

Happy Monday and welcome to the April 2017 MS Renewable Energy and Energy Efficiency Update!

If April showers brings May flowers, then we will be up to our pansies in petunias this month after all the rain we had in April. Before you go swinging around the May Day pole, claim your seat at the local Mexican restaurant for Cinco de Mayo, or seek out that perfect card for Mother's Day, please take a few minutes to peruse through the April edition of the MS Renewable Energy/Energy Efficiency Update.

There is a lot of activity at the MS Public Service Commission. The Commission is seeking comments from the public on issues related to the phase of energy efficiency programs. The state's electric utilities submitted their Annual Net Metering Reports. The Net Metering Joint Working Group met and discussed consumer protection issues. And the Commission received its initial filing for the Southern Cross Transmission project.

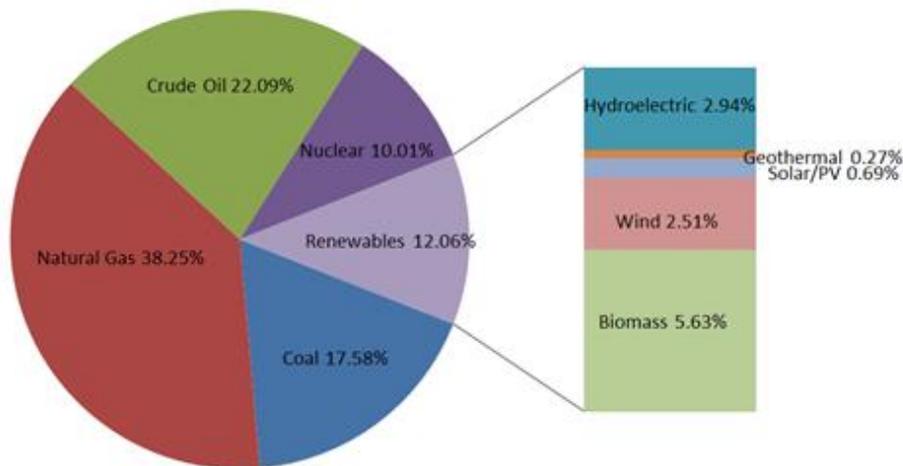
As always, the Update is packed with clean energy policy and project information as well as summaries on the status of clean energy growth.

The renewable energy sector now contributes over 12 percent of all energy produced in the U.S, surpassing nuclear power. After declining slightly in 2015, U.S. renewable energy production increased 7 percent in 2016.

U.S. Primary Energy Production by source, 2016

2016 Total Energy Production: 84.127 Quad BTU

2016 Renewable Energy Production: 10.146 Quad BTU



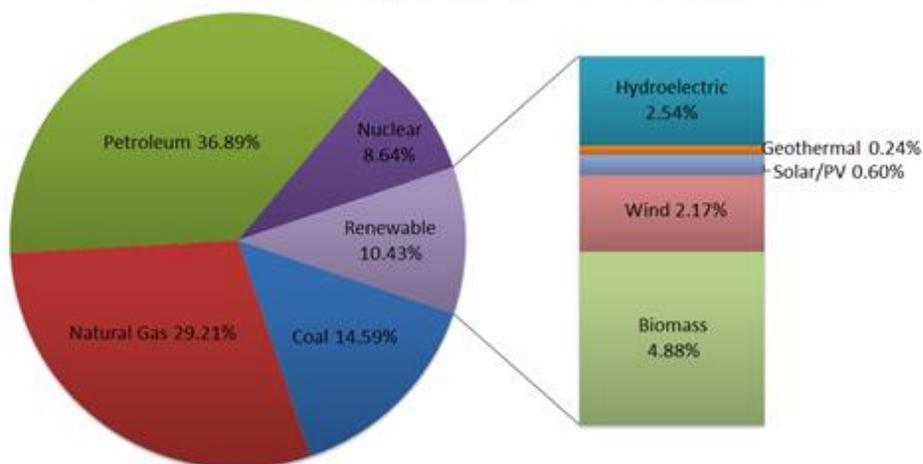
Source: U.S. Energy Information Administration

Meanwhile, total energy consumption in the U.S. decreased 2.7 percent from 2004 to 2016 while renewable energy consumption increased by 67 percent over the same time period.

U.S. Primary Energy Consumption by source, 2016

2016 Total Energy Consumption: 97.421 Quad BTU

2016 Renewable Energy Consumption: 10.160 Quad BTU



Source: U.S. Energy Information Administration

Utility Dive's 4th Annual [State of the Electric Utility \(SEU\) survey](#) has found that more than ever, utilities expect to source more power from low-carbon generation and retire baseload plants, while also preparing for growth of distributed resources like rooftop solar and storage. Why the shift? The most popular reason given was consumer demand for clean energy. However, the Southeast U.S. still has not gotten the memo. The survey found that Southeastern states are the greatest skeptics for the growth of renewable energy, particularly wind. Over 600 electric utility executives were surveyed nationwide.

Hopefully, moving forward, utility sentiment toward clean energy will strengthen. Renewable resources offer predictable purchase prices and are valuable hedges against fluctuations in natural gas prices. However, as indicated in the survey, consumers must continue to push utilities to respond to their demands.

If utilities and state leaders won't listen to its small business and residential customers, perhaps they will listen to the titans of industry. More and more Fortune 500 companies are turning their attention towards renewable energy and energy efficiency priorities, with almost half now boasting at least one type of climate or clean energy target, according to a [new report](#) published this week. The report finds that 63% of Fortune 100 companies have at least one clean energy target, and 48% of Fortune 500 Companies have at least one climate or clean energy target. Many of these companies have made it very clear: When they are scouting locations for new facilities, they prefer to go somewhere that can guarantee them a power supply that is generated from 100 percent renewable sources. State policymakers, are you listening?

Thanks for your interest in clean energy and please let me know if you have any questions. Enjoy this month's Update.

Brent

Mississippi Renewable Energy and Energy Efficiency Update

MPSC Regular Meeting and Docket Call – April 4

At the April 4, 2017, MPSC Regular Meeting ([see agenda](#)), the Commission approved an [Order](#) under Docket 2010-AD-2 **seeking comments regarding appropriate Energy Efficiency Savings Targets and other issues relevant to Comprehensive Energy Efficiency Portfolio Programs.**

All stakeholders with interest in providing comments on energy savings targets and energy efficiency programs and services have 30 days from the date of the Order (or until May 4, 2017) to file as an intervener and indicate their intention to provide comments in regards to all or part of the matters identified in the Order.

All written comments shall be filed within 60 days of the date of the Order (on or before June 3). Stakeholders interested in strengthening cost-effective energy efficiency programs and improving energy savings for homes and businesses are urged to file as an intervener and provide comments and responses to the issues put forth by the Commission.

The Commission seeks comments on the following:

- Numerical Savings Targets
- Industrial Opt-Outs
- Cost Recovery
- Incentive Mechanisms
- Cost-Effectiveness Tests
- Evaluation, Measurement & Verification
- General Quick Start Rule Feedback
- Other Considerations

The Commission adopted the [Final Order implementing Conservation and Energy Efficiency Programs](#) (Rule 29) on July 11, 2013. Utilities began implementing Quick Start energy efficiency programs in the latter part of 2014. These customer-funded programs have been providing a range of services, rebates, direct installs and technical assistance to residential, commercial and industrial customers. Utilities have now completed two full calendar years (2015 and 2016) of offering energy efficiency programs through the Quick Start portfolio. Annual reports are due by May 1 of each year. I will provide an analysis of the information contained in those reports next month.

On July 5, 2016, the Commission issued an [Order](#) that sets the end of the 3rd quarter of 2017 (September 30, 2017) as the deadline for adopting specific numerical energy savings targets for which Comprehensive Program Portfolios will be designed to achieve.

The comments requested in the [April 4, 2017 Order](#) will inform and guide the Commission in the selection and adoption of energy savings targets and in its review and approval of Comprehensive Portfolio Plans submitted by the utilities. This action is the next step in recognizing energy efficiency as a least-cost energy resource, growing jobs and expertise in the energy efficiency sector, and lowering consumers' energy bills.

Again, the Commission "intends to establish specific numerical energy savings targets expressed as percentages of energy sales based on the experience of Quick Start and other relevant information." If

you are not already a participating stakeholder in Docket 2010-AD-2 (or if you are unsure), please submit in writing your wish to participate as an Intervener pursuant to Commission Rules of Practice and Procedure, your interest in energy efficiency, and your intention to file comments in regards to the Order Requesting Comments.

Requests and comments should be sent to:

Ms. Katherine Collier
Executive Secretary
Mississippi Public Service Commission
PO Box 1174
Jackson, MS 39725-1174

RE: MPSC Docket No: 2010-AD-2
ORDER ESTABLISHING DOCKET TO INVESTIGATE THE DEVELOPMENT AND
IMPLEMENTATION OF ENERGY EFFICIENCY PROGRAMS AND STANDARDS;
ORDER REQUESTING COMMENTS

Thank you for your attention to this matter, and let's move energy efficiency forward in Mississippi!

Next Meeting of the MPSC – The next [regular meeting](#) of the MPSC will take place on **May 4, 2017, at 10 am** in the MPSC Hearing Room to consider the Docket and other matters.

Electric Utilities Submit First Net Metering Annual Reports to MPSC

Per the [Mississippi Renewable Energy Net Metering Rule](#) adopted by the MPSC on December 3, 2015, each electric utility subject to the rule shall submit a Net Metering Report within 90 days of the end of each calendar year. The report includes information such as the number of net metering customers, the type of technology installed and the amount of interconnect generation capacity. The required information is outlined in the Net Metering Rule.

Entergy Mississippi, Inc. (2016-UN-32) – Entergy Mississippi, Inc. (EMI) serves approximately 447,000 customers in [45 of Mississippi's 82 counties](#). EMI's [Net Metering and Interconnection Report for Calendar Year 2016](#) indicates that ten (10) customers had executed Net Metering Interconnection Agreements (0.0022% of EMI's customer base). Note that seven (7) of the ten (10) Net Metering customers were existing distributed generation owners that were operating under a different rate schedule. At the end of 2016, EMI had forty-one (41) distributed generation customers (40 solar and 1 wind), including known distributed renewable generation customers that existed prior to the finalization of EMI's Net Energy Metering Rider (NEM-1). As previously indicated, ten (10) have executed Net Metering Interconnection Agreements since EMI implemented its Net Metering Program in September 2016.

The ten (10) Net Metering Interconnected customers have done the following:

Represent 166.12 kW in distributed generation capacity.

Delivered 8,902 kWh to the grid.

Collected \$510.52 from EMI for the energy exported to the grid.

Represent 0.00538% of EMI's Total System Peak Demand of 3,089 MW. (EMI may refuse Net Metering Applications if Net Metering Interconnection capacity exceeds 3.0% of Total System Peak Demand)

The 41 distributed generation customers at the end of 2016 represented 244.48 kW of distributed generation capacity and 0.00792% of EMI's Total System Peak Demand.

As of February 28, 2017, EMI had 14 Net Metering Interconnect Agreement customers and 45 total customers with distributed generation connected to the grid.

Mississippi Power Co. (2016-UN-33) – Mississippi Power Company (MPCo) serves approximately [187,581 customers](#) in 23 of Mississippi's 82 counties. MPCo's [Net Metering Report and Interconnection Report for Year Ending 2016](#) indicates that twenty-nine (29) customers had executed Net Metering Interconnection Agreements (0.0154% of MPCo's customer base) and seven (7) customers operated distributed generation systems under MPCo's Cogeneration and Small Power Producer (CSPP) purchasing rate. Four (4) of the twenty-nine (29) Net Metering Interconnection customers were previously operating under the CSPP purchasing rate for excess generation. At the end of 2016, MPCo had eighty-three (83) distributed generation customers (82 solar and 1 wind), including known distributed renewable generation customers that existed prior to the finalization of MPCo's Renewable Energy Net Metering (RENM) rate on September 8, 2016.

The twenty-nine (29) RENM rate interconnected customers have done the following:

Represent 168.87 kW in distributed generation capacity.

Delivered 15,650 kWh to the grid.

Collected \$825.97 from MPCo for the energy exported to the grid.

Represent 0.01081% of MPCo's Total System Peak Demand of 1,563 MW. (MPCo may refuse Net Metering Applications if Net Metering Interconnection capacity exceeds 3.0% of Total System Peak Demand)

The thirty-six (36) RENM and CSPP distributed generation customers at the end of 2016 represented 218.33 kW of distributed generation capacity and 0.01397% of MPCo's Total System Peak Demand. MPCo's total cumulative behind-the-meter distributed renewable generation capacity (RENM rate, CSPP rate and other) is 2,156 kW owned eighty-three (83) customers.

Cooperative Energy [formerly SMEPA] (2011-AD-2) – Cooperative Energy (CE) provides electrical power for [11 electric distribution cooperatives](#) who in turn serve approximately [423,000 customers](#) in 55 of Mississippi's 82 counties. CE's [Net Metering Report and Interconnection Rule Report for 2016](#) indicate that 89 solar distributed generation customers with a capacity of 1,026.98 kW obtained Interconnection Agreements in 2016. CE and its member cooperatives have a total of one hundred eighteen (118) solar distributed generation interconnection customers (0.027% of CE's member cooperative's customer base) with a total interconnected capacity of 1,439.47 kW.

The eighty-nine (89) distributed generation customers that interconnected in 2016 have done the following:

Represent 1,026.98 kW in distributed generation capacity.

The one hundred eighteen (118) total interconnected distributed generation customers (including those prior to 2016) have done the following:

Represent 1,439.47 kW in distributed generation capacity.

Delivered 296,122 kWh to the grid.

Collected \$13,169.23 from CE for the energy exported to the grid.

Represent 0.0718% of CE's Total System Peak Demand of 2,004.83 MW.

Tennessee Valley Authority Distribution Cooperatives (2011-AD-2) – Tennessee Valley Authority (TVA) provides electrical power to 14 electric distribution cooperatives who in turn serve 349,000 customers in 34 of Mississippi's 82 counties. TVA and its electric distribution cooperatives did not submit a report.

By the numbers:

Utility	# of Net Metering (NM) Customers	# of all Distributed Generation (DG) Customers	Total Installed Capacity (NM + DG)	% of Peak System Demand
Entergy MS	10	41	244.48 kW	0.00792%
MS Power Co	29	83	2,156 kW	0.01397%
Cooperative Energy	89	118	1,439.47 kW	0.0718%
TVA	n/a	n/a	n/a	n/a
Total	128	242	3,839.95 kW	

(info as of Dec. 31, 2016)

Entergy Submits 2016 Summary Report on Solar Pilot Projects

In December 2014, the MPSC determined that Entergy Mississippi's proposed solar pilot project (three utility-scale solar installations in different parts of the state, each with a generating capacity of approximately 500 kW) is in the public interest and the Company should proceed with construction. Entergy arranged for Stion, a Hattiesburg-based solar manufacturer, to supply and install the solar panels and to maintain the solar installations. The three facilities went online in 2016:

Desoto Solar Station; January 1, 2016; 502 kW fixed tilt

Brookhaven Solar Station; March 1, 2016; 509 kW fixed tilt

Hinds Solar Station; July 15, 2016; 507 kW single-axis tracker

Entergy Mississippi built the solar project to better understand the effects of geographic location, weather, mounting technology, etc. on solar output and to better understand the costs, operation and maintenance of solar installations in the state.

On March 31, 2017, Entergy Mississippi submitted to the MPSC its [2016 Solar Pilot Project Summary Report](#) (2017-UA-57). The report outlines each location's capacity, total kWh production, seasonal efficiency, downtime issues and other site characteristics. In 2016, the Desoto Solar Station produced 722,252 kWh (97% of predicted output) and experienced 20 days of downtime. The Brookhaven Solar Station produced 709,419 (97% of predicted output) and experienced 8 days of downtime. The Hinds Solar Station produced 738,394 kWh (83% of predicted output) and experienced 34 days of downtime. Total cost for all three projects was \$4.5 million with an annual O&M budget of \$49,000. (Note: Only the Desoto Solar Station had a full year of monitoring data. While the Hinds Solar Station was operational for only 6 months, it produced the most power due to the tracker system.)

Net Metering Joint Working Group Met on April 18

On Tuesday, April 18, 2017, the Joint Working Group established by the MPSC in its Order Adopting Net Metering Rule, met to review consumer protection and safety standards and guidelines for installations of distributed generation systems and education of consumers ([meeting notice](#)). At the meeting, the following items were discussed:

1. Discussion of progress on statewide licensing/credentialing for distributed generation installation professionals: [SB 2855](#) would define “Residential Solar Contractor” as used in the Residential Builders and Remodelers Licensing Law (Section 73-59-1, Mississippi Code). Despite the widespread stakeholder support for the bill, it died in the House Jud B Committee after it was not brought forward for a vote. There are several speculative reasons as to why the bill was not brought up for consideration. The failure of the bill limits the MS Board of Contractors’ (MBoC) ability to address residential solar contractor licensing. MBoC can still regulate residential solar installers of the project is over \$10,000 and is attached to the home. This action would require a MS Remodeler or Builders License. And municipality and county building codes offices could require other licenses. The MBoC can still create a Commercial Solar Contractor license and is working to develop the needed protocols.
2. Update on Attorney General’s Office “Net Metering and Solar Power in Mississippi” document: The document is complete and the AG’s office will be rolling it out very soon. The staff of the MS Office of the Attorney General have also spoken with other AG’s across the nation regarding consumer protection issues regarding solar and have vowed to pursue unscrupulous solar installers. The AG has issued [statements](#) about this in the past.
3. Discussion of utilities efforts to help net metering customers understand billing and potential savings from solar: Utilities have been working to improve and expand web-based resources and to ensure consistency in information.
4. Update on development of interactive map identifying utility service areas: MPSC staff in talks with Information Technology specialists to get cost and complexity estimates. The MDA Energy and Natural Resources Division is working on a similar tool to help customers learn what energy efficiency programs are offered by each utility based on location of utility service. Distributed generation program information could also be included. MPSC may link to and promote this tool rather than create their own.
5. Discussion on the development of a “Best Practices” document: Could be developed for those entering the solar installation field as well as help inform consumers of what to look for when considering solar. Links to existing resources will likely be utilized. I.e., NREL has created a tool that estimates the energy production and cost of energy of grid-connected photovoltaic energy systems. See <http://pvwatts.nrel.gov/>.
6. Discussion of other matters relevant to net metering: It was brought to the attention of the Working Group that some municipalities have created regulatory barriers to solar (especially on the Gulf Coast). Examples include: Gulfport officials may require engineering statements that solar equipment have wind ratings of up to 170 mph when the standard for buildings, etc. is 150 mph; Biloxi officials have reportedly passed a city ordinance that prohibits solar panels being placed on the “street side” of any dwelling’s roof [[Land Development Ordinance Article 23-4\(C\)\(21\)](#)]. Some city ordinances could conflict with a utility’s ability to comply with MPSC’s rules on net metering and properly serve a customer wanting to install rooftop solar as well as discourage or prevent investments in clean energy systems.
7. Discussion of any consumer complaints: None was reported by the relevant agencies or utilities.

Being no further business, the meeting was adjourned.

Pattern Energy Submits Preferred Transmission Route with MPSC

Pattern Energy Group LP ([Pattern Development](#)) announced its proposed [Southern Cross Transmission project](#) has filed a [Petition for a Siting Certificate](#) with the MPSC. That petition includes the designation of a preferred route for the MPSC's consideration. The preferred route would cross the Mississippi River in Issaquena County and continue eastward through Washington, Sharkey, Humphreys, Holmes, Carroll, Montgomery, Choctaw, Oktibbeha, Clay, and Monroe counties before terminating at a converter station to be built in Lowndes County. The Southern Cross Transmission project is a ±500 kilovolt high voltage direct current (HVDC) transmission line with a base load capacity of 2,000 that will link abundant and cost-competitive wind energy in Texas to the transmission grid and customers in the Southeast. See the [Press Release](#) and visit MPSC Docket No. 2017-UA-79 for more info.

Mississippi Renewable Energy Day

In celebration of October Energy Awareness Month, the MDA Energy and Natural Resources Division is hosting the 2017 Energy Awareness Day on Thursday, October 5, 2017, at the Mississippi Agriculture and Forestry Museum on Lakeland Drive in Jackson. Partners are invited to provide activities and workshops for students to emphasize the importance of energy and natural resource, increase awareness of the links between energy and the environment, enhance energy education beyond the classroom, and expose students to energy sector careers. More than 1000 students, teachers and consumers are expected to attend. To participate or to provide sponsorship, please contact Lisa Campbell at lcampbell@mississippi.org.

enHance Recognizes Energy and Environmental Stewardship

[enHance](#) is a voluntary initiative to recognize environmental leaders in Mississippi. Participating companies and entities make a commitment to environmental stewardship, lean manufacturing, and waste reduction. The [2017 enHance Workshop and Recognition Awards](#) held on April 20 welcomed new and existing members. See the [press release](#) about those being recognized. Over the past year, the companies and agencies participating in enHance have diverted 12 tons of hazardous waste and over 2,400 tons of solid waste from landfills and reduced, reused and recycled more than 50 million gallons of wastewater. Energy conservation efforts have resulted in reduced air pollution as well as the significant economic savings of over \$1.5 million.

University Campus Energy Savings Highlighted

The enHance Workshop lunch speaker was J.D. Hardy, Assoc. Director of Engineering Services at MSU. J.D. discussed the work at MSU and across all universities to reduce energy use and increase savings to the taxpayer. Since FY2006, energy use per square foot of building space across all campuses has been reduced 23% which reflects a cumulative savings of \$95,536,100 through FY2016. MSU was the best performing university and has reduced its energy use by 40%, thus avoiding energy costs to the tune of \$42,872,700! See the Energy Council Q4FY2016 [Report on the IHL System](#).

Mississippi Looks to Advance Energy Goals through New NGA Support

Governor Phil Bryant and the [National Governors Association](#) (NGA) have announced that five states—including **Mississippi**—will participate in a state retreat to help explore innovative policies and programs to reduce energy costs and consumption, conserve natural resources, enhance the use of clean energy resources and improve resiliency in the public sector. The Energy and Natural Resources Division at the Mississippi Development Authority will coordinate next steps and finalize the date for the retreat, most likely on June 14. The retreat is part of the NGA's Lead-by-Example Initiative.

Tupelo, MS Rewarded for Energy Efficiency Efforts

The Tennessee Valley Authority presented the city of Tupelo with an energy incentive check for \$122,604 for its efforts in the 30 energy savings projects the city completed in 2016-17. Tupelo saved more than 2,722,597 KWh with these projects, enough energy to power 175 homes in the city.

TVA Smart Communities Extreme Energy Makeovers Helps Homeowners

TVA awarded \$3.8 million to project partners 4-County Electric Power Association (EPA) and ICF International to help about 250 Mississippi homeowners with much-needed energy retrofits. In addition to making life better for the homeowners, the economic impact of the program benefits local installation contractors. Learn more at [EnergyRight Solutions for the Home](#).

Kemper Update

The [February 2017 Independent Monitor Report](#) is now online for review. MS Power officials have also indicated that plant start-up will be delayed until April 30. Leaking syngas cooling pipes are reported to be repaired and the extra time is needed for proper restart. The delay adds at least another \$99 million to the cost of the \$7.2 billion-plus plant. Southern Company shareholders will cover over \$70 million of the added costs.

If you are customer of MS Power, you can still request to [become an intervener](#) in the Kemper Discovery Docket and possibly future prudency filings.

Regional Issues

Virginia Governor Signs Bill That Expands Agriculture-Based Solar Farms

[HB 2303](#) increases the cap on how much energy small agricultural generators can produce, up to 1.5 megawatts or 150 percent of their annual usage. Previously, farmers with renewable energy generation were capped at only breaking even on how much energy they produced. Producers will be paid the avoided cost rate for electricity sent to the grid. While the bill benefits only a small segment of customers in the state, the measure is seen as a significant achievement for a state that has been historically hostile to individual ownership of solar and other distributed generation.

Wind sets New Quarterly Production Record in Texas

Wind generation accounted for nearly 23% of power generation for the Electric Reliability Council of Texas (ERCOT) in the first quarter of 2017. ERCOT is the primary grid operator in Texas, where it serves 24 million customers. Coal (31%) edges out natural gas (29%) as ERCOT's primary source of electricity generation in the first quarter of 2017. Wind is increasingly competitive because wind turbine operators

have no fuel costs. ERCOT's installed wind capacity stands at 18,589 MW today and could rise to 28,000 MW in the next two years.

Kentucky Coal Museum Going Solar

The Kentucky Coal Mining Museum is installing solar panels on its roof, part of a project aimed at lowering the energy costs of one of the city's largest electric customers. The museum houses relics from the state's coal mining past, including some items from the personal collection of "Coal Miner's Daughter" country singer Loretta Lynn. It's also the best place in Benham, KY to get the most direct sunlight, which made it an ideal location for solar panels. The solar panels are expected to save the museum between \$8,000 and \$10,000 a year on energy costs.

University of Alabama Baseball Stadium Incorporates Solar Power

The four, 20-panel arrays support equipment and lithium-ion batteries used to power the field house and ticket office. The [project](#) is a collaboration between the College of Engineering and the Athletics Department with support from the Alabama Power Foundation and First Solar. Data on real-time performance of the system and weather conditions will be available for students studying renewable technologies. The foundation provided a grant for the project and First Solar donated the panels.

In North Carolina, Solar Complements Agriculture

North Carolina is ranked either #1 or #2 in the nation in the production of sweet potatoes, tobacco, poultry & eggs, hogs & pigs, turkeys, cut Christmas trees – and solar. Since agriculture plays such a significant part in the state's economy, any loss of agricultural land raises concerns in the industry. However, as of December 2016, only 0.19% of cropland or 9,000 acres in North Carolina has been repurposed from agriculture to utility-scale solar installations. It is possible to successfully combine solar electricity generation and agriculture on the same piece of land. Furthermore, solar companies typically make annual rent payments between \$500 and \$1,400 per acre, whereas the average 2015 rent in North Carolina for crop and pasture land is much lower, only ranging from \$27 to \$102 per acre. Learn more in the new [report](#) on the relationship between North Carolina's agriculture industry and solar energy.

North Carolina Welcomes New 78.5 MW Solar Farm

A 531-acre solar farm near Hope Mills is turning the sun's rays into enough electricity to power about 25,000 homes. It is one of the largest solar farms east of the Mississippi River. North Carolina is home to more than 300 utility-scale solar farms, according to the N.C. Clean Energy Technology Center at N.C. State University. Combined, the facilities generate about 1.07 percent of the state's power.

Florida Solar Tax Credit Bills for Homeowners and Businesses Advance Then Stall

In August 2017, voters agreed to give businesses that install solar power a tax break, but that break is hitting a roadblock at the state Capitol. The idea seems simple enough, and 72 percent of voters said yes to the change via a constitutional amendment. [SB 90](#) and [HB 1351](#) differ slightly and are currently battling for support. In 2008, voters passed the same language for homeowners, and it took lawmakers five years to implement the changes.

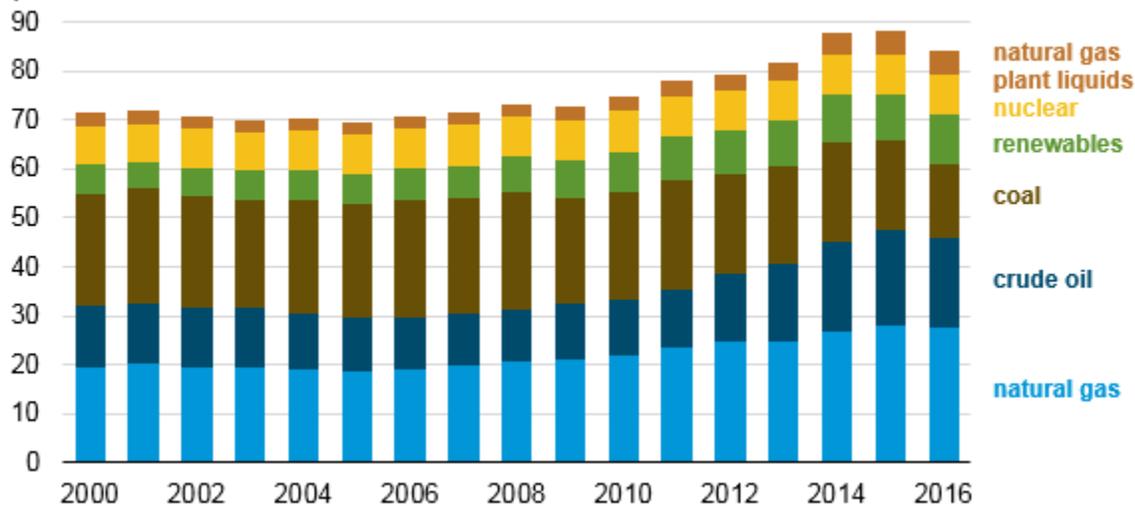
National Issues

Total Energy Production Decreases While Renewable Energy Production Increases in 2016

The total energy production in the United States fell for the first time in 2016 after six straight years of increases, according to new figures from the U.S. Energy Information Administration. U.S. fossil fuel production fell 7 percent from 2015 to 2016. Most of the decline was from coal production, which decreased 18 percent and fell to its lowest level since 1978. Relatively low natural gas prices, especially in the first half of 2016, and relatively flat electricity demand contributed to the decline in coal production. Petroleum and natural gas production also declined, falling 5 percent and 2 percent, respectively, as prices for both fuels were below their respective 2015 levels.

After declining slightly in 2015, U.S. renewable energy production increased 7 percent in 2016. Wind energy made up almost half the increase in renewable production, while solar energy accounted for nearly a quarter. Both fuels saw substantial electricity generating capacity additions in 2015 and 2016. Hydroelectricity also accounted for almost a quarter of the increase in renewable energy production as drought subsided in the western states. More information about total energy production, consumption, and trade is available in EIA's [Monthly Energy Review](#).

U.S. total energy production (2000-2016)
quadrillion British thermal units



Gasoline Prices are Forecast to be Higher this Summer

Gasoline prices this summer are expected to be 10 percent higher than last year as U.S. highway travel and gasoline demand are expected to increase, according to the U.S. Energy Information Administration's Short-Term Energy and Summer Fuels Outlook. Helping drive the increase is oil costs. The Brent crude oil price is forecast to average \$54/b (\$1.29/gal) this summer, compared to \$46/b (\$1.09/gal) last year. For summer 2017, EIA forecasts motor gasoline consumption to average 9.5 million barrels per day (b/d), up about 20,000 b/d (0.3 percent) compared with last summer, which was a record high. Highway travel is forecast to be 1.4 percent higher than the level last summer. The effect of the increase in highway travel is expected to be partially offset by a 1.2 percent increase in vehicle fuel efficiency.

Drops in Solar and Wind Costs Spur Global Renewable Power Market

The world built more renewables for far less money last year, according to [Global Trends in Renewable Energy Investment 2017](#). Renewables have become the cheapest source of new power in more and more countries. In just one year, the cost of solar generation worldwide dropped on average 17%, the report found. The average costs for onshore wind dropped 18% last year, while those for offshore wind fell a whopping 28%. Last year saw 138.5 gigawatts of new renewable capacity. That not only beat the 2015 record of 127.5 GW, but it was built with a total investment that was 23 percent lower than in 2015. Now that is getting more bang for the buck!

Check out RAP's New Guide to Electricity Regulation

The Regulatory Assistance Project (RAP) has recently published a short guide on electricity regulation, [Electricity Regulation in the US: A \(Brief\) Guide](#), intended for anyone seeking basic information on utility regulation, including those interested in working with utilities to advance the deployment of solar energy. The guide has been posted as part of the Solar Market Pathways Toolkit, [Working with Utilities to Advance Solar](#). The toolkit has a range of resources including reports, white papers, and webinars and is designed to provide guidance and resources to help customers, third party solar vendors, and non-utility solar program or project managers to engage with electric utilities to accelerate solar deployment and derive maximum value from solar resources.

New Energy Storage Guide for State Policymakers

Energy storage systems provide a flexible solution to serve energy needs and address existing and emerging challenges on the grid. Integrating energy storage strategically across the electricity system results in more efficient utilization of other grid resources, defers or supplants more costly upgrades or investments in traditional infrastructure, and increases the range of operational capabilities for the entire electric system. However, energy storage is vastly underutilized and hampered by policy, markets and the technology itself. [Charging Ahead: An Energy Storage Guide for State Policymakers](#) aims to address these issues to advance energy storage capabilities.

Analysis Underscores Role of States in Transitioning to Clean Energy

The report "[Clean Energy Momentum: Ranking State Progress](#)" examines each state's clean energy past, present and future via 12 metrics to rank states' technical progress by assessing key trends in deployment of renewable energy, energy efficiency, electrification of vehicles, jobs, emission reductions, etc. While many states have made significant progress in switching to cleaner energy options, some states still have a ways to go. **Mississippi** ranked 47th out of 50 in the [Ranking State Progress Technical Document](#).

2016 U.S. Wind Industry Annual Market Report

In 2016 the U.S. wind energy industry invested over \$14 billion in wind farms built in rural America and now supports a record-high 102,500 jobs. The U.S. wind industry now has 82,143 MW installed, enough wind power for the equivalent of 24 million American homes. Operational wind energy projects or active wind-related manufacturing facilities impact every state of the U.S. Learn more at [U.S. Wind Industry Top Facts](#).

50 States of Solar Report Released

The N.C. Clean Energy Technology Center (NCCETC) released its Q1 2017 edition of [The 50 States of Solar](#). The quarterly series provides insights on state regulatory and legislative discussions and actions on distributed solar policy, with a focus on net metering, distributed solar valuation, community solar, residential fixed charges, residential demand and solar charges, third-party ownership, and utility-led rooftop solar programs. The report finds that 40 states and the District of Columbia took some type of solar policy action during Q1 2017. **Mississippi** registered no action in Q1 2017.

Global Solar Atlas

The World Bank Group has provided the [Global Solar Atlas](#) as a series of global, regional and country GIS data layers and poster maps, to support the scale-up of solar power around the globe. Solar resource and PV power potential poster maps and GIS data for 140+ countries and selected regions can be [downloaded](#). In this Global Solar Atlas, the most reliable sources of data currently available are used to generate the [solar resource estimates](#) provided, with the objective of supporting policy development and the initial decisions along the journey of developing of solar power project.

United Kingdom Goes a Full Day without Coal

In international news, Great Britain's National Grid confirmed that the country did not use coal to generate power for the first time since the 1880's. On April 21, power came from 50% natural gas, 30% renewables and other distributed generation, and 20% nuclear.