

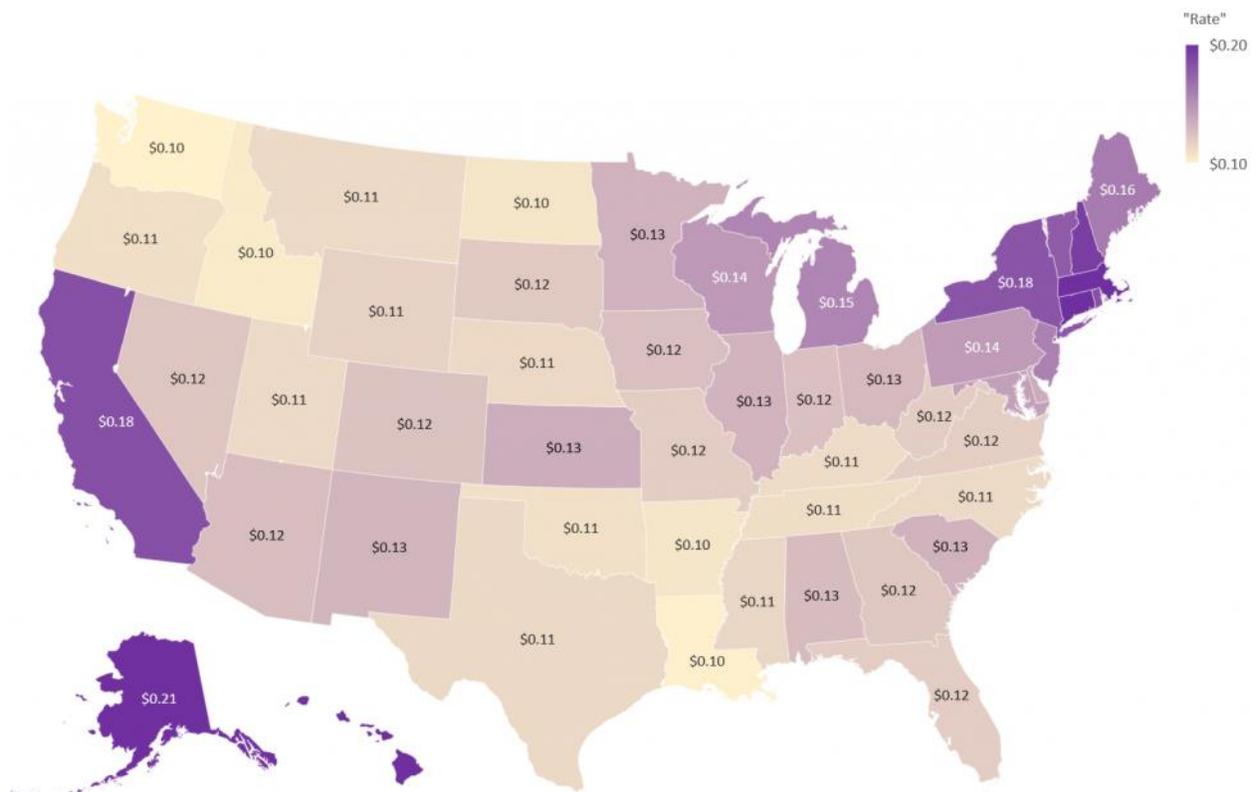
Mississippi Renewable Energy and Energy Efficiency Update

Mississippi Issues

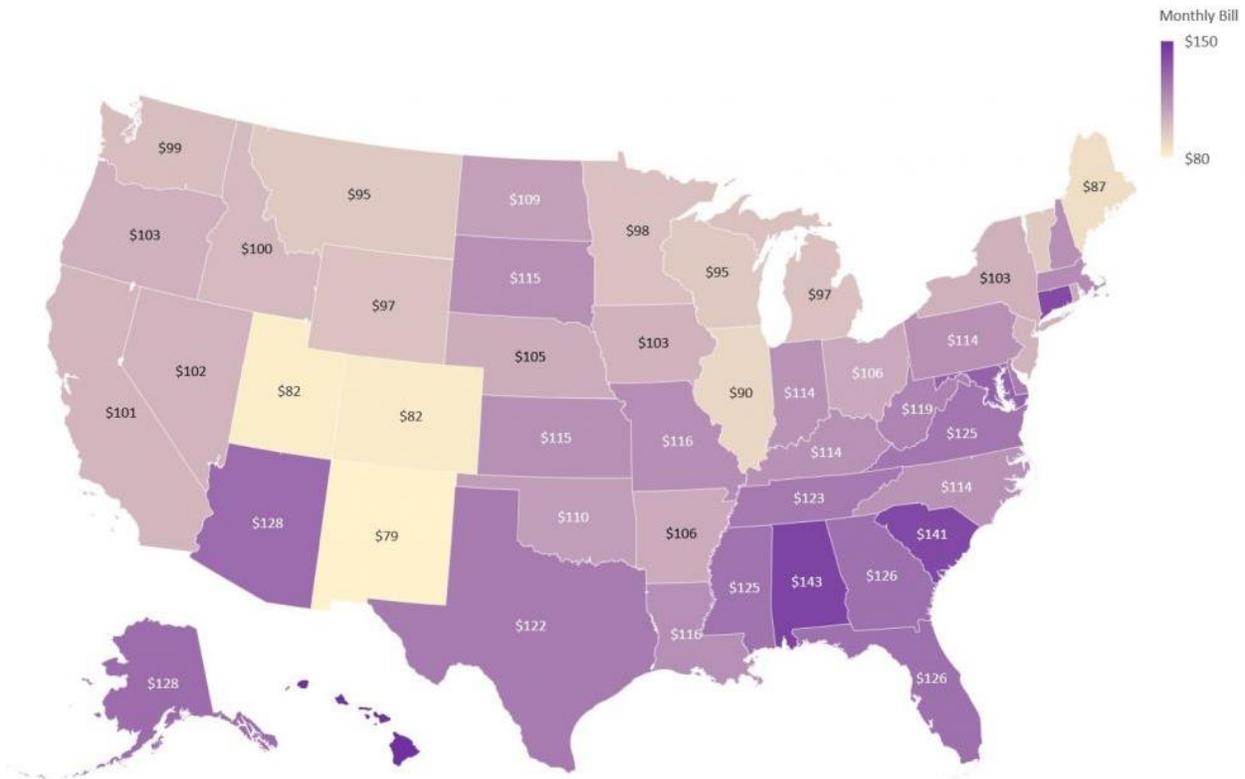
Comparing Electric Rates, Utility Bills, and Energy Burden

Nearly one-third of U.S. households (31%) [reported](#) facing a challenge in paying energy bills or sustaining adequate heating and cooling in their home in 2015. The [latest tool](#) from the US Department of Energy (DOE) generates color-coded maps of the [energy burden many Americans face](#). Everybody wants affordable energy. Energy consumers want to be able to pay their bills and energy providers also want customers to be able to pay their energy bills. What we can't seem to agree on is how to best measure energy affordability or what makes electricity "affordable."

Rates - EIA reports data on electricity price (\$/kWh). This value takes your monthly bill (\$), divided by the energy consumption in terms of kilowatt-hours (kWh). Using this average makes Southern and Western states look like they have affordable energy. In fact, **Mississippi's** electric rates are below the national average. See "Rates" map below.



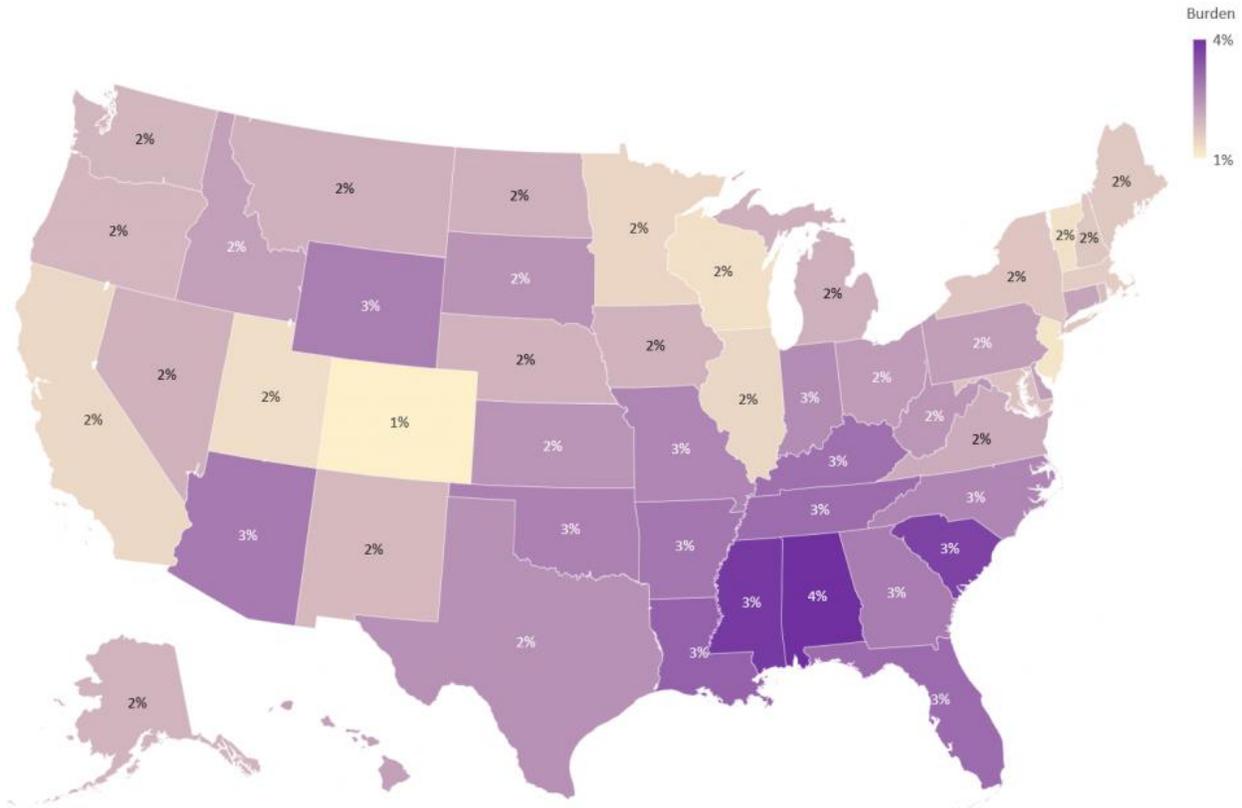
Bills - Fixating on rates could mislead people into thinking electricity in some regions is more affordable than it really is. Rates don't reflect how much energy the average customer consumes. Bills, on the other hand, are a better metric on how affordable electricity is because that's what you have to pay each month. When only looking at rates, **Mississippi**, Georgia, Alabama, and South Carolina all looked like they had affordable electricity. However, residential customers in these states have some of the highest bills in the country! See "Monthly Bills" map below.



For comparison purposes, Massachusetts has the 4th highest rates but the 36th lowest bills. Massachusetts is ranked 1st in energy efficiency by ACEEE. **Mississippi** has the 15th lowest rates but has the 42nd lowest bills. Mississippi is ranked 44th by ACEEE in terms of energy efficiency. Louisiana has the 2nd lowest rates but only the 34th lowest bills. Louisiana is ranked 47th by ACEEE in terms of energy efficiency. Other “low rates” states, like Alabama, Kentucky, Arkansas, Georgia, and South Carolina, all have lower than average rates but higher than average bills. (Alabama and South Carolina have the 2nd and 3rd highest bills in the nation). These states also rank low in energy efficiency.

Burden - Rates and bills still only tell part of the story on affordability. The average U.S. household spends 2.3% of their annual income on electricity. But as households get near or below the poverty level, the burden balloons to 10% up to 26%. Energy burden is the percent of one’s income you spend on all energy (electricity, heating, gasoline, etc....). Electricity is one part of the energy burden.

Energy burden analysis can include a variety of metrics and factors. To keep it simple, the map below uses a comparison of the average electric bill as a percent of average income. Far from a perfect measure, it is a useful tool in looking at electricity affordability. While lower income folks do consume less, they do typically spend a higher percentage of their income on energy overall. The energy burden on low-income households is real and substantial and observed in all 50 states. See the “Burden” map below.



Alabama, **Mississippi**, and South Carolina all have below-average rates—but residential consumers in these states suffer the highest electricity burden. Energy efficiency is a great tool in making electricity more affordable. Energy efficiency helps avoid or defer expensive investments that utilities would otherwise have to make, which means it helps all customers save money. Energy efficiency also helps consumers lower their bills. And, energy efficiency policies and programs can target efforts to make sure that all consumer groups can benefit and participate in efficiency programs. Making households more energy efficient will go a long way to reduce energy costs and reduce energy burdens.

Get a Home Energy Audit to Save Money and Reduce Energy Waste

During a [home energy audit](#), a trained, professional assessor visits your home or business and performs an in-depth examination of every room and system, their conditions, what factors could be driving your utility bills up. The assessor inspects the lighting, wiring, appliances, HVAC, vents, insulation, window condensation, weather-stripping, piping, and performs the [infamous blower door test](#). The audit may also include behavior-related questions. When the assessor is done, they'll give you a detailed summary of how your home or business could be improved to reduce energy usage and save you money. In some cases, they'll even install LED lighting and efficient shower heads for you. Please contact your electric and natural gas utility to inquire about programs and/or incentives that may be available to help offset the costs of energy audits and energy efficiency upgrades.

Review of MPSC Regular Meeting – July 2

On July 2, the MPSC held its [regular docket meeting](#). The Commission took action on the following:

CenterPoint Energy Corp., Energy Efficiency Program Portfolio and Cost Recovery, Docket No. 2014-UA-7: CenterPoint Energy filed its Energy Efficiency Annual Report, program costs, lost contributions to fixed costs, and true-up costs from 2018 program year. CenterPoint is budgeting approximately \$1M for

energy efficiency programs in 2019. CenterPoint Energy's new rate will reduce a typical customer's bill by 14 cents per month. [Approved 2-1](#) by Commission.

Atmos Energy Corp., Energy Efficiency Program Portfolio and Cost Recovery, Docket No. 2014-UN-17: Atmos Energy filed its Energy Efficiency Annual Report, program costs, lost contributions to fixed costs, and true-up costs from 2018 program year. Atmos is budgeting approximately \$1.5M for energy efficiency programs in 2019. While Atmos Energy will be increasing its focus on small and large business programs, the new rate will reduce a typical customer's bill by 10 cents per month. [Approved 2-1](#) by Commission.

Cooperative Energy, Petition to Amend CPCN (Plant Morrow Repower Project), Docket No. 1973-UA-2681: Cooperative Energy will be retiring and demolishing all coal handling, processing and burning equipment and systems at the R.D. Morrow, Sr. Generating Station in Lamar County. The facility was put into service in 1978. After demolition, the plant will be repowered with a natural-gas-fired combustion turbine generator ("CTG") and a heat recovery steam generator ("HRSG"). The new configuration will result in an increase of power output at Plant Morrow from approximately 408 MW to 550 MW. Nearby substation and transmission lines will be upgraded as well. Total project cost is estimated to be \$442,000,000. [Approved 3-0](#) by Commission.

Other Recent Docket Actions at the MPSC

Rule Implementing Mississippi Telephone Solicitation Act, Docket No. 2018-AD-170: During the 2019 legislative session the Mississippi legislature passed, and the governor signed into law, Senate Bill No. 28216 (Amended No-Call Law) and Senate Bill No. 27447 (Amended Anti-Spoofing Law). The new laws will take effect on July 1. MPSC Rule 28 must be amended to conform to the new laws and is seeking public comments within 45 days of this [Order to Amend Rule 28](#). Comments are due approximately July 26, 2019.

Development and Implementation of Integrated Resource Planning Rule, Docket No. 2018-AD-64: The Commission has requested and received two sets of comments from multiple intervenors regarding the potential framework of an Integrated Resource Planning process. The Commission has reviewed all comments filed to-date. The Commission finds it is in the best interest of Mississippi ratepayers and utilities to proceed with the development of a comprehensive Integrated Resource Planning Rule, and to establish reporting requirements both for long term electric planning and for annual energy delivery planning by regulated gas and electric utilities. The Commission now seeks comments from all persons concerning a [new Proposed Rule 29](#). Comments were due on or before August 1, 2019. **However, on July 25, 2019, the Commission temporarily suspended the comment deadline in order to conduct an economic impact study of the proposed rule and amendment. A new comment deadline will be set after the conclusion of the economic impact study.** E&E News wrote an [article about the MPSC action on the Integrated Resource Plan proposal](#).

Entergy MS, LLC Sunflower Solar Facility, Docket No. 2018-UA-267: The MPSC [has established a procedural schedule](#) for intervenors to submit data requests (June 13) and file testimony (July 10) in regards to the proposed solar project. A project hearing is set for the September Open Meeting.

Mississippi Power Co., Coal Combustion Residues Compliance Actions at Plant Daniel, Docket No. 2019-UA-116: MS Power [seeks permission](#) to conduct closure of the ash pond, construction of a low-volume wastewater facility, and conversion of bottom ash collection facilities to ensure compliance with federal environmental requirements at the Plant Victor J. Daniel Electric Generating Facility in Jackson

County, Mississippi. The total cost for the work is approximately \$125 million. As an undivided owner of 50% of Plant Daniel Units 1 and 2, MS Power's portion of the project costs would be approximately \$62.5 million.

The next meeting of the MPSC will take place on August 8, 2019, at 10 am in the Woolfolk Building.

Mark Your Calendar for Energy Efficiency Day and Energy Awareness Day

National [Energy Efficiency Day](#) will be celebrated on **October 2**. Energy efficiency and smarter energy use not only reduces emissions and wasteful energy consumption, it lowers utility bills, strengthens local economies, and improves the environment for all U.S. households and businesses. A [proclamations toolkit](#) makes it easy to ask local elected officials to officially recognize Oct. 2 as Energy Efficiency Day.

The Energy & Natural Resources Division of the Mississippi Development Authority will be hosting its annual **Energy Awareness Day on Thursday, October 3rd** at the MS Agriculture & Forestry Museum on Lakeland Drive. The event is best described as an outdoor classroom, designed to encourage scientific literacy and energy education through interactive displays and presentations. To support and/or participate in this year's event go online at: <https://mississippi.cvent.com/EnergyDay2019>.

Stay Cool! - 6 Tips for Summer Energy Savings

From basic maintenance to small habit changes, these [energy efficiency tips](#) are guaranteed to make your summer cooler, more comfortable, and less expensive:

1. Set it and forget it.

A programmable or smart thermostat can keep your home cool when you need it—and avoid running your air conditioner when you don't. If you have a consistent schedule, you can automatically set your thermostat to an efficient 78 degrees when you are home, and 83 degrees when you're at work or away. Your investment will pay off in the winter, too—the right setting can save you up to \$180 in annual energy costs.

2. Feel the breeze.

Did you know that when using a fan and air conditioner simultaneously, you can raise your thermostat setting by 4 degrees with no change in comfort? Set the ceiling fan's blades to spin counter-clockwise to create a cool breeze and remember that fans cool people and not rooms—so use them only in rooms that are occupied!

3. Throw some shade.

Your window curtains and blinds can be your best ally against the summer rays. To help your home stay cool, keep window coverings closed during the day when the sun is at its brightest and hottest. This can be especially beneficial if your windows are older or your home gets a lot of direct sunlight.

4. Light the way.

Still have old incandescent bulbs hanging around your home? They lose approximately 90% of their energy as heat. By replacing just 5 of these bulbs with ENERGY STAR® LED bulbs, you can save up to \$100 per year in energy costs – and avoid that extra bulb heat that adds to your cooling costs.

5. Put it off.

Here's a good excuse to put off some chores. Heat-producing tasks such as laundry, using your dishwasher, and cooking can make your air conditioner work harder. Delay these until the cooler morning or evening hours to help keep energy costs down and your living space comfortable.

6. Look for the ENERGY STAR.

About 6% of the average U.S. household's energy use goes to space cooling. When buying a new air conditioning unit or other appliances, always look for the ENERGY STAR label, which signifies it's

among the most energy efficient on the market. Choose the smallest unit appropriate for the size of your space to get the most comfort and bang for your buck.

Finally, check with your local utility to see if they offer rebates or other discounts on programmable or smart thermostats, LED lightbulbs, and cooling equipment.

Mississippi Shortchanged on Federal LIHEAP Funds

[According to utilities and other sources](#), the Low Income Home Energy Assistance Program (LIHEAP), a federal program that provides funds to qualified residents, only serves 12 percent of Mississippians who qualify. Of the \$3.7 billion federal program, Mississippi receives \$32.2 million in LIHEAP, which local community action agencies administer. In 2017, the funds helped just 41,243 out of 377,597 eligible families across the state. Congressional appropriators favor colder weather states over hotter, Southern states.

In households with fixed income, utility bills can eat up 12 percent to as high as 40 percent of a person's monthly income. In 2018, Entergy disconnected service to about 13 percent of its customers for nonpayment. Of those who lose service, 72 percent pay and get reconnected, which itself comes with a \$50 fee. Customers may also be asked to pay an additional deposit. LIHEAP benefits the energy companies and all customers by reducing account write-offs.

Licensed Professionals Volunteer to Certify Energy Star Buildings

Not every building owner can afford to hire a Licensed Professional to verify their application for [ENERGY STAR certification](#). Last year nationally, 42 individuals volunteered their services to help certify 163 commercial buildings. Of those 163, 22 buildings were certified by **Brett Rasmussen of Nissan North America** in Canton, MS. Mississippi was [second in the nation](#) in cost-free verification activity. Most verified buildings were K-12 school buildings. Thanks to Brett Rasmussen and Nissan for their time and leadership in this area!!

Parmida LED Technologies coming to Mississippi

LED lighting products manufacturer Parmida LED Technologies [announced](#) it is locating its latest North American distribution and e-commerce operations center in Indianola, Miss., creating 20 jobs. The project represents a \$1 million corporate investment. The new e-commerce and distribution operations will serve the East Coast and Central U.S. markets.

MSU Adds Electric Motorcycles to Patrol Fleet

The MSU Police Department [announced](#) it has purchased two electric motorcycles. The electric motorcycles will not only enhance campus safety but also support the university's sustainability goals. They are full size, enduro type motorcycles with a top speed of over 90 miles per hour and a faster 0-to-60 time than most gas motorcycles. The electric motorcycles have a range of over 70 miles per charge.

Ole Miss Utilizing Solar-Powered Trashcans

Earlier this year, [solar-powered trashcans](#) were placed throughout campus in an effort to be more efficient with trash collection services. The school purchased 25 Bigbelly trashcans in two different styles. One is a compacting can that is a solar compactor, of which the University has 12, and the other is called a "Smartbelly," of which the school has 13. The Smartbelly cans work off computer software that will communicate when they are full, or near capacity, via an email or through a notification on a smartphone.

Two Years Ago, MPSC Ordered Stipulation Agreement Regarding Kemper

In July 2017, the Commission established a new docket (No. 2017-AD-112) and ordered all parties to expeditiously [work to settle](#) all outstanding matters associated with the Kemper Project. Those matters included:

- Removing risk from ratepayers for the lignite coal gasifier and related assets;
- No rate increase to Mississippi Power Company customers. The Commission strongly encouraged serious discussions leading to potential rate reduction, particularly for residential customers;
- The settlement should amend of the certificate issued in docket no. 2009-UA-014 to allow only for operation of a natural gas facility at the Kemper Project location.

The Commission gave all parties 45 days to [agree to and file a settlement](#) of rates and others issues with the Commission. As we all know now, it was February 2018 before [a final settlement](#) was reached.

Solar Energy Coming to North Forrest High School

Forrest County School District Superintendent Brian Freeman [says](#) North Forrest High School will soon install solar. Thee school district received a \$200,000 grant from the MS Gulf Coast Community Foundation for the solar project.

Regional Issues

Arkansas Telecommunications Company Energy Demand Met by Solar

A 360-kilowatt solar power plant for telecommunications provider Arkwest Communications the [first remote net-metering plant in Arkansas](#) that will meet nearly all of Arkwest's electricity demand. The plant will provide solar energy to 24 meters for Arkwest. The plant has 1,150 solar panels, uses a fixed-tilt system and will produce more than 697,500 kilowatt-hours of electricity in the first year of operation and more than 19.36 million kilowatt-hours of electricity over the next 30 years. The solar facility reduces the overall electricity cost for Arkwest and reduces the company's carbon footprint.

Arkansas Water Utility Going Solar to Reduce Energy Costs

[Searcy Water Utilities](#) has partnered with solar power developer [Entegrity Energy Partners](#) of Little Rock to build a \$10million, 5.7-megawatt solar power plant to meet the utility's electricity demand. The solar project will greatly benefit Searcy customers by reducing the water utility's costs on electricity. The savings allows the utility to invest more into its system without increasing water and sewer rates, which helps bring jobs to Searcy. The utility expects to save \$7 million over the life of the solar project.

Solar Energy Expanding in South Carolina after New Law Passed

When the [SC Energy Freedom Act](#) went into effect in May 2019, limits on how many rooftops could have solar panels in the state was lifted and a cap on how many solar panels could be leased was removed. The law comes after pressure by the solar industry and homeowners to expand energy options in the state. The solar industry now employs more than 3000 people in South Carolina.

A Virginia School Preps for Solar Power and Big Savings

The Fluvanna School Board decided to take advantage of the sun and voted unanimously to harness solar energy. The move [is predicted to save](#) between \$4-6 million over the 35-year contract. As part of

the power purchase agreement, the school locked in a flat rate for electricity that is lower than the 10 cents per kilowatt hour it pays Dominion Virginia Power.

Solar-Plus-Battery Storage Coming to Arkansas

Two major solar projects in Arkansas will be [utilizing battery storage](#). Entergy Arkansas announced it would include 30 megawatt-hours of battery storage as part of its 100-megawatt solar power plant in White County. Also, Ozarks Electric Cooperative, Today's Power Inc. and the city of Fayetteville are completing a 10-megawatt solar facility that will include 24 megawatt-hours of battery storage.

Georgia to Double Renewable Energy Capacity over Five Years

Georgia Power's final 2019 [integrated resource plan](#) approved by the GPSC calls for 2,260 megawatts of new capacity from wind, solar and biomass, which will bring those resources up to 22 percent of the utility's overall fleet capacity. GA Power will also invest in five hydropower projects.

North Carolina Utilities Approve Bids of 551 MW of Solar Power at 3.8¢/kWh

Duke Energy's two North Carolina utilities – Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) – have completed a request for proposals (RFP), via the state's Competitive Procurement of Renewable Energy (CPRE) program, that has [approved bids of 551 MW of solar power](#). The fourteen winning projects, ranging from 7 MW to the 80 MW maximum size, submitted bids that averaged 3.794¢/kWh and 3.83¢/kWh for the electricity in 20 year power purchase agreements (PPA). Two of the projects had energy storage. Eighteen developers submitted 78 proposals in total.

National Issues

USDA Has More Than \$400 Million Still Available Through REAP

USDA is encouraging farmers, rural small businesses and agricultural producers to apply for financing under the U.S. Department of Agriculture (USDA) [Rural Energy for America Program](#) (REAP) that provides loan guarantees to help rural small businesses lower their energy costs. REAP funding can be used for renewable energy systems such as anaerobic digesters, biomass, geothermal, hydropower, wind and solar. It also can be used to make energy efficiency improvements to heating, ventilation and cooling systems; insulation; and lighting and refrigeration.

Making the Case for Energy Efficiency

The ongoing costs associated with operating and maintaining a home are significant and add up over time. Energy costs make up a sizeable portion of those operating costs, with utility bills adding 25% to the monthly cost of home ownership. Energy efficiency upgrades can significantly reduce the operating costs of homes, resulting in a variety of cascading benefits. Energy efficiency upgrades can also help reduce a significant consumer expenditure, making home ownership more affordable, reducing risk for mortgage lenders, and freeing up money to spend on additional home improvements. Learn more here: [Reducing Home Energy Consumption](#).

Strategies to Reduce Energy Burden in the Region

In an era of U.S. energy abundance, low-income households still spend a higher percent of their income on their electricity and gas bills than any other income group. Scalable approaches require linking programs and policies to tackle the complex web of causes and impacts that financially constrained households face. [New research](#) examines the types of utility-operated programs can begin to tackle energy burdens by fixing the problem of liquidity without raising rates—that is, these programs pay for themselves. For instance, utilities can help low-income households receive energy-saving retrofits by allowing the investments costs to be paid for through the resulting savings using on-bill financing and 'Pay-As-You-Save' approaches.

EPA Announces Proposed 2020 Biofuel Blending Targets

The U.S. EPA has [proposed](#) increasing the volume of biofuels refiners must blend into their fuel annually to 20.04 billion gallons in 2020, up from 19.92 billion gallons in 2019. The proposed mandate includes 15 billion gallons of conventional biofuels like ethanol, unchanged from 2019. The proposed mandate also includes 5.04 billion gallons of advanced biofuels, like those made from agricultural wastes, up from 4.92 billion in 2019. As part of the advanced biofuel proposal, the agency set mandates for cellulosic fuel at 540 million gallons. The EPA also proposed holding the biodiesel mandate at 2.43 billion gallons for 2021, unchanged from 2020. The agency sets biodiesel mandates a year in advance.

RFS Volume Comparison (in billions of gallons)

	Statutory 2017 RVOs	Final 2017 RVOs	Statutory 2018 RVOs	Final 2018 RVOs	Statutory 2019 RVOs	Final 2019 RVOs	Statutory 2020 RVOs	Proposed 2020 RVOs
Cellulosic biofuel	5.5	.311	7.0	.288	8.5	.418	10.5	.540
Biomass-based diesel	No less than 1.0	2.0	No less than 1.0	2.1	No less than 1.0	2.43 [#]	No less than 1.0	2.43 [*]
Advanced biofuel	9.0	4.28	11.0	4.29	13.0	4.92	15.0	5.04
Conventional ethanol	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Total Renewable Fuel	24.0	19.28	26.0	19.29	28.0	19.92	30.0	20.04

[#] The 2020 biomass-based diesel volume requirement was established in the 2019 final rule and cannot be changed (83 FR 63704 published December 11, 2018).

^{*} The 2020 Proposed Rule also establishes the 2021 biomass-based diesel volume. The Proposed Rule keeps biomass-based diesel level with the 2020 RVO.

Clean Energy Transportation Options Increasing

The infographic highlights the varied benefits of adopting clean energy transportation. Click on the link to [view the full infographic](#). For instance, the average cost to charge an electric vehicle today is equivalent to \$1.20 gallon.

Using C-PACE Financing for Commercial Building Energy Upgrades

Nearly three-fourths of U.S. states have authorized local governments to use a voluntary special assessment on commercial property tax bills to help finance energy improvements that help boost economic development, create jobs, increase property values and advance energy goals. “Commercial Property Assessed Clean Energy,” or “C-PACE,” financing allows building owners to repay the borrowed capital — from private or public sources — from realized energy savings over time using their property as security. [Commercial PACE Financing and the Special Assessment Process: Understanding Roles and Managing Risks for Local Governments](#), provides a framework for understanding local government roles in C-PACE and the special assessment process.

Solar Costs Decrease While Solar Efficiency Increases

In 2013, the average 60-cell solar panel produced 251 watts per panel. Today, a solar panel produces over 300 watts per panel. At the same time, a solar panel costs 49 percent of the average 2013 cost of a solar panel. See the charts at this [link](#).

“Solar Mean Business” Shows Solar Market Growth and Trends

U.S. businesses are increasingly turning to solar energy as a cost-effective means of powering their operations while also achieving sustainability goals and increasing operational resiliency. SEIA’s [Solar Means Business Report](#) follows solar adoption by businesses across the U.S. This [report tracks](#) more than 7,000 megawatts (MW) of installed solar capacity across 35,000 projects in 43 states, representing more than 70% of all commercial solar capacity installed in the U.S. Apple leads the nation with the most solar capacity installed, followed closely by Amazon, Target, Walmart and Switch.

New Report Examines Rate Design in an Evolving Energy Future

The report, [Current Developments in Retail Rate Design](#), discusses key motivations, rate design variations, and implementation experience across five trends in distributed energy resources (DERs). Regulators engaged in retail rate reform efforts may wish to consider explicitly how new rate designs may impact deployment trends among different types of DERs, weighing those impacts against the many other considerations and stakeholder perspectives that regulators must balance in establishing utility rate structures.