



SOLAR IN THE SOUTHEAST

2017 Annual Report

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 is a non-profit organization that promotes responsible energy choices that work to address the impacts of global climate change and ensure clean, safe and healthy communities throughout the Southeast.

After more than 30 years, SACE remains the only regional organization solely focused on transforming the way we produce and consume energy in the Southeast.

Proper citation for this report: "Southern Alliance for Clean Energy (2018). *Solar in the Southeast, 2017 Annual Report.*"

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EXECUTIVE SUMMARY

UTILITIES

Large utilities exhibiting solar leadership in 2017 include: Duke Energy Progress, Duke Energy Carolinas, and Georgia Power – each with more than 300 watts of solar per customer (W/C).

Some smaller utilities demonstrate exemplary solar watts per customer ratios; examples: Cobb EMC (635 W/C) and Mississippi Power (455 W/C).

Several large utilities still operate less than 100 watts of solar per customer. Alabama Power customers, on average, were served by just 7 watts per customer in 2017.

STATES

Leading states like North Carolina, South Carolina, and Georgia have exhibited strong public policy direction.

Certain states, like Tennessee and Alabama, lack supportive public policies, leaving those states with projections at less than half of the region average through 2021.



RAPID GROWTH

The Southeast has tremendous solar potential (second only to the desert southwest) and has been experiencing **near exponential solar growth** for the last five years. *The region will have over 10,000 MW by 2019 -- and approximately 15,000 MW by 2021.*



IDENTIFYING LEADERS

Duke Energy Progress, Duke Energy Carolinas and Georgia Power are the current utility leaders on solar power. Ranking utilities by **watts per customer (W/C)** offers an unbiased identification of leaders in the southeast solar market. South Carolina Electric & Gas and Tampa Electric are the most notable "SunRisers" demonstrating leading levels of planned solar growth.



UTILITY-SCALE DOMINANCE

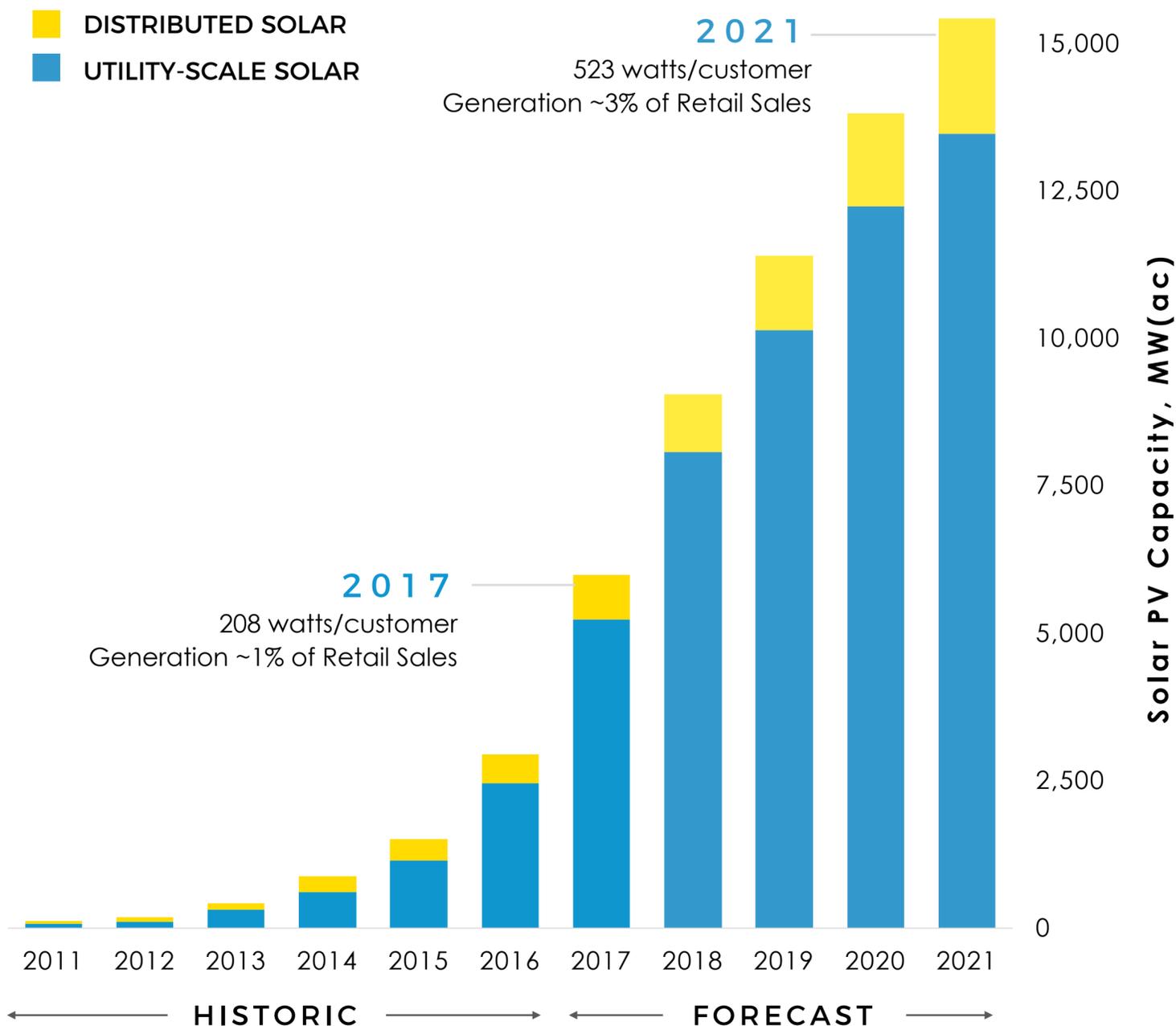
Solar growth has been dominated by **utility-scale** projects. Unlike market regions that offer customers choice in power supplies, monopoly utilities in the Southeast control nearly all solar development. In several states, utilities can and do impose inefficient or unnecessary constraints on **distributed generation**.



"SUNBLOCKERS"

Three major utility systems - Tennessee Valley Authority, Santee Cooper, and Seminole Electric Cooperative - are sticking with **outdated plans** with **low levels of solar**. For example, the monopolistic behavior of TVA is restricting solar choice across the Tennessee Valley.

SOUTHEAST SOLAR CAPACITY FORECAST



EXPONENTIAL GROWTH SINCE 2012

Solar photovoltaic (PV) capacity nearly doubled each year from less than 200 MW in 2012 to almost 3,000 MW in 2016.

GROWTH CONTINUES

From 6,000 MW in 2017, new projects will take solar to 10,000 MW in 2019. Based on utility and other industry forecasts, SACE anticipates 15,000 MW by 2021. 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”). Most utility-scale systems are in excess of 5 MW, many exceed 50 MW.

DISTRIBUTED SOLAR PROJECTS LAGS

Despite high customer interest, less growth is predicted for smaller residential rooftop and commercial customer-sited solar accounted via net metering or related billing practices.

LIMITED GRID IMPACTS

Even with 15,000 MW in 2021, the corresponding solar generation is less than 3% of retail sales, considerably below levels that could trigger changes in grid operation practices.

LARGE UTILITY SYSTEM RANKINGS

SYSTEMS WITH > 500,000 CUSTOMERS	2017 WATTS/CUSTOMER
DUKE ENERGY PROGRESS	1,117
DUKE ENERGY CAROLINAS	474
GEORGIA POWER	364
SOUTHEAST AVERAGE	208
SC ELECTRIC & GAS	182
OGLETHORPE POWER	162
NC ELECTRIC CO-OP	134
FLORIDA POWER & LIGHT	109
TENNESSEE VALLEY AUTHORITY	82
DUKE ENERGY FLORIDA	65
TAMPA ELECTRIC	37
SEMINOLE ELECTRIC CO-OP	17
SANTEE COOPER	14
ALABAMA POWER	7

The two leading utilities, Duke Energy Progress (DEP) and Duke Energy Carolinas (DEC), have been propelled by North Carolina laws along with favorable regulatory terms required by the North Carolina Utilities Commission for independent power providers.

Those utilities, along with South Carolina Electric & Gas (SCE&G), have also supported solar in response to a South Carolina law which enabled new solar programs in the Palmetto state.

Georgia Power's solar programs were induced by orders of the Georgia Public Service Commission (PSC). Georgia Power has responded with effective market procurement and contracting practices (including siting at military bases).

The future of solar is bright across most of the Southeast. Solar will more than double on average, driven by utilities like Duke Energy Florida and Tampa Electric. Each of these Florida utilities announced solar expansion plans in 2017 that will propel them toward the top of the list in the coming years.

However, the Tennessee Valley Authority (TVA), Santee Cooper, and Seminole Electric Cooperative are not forecast to add solar at a significant pace. Florida Power & Light (owned by NextEra) plans additional solar, but at a slower pace than rival Florida utilities. These utilities operate in a public policy vacuum and the slow pace of solar reflects outdated thinking within the utilities' management.

SYSTEMS WITH > 500,000 CUSTOMERS	2021 FORECAST
DUKE ENERGY PROGRESS	2,315
SC ELECTRIC & GAS	1,216
DUKE ENERGY CAROLINAS	821
TAMPA ELECTRIC	818
GEORGIA POWER	794
DUKE ENERGY FLORIDA	679
SOUTHEAST AVERAGE	523
FLORIDA POWER & LIGHT	389
ALABAMA POWER	279
NC ELECTRIC CO-OP	253
OGLETHORPE POWER	174
TENNESSEE VALLEY AUTHORITY	125
SEMINOLE ELECTRIC CO-OP	50
SANTEE COOPER	34

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 Progress (DEP) is particularly solar-friendly, with eastern North Carolina offering good sites and supportive state policy environment. Duke's Carolinas and Florida utilities (DEC and DEF) are both forecast to be above the regional average in 2021.

SOUTHERN COMPANY

The Georgia Public Service Commission catalyzed initial expansion. Customer demand for solar and utility leadership further encouraged a portfolio that extends across Georgia Power, Alabama Power, Mississippi Power, and Gulf Power in Florida.

FLORIDA POWER & LIGHT

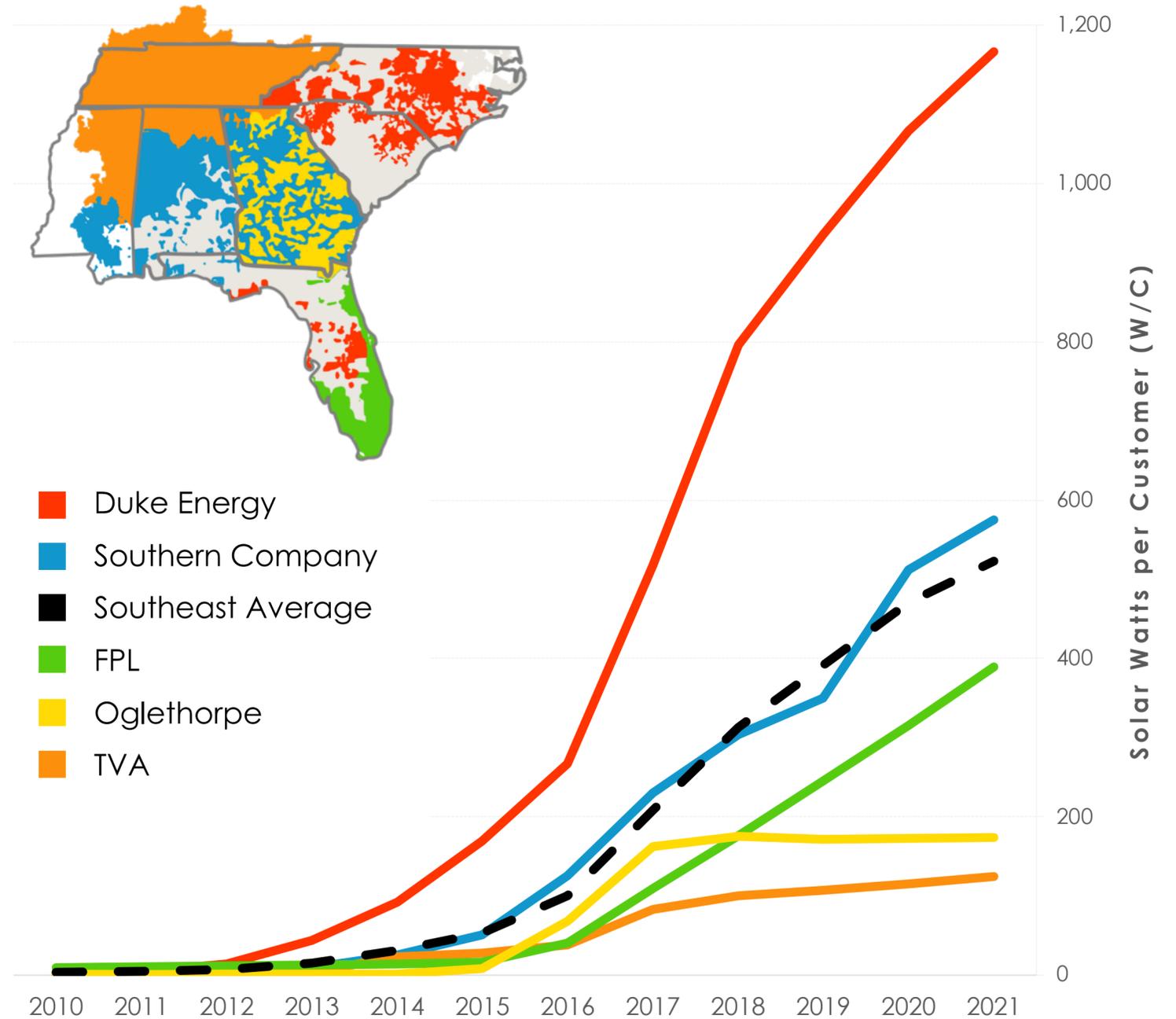
With 4.8 million customers, FPL is the largest utility in the Southeast. In response to a clear expression of customer interest in solar with two ballot initiatives in 2016, FPL enhanced solar development.

OGLETHORPE POWER

In general, electric cooperatives and municipal utilities have been slow to adopt solar. Oglethorpe's solar power commitment is driven by its progressive members, particularly Cobb EMC.

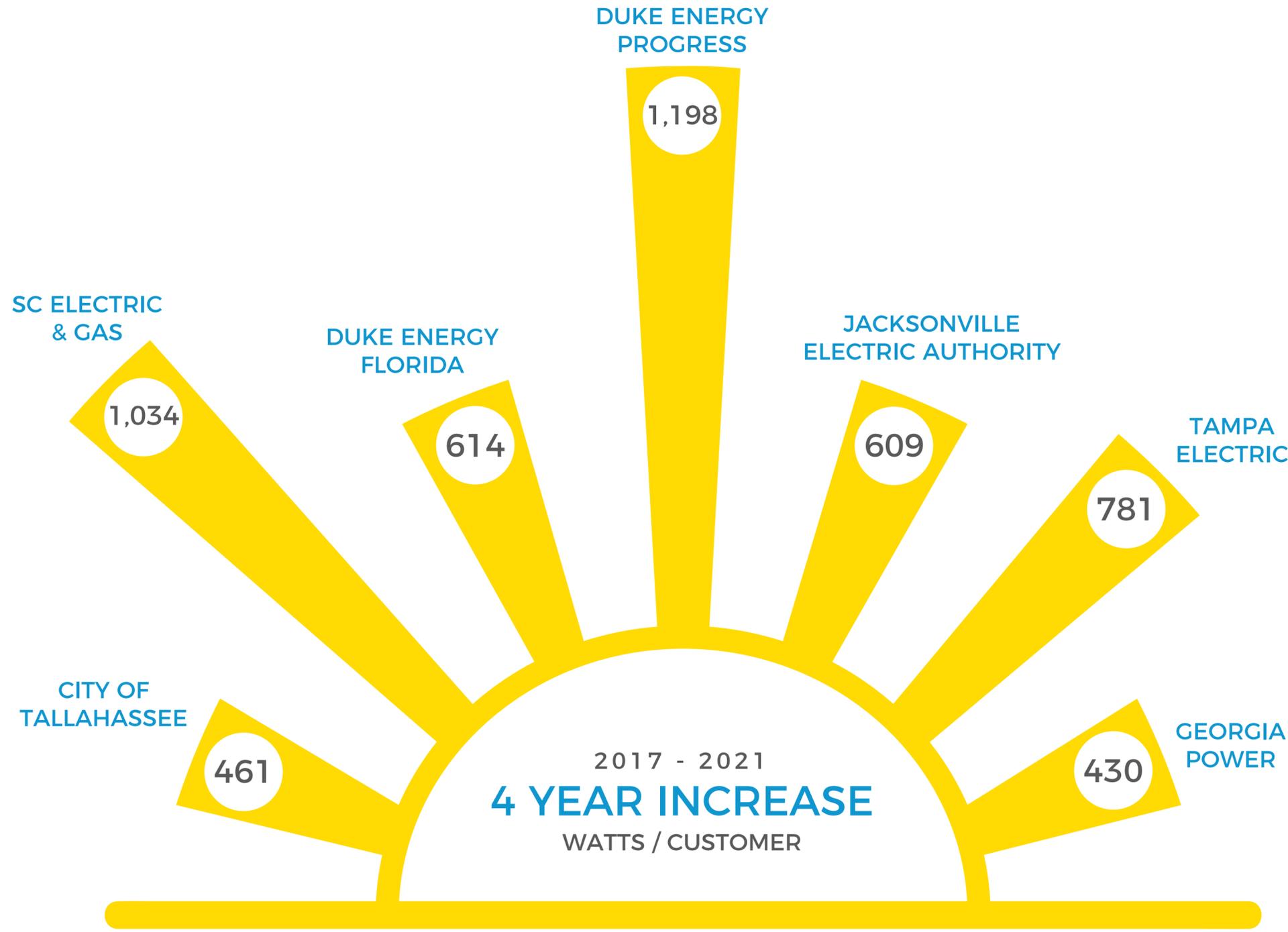
TENNESSEE VALLEY AUTHORITY

In contrast to other utilities, TVA's commitment to renewable energy is waning. Forecast at just 125 W/C by 2021, TVA's management commitment to solar is well below the Southeast average.



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

SOUTHEAST SOLAR MOMENTUM: SUNRISERS



SUNRISERS: The top 7 utilities with the highest forecast solar watts per customer growth operate in four different states, demonstrating solar power appeal throughout the region.

Duke Energy Progress (DEP) already exhibits the highest watts per customer ratio in the Southeast, and it will more than double that by 2021. North Carolina's new law (HB 589) is contributing to that continued growth.

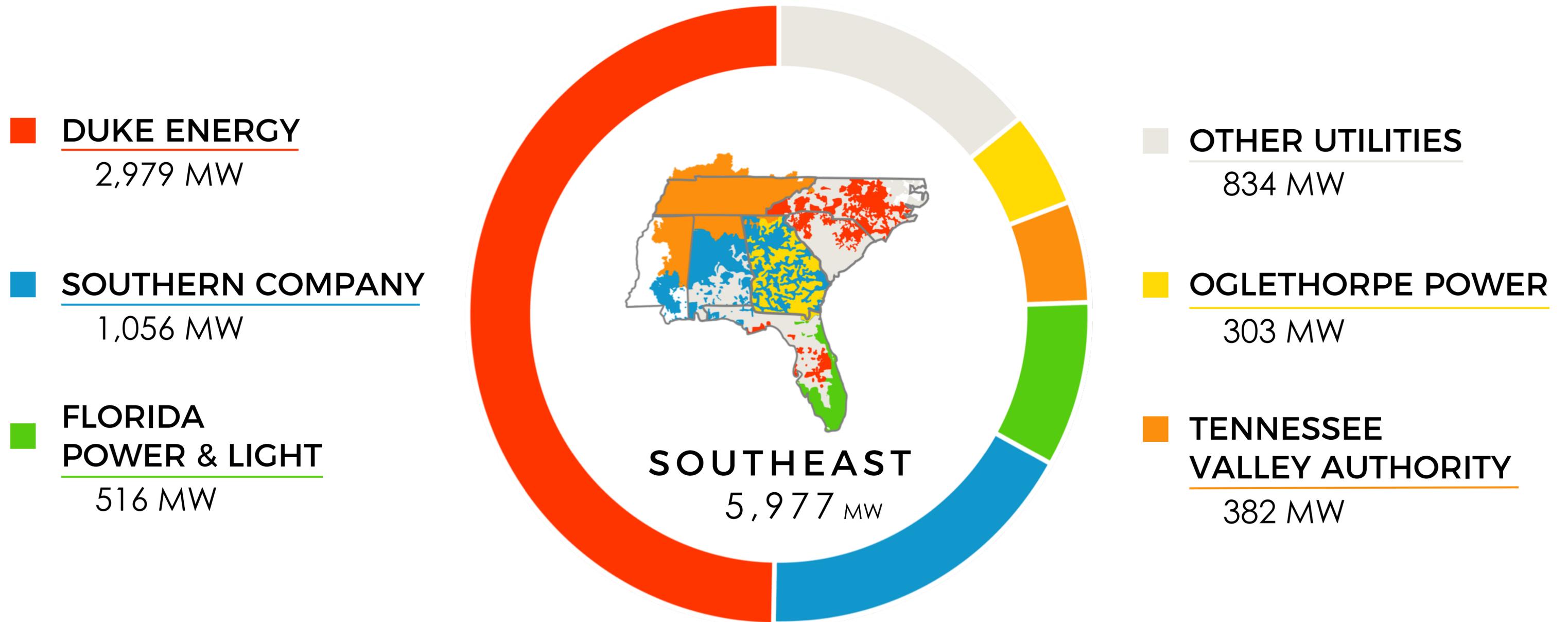
South Carolina's Act 236 is also a factor for DEP as well as South Carolina Electric and Gas (SCE&G).

Price decreases for solar modules and other components have created a new economic reality for solar, driving growth across the Southeast.

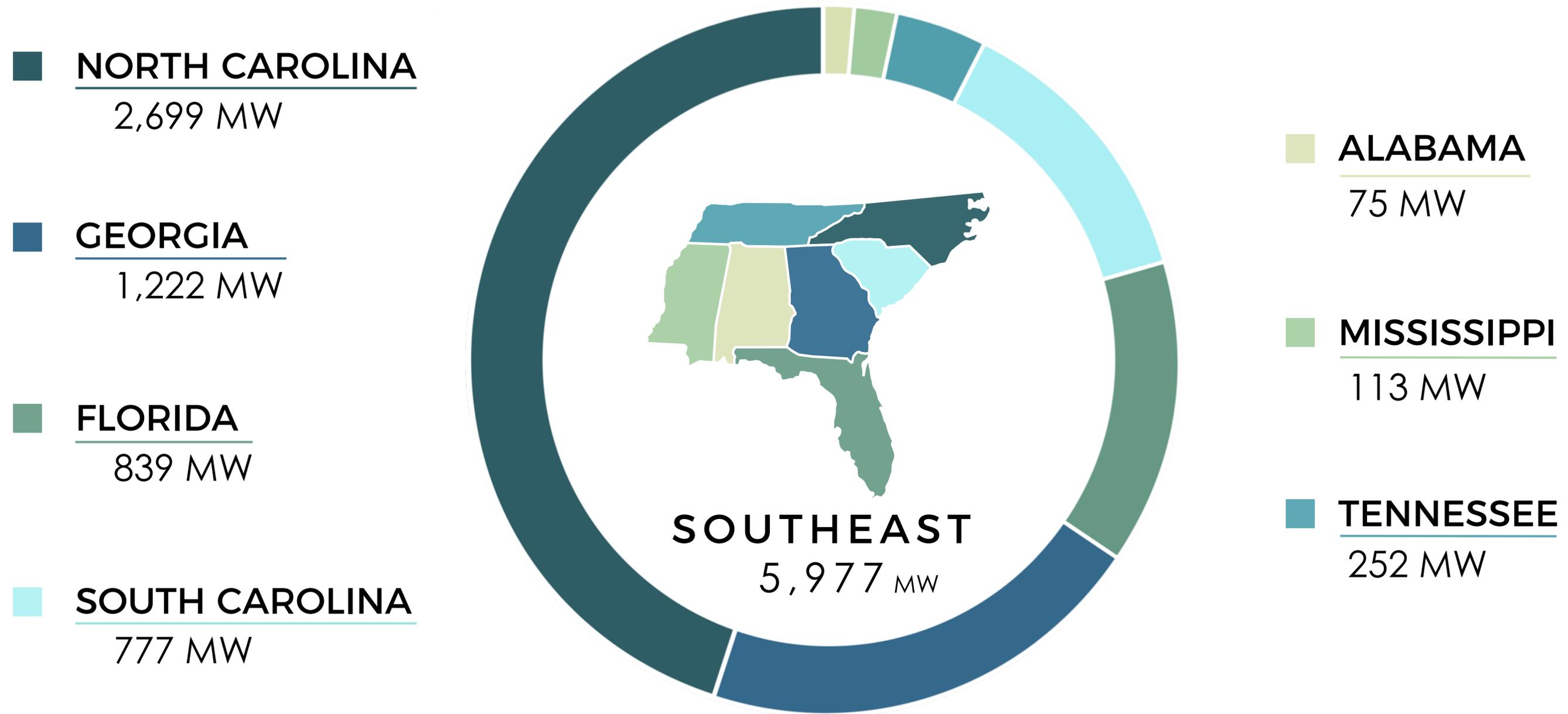
UTILITY	2017 W/C	2021 W/C
DUKE ENERGY PROGRESS	1,117	2,315
SCE&G	182	1,216
TAMPA ELECTRIC	37	818
DUKE ENERGY FL	65	679
JACKSONVILLE (JEA)	58	667
TALLAHASSEE	106	567
GEORGIA POWER	364	794

Minimum 100k customers

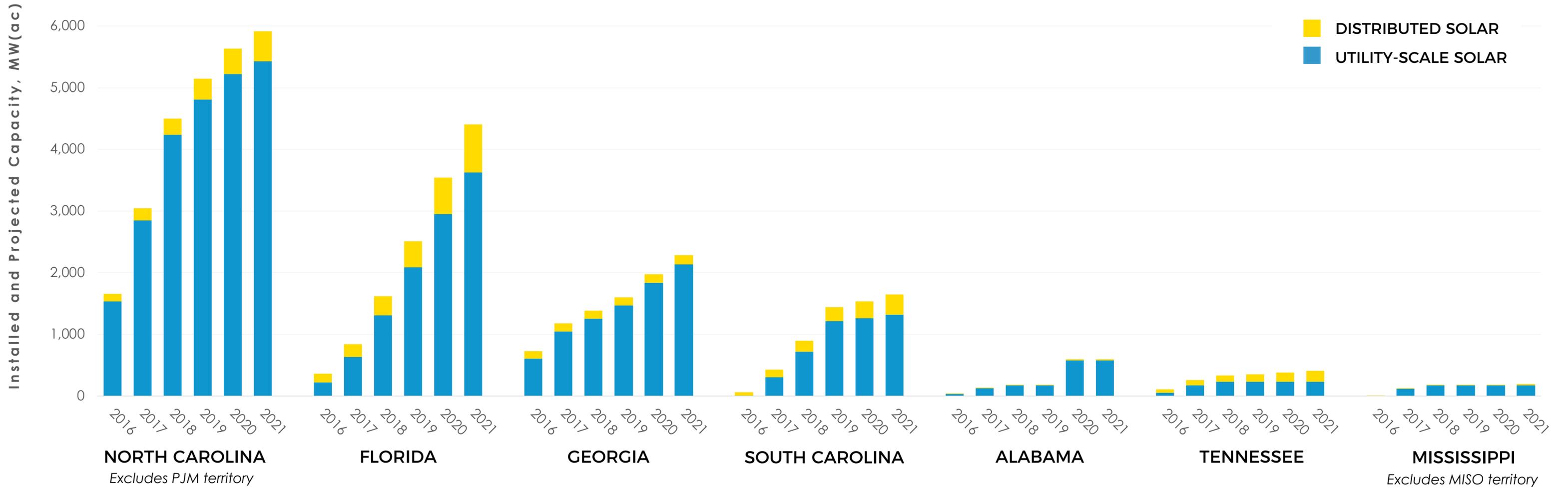
2017 SOUTHEAST SOLAR SNAPSHOT BY UTILITY



2017 SOUTHEAST SOLAR SNAPSHOT BY STATE



FORECAST FOR SOUTHEAST STATES



North Carolina is projected to remain the southeast leader in solar capacity and among the highest in the country (currently #2).¹ Florida utilities have announced significant plans for growth in solar over the next 6 years. Georgia continues steady progress with utility-scale solar development. Alabama and Mississippi have been identified recently among the fastest growing solar states in the country² albeit with a rather small base.

Florida, North Carolina and South Carolina are the only states projecting an appreciable amount of small-scale distributed solar. Tennessee, once an early leader in small-scale, distributed solar, has relinquished that leadership posture and demonstrates limited interest to advance solar at any scale.

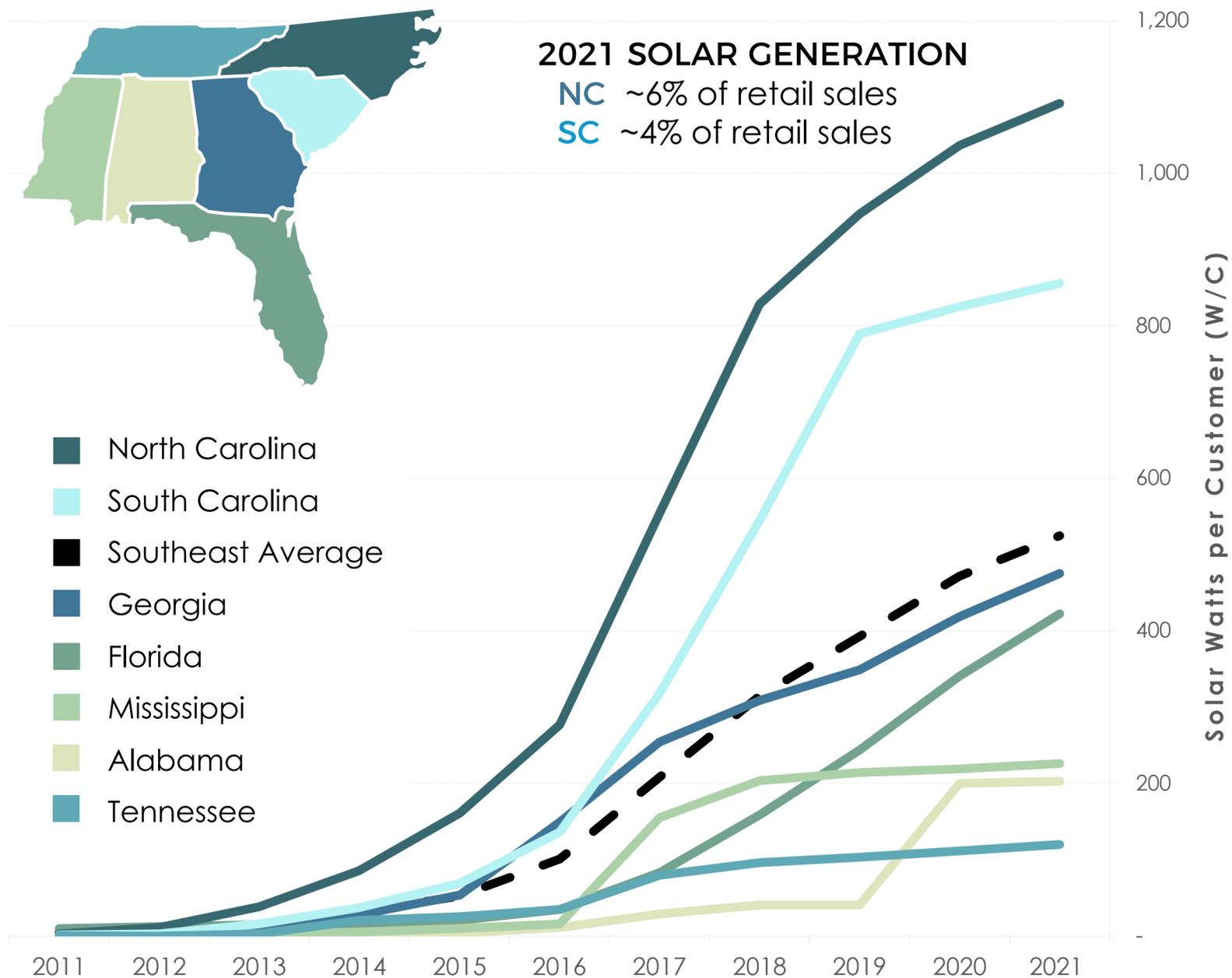
1. Solar Energy Industries Association. (2017, December 14). [Solar Spotlight: North Carolina](#).
 2. Groom, N. (2017, October 17). [The U.S. solar industry's new growth region: Trump country](#). Reuters

NORTH + SOUTH CAROLINA LEGISLATURES LEAD THE WAY

The 2017 Competitive Energy Solutions for North Carolina law (HB 589) ensures the trajectory of solar growth. That state will reach almost 6,000 MW by 2021.

South Carolina customers will also benefit from a substantial increase in solar as utilities fulfill the ambitions of that state's 2014 legislation (Act 236). The Carolinas will offer real-world opportunities to observe how solar power contributes to system reliability.

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

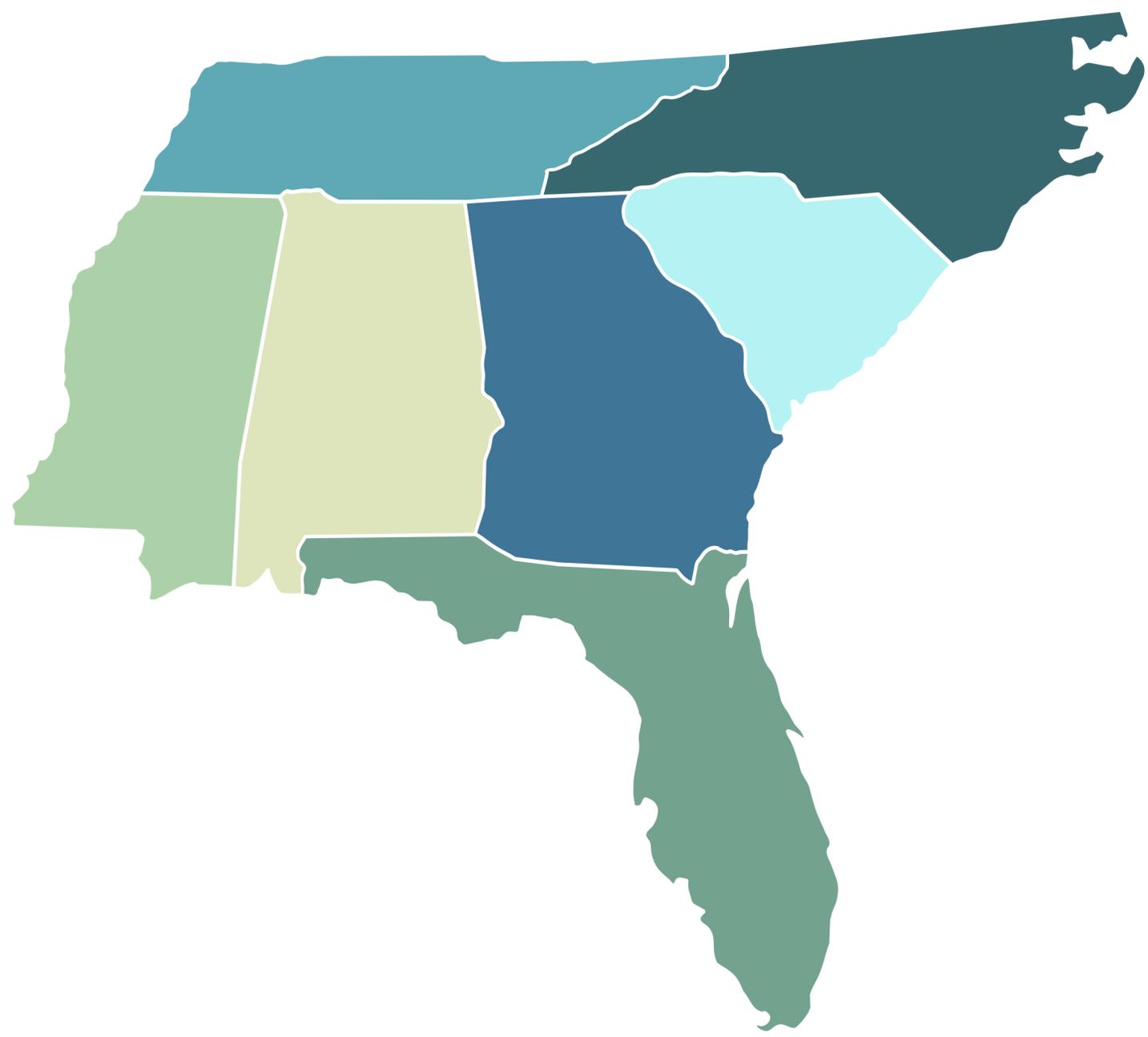


STATE	2016 W/C	2017 W/C	2021 W/C
NORTH CAROLINA	277	555	1,092
SOUTH CAROLINA	136	318	856
GEORGIA	150	255	476
SOUTHEAST	101	208	523
MISSISSIPPI	16	156	226
FLORIDA	35	83	425
TENNESSEE	35	80	120
ALABAMA	11	29	203

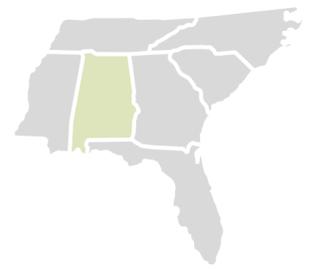
* This analysis excludes the portion of Kentucky served by TVA. Similarly, the PJM portion of North Carolina is excluded as is the MISO portion of Mississippi.

STATE PROFILES

- ALABAMA
- FLORIDA
- GEORGIA
- MISSISSIPPI
- NORTH CAROLINA
- SOUTH CAROLINA
- TENNESSEE



ALABAMA



LOWEST SOLAR RATIO IN THE SOUTHEAST

UTILITY-SCALE SOLAR, MW

UTILITY	2017	2021
ALABAMA POWER	9	423
TVA	36	45
POWERSOUTH	9	12

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021
ALABAMA POWER	1	4
TVA	5	19
POWERSOUTH	0	1

- ☀️ Alabama is the southeastern state presently exhibiting the lowest solar watts per customer (W/C) ratio. 29 W/C is less than half that of any other state in the region.
- ☀️ TVA in Alabama has lower solar watts per customer (70 W/C) than their own region average (82 W/C). It is rather ironic that TVA presently leads the other utilities in Alabama.

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
SOUTHEAST AVERAGE	208	523
TVA	70	108
STATE AVERAGE	29	203
POWERSOUTH	25	35
ALABAMA POWER	7	279



- ☀️ 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.
- ☀️ Alabama Power is distinguished as one of the SunRisers, utilities with the highest forecast solar watts per customer growth. However, there is no indication that Alabama Power will join other Southern Company affiliates as regional leaders.

FLORIDA

SUNSHINE STATE LAGS BEHIND REGION



UTILITY-SCALE SOLAR, MW

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021	2017	2021
FLORIDA POWER & LIGHT	448	1,640	68	247
DUKE ENERGY FLORIDA	30	935	84	309
TAMPA ELECTRIC	14	574	13	48
JACKSONVILLE (JEA)	19	272	7	24
GULF POWER	60	120	5	18
TALLAHASSEE	10	60	2	8
ORLANDO (OUC)	18	18	8	29
LAKELAND	15	15	3	9
GAINESVILLE (GRU)	3	3	2	8
SEMINOLE	2	2	9	35

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
SOUTHEAST AVERAGE	208	523
GULF POWER	151	311
LAKELAND	139	184
ORLANDO (OUC)	124	211
FLORIDA POWER & LIGHT	109	389
TALLAHASSEE	106	567
STATE AVERAGE	83	425
DUKE ENERGY FLORIDA	65	679
JACKSONVILLE (JEA)	58	667
GAINESVILLE (GRU)	45	95
TAMPA ELECTRIC	37	818
SEMINOLE	17	50

- Florida utilities are on a path to over 4,000 MW of solar by 2021. FPL will be adding 1,500 MW of solar by 2023 in addition to 600 MW previously announced. TECO and DEF are adding 600 MW and 700 MW, respectively by 2021. JEA announced a plan for 250 MW by 2020. These last three, along with the City of Tallahassee will emerge as the state's solar leaders.
- Residential rooftop solar installations increased in 2017 following two ballot initiatives from 2016. SACE is now forecasting 780 MW of distributed solar in Florida by 2021.

- Threats remain for distributed generation solar as some utilities retreat from net metering. For example, JEA will compensate fuel-cost only for new solar installations after March 31, 2018.



PUBLIC SERVICE COMMISSION PROMOTES SOLAR

UTILITY-SCALE SOLAR, MW

UTILITY	2017	2021
GEORGIA POWER	791	1,896
OGLETHORPE	289	319
TVA	6	7
MEAG	0	0

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021
GEORGIA POWER	103	109
OGLETHORPE	14	30
TVA	6	6
MEAG	2	4

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
GEORGIA POWER	364	794
STATE AVERAGE	255	476
SOUTHEAST AVERAGE	208	523
OGLETHORPE	162	174
TVA	79	88
MEAG	6	11



- ☀ Georgia's solar capacity in 2017 ranks second in the Southeast. Almost three-quarters of this is attributed to Georgia Power.
- ☀ The Georgia Public Service Commission (PSC) provided strong regulatory oversight, directing Georgia Power to develop an Advanced Solar Initiative (ASI) in 2012 which led to the development of more than 700 MW of solar.

- ☀ Georgia Power also collaborated with the Department of Defense to develop 166 MW of solar on military bases in the state.
- ☀ An agreement with the Georgia PSC in Georgia Power's 2016 IRP led to the new Renewable Energy Development Initiative (REDI) and the current pathway to add 1,600 MW of solar, wind, and/or biomass resources by 2020.
- ☀ Co-ops (and municipal utilities) have been slow to adopt solar with some exceptions. Recent expansion of the solar portfolio for Oglethorpe Power has been largely driven by one of its progressive members, Cobb EMC.

MISSISSIPPI



DISPARITY BETWEEN UTILITY SOLAR AMBITIONS

UTILITY-SCALE SOLAR, MW

UTILITY	2017	2021
MISSISSIPPI POWER	84	117
TVA	24	29

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021
MISSISSIPPI POWER	2	10
TVA	1	1

- ☀ Solar projects at Sumrall (52 MW) and Hattiesburg (50 MW) came online in 2017 and propelled Mississippi Power to one of the highest watts per customer solar ratios in the southeast region (455 W/C).
- ☀ Tennessee Valley Authority (TVA) operations in Mississippi offer far less solar at just 59 watts per customer. The consequent state average (156 W/C) is below the region average (208 W/C). Moreover, the state trajectory remains well under the region forecast for 2021.

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
MISSISSIPPI POWER	455	674
SOUTHEAST AVERAGE	208	523
STATE AVERAGE	156	226
TVA	59	72



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

- ☀ Mississippi includes some of the best locations for TVA to develop solar.¹ Presently, most of the solar provided by TVA to Mississippi customers is generated in Tennessee. Less than 5 MW of the 25 MW of solar TVA supplies to Mississippi is installed in-state.
- ☀ A program that credits self-generation of solar at the utilities' wholesale cost plus 2.5 cents/kWh (rather than retail "net metering") has, thus far, had limited uptake.

1. Based on an [evaluation](#) of Dependable On-Peak Capacity Factor across the TVA region.

NORTH CAROLINA

LEADING THE WAY IN THE SOUTHEAST



UTILITY	UTILITY-SCALE SOLAR, MW		DISTRIBUTED SOLAR, MW	
	2017	2021	2017	2021
DUKE ENERGY PROGRESS	1,374	2,882	69	182
DUKE ENERGY CAROLINAS	772	1,307	93	234
TVA	1	1	19	39
NC ELECTRIC COOPERATIVES	123	235	14	29
NC EASTERN MUNICIPAL	67	132	1	3
NC MUNICIPAL POWER	102	250	0	1

- ☀️ 10 years ago, North Carolina became the first state in the Southeast with a quantitative target for renewable energy. The 2007 Renewable Energy and Energy Efficiency Portfolio Standard (REPS) specifies that Investor Owned Utilities shall achieve 12.5% renewable (and energy efficiency) by 2021 – munis and co-ops 10% by 2018.
- ☀️ This REPS, along with favorable implementation of PURPA¹, created a vibrant market for solar development in North Carolina.

1. PURPA, the Public Utility Regulatory Policies Act, 1978.
 2. Solar Energy Industries Association. (2017, December 14). [Solar Spotlight: North Carolina](#).

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
DUKE ENERGY PROGRESS	1,075	2,229
NC MUNICIPAL POWER	829	1,976
STATE AVERAGE	555	1,092
TVA	486	987
DUKE ENERGY CAROLINAS	449	780
NC EASTERN MUNICIPAL	273	523
SOUTHEAST AVERAGE	208	523
NC ELECTRIC COOPERATIVES	134	253



- ☀️ More recently (2017), the Competitive Energy Solutions for North Carolina law (HB 589) passed to ensure the trajectory of solar growth through 2022 – amending the state’s PURPA implementation, while directing utilities to establish a competitive bid process for solar.
- ☀️ Due to this favorable policy environment, North Carolina has the most solar PV capacity in the Southeast (and second-most in the United States).² Duke Energy Progress and Duke Energy Carolinas combined to contribute 83% of North Carolina solar in 2017.

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

SOUTH CAROLINA



PALMETTO STATE AMONG SOUTHEAST LEADERS

UTILITY-SCALE SOLAR, MW

UTILITY	2017	2021
DUKE ENERGY PROGRESS	233	489
DUKE ENERGY CAROLINAS	289	489
SCE&G	53	666
SANTEE COOPER	3	4

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021
DUKE ENERGY PROGRESS	9	23
DUKE ENERGY CAROLINAS	27	69
SCE&G	73	201
SANTEE COOPER	11	29

- South Carolina's Act 236, the Distributed Energy Resources Program Act (2014), established a renewable energy target for the state – 2% of aggregate generation capacity by 2021.

SOLAR WATTS PER CUSTOMER

UTILITY	2017 W/C	2021 W/C
DUKE ENERGY PROGRESS	1,459	3,016
DUKE ENERGY CAROLINAS	559	962
STATE AVERAGE	318	856
SOUTHEAST AVERAGE	208	523
SCE&G	182	1,216
SANTEE COOPER	14	34



- The solar experience of Duke Energy Progress and Duke Energy Carolinas is evident from their progress in the state. Their combined solar ratios (watts per customer) are higher in South Carolina than their neighboring North Carolina utilities.
- The solar program at South Carolina Electric & Gas (SCE&G) started to emerge in 2016 with appreciable distributed generation (net metering). This more than doubled for 2017 along with SCE&G adding utility-scale solar deployments.
- Cancellation of the V.C. Summer nuclear project has created an opportunity for SCE&G and Santee Cooper to substantially increase solar power resources.

T E N N E S S E E



H O M E T O T E N N E S S E E V A L L E Y A U T H O R I T Y

UTILITY-SCALE SOLAR, MW

UTILITY	2017	2021
TVA	166	204

DISTRIBUTED SOLAR, MW

UTILITY	2017	2021
TVA	86	176

SOLAR WATTS PER CUSTOMER

UTILITY	2017	2021
SOUTHEAST AVERAGE	208	523
MEMPHIS (MLGW)	82	123
CHATTANOOGA (EPB)	81	121
TVA (TN) AVERAGE	80	120
NASHVILLE (NES)	78	117
MIDDLE TENNESSEE (EMC)	76	117
KNOXVILLE (KUB)	72	110
VOLUNTEER ELECTRIC CO-OP	63	103



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

- ☀️ Customers in Tennessee have limited opportunity to influence their power choice because TVA is not subject to federal or state regulatory oversight.
- ☀️ TVA was an early leader in small-scale, distributed solar. Recently, however, not only has TVA failed to respond to customer demand for solar, they are aggressively using a self-regulated rate design process to undercut solar penetration and dis-incentivize distributed solar throughout the Valley.
- ☀️ TVA prohibits “net metering” – a billing practice to support customer-owned solar that exists in 38 states.¹ Instead, TVA buys all the power owners generate, and requires them to buy all the power they consume from the local power company (LPC).
- ☀️ For 2018, TVA has lowered the rate they pay for solar power produced by these Green Power Providers to below the rate LPCs charge those same customers for their electricity consumption.

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

- ☀️ Distributed Solar Solutions is the TVA program designed to enable renewable energy projects directed by the LPCs. These are medium-scale (50 kW to 5 MW) projects. *Examples: Ikea 1.5 MW and Nike 2 MW (Memphis).*
- ☀️ TVA’s Integrated Resource Plan (IRP) calls for between 150 and 800 MW of large-scale solar by 2023. This is a very low solar ambition for a utility of TVA’s scale.

1. U.S. Department of Energy. [DSIRE](#) November 2017

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 Greentech Media (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 generation owned or contracted to the utility meets its needs. 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.*



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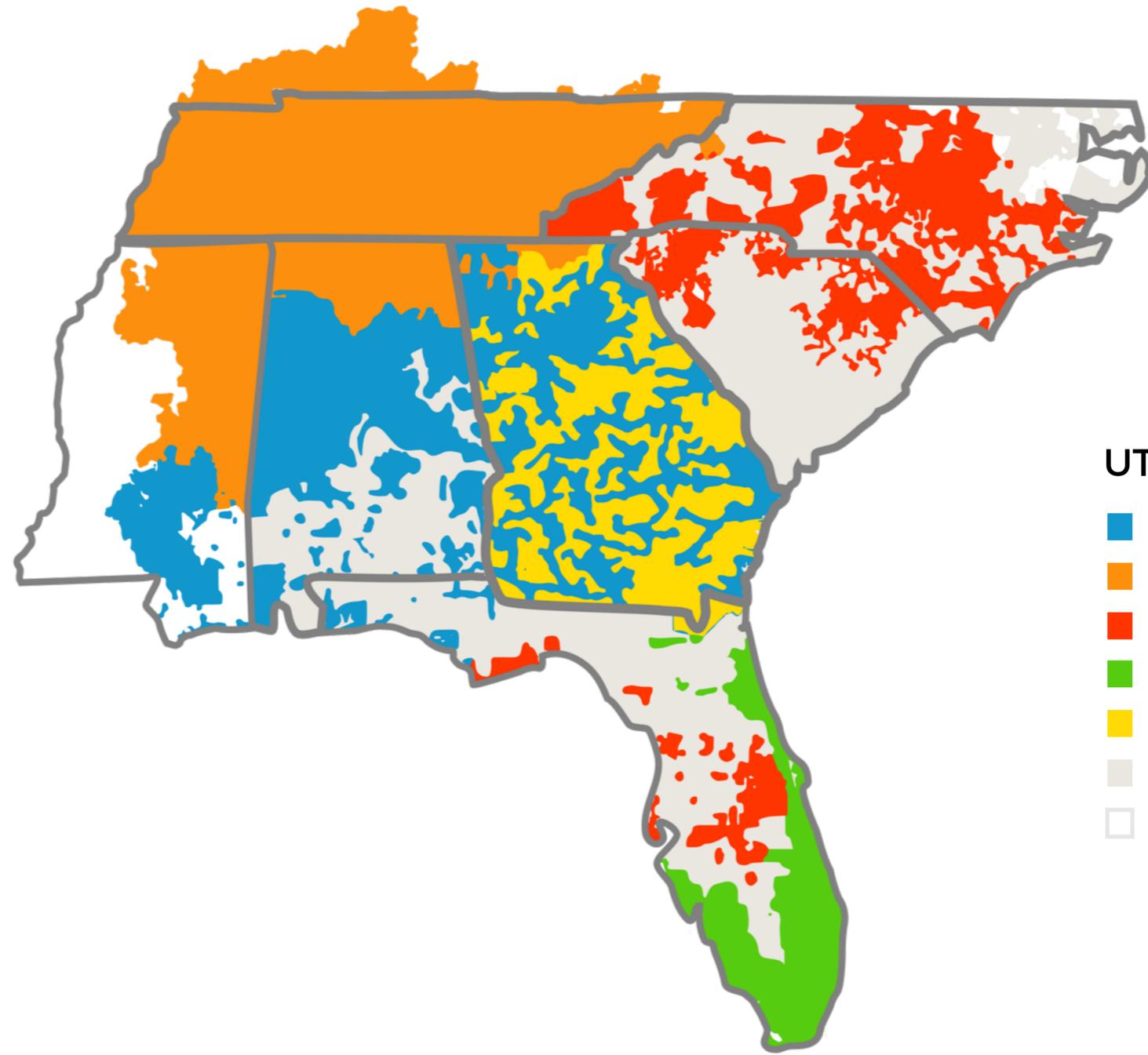
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APPENDIX A: SERVICE TERRITORIES OF FIVE SOUTHEAST UTILITY SYSTEMS



UTILITY SERVICE TERRITORIES

- SOUTHERN COMPANY
- TENNESSEE VALLEY AUTHORITY
- DUKE ENERGY COMPANY
- FLORIDA POWER & LIGHT
- OGLETHORPE POWER CORPORATION
- OTHER SOUTHEASTERN UTILITIES
- NON-SOUTHEASTERN BALANCING AREAS

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
All SE Utility Systems	29,326,837	101	208	523	84	181	456	17	26	67
Alabama Cooperatives	35,883	41	98	141	41	98	139	-	1	2
Black Warrior Electric Member Corp	26,544	43	102	146	43	101	144	-	1	2
Tombigbee Electric Cooperative	9,339	37	89	127	37	88	125	-	1	2
Alabama Municipals	70,094	71	159	227	71	159	227	-	0	0
City of Alexander City	6,251	44	95	136	44	95	136	-	0	0
City of Dothan	30,673	64	140	200	64	140	200	-	0	0
City of Opelika	12,322	72	157	224	72	157	224	-	0	0
Sylacauga Utilities Board	6,162	61	134	191	61	134	191	-	0	0
Troy Utilities Department	8,043	144	343	487	144	343	487	-	0	0
City of Tuskegee	6,643	47	102	146	47	102	146	-	0	0
Duke Energy	5,796,847	267	518	1,166	241	469	1,029	25	49	138
☀️ Duke Energy Progress	1,534,394	485	1,117	2,315	453	1,066	2,183	31	51	132
Duke Energy Carolinas	2,519,317	296	474	821	272	426	703	25	48	119
☀️ Duke Energy Florida	1,743,136	32	65	679	11	17	510	21	48	169
Florida Cooperatives	1,010,056	10	16	50	-	2	2	10	13	47
Central Florida Electric Cooperative	33,275	7	16	50	-	2	2	7	13	47
Clay Electric Cooperative	171,777	15	17	50	-	3	3	15	13	47
Florida Keys Electric Cooperative Association	32,723	10	13	47	-	-	-	10	13	47
Glades Electric Cooperative	16,367	9	17	50	-	3	3	9	13	47
Lee County Electric Cooperative	210,089	9	13	47	-	-	-	9	13	47
Peace River Electric Cooperative	40,296	22	16	50	-	3	3	22	13	47
Reedy Creek Improvement Dist	1,463	15	20	119	-	-	50	15	20	70
Sumter Electric Cooperative	196,461	7	16	50	-	3	3	7	13	47
Suwannee Valley Electric Cooperative	25,648	2	17	50	-	3	3	2	13	47
Talquin Electric Cooperative	53,592	11	16	50	-	3	3	11	13	47
Tri-County Electric Cooperative	17,932	4	16	50	-	3	3	4	13	47
Withlacoochee River Electric Cooperative	210,433	8	16	50	-	3	3	8	13	47

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
Florida Municipals	1,408,827	54	70	337	39	50	263	15	21	74
City of Alachua	4,522	13	20	72	-	-	2	13	20	70
City of Bartow	12,055	14	20	70	-	-	-	14	20	70
City of Clewiston	4,068	10	38	104	10	18	34	-	20	70
Fort Pierce Utilities Authority	28,306	10	33	96	8	14	26	2	20	70
Gainesville Regional Utilities	95,161	68	45	95	29	25	25	39	20	70
City of Green Cove Springs	4,058	34	39	106	11	19	36	23	20	70
Havana Power & Light Company	1,444	284	31	92	7	12	22	277	20	70
City of Homestead	24,033	13	35	99	9	15	29	5	20	70
Beaches Energy Services	34,601	21	34	98	8	15	28	12	20	70
☀️ JEA	453,703	44	58	667	33	43	612	11	16	55
City of Key West	30,002	17	37	104	10	18	34	7	20	70
Kissimmee Utility Authority	69,905	8	25	80	3	5	11	5	20	70
City of Lake Worth	26,792	7	32	93	7	12	23	-	20	70
City of Lakeland	127,153	114	139	184	108	119	115	6	20	70
City of Leesburg	24,597	62	33	96	8	13	26	54	20	70
City of New Smyrna Beach	27,561	11	31	91	6	11	21	5	20	70
City of Ocala	52,456	28	37	103	10	17	33	18	20	70
Orlando Utilities Commission	231,229	48	124	211	22	89	85	26	36	126
City of Quincy	4,783	12	38	106	11	19	36	1	20	70
City of Starke	2,609	27	39	107	11	19	37	16	20	70
☀️ City of Tallahassee	114,573	12	106	567	-	86	497	12	20	70
City of Vero Beach	35,216	-	20	70	-	-	0	-	20	70
Florida Power & Light	4,840,240	41	109	389	31	95	338	10	14	51
Florida Public Utilities Company	31,787	16	22	77	-	-	-	16	22	77

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
Georgia Municipals	287,722	32	38	49	27	33	38	5	6	11
City of Adel	2,573	-	6	11	-	-	-	-	6	11
Albany Water Gas & Light Commission	37,083	-	6	11	-	0	-	-	6	11
City of Acworth	6,459	4	6	11	-	-	-	4	6	11
City of Buford	3,392	-	6	11	-	-	-	-	6	11
City of Cairo	4,429	-	6	11	-	-	-	-	6	11
City of Calhoun	5,312	-	6	11	-	0	-	-	6	11
City of Camilla	2,528	-	6	11	-	-	-	-	6	11
City of Cartersville	7,355	54	6	11	-	1	-	54	6	11
City of College Park	7,639	-	6	11	-	0	-	-	6	11
City of Covington	11,707	-	6	11	-	0	-	-	6	11
Crisp County Power Commission	12,057	2	6	11	-	0	-	2	6	11
Dalton Utilities	16,794	522	645	746	469	640	735	54	6	11
City of Douglas	5,972	-	6	11	-	0	-	-	6	11
City of East Point	15,478	-	6	11	-	0	-	-	6	11
City of Elberton	4,393	-	6	11	-	-	-	-	6	11
Fitzgerald Water Light & Bond Commission	5,817	-	6	11	-	-	-	-	6	11
Fort Valley Utility Commission	4,605	-	6	11	-	-	-	-	6	11
City of Griffin	14,092	-	6	11	-	0	-	-	6	11
City of La Grange	13,619	-	6	11	-	0	-	-	6	11
City of Lawrenceville	11,210	-	6	11	-	0	-	-	6	11
City of Marietta	41,147	3	6	11	-	0	-	3	6	11
City of Monroe	6,252	-	6	11	-	-	-	-	6	11
City of Moultrie	6,674	-	6	11	-	-	-	-	6	11
Newnan Water, Sewer & Light Commission	9,835	-	6	11	-	0	-	-	6	11
City of Norcross	5,065	-	6	11	-	-	-	-	6	11
City of Sylvania	2,480	-	8	11	-	2	-	-	6	11
City of Thomaston	5,965	-	6	11	-	-	-	-	6	11
City of Thomasville	15,431	-	6	11	-	0	-	-	6	11
City of Washington	2,359	-	6	11	-	-	-	-	6	11

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
North Carolina Cooperatives	1,033,840	58	134	253	47	121	225	11	14	28
Albemarle Electric Member Corp	12,681	53	137	264	50	123	236	3	14	28
Blue Ridge Electric Member Corp	75,463	56	116	222	41	102	194	15	14	28
Cape Hatteras Electric Member Corp	7,720	55	140	269	51	126	241	4	14	28
Carteret-Craven Electric Member Corp	39,746	43	119	230	43	106	202	-	14	28
Central Electric Membership Corp	22,315	53	146	280	53	132	253	-	14	28
Edgecombe-Martin County Electric Member Corp	11,481	56	153	294	56	139	266	-	14	28
Four County Electric Member Corp	32,691	82	210	402	79	196	375	3	14	28
French Broad Electric Member Corp	36,698	58	113	218	41	100	190	17	14	28
Halifax Electric Member Corp	11,723	48	111	214	39	97	186	9	14	28
Haywood Electric Member Corp	26,479	44	94	181	33	80	153	12	14	28
Jones-Onslow Electric Member Corp	73,374	51	130	249	47	116	221	4	14	28
Lumbee River Electric Member Corp	60,059	71	163	312	60	149	284	11	14	28
Pee Dee Electric Member Corp	20,960	65	145	278	53	131	250	12	14	28
Pitt & Greene Electric Member Corp	8,686	63	170	326	63	156	298	-	14	28
Piedmont Electric Member Corp	31,581	87	124	238	44	110	210	43	14	28
Randolph Electric Member Corp	31,631	80	130	249	47	116	221	33	14	28
Roanoke Electric Member Corp	14,359	56	152	292	56	138	264	-	14	28
Rutherford Electric Member Corp	68,842	61	144	277	53	130	249	8	14	28
South River Electric Member Corp	43,716	58	150	287	55	136	259	3	14	28
Surry-Yadkin Electric Member Corp	26,885	50	115	221	41	101	193	9	14	28
Tri-County Electric Member Corp	24,665	64	170	326	63	156	298	1	14	28
Tideland Electric Member Corp	21,096	50	138	266	50	125	238	-	14	28
Union Electric Membership Corp	74,092	72	142	273	52	128	245	20	14	28
Wake Electric Membership Corp	41,013	57	141	272	52	128	244	6	14	28
EnergyUnited Electric Member Corp	126,740	41	117	179	29	103	151	12	14	28
Brunswick Electric Member Corp	89,144	55	122	234	44	108	206	11	14	28

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
North Carolina Municipals	535,350	196	444	977	192	439	966	4	5	11
City of Albemarle	12,073	283	633	1,509	283	628	1,498	-	5	11
Town of Apex	17,776	79	180	344	74	174	333	5	5	11
Town of Ayden	4,101	103	250	479	103	245	468	-	5	11
Town of Clayton	6,205	72	176	336	72	170	325	-	5	11
City of Concord	29,620	4	15	11	4	10	-	-	5	11
City of Elizabeth City	12,045	108	260	498	108	255	487	-	5	11
City of Fayetteville Public Works Commission	82,021	105	255	489	105	250	478	-	5	11
Town of Forest City	4,108	648	1,477	3,503	648	1,472	3,492	-	5	11
Town of Edenton	4,141	100	241	461	100	236	450	-	5	11
City of Gastonia	27,453	615	1,324	3,140	581	1,319	3,129	35	5	11
Greenville Utilities Commission	66,298	108	259	496	107	254	486	1	5	11
Town of High Point	40,841	326	723	1,722	324	717	1,711	2	5	11
Town of Huntersville	5,292	496	1,105	2,633	496	1,099	2,622	-	5	11
City of Kings Mountain	4,746	5	16	11	5	10	-	-	5	11
City of Kinston	11,634	164	394	754	164	389	743	-	5	11
City of Laurinburg	5,591	105	253	485	105	248	474	-	5	11
City of Lexington	18,560	250	552	1,315	247	547	1,304	4	5	11
City of Lumberton	12,346	98	238	455	98	232	444	-	5	11
City of Monroe	10,809	742	1,652	3,938	742	1,646	3,927	-	5	11
City of Morganton	8,310	572	1,061	2,530	476	1,056	2,519	96	5	11
City of New Bern	22,454	85	207	397	85	202	386	-	5	11
New River Light & Power	8,072	4	14	11	4	8	-	-	5	11
City of Newton	4,529	371	829	1,974	371	823	1,963	-	5	11
Town of Pineville	3,259	397	887	2,113	397	881	2,102	-	5	11
City of Rocky Mount	27,533	107	259	496	107	254	485	-	5	11

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
North Carolina Municipals (continued)										
City of Shelby	8,241	274	613	1,460	274	607	1,449	-	5	11
Town of Smithfield	4,511	157	377	720	157	371	709	-	5	11
City of Statesville	13,329	405	870	2,073	390	864	2,062	15	5	11
Town of Tarboro	5,799	173	414	792	173	409	781	-	5	11
Town of Wake Forest	5,910	111	267	512	111	262	501	-	5	11
City of Washington	13,628	87	212	406	87	207	395	-	5	11
City of Wilson	34,115	154	370	708	154	365	697	-	5	11
Oglethorpe Power	1,874,040	68	162	174	61	155	159	7	8	15
Altamaha Electric Member Corp	20,352	22	84	102	21	76	87	1	8	15
Amicalola Electric Member Corp	47,642	25	69	85	17	62	70	8	8	15
Canoochee Electric Member Corp	21,227	22	85	103	21	78	88	0	8	15
Carroll Electric Member Corp	50,367	25	91	110	23	84	95	2	8	15
Central Georgia Electric Member Corp	55,032	27	94	114	24	87	99	3	8	15
Coastal Electric Member Corp	18,560	28	107	128	27	100	113	1	8	15
Cobb Electric Membership Corp	203,979	301	635	613	296	627	598	5	8	15
Coweta-Fayette Electric Member Corp	77,859	23	87	105	22	79	90	1	8	15
Excelsior Electric Member Corp	22,497	21	76	93	19	69	79	2	8	15
Flint Electric Membership Corp	84,016	127	293	298	124	286	283	3	8	15
GreyStone Power Corporation	127,907	22	87	105	21	79	90	1	8	15
Grady Electric Membership Corp	19,649	21	71	87	17	63	72	3	8	15
Habersham Electric Membership Corp	34,226	24	66	82	16	59	67	8	8	15
Hart Electric Member Corp	35,719	22	73	89	18	65	74	4	8	15
Irwin Electric Membership Corp	12,317	27	76	93	19	68	78	9	8	15
Jackson Electric Member Corp	221,436	8	39	49	5	31	34	3	8	15
Jefferson Electric Member Corp	33,714	19	77	93	19	69	79	0	8	15

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
Oglethorpe Power (continued)										
Southern Rivers Energy	18,996	22	77	94	19	69	79	3	8	15
Middle Georgia Electric Member Corp	7,964	27	87	105	22	79	90	6	8	15
Mitchell Electric Member Corp	25,159	26	84	101	21	76	87	6	8	15
Ocmulgee Electric Member Corp	12,110	19	72	88	18	65	74	1	8	15
Oconee Electric Member Corp	12,544	24	92	111	23	85	96	1	8	15
Planters Electric Member Corp	16,738	18	75	92	18	68	77	-	8	15
Rayle Electric Membership Corp	18,298	20	66	81	16	58	66	4	8	15
Satilla Rural Electric Member Corporation	55,109	42	87	105	22	79	90	21	8	15
Sawnee Electric Membership Corporation	172,171	77	187	199	71	180	184	6	8	15
Slash Pine Electric Member Corp	8,697	22	89	108	22	82	93	-	8	15
Snapping Shoals Electric Member Corp	96,295	22	88	106	22	80	91	-	8	15
Sumter Electric Member Corp	20,375	34	83	101	20	75	86	13	8	15
Three Notch Electric Member Corp	15,254	31	70	87	17	63	72	14	8	15
Tri-County Electric Member Corp	21,298	21	77	94	19	70	80	2	8	15
Diverse Power Incorporated	34,154	26	89	108	23	82	93	3	8	15
Upson Electric Member Corp	9,083	16	65	80	16	57	65	-	8	15
Walton Electric Member Corp	125,287	71	116	133	40	109	118	31	8	15
Washington Electric Member Corp	15,421	26	103	123	26	95	108	0	8	15
Little Ocmulgee Electric Member Corp	11,223	23	75	92	18	68	77	5	8	15
Okefenoke Rural Electric Member Corp	25,781	103	69	85	23	61	70	80	8	15
Colquitt Electric Membership Corp	65,584	22	83	101	21	76	86	1	8	15

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
PowerSouth	431,834	13	28	46	11	24	32	2	4	14
City of Andalusia	4,617	45	99	132	45	99	132	-	0	0
Baldwin County Electric Member Corp	73,221	11	25	35	11	25	33	-	1	2
Central Alabama Electric Cooperative	42,831	10	22	31	10	22	29	0	1	2
Choctawhatche Electric Cooperative	48,675	18	36	77	10	23	30	8	13	47
Coosa Valley Electric Cooperative	16,629	11	25	34	11	24	32	-	1	2
Covington Electric Cooperative	23,009	10	22	32	10	22	29	0	1	2
Dixie Electric Cooperative	23,300	13	29	41	13	29	39	-	1	2
Escambia River Electric Cooperative	10,681	22	36	77	10	22	30	12	13	47
Gulf Coast Electric Cooperative	20,565	14	35	77	10	22	29	4	13	47
Pea River Electric Cooperative	18,687	10	22	31	10	21	28	-	1	2
South Alabama Electric Cooperative	16,404	12	27	37	12	26	35	-	1	2
Southern Pine Electric Cooperative	21,411	14	30	41	13	29	39	1	1	2
Tallapoosa River Electric Cooperative	26,613	15	27	38	12	27	36	3	1	2
West Florida Electric Cooperative Association	28,347	14	37	78	10	23	31	3	13	47
Wiregrass Electric Cooperative	23,946	9	21	30	9	21	28	-	1	2
Pioneer Electric Cooperative	12,881	10	19	27	8	18	25	2	1	2
Clarke-Washington Electric Member Corp	20,017	8	19	27	8	18	24	-	1	2

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 Santee Cooper	959,905	7	14	34	3	3	4	4	11	30
Aiken Electric Cooperative	46,843	5	11	31	-	-	2	5	11	30
City of Bennettsville	4,371	-	12	35	-	-	2	-	12	33
Berkeley Electric Cooperative	92,957	11	11	31	-	-	2	11	11	30
Black River Electric Cooperative	32,000	6	11	31	-	-	2	6	11	30
Blue Ridge Electric Cooperative	64,762	8	11	31	-	-	1	8	11	30
Broad River Electric Cooperative	20,654	6	11	31	-	-	1	6	11	30
Coastal Electric Cooperative	11,646	7	11	31	-	-	1	7	11	30
Edisto Electric Cooperative	20,050	3	11	31	-	-	1	3	11	30
Fairfield Electric Cooperative	28,224	-	11	31	-	-	2	-	11	30
City of Georgetown	5,026	-	12	35	-	-	2	-	12	33
Horry Electric Cooperative	75,984	2	11	31	-	-	1	2	11	30
Laurens Electric Cooperative	56,479	8	11	31	-	-	1	8	11	30
Little River Electric Cooperative	14,157	0	11	31	-	-	1	0	11	30
Lynches River Electric Cooperative	20,872	10	11	31	-	-	1	10	11	30
Marlboro Electric Cooperative	6,478	8	11	40	-	-	10	8	11	30
Mid-Carolina Electric Cooperative	54,821	4	11	31	-	-	1	4	11	30
Newberry Electric Cooperative	12,813	-	11	31	-	-	2	-	11	30
Tri-County Electric Cooperative	17,898	5	11	31	-	-	1	5	11	30
Palmetto Electric Cooperative	69,961	3	11	31	-	-	2	3	11	30
Pee Dee Electric Cooperative	30,437	4	11	31	-	-	2	4	11	30
Santee Electric Cooperative	43,494	2	11	32	-	-	2	2	11	30
South Carolina Public Service Authority	176,776	15	27	45	14	16	16	1	11	30
York Electric Cooperative	53,202	8	11	31	-	-	1	8	11	30

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 SCE&G	705,025	38	182	1,216	-	76	934	38	105	282
South Carolina Municipals	165,658	51	496	955	46	484	922	5	12	33
City of Camden	10,669	74	190	372	74	177	339	0	12	33
Clinton Combined Utility System	3,636	-	12	35	-	-	1	-	12	33
Easley Combined Utility System	14,209	2	12	34	-	-	1	2	12	33
City of Gaffney	7,440	-	12	35	-	-	1	-	12	33
Greenwood Commission of Public Works	11,812	4	21	33	4	9	-	-	12	33
Greer Commission of Public Works	24,416	3	12	34	-	-	1	3	12	33
Lockhart Power	6,208	-	12	35	-	-	2	-	12	33
City of Newberry	4,980	-	12	35	-	-	2	-	12	33
City of Orangeburg	24,152	141	2,932	5,444	141	2,920	5,410	-	12	33
City of Rock Hill	37,702	20	12	34	-	-	1	20	12	33
City of Seneca	8,206	415	967	2,297	415	954	2,264	-	12	33
City of Union	6,873	2	12	34	-	-	1	2	12	33
City of Laurens	5,355	-	12	34	-	-	1	-	12	33
 Southern Company	4,578,308	126	230	575	103	206	545	23	24	30
Alabama Power Co	1,468,744	0	7	279	-	6	276	0	1	3
Georgia Power Co	2,468,872	231	364	794	190	322	750	41	42	43
Gulf Power Co	453,139	8	151	311	-	140	271	8	11	40
Mississippi Power Co	187,553	9	455	674	-	442	620	9	12	54
 Tampa Electric	730,504	17	37	818	5	19	756	13	18	63

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA	4,715,043	38	82	125	18	55	67	20	28	57
Aberdeen Electric Department	3,278	36	106	129	33	101	124	3	5	5
Albertville Municipal Utilities Board	10,157	33	104	152	32	96	118	1	7	33
Alcorn County Electric Power Association	18,805	22	56	69	18	54	67	4	2	2
City of Amory	4,024	18	61	74	18	56	69	-	5	5
City of Alcoa Utilities	28,742	20	63	99	12	37	46	7	26	54
Appalachian Electric Cooperative	45,930	19	64	103	11	35	42	8	29	61
Arab Electric Cooperative	15,396	31	45	72	12	35	43	19	10	29
City of Athens Electric Department	44,934	19	49	85	14	42	51	5	7	33
Athens Utility Board	13,250	69	105	151	26	79	97	43	26	54
Benton County Electric System	10,280	12	59	94	11	33	40	1	26	54
Benton Electric System	2,509	15	89	149	15	47	57	-	42	91
City of Bessemer Utilities	11,094	16	56	93	16	49	60	-	7	33
Blue Ridge Mountain Electric Member Corp	51,330	301	207	372	7	22	27	294	185	345
Bolivar Energy Authority	11,119	15	62	97	12	36	44	4	26	54
Bowling Green Municipal Utilities	29,440	18	94	154	17	51	63	1	42	91
Bristol Tennessee Essential Services	33,328	31	69	106	14	43	52	17	26	54
Brownsville Utility Department	5,407	22	92	135	22	66	81	-	26	54
Central Electric Power Association	36,024	18	43	52	13	41	50	4	2	2
Caney Fork Electric Cooperative	32,153	90	63	101	11	33	41	79	29	61
Carroll County Electric Department	15,564	29	72	111	15	46	57	14	26	54
Electric Power Board of Chattanooga	167,360	48	81	121	19	55	67	29	26	54
Cherokee Electric Cooperative	23,434	12	46	73	12	36	44	-	10	29
Chickamauga Electric System	981	14	85	95	14	44	54	-	41	41
CDE Lightband	67,928	15	63	99	12	37	45	3	26	54
Cleveland Utilities	31,076	34	85	126	19	59	72	15	26	54

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA (continued)										
Clinton Utilities Board	29,801	19	72	110	15	46	56	3	26	54
Columbia Power & Water Systems	26,597	19	66	103	13	40	49	6	26	54
Columbus Light & Water	12,999	17	56	67	17	51	62	-	5	5
Cookeville Electric Department	17,496	32	79	119	18	53	65	15	26	54
Covington Electric System	4,720	28	113	161	28	87	107	-	26	54
Cullman Power Board	8,602	23	62	101	18	55	68	5	7	33
Cullman Electric Cooperative	42,872	34	51	79	14	41	51	20	10	29
Cumberland Electric Member Corp	92,914	28	76	118	15	46	57	13	29	61
City of Dayton Electric Department	10,530	18	74	113	16	48	59	2	26	54
Decatur Utilities	26,565	34	82	126	25	75	92	9	7	33
Dickson Electric Department	34,390	35	68	105	14	42	51	21	26	54
Duck River Electric Member Corp	73,451	24	72	113	14	42	52	10	29	61
Dyersburg Electric System	11,843	19	84	125	19	58	71	-	26	54
East Mississippi Electric Power Association	12,773	11	34	42	10	32	39	1	2	2
City of Elizabethton Electric Department	26,349	17	59	94	11	33	41	6	26	54
Erwin Utilities	8,936	17	67	104	13	41	50	3	26	54
Etowah Utilities	5,127	29	110	157	27	84	103	2	26	54
Fayetteville Public Utilities	18,282	324	68	105	14	42	51	310	26	54
Florence Utilities	49,127	16	50	85	14	42	52	2	7	33
Fort Loudoun Electric Cooperative	31,802	25	62	101	11	33	41	14	29	61
Fort Payne Improvement Authority	8,458	39	69	109	20	62	76	19	7	33
4-County Electric Power Association	47,648	17	39	48	12	37	46	4	2	2
Franklin Electric Cooperative	7,740	20	70	104	20	61	75	-	10	29
Franklin Electric Power Board	4,908	22	109	174	22	67	82	-	42	91
Fulton Electric System	1,632	39	104	168	20	62	76	18	42	91

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA (continued)										
Gallatin Department of Electricity	17,935	34	104	149	26	78	95	8	26	54
Gibson Electric Members Corp	34,513	41	69	110	13	40	49	28	29	61
Glasgow Electric Power Board	7,358	105	108	173	22	66	81	83	42	91
Greeneville Light & Power System	38,078	29	76	115	17	50	62	12	26	54
Electric Board of Guntersville	6,378	44	71	111	21	63	78	24	7	33
Harriman Utility Board	11,003	19	60	95	11	34	41	8	26	54
Hartselle Utilities	5,503	15	53	89	15	45	56	-	7	33
Hickman Electric System	1,098	54	67	124	9	25	32	46	42	91
Holly Springs Utility Department	11,552	11	40	48	11	35	43	-	5	5
Holston Electric Cooperative	30,459	55	74	115	15	45	55	40	29	61
Hopkinsville Electric System	13,004	19	89	149	16	47	58	3	42	91
Humboldt Utilities	4,438	77	82	123	18	56	69	59	26	54
Huntsville Utilities	179,773	22	56	93	16	49	60	6	7	33
Jackson Energy Authority	35,797	63	106	152	26	80	98	37	26	54
Jellico Electric & Water System	2,334	82	58	93	18	32	39	64	26	54
Joe Wheeler Electric Member Corp	42,970	28	75	110	22	66	81	6	10	29
BrightRidge	78,802	26	67	104	14	41	50	12	26	54
Knoxville Utilities Board	199,984	30	72	110	15	46	57	15	26	54
LaFollette Utilities Board	22,000	36	57	92	10	31	38	26	26	54
Lawrenceburg Electric System	20,106	24	66	103	13	40	49	11	26	54
Lenoir City Utilities Board	63,295	37	68	105	14	42	52	23	26	54
Lewisburg Electric System	6,099	42	117	166	30	91	112	11	26	54
Lexington Electric System	22,484	13	60	95	11	33	41	2	26	54
Loudon Utilities Board	11,753	60	111	158	28	85	105	31	26	54
Louisville Utilities	3,473	33	52	63	15	47	58	17	5	5

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA (continued)										
City of Macon Electric Department	1,195	11	41	49	11	36	44	-	5	5
Marshall-De Kalb Electric Cooperative	19,612	23	47	75	13	38	47	10	10	29
City of Maryville Electric Department	21,100	27	89	131	21	63	77	6	26	54
Mayfield Electric & Water System	5,448	20	86	145	14	44	54	6	42	91
McMinnville Electric System	7,997	14	69	106	14	43	52	-	26	54
Memphis Light, Gas and Water	409,814	33	82	123	19	56	69	14	26	54
Meriwether Lewis Electric Cooperative	33,844	33	87	131	19	57	70	14	29	61
Middle Tennessee Electric Member Corp	212,366	39	76	117	15	46	57	23	29	61
Milan Department of Public Utilities	8,158	34	67	104	13	41	50	21	26	54
Morristown Utility Systems	14,653	41	131	183	35	105	129	6	26	54
Mountain Electric Cooperative	33,842	69	298	577	10	30	37	59	268	540
Mount Pleasant Power System	3,933	19	78	117	17	52	63	3	26	54
Murfreesboro Electric Department	59,071	22	76	115	16	50	61	6	26	54
Murray Electric System	8,016	35	102	165	20	60	74	15	42	91
Muscle Shoals Electric Board	7,917	23	74	115	22	67	82	1	7	33
Nashville Electric Service	384,986	33	78	117	17	52	64	15	26	54
Natchez Trace Electric Power Association	15,823	17	38	46	12	35	43	6	2	2
New Albany Light, Gas & Water	10,671	23	58	70	18	53	65	6	5	5
Newbern Electric, Water & Gas	1,803	41	150	206	41	124	152	-	26	54
Newport Utilities	21,506	52	70	107	14	43	53	38	26	54
North Alabama Electric Cooperative	18,167	16	40	66	10	31	38	6	10	29
North Georgia Electric Member Corp	99,053	47	82	92	14	42	51	33	41	41
Oak Ridge Electric Department	16,287	43	79	119	18	53	65	26	26	54
City of Okolona Electric Department	5,233	10	36	44	10	32	39	-	5	5
City of Oxford Electric Department	9,366	15	46	56	13	41	51	1	5	5

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UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA (continued)										
Paris Board of Public Utilities	21,198	32	63	99	12	37	46	20	26	54
Pennyrile Rural Electric Cooperative	43,371	44	89	149	15	47	58	28	42	91
Philadelphia Utilities	3,886	18	58	71	18	53	66	-	5	5
Pickwick Electric Cooperative	20,570	11	61	99	10	31	38	1	29	61
Plateau Electric Cooperative	17,030	14	60	99	10	31	38	4	29	61
Pontotoc Electric Power Association	19,018	13	41	50	13	39	48	-	2	2
Powell Valley Electric Cooperative	23,361	28	60	98	10	30	37	18	29	61
Prentiss County Electric Power Association	13,813	15	45	55	14	43	53	0	2	2
Pulaski Electric System	14,340	162	81	121	18	55	67	144	26	54
Rockwood Electric Utility	14,567	20	63	99	12	37	45	8	26	54
Russellville Electric Board	5,097	15	54	91	15	47	57	-	7	33
Russellville Electric Plant Board	4,075	20	96	158	18	54	67	2	42	91
Sand Mountain Electric Cooperative	31,005	18	44	71	11	35	43	6	10	29
Scottsboro Electric Power Board	8,233	22	74	116	22	67	82	-	7	33
Sequachee Valley Electric Cooperative	35,186	32	69	109	13	39	48	19	29	61
Sevier County Electric System	55,969	22	71	109	15	45	55	7	26	54
Sheffield Utilities	18,850	25	73	113	22	65	80	4	7	33
Shelbyville Power System	10,159	26	89	131	21	63	77	5	26	54
Smithville Electric System	2,677	34	106	151	26	79	98	7	26	54
Southwest Tennessee Electric Member Corp	49,777	19	62	101	11	33	40	8	29	61
Sparta Electric & Public Works	2,987	29	95	138	23	69	85	7	26	54
Springfield Electric	8,198	46	143	197	39	117	144	7	26	54
Starkville Electric Department	13,521	40	58	70	18	53	65	22	5	5
Sweetwater Utilities Board	8,940	42	72	109	15	45	56	27	26	54

APPENDIX B: SOUTHEAST UTILITY RANKING

UTILITY	Customers (2016)	Total Solar (W/C)			Utility-Scale Solar (W/C)			Distributed Solar (W/C)		
		2016	2017	2021	2016	2017	2021	2016	2017	2021
 TVA (continued)										
Tallahatchie Valley Electric Power Association	27,485	15	44	53	14	41	51	2	2	2
Tarrant Electric Department	2,739	31	47	82	13	40	49	18	7	33
Tennessee Valley Electric Cooperative	19,516	15	64	103	11	34	42	4	29	61
Tippah Electric Power Association	13,607	14	45	54	14	42	52	0	2	2
Tishomingo County Electric Power Association	13,419	12	38	47	12	36	44	-	2	2
Tombigbee Electric Power Association	43,102	15	47	57	15	45	55	1	2	2
Trenton Light & Water Department	2,446	15	72	110	15	46	57	-	26	54
Tri-State Electric Member Corp	18,723	66	97	144	8	25	31	58	71	113
Tri-County Electric Member Corp	51,808	16	76	125	13	41	50	3	35	75
Tulahoma Utilities Authority	10,680	22	74	112	16	48	58	7	26	54
City of Tupelo Water & Light Department	15,292	27	77	93	24	72	88	3	5	5
Tuscumbia Electricity Department	4,787	13	42	76	11	35	43	1	7	33
Union City Electric System	6,471	26	100	144	24	73	90	2	26	54
Upper Cumberland Electric Member Corp	49,146	18	64	103	11	34	42	7	29	61
Volunteer Electric Cooperative	114,723	35	63	103	11	34	42	24	29	61
Warren Rural Electric Cooperative Corp	63,604	72	94	155	17	52	64	54	42	91
City of Water Valley Electric Department	2,009	19	63	76	19	58	71	-	5	5
Weakley County Municipal Electric System	20,437	16	65	101	13	39	47	3	26	54
West Kentucky Rural Electric Cooperative	38,571	80	73	129	10	31	38	70	42	91
City of West Point Electric System	3,902	12	41	49	12	36	45	-	5	5
Winchester Utilities	5,885	27	79	118	17	53	64	10	26	54
Ripley Power & Light	6,718	16	75	114	16	49	61	-	26	54
Chickasaw Electric Cooperative	19,374	20	73	115	15	44	54	5	29	61
Forked Deer Electric Cooperative	9,872	10	58	96	9	29	35	1	29	61
North East Mississippi Electric Power Association	25,105	15	45	55	14	43	53	1	2	2
Monroe County Electric Power Association	11,171	12	34	41	10	32	39	2	2	2
HFC RECC (Merged into Gibson EMC)	3,330	61	81	138	13	39	47	48	42	91
City of Courtland	790	13	49	84	13	41	51	-	7	33
Murphy Electric Power Board	4,956	26	512	991	16	49	60	10	463	931