Mississippi Renewable Energy and Energy Efficiency Update

Mississippi Issues

MPSC Regular Meeting and Docket Call – June 5

The MPSC met on June 5, 2018, at 10 am in the MPSC Hearing Room (agenda). Items of interest to energy and consumer stakeholders:

Notice of Entergy Mississippi, Inc. to Modernize Rates……Under Formula Rate Plan Rider Schedule FRP-6 for Calendar Year 2018 (Docket No. 2014-UN-132): This annual filing predicts current year revenue needs as well as looks back to prior year to provide any revenue true-up. The FRP-6 was expected to include a $45 million increase, but the federal Tax Cut Act negated any increase in rates. In addition, staff proposed disallowances that Entergy agreed on. The Stipulation resulted in a $7.59/month reduction on an average bill over three months and then return to previous level to ward off any future increases in rates. Future tax adjustments will be reflected in a separate rider going forward.

Order to Create Docket to Amend Rules on Recovery of Private Aircraft Expenditures (Docket No. 2018-AD-99): MPSC feels that the current rule is not meeting its original intent as utilities continue to file for cost recovery of corporate air travel on private aircraft. The MPSC is calling on the utilities to be sensible and cooperate in valuing flights at the cost of coach seating on commercial aircraft. The MPSC issued an Order establishing a docket to amend the rule and accept comments.

Order Establishing Docket to investigate the development and adoption of an Integrated Resource Planning Rule (Docket No. 2018-AD-64): The MS Public Service Commission issued an Order that establishes a docket to investigate and consider the development and adoption of a rule defining an Integrated Resource Planning (IRP) process for regulated electric utilities in Mississippi. IRP is a comprehensive study that provides direction on how to best meet future electricity demand in a service territory. Currently, 33 states require utilities to file IRPs with their state public utility commissions. IRP requirements vary by state, but generally address resource needs for a 20 year planning horizon and must be updated every two to three years. One of the Commission's primary motivations for the development of a formal IRP rule is the desire for transparency.

Stakeholders are invited to submit written testimony or comments regarding the development and adoption of a rule defining an IRP process for Mississippi. **This is a huge opportunity for Mississippi electric customers (residential and commercial) to help shape electric generation planning.** 25x'25 has filed to intervene in the process to encourage greater transparency in energy resource decisions and ensure renewable energy and energy efficiency are given equal consideration in energy resource evaluation and planning. **Stakeholders have until August 2 to submit testimony or comments.**

Issuance of Request for Proposal for an Independent Consultant to Perform a Study Calculating the Actual Benefits of Distributed Generation in Mississippi per the Mississippi Renewable Energy Net Metering Rule (Docket No. 2011-AD-2): In May, the MPSC issued a Request for Proposals (RFP) seeking an independent contractor to conduct a study on the actual benefits of distributed generation in Mississippi by December 3, 2018. This study is required per the Mississippi Renewable Energy Net Metering Rule. Nine companies submitted study proposals. Proposals were

evaluated on 1) cost to perform study, 2) consultant experience, 3) issue objectivity, and 4) understanding of the Commission's goal of the study. On June 5, the Commission staff recommended and the MPSC selected Acadian Consulting Group to perform the study. Due to what we believe were inherent bias displayed during the development of a similar study in Louisiana in 2015, those of us in the renewable energy space have concerns about Acadian Consulting Group being selected to conduct this study and are sharing our concerns with the MPSC.

Next General Meeting of the MPSC will take place on July 3, 2018, at 10 am in the Woolfolk Building.

Joint Solar Working Group Meeting – June 19

The Joint Solar Working Group met on June 19 at the MPSC Hearing Room. First, the Working Group heard from the MS Board of Contractors (MBoC) on their efforts to develop a new solar installer licensing classification and a testing platform for residential/commercial solar installers. The MBoC and technical experts will be meeting with test designer PSI in the coming days to formulate the test. The new solar license will definitely apply to commercial-scale installers, but creating a true residential solar license will still require a change in state statute. Bills to allow this change have failed in the Legislature in each of the last two years.

Staff from the Public Service Commission and Attorney General's Consumer Protection Division reported that no complaints related to the sale, installation or operation of solar has been received.

The AG Consumer Protection Division also reminded the Work Group that the document "*A Consumer's Guide to Solar Power in Mississippi*" is available and should be shared widely.

After some discussion on grid-free operation of solar and reporting of distributed generation customers in the state, the Working Group meeting was adjourned.

SAVE THE DATE – Energy Efficiency Programs Webinar – July 12

MMA and MDEQ will co-host a webinar focusing on "**Energy Efficiency Rebate Programs for Mississippi Industrial Customers."** Utility companies offer a variety of rebates and financial incentives for industrial customers who engage in energy efficiency projects that require capital expenditures. This webinar will feature presentations by representatives of each of Mississippi's five major utility providers focusing on their respective rebate programs. There is no charge for the webinar, but registration is required. Register online at https://bit.ly/2KnKZXW or call Barbara Hopkins at (601) 292-1125.

Cooperative Energy Files Complaint against Subsidiaries of Southern Company

In May, Cooperative Energy and Alabama Municipal Electric Authority filed a formal complaint against Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power Company and Southern Company Services, Inc. at the Federal Energy Regulatory Commission. Cooperative Energy alleges that the 11.25% base return on common equity currently included in the formula transmission rate of the Southern Companies is unjust and unreasonable and should be reduced with refunds.

Regional Issues

Did They or Didn't They – New Orleans City Council Investigates Entergy's Use of Paid Supporters

Emails indicating how Entergy New Orleans corporate officials organized support for a proposed natural gas power plant continues to raise eyebrows and ethical questions. Entergy leadership instructed employees and their consultants/subcontractors to pack the city council meeting rooms so that power plant opponents would not have anywhere to sit and thus would not be allowed into the room. Entergy has admitted that its subcontractor, Crowds on Demand, paid people to attend and speak at meetings. But Entergy maintains that they had no prior knowledge to this.

Solar Across the South – New Projects Keep Coming

Alabama – A new solar manufacturing facility will be setting up shop in Huntsville. LG Electronics plans to invest $28 million to create the first solar module assembly plant in the state. The new plant will have two production lines and is estimated to create 160 jobs.

Facebook has announced it is building a new 970,000 square foot, $750 million data center in Huntsville that will create 100 jobs. Facebook says it is working with the Tennessee Valley Authority to identify new renewable energy projects in the area that will power 100% of the facility.

Arkansas – A 475-acre, 81-megawatt site near Stuttgart consisting of 350,000 photovoltaic panels was commissioned at the end of May. The project will be owned NextEra Energy Resources and Entergy Arkansas will take the power via a 20-year power purchase agreement. Over its operational life, the Stuttgart Solar Energy Center is expected to generate nearly $8 million in additional revenue for Arkansas County, with much of that funding going to help Arkansas County Public Schools. The two companies also plan to create a larger, 100-megawatt solar facility in southeastern Arkansas' Chicot County.

Florida - Florida Power & Light paid $19.3 million for 1,288 acres in western Palm Beach County with plans to build more solar. FPL owns and operates 14 solar farms in the state generating 930 megawatts of electricity. FPL aims to quadruple that to more than 4,000 megawatts over the next decade. To help spur investments, regulators are allowing companies to recover their investments in solar more quickly than if they were to build plants fired by fossil fuels.

Georgia - South Korean company Hanwha Q CELLS Korea announced a project bringing a $150 million dollar investment and 525 jobs over the next three years in Dalton, GA. Hanwha Q CELLS Korea will produce high-performance photovoltaic modules at the new facility. The facility is scheduled for completion in 2019.

Green Power EMC, which supplies renewable energy to 38 utilities across Georgia, has contracted with Silicon Ranch to purchase solar power from four solar farms emcompassing 194 megawatts. Silicon Ranch will own and operate the facilities and sell the power for 30 years beginning in 2021.

Louisiana - Entergy Louisiana has reached a 20-year deal to purchase solar power from a proposed 50-megawatt plant to be built in West Baton Rouge Parish. The solar power would let Entergy Louisiana customers save an estimated $29 million over the life of the contract as compared to what it would cost Entergy Louisiana to buy the same amount of power on the marketplace. Eagle Solar Group of Arizona is hoping to bring the 500 acre solar farm on line in March 2020.

South Carolina - A new report "South Carolina Solar Development – Tracking the Effects of Act 236 (2014-2017)", has been released from Savannah River National Laboratory. The report found that even though it did not fully go into effect until early 2016, SC's Act 236 had a clear and immediate effect on the business climate for solar in the state. In the three years since passage, 85.1 MW of residential solar was added to the grid, commercial and industrial installations have grown 38.5 MW and utility-scale installations have grown 231.1 MW.

But all is not well in South Carolina. Act 236 also put a cap of 2% on the energy derived from net metering per each utility. Utilities in the state are quickly approaching the 2% cap and once reached will likely stifle further residential solar development in a state with some of the highest energy bills in the nation. Efforts to raise the cap in the state legislature continues to be met with utility opposition.

Texas - Vistra Energy Corp kicked off commercial operations of its 180-MW Upton 2 Solar Power Plant in West Texas. The facility, touted as the largest operating photovoltaic project in Texas, is powered by 718,000 panels and is also equipped with a platform for the potential integration of battery storage capacity. Project output is expected to be enough to supply around 56,700 average residences in normal weather conditions.

Virginia – Students Discovery Elementary School are not only learning about the energy production from the 1,700 solar panels on the school's roof, they are benefitting from the forward-thinking vision of school district leaders. When the district set out to build the school, achieving net-zero energy status was not considered due to perceived construction costs. But working with a knowledgeble firm, the school was built below their original budget and provide annualized savings that are returned to the district. The school also has geothermal system under soccer fields that provide heating and cooling.

Region – Solar module makers and solar installers arent the only sectors benefitting from a growing solar market. Makers of solar racking, tracking and mounting systems are growing as well. GameChange Solar is expanding manufacturing lines in FL, GA, KY, MO, NC, and TN.

The Southeast Energy Efficiency Alliance details recent energy-efficiency news for states across the Southeast. Their Policy Highlights provide stakeholders with brief, timely and relevant information.

Arkansas Cooperative to Buy Oklahoma Wind Power

The Arkansas Electric Cooperative Corp., which provides wholesale power to Arkansas' 17 electric distribution cooperatives, has signed a 20-year power purchase agreement to buy wind power from a 100-megawatt wind farm under construction in Oklahoma. Wildhorse Wind Energy LLC is building a 29-turbine wind farm in Pushmataha County, Oklahoma, which will be owned by Southern Power.

Southern Timber Innovations Conference – New Orleans - August 12-14, 2018

The Southern Timber Innovations Conference (STIC) will present the latest information on mass timber technology as it relates to the entire value chain of forestry. STIC will serve as a catalyst for the mass timber industry in the Southern United States, where speakers with diverse backgrounds will share their expertise in these fields. Registration, agenda and room information can be found on the website www.southerntimberinnovations.com.

National Issues

Trump Administration Proposes Plan to Keep Coal and Nuclear Going

The White House is advancing a proposal to invoke Section 202 of the Federal Power Act and the Cold-War-era Defense Production Act, two rarely used statutes, to keep old and/or expensive coal and nuclear plants on line in the name grid reliability, national security and cyber defense. The Federal Energy Regulatory Commission (FERC) unanimously rejected a similar proposal from the Dept. of Energy last year. This latest attempt at federal intervention into electricity markets received the cold should by all five members of FERC during a hearing before the Senate Energy and Natural Resources Committee on June 12.

EPA Issues Proposed Biofuels Renewable Fuel Standard Requirements

On June 26, the EPA issued its annual proposed renewable volume obligations under the RFS. This year, the EPA provides slight bumps in standards for cellulosic biofuel, biomass-based diesel, advanced biofuel, and total renewable fuel that apply to gasoline and diesel transportation fuel. Conventional ethanol remain unchanged.

RFS Volume Comparison (in billions of gallons)

	Statutory 2017 RVOs	Final 2017 RVOs	Statutory 2018 RVOs	Final 2018 RVOs	Statutory 2019 RVOs	Proposed 2019 RVOs	Proposed 2020 RVOs
Cellulosic biofuel	5.5	.311	7.0	.288	8.5	.381	n/a
Biomass-based diesel	No less than 1.0	2.0	No less than 1.0	2.1	No less than 1.0	2.1*	2.43#
Advanced biofuel	9.0	4.28	11.0	4.29	13.0	4.88	n/a
Conventional ethanol	15.0	15.0	15.0	15.0	15.0	15.0	n/a
Total Renewable Fuel	24.0	19.28	26.0	19.29	28.0	19.88	n/a

* The 2019 biomass-based diesel volume requirement was established in the 2018 final rule and cannot be changed (82 FR 58486 published December 12, 2017).

The 2019 proposal also recommends the 2020 biomass-based diesel volume.

While the increases are good news for the biofuels industry, a dark cloud hangs over the sector as the EPA has continued to issue refinery waivers and those lost gallons have not been reallocated to other obligated parties. Approximately 2.25 billion gallons of biofuels has been lost from the market. EPA will be taking comments on the proposal through August and will announce a date for a public hearing soon.

Car Buyers Rank Fuel Economy as a Top Priority

With the EPA expected to propose a rollback of vehicle greenhouse gas and fuel economy standards, new research shows that American consumers consider fuel efficiency one of a vehicle's most important features — along with price, reliability, and safety. Nevertheless studies of actual vehicle purchases suggest that consumers' walk doesn't always match their talk.

Cost of Saving Electricity through Energy Efficiency Remains Low

The average cost to utilities to save a kilowatt-hour (kWh) in the United States is 2.5 cents, according to the most comprehensive assessment to date of the cost performance of energy efficiency programs funded by electricity customers. In Mississippi, the average cost is 2.7 cents. Programs for the residential sector delivered electricity savings at the lowest cost, averaging 2.1¢ per kWh.

See the chart below.

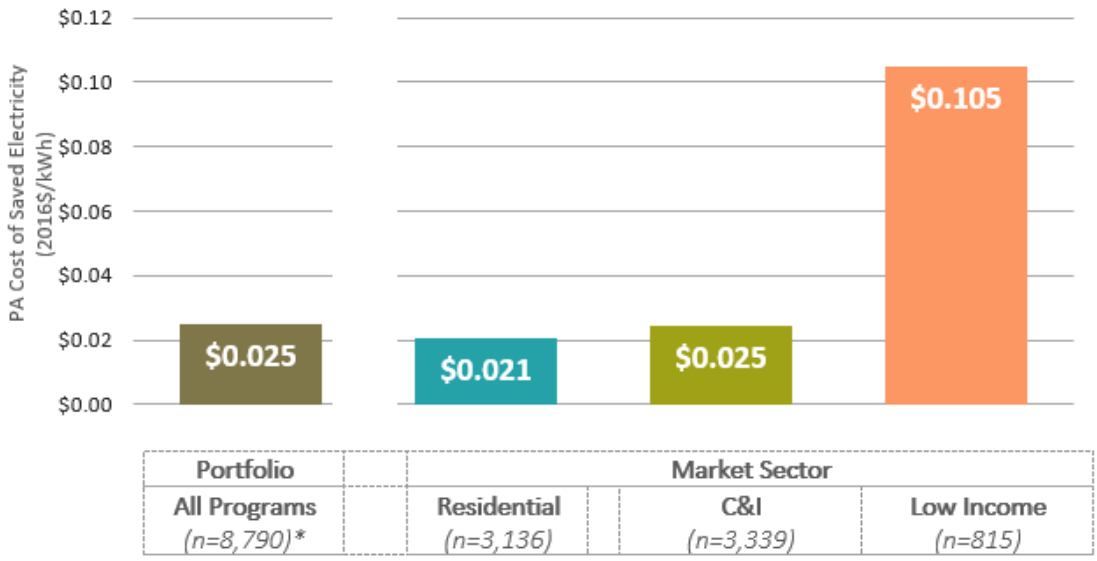


Figure 1. Program administrator cost of saved electricity by market sector

More Farmers to Look to Solar Power in Near Future

A new report, *Load Defection Among Agricultural Producers*, identifies how solar energy is expected to gain ground cross U.S. farm fields and livestock operations as costs become more competitive. Lower costs, along with state and federal incentives and a stronger agricultural economy, could entice more farmers to install on-farm solar generation in the decade ahead. REAP has helped fund over 5,600 solar projects on farms since 2012. Dairy farms, poultry farms, and swine farms consume roughly a quarter of all the electricity purchased by the agriculture sector. These producers have some of the most consistent year-round demand for electricity. This level of electricity consumption makes these producers prime candidates for the adoption of on-farm solar generation.

Professional Sport Facilities around the Nation Sport Solar

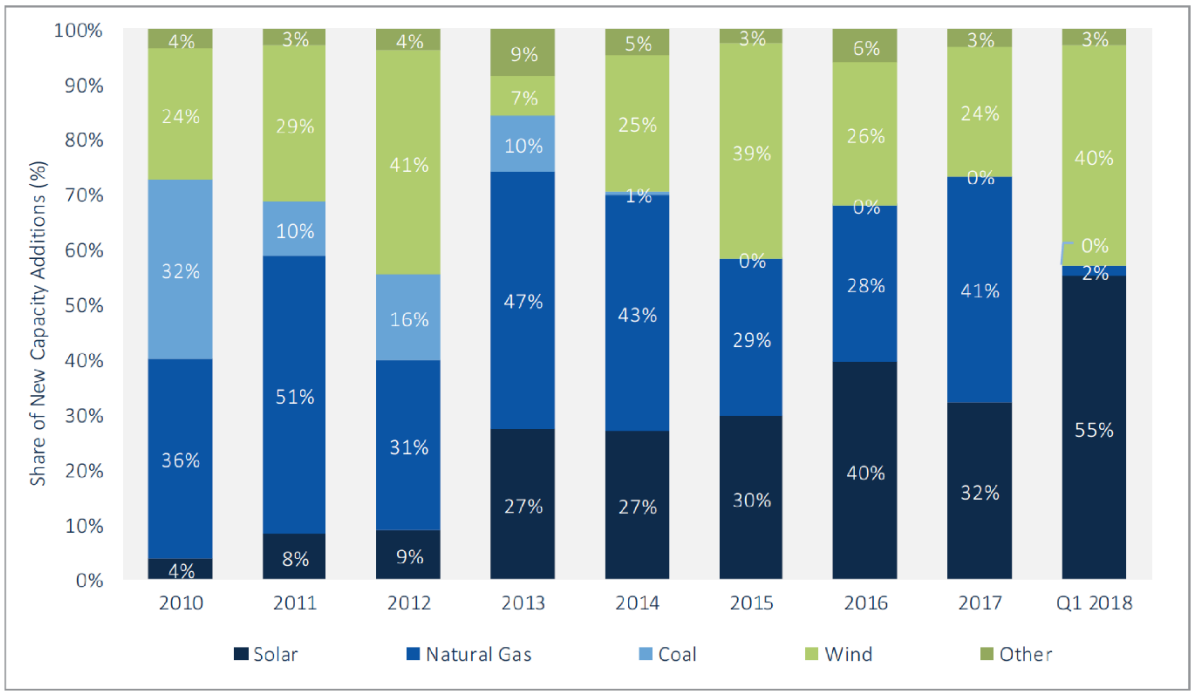
All leading sports leagues in the United States, including professional football, baseball, basketball, hockey, soccer, NASCAR and the IndyCar Series, boast sizeable solar assets. The NFL has the highest percentage of stadiums with solar at 32%. The total cumulative capacity in professional sports has reached 46 megawatts. Last year more than 42 million Americans attended an event at a stadium, arena or raceway with a solar system. Click here to download an Excel spreadsheet of the solar in sports dataset.

Solar PV has Strong First Quarter

The U.S. installed 2500 megawatts (MW) of solar PV capacity in Q1 2018 to reach 55.9 gigawatts (GW) of total installed capacity, enough to power 10.7 million American homes. This represents a 13% increase year-over-year. Solar PV accounted for 55% of all U.S. electricity capacity added during the first quarter and added more than two gigawatts for the 10th straight quarter.

See the chart below.

Figure 1.1 New U.S. Electricity Generating Capacity Additions, 2010-Q1 2018



Source: GTM Research (solar), FERC (All other technologies)

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New U.S. Record for Solar Pricing Set in Nevada

Nevada Power recently signed a power purchase contract with a solar developer for 2.155 cents per kWh. In fact, six contracts were signed with various solar projects and all six came in under 3 cents per kWh. The six solar farms range from 50 megawatts to 300 megawatts. Combined, they will total 1,001 megawatts. Nevada Power is owned by Berkshire Hathaway, a Warren Buffet company. Nevada Power has recently heavily lobbied against rooftop solar and net metering policies that favor homeowners.

Senate Introduces and Passes Farm Bill; House Farm Bill Advances on Second Try

The Senate Agriculture Committee released their version of the farm bill, Agricultural Improvement Act of 2018, on June 8 and conducted its markup on June 13. During the committee meeting, an amendment was accepted that restores mandatory funding to Farm Bill Energy Title programs to 2014 levels. The Committee advanced its bipartisan farm bill by a vote of 20 to 1 after markup. The proposed Senate bill so far avoids the partisan issues that led to the failure of the House bill, including maintaining the Energy Title.

On June 25, the Senate voted to invoke cloture and proceed with a farm bill floor vote. Days later, on June 28, the Senate passed its version by an overwhelming margin, 86-11. Work now begins among staffers of the Senate and House Agriculture Committees to identify the differences between the bills that need to be resolved. Final passage is targeted for July.

On April 18, the House Agriculture Committee passed the Agriculture and Nutrition Act of 2018 (H.R. 2) out of committee along party lines, in a 26 to 20 vote. The 650 page draft bill eliminates the Energy Title. Many of the existing bioenergy-related programs were reauthorized under the Rural Development Title,

but provides them with only discretionary funding. On the House floor, once all amendments were dispatched and the full bill was put to a vote, the bill was defeated 198-213.

On June 22, the House once again took up their version of the farm bill, the Agriculture and Nutrition Act of 2018. The bill, which is unchanged from the version that failed in May, narrowly passed on a 213-211 vote. No Democrats voted for the bill due to proposed changes to the SNAP program.

House and Senate to Conference Energy Appropriation Bills

The Senate recently approved S.2975 that funds programs at the Dept. of Energy, including the Office of Energy Efficiency and Renewable Energy, the Energy Information Agency, and the Advanced Research Projects Agency-Energy. The bill goes against administration efforts to cut funding for the DoE. The House's version of the Energy Appropriations bill, H.5875, seeks to cut spending on clean energy programs. It is not known when a conference report will be available.

Can Renewable Energy Provide 50% of the World's Energy by 2050?

According to the 2018 New Energy Outlook, major gains in renewable energy production will come as a result of huge strides in battery technology and falling costs. Solar farm development costs are expected to drop 71% over next 30 years and utility-scale wind costs is expected to drop 58% over the same period. Bloomberg NEF expects $11.5 trillion will be invested in the renewable energy market between 2018 and 2050.

Energy Efficiency Day Set for October 5

On October 5, 2018, a growing network of advocates, companies, government agencies, utilities and others will showcase the benefits of efficiency during the third annual Energy Efficiency Day. However, there are steps you can take this summer to be more energy efficient and save money all year around: **Get a home energy audit. Identify available incentives. Start small**. Here are 10 simple ways to reduce energy waste, at home and at work. Start taking action today!

National Bioenergy Day Set for October 24

Organizers have set the 6th Annual Bioenergy Day for October 24, 2018. Last year, over 60 sites participated in the event drawing hundreds to learn about and celebrate bioenergy resources across the nation. To help interested parties prepare for this year's Bioenergy Day, an updated Bioenergy Day Participation Guide has been developed. Bioenergy comes in many forms and is responsible for sustaining tens of thousands of jobs, many of them in rural communities where they are most needed.

EU Reaches Deal on REDII, Sets New Goals for Renewables

Negotiators from the European Commission, the European Parliament and the European Council reached a deal on a revised Renewable Energy Directive (REDII) that sets new targets for renewables. The provisional agreement calls for energy from renewables to account for at least 32 percent of the EU's gross final energy consumption in 2030. [The EU's current Renewable Energy Directive sets a binding target of 20% final energy consumption from renewable sources, 20% improvement in energy efficiency, and 20% cut in greenhouse gas emissions by 2020.] Why does this matter to Mississippi? Because Mississippi is a supplier of pellet wood fuels to the EU and the REDII agreement sets the first European-wide sustainability criteria for solid biomass fuels. See the Sustainability Criteria infographic.