	**30**	55
East Mississippi Electric Power Association	12,803	20	**33**	126	19	**30**	109	1	**2**	17
City of Elizabethton Electric Department	26,412	27	**62**	171	21	**32**	117	6	**30**	55
Erwin Utilities	8,940	28	**70**	199	25	**40**	144	3	**30**	55
Etowah Utilities	5,117	55	**108**	338	50	**79**	283	6	**30**	55
Fayetteville Public Utilities	18,455	333	**70**	201	26	**41**	146	307	**30**	55
Florence Utilities	49,358	29	**68**	200	26	**41**	148	3	**27**	53
Fort Loudoun Electric Cooperative	32,116	34	**62**	170	20	**31**	113	14	**31**	57
Fort Payne Improvement Authority	8,490	58	**89**	274	39	**62**	222	19	**27**	53
4-County Electric Power Association	48,243	28	**39**	149	23	**37**	132	4	**2**	17
Franklin Electric Cooperative	7,759	30	**59**	193	30	**47**	170	-	**12**	24
Franklin Electric Power Board	4,989	41	**103**	303	41	**65**	233	-	**38**	69
Fulton Electric System	1,628	49	**91**	264	33	**53**	194	17	**38**	69

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA (continued)										
Gallatin Department of Electricity	18,594	55	**104**	321	47	**74**	266	8	**30**	55
Gibson Electric Members Corp	34,571	54	**70**	198	25	**39**	141	29	**31**	57
Glasgow Electric Power Board	7,427	123	**102**	299	40	**64**	230	82	**38**	69
Greeneville Light & Power System	38,231	45	**81**	240	33	**51**	185	13	**30**	55
Electric Board of Guntersville	6,440	62	**89**	275	39	**62**	222	23	**27**	53
Harriman Utiliy Board	10,971	28	**62**	170	20	**32**	116	8	**30**	55
Hartselle Utilities	5,535	28	**71**	211	28	**44**	158	-	**27**	53
Hickman Electric System	1,099	51	**62**	166	14	**25**	97	37	**38**	69
Holly Springs Utility Department	11,623	22	**39**	159	22	**34**	123	-	**5**	36
Holston Electric Cooperative	30,500	68	**75**	214	28	**44**	157	40	**31**	57
Hopkinsville Electric System	12,980	32	**84**	235	29	**46**	166	3	**38**	69
Humboldt Utilities	4,425	94	**86**	256	35	**56**	202	58	**30**	55
Huntsville Utilities	182,443	36	**74**	222	30	**47**	169	6	**27**	53
Jackson Energy Authority	36,031	86	**108**	338	50	**79**	283	37	**30**	55
Jellico Electric & Water System	2,328	97	**61**	168	33	**31**	113	64	**30**	55
Joe Wheeler Electric Member Corp	43,227	49	**77**	255	41	**64**	232	8	**12**	24
BrightRidge	78,102	38	**70**	198	25	**40**	143	13	**30**	55
Knoxville Utilities Board	201,857	43	**74**	214	28	**44**	160	15	**30**	55
LaFollette Utilities Board	22,101	45	**60**	164	19	**30**	109	26	**30**	55
Lawrenceburg Electric System	20,257	36	**69**	196	25	**39**	142	12	**30**	55
Lenoir City Utilities Board	64,400	50	**72**	207	27	**42**	152	23	**30**	55
Lewisburg Electric System	6,168	77	**121**	383	58	**91**	328	19	**30**	55
Lexington Electric System	22,507	25	**62**	171	20	**32**	117	5	**30**	55
Loudon Utilities Board	11,945	86	**117**	369	55	**87**	315	31	**30**	55
Louisville Utilities	3,472	54	**63**	248	37	**59**	212	17	**5**	36

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA (continued)										
City of Macon Electric Department	1,205	20	**37**	161	20	**33**	125	-	**5**	36
Marshall-De Kalb Electric Cooperative	19,681	35	**48**	153	23	**36**	129	13	**12**	24
City of Maryville Electric Department	21,313	45	**90**	272	38	**61**	218	6	**30**	55
Mayfield Electric & Water System	5,424	32	**81**	227	28	**44**	157	5	**38**	69
McMinnville Electric System	8,006	32	**71**	202	26	**41**	147	6	**30**	55
Memphis Light Gas and Water	414,315	46	**84**	251	35	**55**	197	11	**30**	55
Meriwether Lewis Electric Cooperative	34,140	52	**89**	267	37	**58**	210	15	**31**	57
Middle Tennessee Electric Member Corp	219,233	51	**76**	218	28	**45**	161	23	**31**	57
Milan Department of Public Utilities	8,162	45	**69**	195	25	**39**	141	20	**30**	55
Morristown Utility Systems	14,790	72	**134**	430	66	**104**	376	6	**30**	55
Mountain Electric Cooperative	33,970	22	**255**	542	20	**31**	112	2	**224**	430
Mount Pleasant Power System	3,973	35	**82**	244	33	**53**	190	2	**30**	55
Murfreesboro Electric Department	61,686	35	**77**	225	30	**47**	171	6	**30**	55
Murray Electric System	8,018	53	**98**	288	38	**61**	218	15	**38**	69
Muscle Shoals Electric Board	8,032	41	**92**	285	41	**64**	232	1	**27**	53
Nashville Electric Service	394,705	47	**80**	235	32	**50**	181	16	**30**	55
Natchez Trace Electric Power Association	15,853	28	**37**	141	22	**35**	125	6	**2**	17
New Albany Light Gas & Water	10,709	39	**57**	223	33	**52**	187	6	**5**	36
Newbern Electric Water & Gas	1,809	63	**130**	417	63	**100**	363	-	**30**	55
Newport Utilities	21,648	66	**73**	210	27	**43**	156	39	**30**	55
North Alabama Electric Cooperative	18,196	28	**47**	149	22	**35**	125	6	**12**	24
North Georgia Electric Member Corp	99,731	59	**79**	196	25	**40**	143	34	**39**	52
Northcentral Mississippi Electric Power Associatio	30,976	37	**58**	217	35	**56**	200	2	**2**	17
Oak Ridge Electric Department	16,232	59	**82**	244	33	**53**	190	26	**30**	55
City of Okolona Electric Department	5,253	19	**35**	146	19	**30**	110	-	**5**	36
City of Oxford Electric Department	9,472	26	**45**	181	26	**40**	145	1	**5**	36

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA (continued)										
Paris Board of Public Utilities	21,289	43	**66**	186	23	**37**	132	20	**30**	55
Pennyrile Rural Electric Cooperative	43,606	57	**84**	236	29	**46**	166	28	**38**	69
Philadelphia Utilities	3,848	34	**58**	229	34	**53**	193	-	**5**	36
Pickwick Electric Cooperative	20,624	20	**61**	164	19	**30**	107	1	**31**	57
Plateau Electric Cooperative	17,044	22	**61**	165	19	**30**	109	3	**31**	57
Pontotoc Electric Power Association	19,150	24	**40**	152	24	**38**	136	-	**2**	17
Powell Valley Electric Cooperative	23,613	18	**60**	162	18	**29**	105	-	**31**	57
Prentiss County Electric Power Association	13,810	27	**45**	169	27	**42**	153	0	**2**	17
Pulaski Electric System	14,395	182	**83**	246	34	**53**	192	148	**30**	55
Rockwood Electric Utility	14,624	37	**65**	181	22	**35**	127	14	**30**	55
Russellville Electric Board	5,028	30	**75**	223	30	**47**	170	-	**27**	53
Russellville Electric Plant Board	4,068	35	**91**	261	34	**53**	192	2	**38**	69
Sand Mountain Electric Cooperative	31,324	27	**45**	142	21	**33**	119	6	**12**	24
Scottsboro Electric Power Board	8,253	41	**92**	287	41	**65**	234	-	**27**	53
Sequachee Valley Electric Cooperative	35,319	52	**69**	194	24	**38**	137	28	**31**	57
Sevier County Electric System	54,128	35	**74**	213	28	**44**	159	8	**30**	55
Sheffield Utilities	18,892	44	**92**	285	41	**65**	232	4	**27**	53
Shelbyville Power System	10,268	44	**91**	276	39	**62**	222	5	**30**	55
Smithville Electric System	2,708	60	**111**	349	51	**81**	294	9	**30**	55
Southwest Tennessee Electric Member Corp	49,996	30	**63**	171	20	**32**	114	10	**31**	57
Sparta Electric & Public Works	2,988	49	**98**	302	43	**68**	247	6	**30**	55
Springfield Electric	8,233	48	**94**	285	40	**64**	230	8	**30**	55
Starkville Electric Department	13,545	56	**58**	226	33	**53**	190	23	**5**	36
Sweetwater Utilities Board	9,022	56	**74**	213	28	**44**	158	29	**30**	55

APPENDIX B: SOUTHEAST UTILITY RANKING

		Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
UTILITY	Customers (2017)	2017	**2018**	2022	2017	**2018**	2022	2017	**2018**	2022
TVA (continued)										
Tallahatchie Valley Electric Power Association	27,564	27	**42**	161	25	**40**	144	1	**2**	17
Tarrant Electric Department	2,762	42	**65**	189	23	**38**	137	18	**27**	53
Tennessee Valley Electric Cooperative	19,504	25	**64**	176	21	**33**	119	4	**31**	57
Tippah Electric Power Association	13,642	26	**44**	166	26	**41**	149	0	**2**	17
Tishomingo County Electric Power Association	13,413	22	**37**	142	22	**35**	126	-	**2**	17
Tombigbee Electric Power Association	43,474	28	**46**	173	28	**44**	157	1	**2**	17
Trenton Light & Water Department	2,435	29	**76**	224	29	**47**	170	-	**30**	55
Tri-State Electric Member Corp	18,958	24	**89**	197	16	**25**	90	8	**65**	107
Tri-County Electric Member Corp	52,080	28	**75**	208	25	**40**	145	3	**34**	63
Tullahoma Utilities Authority	10,771	36	**75**	218	29	**45**	164	7	**30**	55
City of Tupelo Water & Light Department	15,408	47	**73**	283	43	**69**	247	3	**5**	36
Tuscumbia Electricity Department	4,806	22	**61**	174	21	**33**	121	1	**27**	53
Union City Electric System	6,412	50	**105**	324	47	**75**	270	2	**30**	55
Upper Cumberland Electric Member Corp	49,594	29	**66**	181	22	**35**	124	7	**31**	57
Volunteer Electric Cooperative	115,465	47	**64**	175	21	**33**	118	26	**31**	57
Warren Rural Electric Cooperative Corp	64,895	88	**91**	259	33	**53**	190	55	**38**	69
City of Water Valley Electric Department	2,014	36	**62**	244	36	**57**	207	-	**5**	36
Weakley County Municipal Electric System	20,392	29	**67**	190	24	**38**	135	6	**30**	55
West Kentucky Rural Electric Cooperative	38,622	92	**68**	177	19	**30**	107	73	**38**	69
City of West Point Electric System	3,894	22	**40**	162	22	**35**	126	-	**5**	36
Winchester Utilities	5,930	42	**80**	235	32	**50**	180	10	**30**	55
Ripley Power & Light	6,671	30	**78**	228	30	**48**	173	-	**30**	55
Chickasaw Electric Cooperative	19,790	32	**73**	208	27	**42**	151	6	**31**	57
Forked Deer Electric Cooperative	9,890	20	**60**	161	18	**29**	104	2	**31**	57
North East Mississippi Electric Power Association	25,846	28	**44**	168	27	**42**	151	1	**2**	17
Monroe County Electric Power Association	11,218	22	**33**	129	20	**31**	112	2	**2**	17
HFC RECC (Merged into Gibson EMC)	3,422	69	**74**	199	23	**36**	129	46	**38**	69
City of Courtland	790	26	**69**	213	26	**42**	161	-	**27**	53
Murphy Electric Power Board	5,029	51	**426**	898	29	**45**	164	22	**380**	735