

## **Mississippi Renewable Energy and Energy Efficiency Update**

### **MPSC Regular Meeting and Docket Call – August 1**

At the August 1, 2017, MPSC Regular Meeting ([see agenda](#)), the Commission acted on the following items of interest to clean energy stakeholders:

**CenterPoint Energy MS Gas – Docket No. 2013-UN-214** – CenterPoint filed a [Supplemental Growth Rider](#) (SGR). The SGR provide cost recovery for numerous projects – mainly increasing capacity at industrial parks – around the state. The SGR will increase an average residential customer’s bill by \$0.28 per month, a commercial customer by \$0.70 per month and a large volume industrial customer by \$7.78 per month. The Commission [approved](#) the SGR.

**Atmos Energy Corp. – Docket No. 2017-UN-44** – Atmos is amending its Gas Service Policy. Previously, and old customer or a new customer had to be present at the time an Atmos technician discontinued or activated natural gas service. This new process will estimate final billing and initiate new service without the need for the customer to be present. The Commission [approved](#) the change.

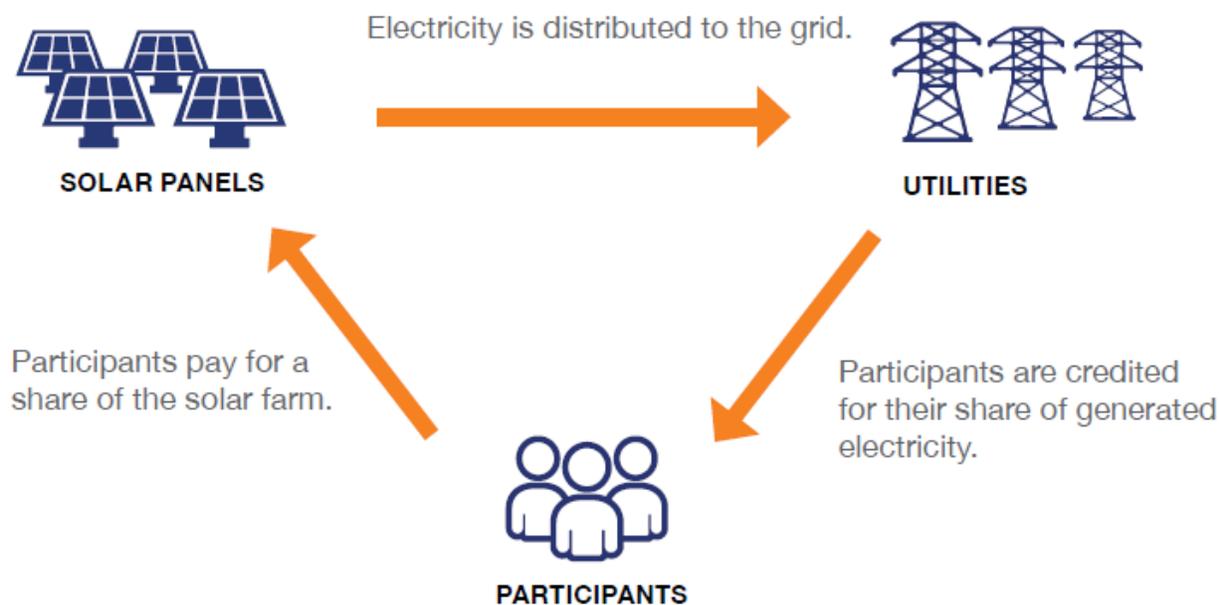
**Hire Mississippi Rule – 2017-AD-86** - Immediately following the August 1, 2017, regular meeting, a Public Hearing was held to take comments regarding the proposed “Hire Mississippi Rule.” While the Commission indicated that numerous utilities and other stakeholders were active in offering suggestions to improve the proposal, no members of the public offered comments during the hearing. In short, the Hire Mississippi Rule establishes publication and reporting requirements regarding regulated utilities’ utilization of resident contractors. The Commissioner then approved the [Final Order Adopting Rule](#).

**Next Meeting of the MPSC** – The next [regular meeting](#) of the MPSC will take place on **September 12, 2017, at 10 am** in the MPSC Hearing Room to consider the Docket and other matters.

**MPSC Work Session** – The MPSC hosted a [work session](#) on Thursday, August 17, at 10 am in Jackson at the MPSC Hearing Room to examine the potential for community solar projects in Mississippi, non-utility renewable energy deployment, utility industry employment and natural gas energy efficiency programs.

**Topic: Community Solar; Speakers: Elizabeth Ingram, Andrew Owens and Aaron Hill of Entergy MS**

Ms. Ingram provided an overview of the basic tenants of Community Solar and used [SEPA’s definition of community solar](#) to identify its defining elements.



Ms. Ingram also discussed the value proposition of community solar: provides an option for households that can't pursue rooftop solar; customers can take advantage of economies of scale; projects can be sited and situated to maximize production; and a large customer base can still have "ownership" of solar.

Mr. Owens highlighted the [El Paso Electric Community Solar program](#) as an example. The 3-MW project allows customers to choose a monthly payment option or an upfront payment option. The project sold out of subscriptions in 2 months. Other examples of community solar projects can be found in MN, CO and MA. Some projects are utility-owned, some third-party owned, some hybrid arrangements. The Commissioners asked questions regarding low-income customer participation and how commercial and industrial customers would participate. Mr. Owens then described how an Entergy MS Community Solar Pilot Program could be structured.

Mr. Hill provided an update of the Bright Future Solar pilot project consisting of 3 separate 500 kW solar farms located in north, central and south Mississippi. July 2017 has been the best month of cumulative electricity production for the sites. Jackson, with a single-axis tracking system, has had the best output. [Real-time monitoring](#) of each project is available on the Entergy MS website.

Please see the full [Entergy Mississippi Community Solar presentation](#).

**Topic: Non-Utility Renewable Energy Deployment; Speaker: Steve Chriss of Walmart**

Mr. Chriss is the Director of Energy and Strategy Analysis for Walmart Stores. Walmart has 83 retail, 3 distribution, and over 23,000 associates in Mississippi. (Nationwide is 5300 retail, 120 distribution, and 1.5 million associates).

Walmart has [adopted a goal](#) of 100% renewable energy with 50% renewable energy by 2025. They will achieve by reducing energy demand, securing alternative energy resources supplies, and passing on the savings to customers. Walmart has renewable energy projects in 18 states and Puerto Rico (none in

Mississippi). These projects include 360 solar, 60 fuel cell, 1 onsite wind and numerous offsite renewable energy purchase contracts. Onsite renewable energy allows Walmart to replace fossil-fueled grid energy with renewable energy and reduce operating costs. Walmart uses all energy onsite and does not export energy, so net metering is not a driver for project development. Walmart has been working with Southern Company on projects; no opportunity to work with Entergy yet.

Mr. Chriss recommended that Mississippi clear up the legal uncertainty of PPAs executed with third party project developers. And that the MPSC push price discipline where this is no electric market competition. Mr. Chriss indicated that cost and return on investment drive all decisions on renewable energy investments.

**Topic: Employment in the Mississippi Utility Industry; Speaker: Patrick Sullivan of Mississippi Energy Institute**

Mr. Sullivan provided an overview of MEI's [Get on the Grid](#) program to identify and solve the challenges associated with workforce skills training for utility-related jobs. The primarily digital marketing program has focused on the Jackson metro area and Mississippi Gulf Coast.

The utility sector is short about 40,000 jobs. Research has found that 1 out of 5 Mississippians over age 25 and without a college degree is not working for various reasons. Get on the Grid is privately funded and has partnerships with Mississippi agencies to promote and conduct outreach.

Please see the full [Get on the Grid presentation](#).

**Topic: Natural Gas Energy Efficiency Programs; Speakers: Olivia Barq of CenterPoint Energy and David Kelly of Urban Design Studio**

The Southeast Energy Efficiency Alliance has evaluated state energy efficiency (EE) programs and has found that Mississippi programs have been generally successful at achieving savings.

Ms. Barq indicated that CenterPoint offers [5 programs for residential customers](#). However, CenterPoint is not seeing the participation of low income in high-efficiency appliance rebates as they would like. High costs on the front end discourages participation. CenterPoint is working to implement financing tools and programs that target energy insecure households. According to Mr. Kelly, the Mississippi Home Corp could help with financing and credits that can offset the costs of higher efficiency equipment in new home construction.

**Public Hearing on Utility-Scale Solar Project** –The [public hearing](#) on the [Joint Petition](#) (2017-UA-104) from [MS Power Co. and SR Meridian III, LLC](#) (Silicon Ranch Solar) for a Certificate of Public Convenience and Necessity Authorizing the Construction, Operation and Maintenance of Solar Energy Generating Facilities and Related Facilities in Lauderdale County, MS was held on Thursday, August 17, in Jackson at the MPSC Hearing Room immediately following the MPSC work session. One intervener objected to parts of the CPCN application being redacted or labeled confidential. MS Power and Silicon Ranch defended info as sensitive business information. After receiving testimony and cross-examination from petitioners and interveners, the Commissioners voted to accept the record for the 570,000 panel, 53-MW [solar project](#). See the MS Power Co. [press release](#).

## Increasing Energy Efficiency in Southeastern Low-Income Households

Southeastern states generally have historically high poverty rates, and low-income households can spend up to three times as much on monthly energy bills than other families. [Energy efficiency investments](#) could help lower energy bills, but low-income residents in the region often lack access to product information, technical guidance, and project financing. ACEEE has developed a [series of fact sheets](#) summarizing current Southeastern utility low-income energy efforts and provides strategies for states and utilities to scale up energy efficiency efforts. See the [Mississippi Fact Sheet](#).

## What are the Other Reasons People Do Not Invest in Energy Efficiency?

Why don't more homeowners and businesses invest in energy efficiency? [Research](#) shows there are many reasons: (1) most people prefer to spend money on aesthetics; (2) people think homes and buildings are already efficient; (3) some efficiency improvements have longer payback periods than people are comfortable with; and (4) even if they care about the environment, people are not prioritizing homes and buildings, even though homes and buildings often have the largest impact on energy use. Businesses also have their unique reasons. ACEEE has [10 suggestions](#) for increasing energy efficiency among homes and businesses.

## New Tool Helps Cities Reduce Energy Use

The Excel spreadsheet-based [Local Energy Efficiency Self-Scoring Tool Version 3.0](#) lets you [score any community's energy efficiency efforts](#) using the metrics from ACEEE's [2017 City Energy Efficiency Scorecard](#). You can compare your community's efforts against those of similarly-sized localities and learn about innovative energy practices successful in other places. Energy efficiency a cost-effective strategy for saving taxpayer money, reducing emissions and stimulating local economic growth. For more information on the self-scoring tool, see this [presentation](#).

## EE Spotlight: Entergy's READI Program

Looking for ways to improve the energy efficiency of your home and save on energy costs? Entergy Mississippi's Residential Energy Audit and Direct Install (READI) Program is here to help. READI involves a home energy assessment, a review of findings and recommendations, and installation of energy-saving items. Schedule your READI home assessment today at [entergysolutionsms.com/readi](http://entergysolutionsms.com/readi) or call 844-523-9980.

## TVA Reports Solar Distributed Generation Numbers

There are 429 operating solar installations (GP/GPP, RSO, & SSI) in Mississippi, Alabama, and Georgia with a total nameplate capacity of 25.65 MWAC.

State	# of Operating Projects (GP/GPP, RSO, & SSI)	Nameplate Capacity (MW <sub>AC</sub> )
Alabama	172	5.87
Georgia	171	6.18
Mississippi	86	13.6

All data as of June 30, 2017

GP/GPP = Generation Partners/Green Power Providers program

RSO = Renewable Standard Offer program

SSI = Solar Solutions

## Kemper Update

On August 2, Southern Company indicated that it did not believe that it would be able to recover the costs of the coal gasification portion of the plant and lignite mine through rates and that it would absorb an additional \$2.8 billion in losses from the Kemper County power plant's lignite coal operation — bringing the total to nearly \$6 billion in losses (\$3.9 billion after taxes). The \$7.5 million dollar plant is operating on natural gas. The Commission has previously approved the recovery of \$840 million through rates to cover costs of the 730-MW natural gas combined cycle units. Some costs are still outstanding and will be addressed in settlement negotiations.

On June 28, Southern Company and Mississippi Power suspended the lignite gasification and carbon capture operations at Kemper after Commissioners signaled that they no longer support the project that is billions over budget and years behind schedule.

On July 6, The Commission adopted an [Order](#) that requires all parties to expeditiously work to settle all outstanding matters associated with the Kemper Project. The Commission gave all parties 45 days (on or about August 21) to [agree to and file a settlement](#) of rates and others issues with the Commission.

On August 21, Mississippi Power submitted a [Settlement Rate Filing](#) to the MPSC and all interveners in the Kemper Settlement Docket (2017-AD-112). As part of the filing, Mississippi Power also submitted a Stipulation Agreement that could serve as a final settlement for of all know issues related to the Kemper project. However, the MPSC indicated in a [press release](#) that the filings made on August 21 by the Public Utilities Staff and [Mississippi Power Company](#) indicate that a settlement has yet to be reached. At issue is how and if MS Power can recover [approximately \\$300 million more in costs](#) it says are related to the natural gas combined cycle part of the Kemper plant that is currently in operation. The MPSC reviewed the filings and [ordered an extension of the deadline](#) while encouraging the parties to continue negotiations in order to finalize a stipulation. The new deadline is September 5.

The [May 2017 Independent Monitor Report](#) and [June 2017 Independent Monitor Report](#) is now online for review.

## Regional Issues

### **New NC Report Examines Balance Between Solar and Agriculture**

This latest report, [Balancing Agricultural Productivity with Ground-Based Solar Photovoltaic \(PV\) Development](#), finds that less than a third of 1% of North Carolina's 4.75 million acres of cropland now houses solar panels – belying criticisms that large-scale solar arrays are threatening the state's traditional farms. While there are some impacts from solar construction, many examples of agriculture/solar production co-existence are finding a solid footing. A prime example is the utilization of solar farms for grazing sheep. The grounds of 28 of the state's large-scale solar installations are maintained by about 4000 sheep. Local restaurants are incorporating sheep and lamb into their menus. Furthermore, farming the sun is helping farmers realize long-term economic benefits and in many cases providing [greater per acre revenues](#) than traditional row crops.

### **Gulf Coast Solar Center Completed in Florida**

The 120 MW-AC Gulf Coast Solar Center spans 942 acres across three Navy and Air Force sites in northwest Florida. NAS Pensacola's Navy Outlying Landing Field (NOLF) Saufley hosts the largest of the three solar installations: a 366-acre, 50 MW-AC solar. Other project sites include 40 MW-AC and 30 MW-AC facilities at NAS Whiting Field's NOLF Holley and the Eglin Air Force Base Reservation spanning 336 and 240 acres, respectively. Air Force and Navy officials, executives from Coronal Energy, Panasonic, and Gulf Power [celebrated the achievement](#) at the end of August.

### **Redstone Arsenal in Alabama to Pair Energy Storage with Solar Farm**

SunPower, the builder of a 10-MW solar PV project at the Redstone Arsenal US Army post in Alabama, [announced](#) that the project will also feature a 1MW energy storage system. In addition to the investment in energy storage, the US Army also executed a power purchase agreement that allows the Redstone facility to buy 100% of the energy generated by the solar installation.

### **North Carolina REPS Turns 10**

On August 20th, the Renewable Energy and Energy Efficiency Portfolio Standard (REPS) turned 10 years old. Since the policy was put in place, North Carolina's clean energy economy has created 34,000 jobs and \$6.4 billion in annual revenues. Over the last decade, 1,709 MW in biomass energy capacity and 3,287.5 MW in total solar capacity has been added. The clean energy economy now boasts over 7000 MWs of renewable energy capacity from 5,990 projects. In addition, there over 1,353 LEED Certified Buildings.

### **V.C. Summer Nuclear Plant Construction Abandoned in South Carolina**

Officials with Santee Cooper and [SCANA Corp.](#) have decided to [stop work](#) on construction of two new nuclear reactors at the Summer nuclear plant in South Carolina. The two nuclear reactors was originally expected to cost \$14 billion come online in 2017 and 2018. The nuclear project have cost South Carolina utility customers nearly \$9 billion so far. Utility officials estimated it would cost an additional \$11.4 billion to finish the project, adding up to a total cost of about \$25 billion. Expected completion would be beyond 2020 when important tax credits are set to expire. Santee Cooper has raised power rates five times to cover the cost of the project, and SCANA has increased its rates nine times.

## Duke Energy Cancels Planned Lee Nuclear Station in South Carolina

Duke Energy Carolinas has filed with the NCPUC its [plans to cancel further work](#) on the Lee Nuclear Station – a twin-reactor unit to be located in Gaffney, SC. Westinghouse, who was also building the Summer and Vogtle nuclear projects, was the general contractor and designer of the AP1000 units. Westinghouse has said it is exiting the nuclear construction industry. The latest cost estimates for the Lee project was \$11 billion from 2008. Duke energy still plans to recover at least \$368 million in planning and pre-construction costs from customers over 12 years.

## Duke Energy Cancels Planned Nuclear Project in Florida; Going Solar Instead

Duke Energy [dropped plans to build](#) a proposed Levy Nuclear Plant on Florida's Gulf Coast. Duke had planned to use two Westinghouse AP1000 reactors at the site. The Westinghouse bankruptcy, cost overruns and delays at nuclear projects in South Carolina and Georgia, and slowing energy demand were factors. As part of the announcement, [Duke unveiled plans to spend \\$6 billion in Florida](#) - building solar farms, installing electric vehicle charging stations, and improving the electric grid. Duke will also reduce rates in the short-term. Duke plans to add 700 MWs of solar, build 500 electric vehicle charging stations, and install up to 50 MWs of battery storage.

## Costs Swell for Vogtle Nuclear Facility under Construction in Georgia

Georgia Power and Southern Company [released the new cost estimate](#) for Georgia's Vogtle Electric Generating Plant in a filing with Securities and Exchange Commission. The total cost of the Vogtle nuclear plant expansion is likely to top \$25 billion dollars and could reach over \$27 billion. The earliest in-service dates for the two reactors have now been pushed back to Feb. 2021, and Feb. 2022. Southern Co. estimated the plant would cost about \$14 billion when it proposed the project in 2008. As of publication of this Update, unofficial [reports](#) indicate that Southern Co. and its partners plan to continue construction and complete the Vogtle project.

## Wind Power Value Chain in the Southeast

When you think of wind power, the southeast doesn't immediately come to mind when asked to identify the steps involved in generating electricity from wind. However, the Southeast Wind Energy Coalition has completed a [fact sheet](#) to highlight the economic contributions made by the wind energy supply chain in the region. The southeast offers a competitive advantage for wind component manufacturing and **Mississippi** is right in the middle of it all.

Using a new map tool released by the American Wind Energy Association (AWEA), anyone can now easily view the location of every utility-scale wind project and wind-related manufacturing facility in the U.S. The map tool can be accessed [here](#).



## Orlando, FL Becomes 40<sup>th</sup> City to Pledge 100% Renewable Energy

The Orlando City Commission [unanimously approved a resolution](#) to transition the city to 100% clean and renewable energy by 2050. All municipal operations will be powered by renewables by 2030.

## Arkansas Electric Co-op Offers Array of RE and EE Programs

Ouachita Electric Cooperative (OEC) is finding that solar power is not only benefiting its members, it's helped to keep a major employer in the community. OEC has also installed solar to power its headquarters and built a community solar project. OEC has also launched a new tariff to improve the energy efficiency of members' homes and is bringing broadband to its communities. [Read about OEC.](#)

## Atlanta-based Home Depot Deploying Solar on 50 Store Rooftops

The [Home Depot said](#) that it will use power purchase agreements to lease rooftop space for 50 of its stores. The projects will reduce grid electricity demand by about 35% annually at each location. The solar project is part of the company's efforts to use 135 MW of alternative and renewable energy by 2020. Third-party sales of electricity is not allowed in many states in the Southeast. The legality of this arrangement in Mississippi is unclear.

And not to be outdone.....

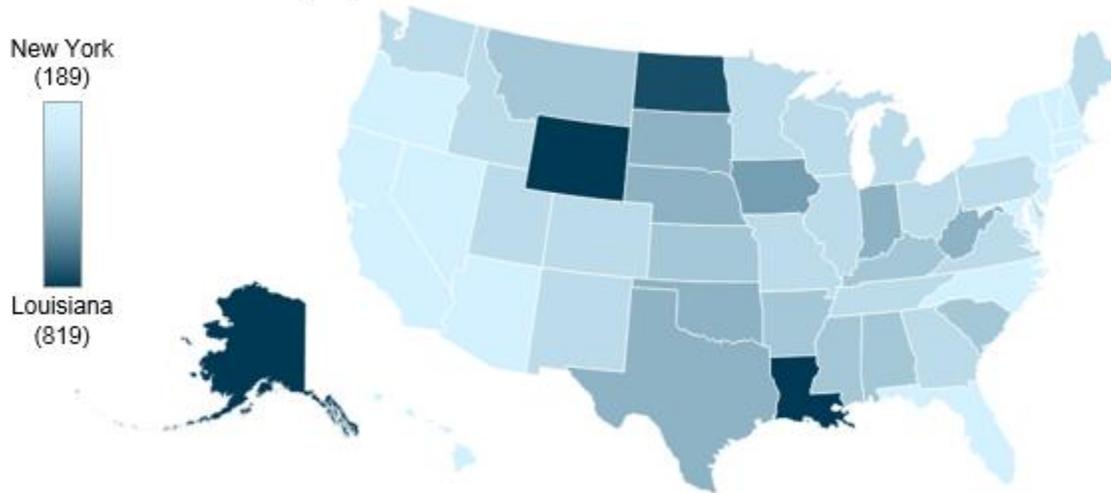
## Target to Use Renewable Energy to Offset Energy Use of 150 Stores

[Target Corp. has agreed](#) to buy 100 MWs of output from the 474-MW Solomon Forks wind facility in Kansas to help offset the energy used at 150 Target stores in the Midwest. Last year, Target announced its first wind deal -- to buy [40 megawatts](#) of capacity from a wind project in Texas to meet the needs of 60 of its stores in that state.

## Louisiana Tops Nation in Energy Use Per Capita; Texas in Total Consumption

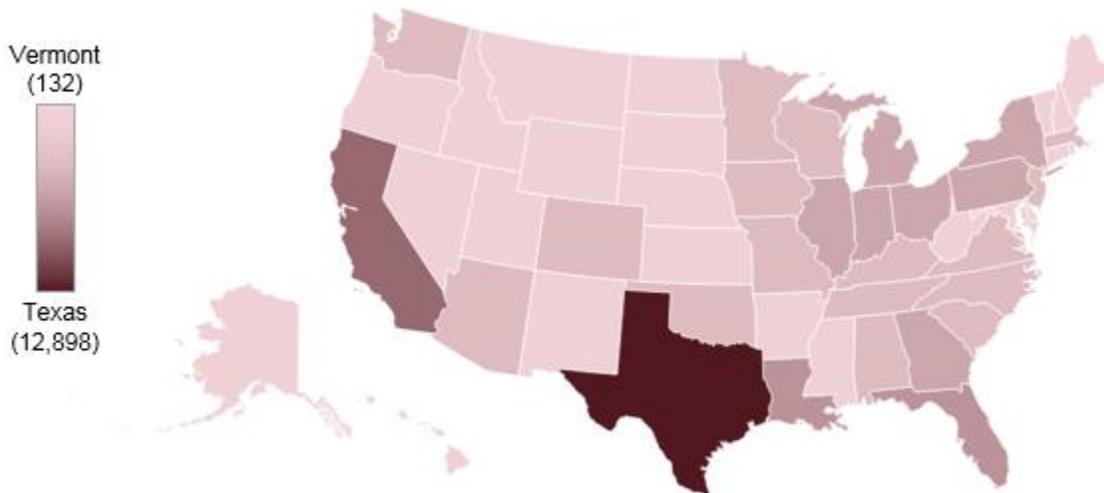
The U.S. Energy Information Administration's [State Energy Data System](#) revealed that in 2015 (the last year for which complete energy consumption data is available) Louisiana used 912 million British Thermal Units of energy per person, most in the country. Louisiana was followed by Wyoming, Alaska, North Dakota and Iowa. **Mississippi** came in at #15 in the nation in total energy consumption per capita. For the various sectors in energy use per capita, **Mississippi** ranked #33 in residential, #40 in commercial, #14 in industrial and #5 in transportation.

**Per capita total energy consumption by state, 2015**  
million British thermal units per person



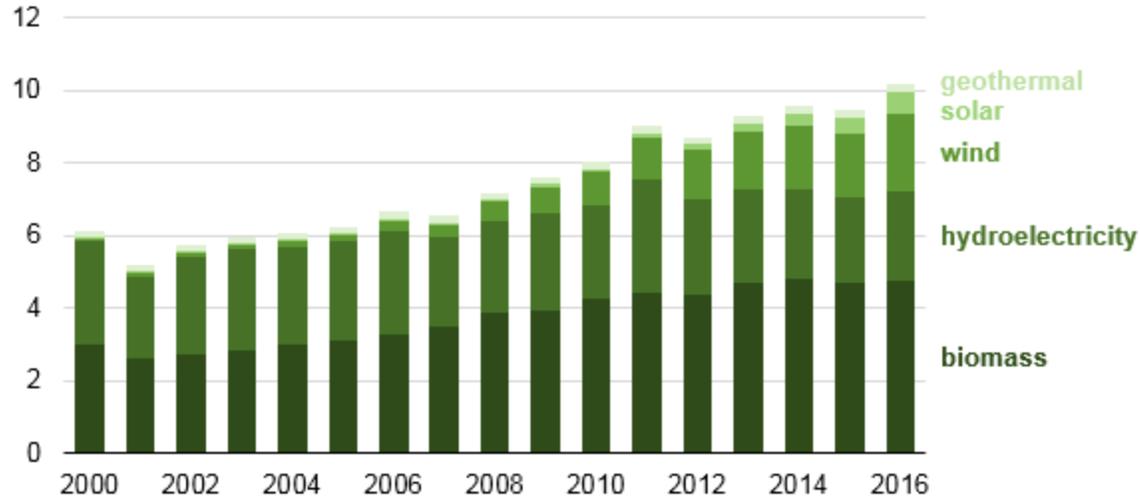
[Among all states](#), the report said, Texas consumed the most energy: 13 quadrillion Btu, or 13 percent of total consumption in the U.S. Texas has held that rank since 1960. Texas was followed by California, Louisiana, Florida and Illinois. Vermont used the least energy and has held that spot since 1961. **Mississippi** ranked #29 in the nation in total energy consumption. Total energy consumption by the top 10 states exceeded the combined energy use of the other 41 states (including the District of Columbia).

**Total energy consumption by state, 2015**  
trillion British thermal units



Renewable fuels had the largest increase in energy consumption in 2016. Wind generation increased by nearly 20%, making up almost half of all renewable consumption increases. Solar consumption also significantly increased, as considerable electric generating capacity was added for both wind and solar resources in 2016. Hydroelectric consumption increased by 7% as the West Coast recovered from severe drought conditions. Together, wind, hydro, and solar made up 91% of renewable consumption increases. Biomass consumption, which accounted for 47% of all renewable consumption in 2016, remained close to its 2015 level.

United States renewable energy consumption (2000-2016)  
quadrillion Btu



## National Issues

### Report Looks at the Past and Future Bioeconomy

From the beginning of European settlement of North America through the beginning of the 20th century, citizens relied heavily on biobased materials to provide food, shelter, energy, transportation, clothing, and other products of all kinds. Over time, society increasingly turned to metals, steel, concrete, plastic, synthetic fibers and fossil fuels. But a quiet revolution is underway based in part on rising environmental and social concerns. While to near total reliance on biomaterials is not envisioned, [a new bioeconomy appears to be on the horizon](#).

### Wind Energy Capacity and Generation to Jump

The number of wind farm projects under construction in the US has [grown by 40%](#) since this time last year. Most of that construction is in Texas, the Midwest and the West. Texas remains the leader when it comes to installed wind power capacity with more than 20,000 megawatts. The US has more than 84,000 megawatts of installed wind power capacity. There are 14,004 megawatts of wind projects currently under construction around the country. Wind farms have been a boon for rural county economies, which have received significant boosts from annual wind farm project payments. The Energy Department also recently released three wind market reports demonstrating continued growth in wind energy nationwide. The reports cover the following market sectors: [land-based utility scale](#), [offshore](#), and [distributed](#) wind.

### New Report Tracks Rise of Renewable Energy over the Last 10 Years

In a new report, ["Renewables on the Rise"](#), the authors find: Solar produced 43 times more power than 10 years ago, and wind produced seven times as much, while the cost of solar and wind fell by 54 and 41 percent, respectively; A number of traditional "red states," including Oklahoma, Texas, Arizona and North Carolina, played leading roles in the deployment of solar or wind technology; Meanwhile, energy consumption fell 14 percent relative to GDP demonstrating growing investments in efficiency.

## Net Metering Debates Rev Up

According to the [latest quarterly report](#) from North Carolina Clean Energy Technology Center, there are [42 proceedings in 25 states plus the District of Columbia](#) to increase fixed charges or minimum bills on residential solar customers. Perhaps one of the most notable is how many states are formally examining the value of distributed generation or the [costs and benefits](#) of net metering: 17.

## New Report Explores Financing as a Tool to Increase Energy Efficiency

Ensuring that low- and moderate-income (LMI) households have access to energy efficiency is equitable, provides energy savings as a resource to meet energy needs, and can support multiple policy goals, such as affordable energy, job creation, and improved public health. Although the need is great, many LMI households may not be able to afford efficiency improvements or may be inhibited from adopting efficiency for other reasons. [Energy Efficiency Financing for Low- and Moderate-Income Households: Current State of the Market, Issues and Opportunities](#) explores the various financing tools that are designed to address barriers to adoption of energy efficiency.

## Want to Make Your Home or Building Ultra-Energy Efficient? Take These Steps

Today's buildings consume roughly 40% of all energy used in the United States, making improved building efficiency critical to reducing energy use and energy-related pollution emissions and to creating jobs and a robust economy. Existing buildings must be retrofitted to attain goals for reduced energy consumption. Consider these design steps and technology options:

Design Step	Sample Technology Option
1. Reduce building energy loads with improved envelopes and the use of passive systems.	Superinsulation, daylighting, exterior shading, natural ventilation
2. Install high-efficiency systems to address primary building energy loads.	Heating, ventilation, and air-conditioning systems (including distribution), water heating, appliances/equipment
3. Install systems to manage building energy loads with effective control strategies and other mechanisms.	Energy management systems, plug-load control strategies, feedback to users and occupants
4. Incorporate energy recovery mechanisms to minimize energy losses.	Energy recovery ventilation, heat-pump water heaters
5. Use renewables to meet remaining building loads.	Rooftop and other photovoltaic energy systems
6. Monitor and manage post-occupancy building energy use.	Monitoring-based commissioning, occupant engagement

Learn more at [Unlocking Ultra-Low Energy Performance in Existing Buildings](#).

## New Resource for Interconnection Best Practices

Interconnection standards are, in effect, the “rules of the road” set by regulators, which both renewable energy system owners and utilities must follow to keep power flowing smoothly across the grid. A new quick reference guide, [Priority Considerations for Interconnection Standards](#), serves as a supplement to

IREC's Interconnection Model Rules, with key considerations for states working to improve/update interconnection procedures.

## **Climate Report Goes Public amid Author's Concerns**

Controversy swirls as to the ultimate fate of the [Climate Science Special Report](#) (CSSR) whose draft was leaked earlier this month. The draft report by scientists from 13 federal agencies, federal laboratories, and numerous research institutions and universities concludes that Americans are feeling the effects of climate change right now. The report provides the scientific foundation for the Fourth National Climate Assessment (NCA4) which is congressionally mandated. The report authors will be watching to see how the Administration will handle the report which had to be reviewed by agencies by August 18.