

Mississippi Renewable Energy and Energy Efficiency Update

MPSC Regular Meeting and Docket Call – December 5

At the December 5, 2017, MPSC Regular Meeting ([see agenda](#)), the Commission acted on the following items of interest to clean energy stakeholders:

The Commission took up four dockets related to rates, tariffs and infrastructure expansion for Atmos Energy Corporation:

Docket No. 2005-UN- 503: Notice of Intent of Atmos Energy Corporation to Change Rates for Natural Gas Service in Its Certificated Areas and to Modify Certain Provisions of Its Rider Schedule 327, Stable/Rate Adjustment Rider

Docket No. 2013-UN- 023: Atmos Energy Corporation's Notice of Intent to Amend Tariff to Include a Supplemental Growth Rider

Docket No. 2015-UN- 49: Notice of Intent of Atmos Energy Corporation in the Matter of a Comprehensive Review of Atmos Energy Corporation's Proposed Capital Budget for Fiscal Year 2018 and Compliance Tariff Filing

Docket No. 2017-UA-115: Application for Atmos Energy Corporation for Approval and Authorization of Natural Gas Infrastructure Expansion Initiative

The Public Utilities Staff worked with Atmos to develop a [stipulation agreement](#) that keeps the [Stable Rate Adjustment Rider steady](#) while reducing the rate increase request and amending Atmos' rate of return on recovery to 9.02%.

Under the Supplemental Growth Rider, Atmos anticipates to spend just over \$10 million in 2018 on infrastructure projects. The Rider is an incentive to extend gas service to potential industrial sites which are not otherwise currently economically feasible for the Company to fund. The Commission [approved](#) this action. The Tariff Rate Filing and Capital Budget Review revealed \$62 million in System Integrity Investments. The Commission [approved](#) an increase in Atmos' System Integrity Rider. When combined, the Supplemental Growth Rider and System Integrity Rider changes will result in a cumulative increase of \$2.84 per month for an average residential customer.

Atmos also will implement a Natural Gas Infrastructure Expansion Initiative. Under this action, Atmos plans to expand natural gas service to up to 1,000 households annually who are presently without access to natural gas service. Atmos Energy expects to spend up to \$5 million annually. Expenditures made as part of the Infrastructure Expansion Initiative will be included as part of the annual Stable/Rate Rider filing. The Commission [approved](#) this action.

The Commission did not take any action in relation to the Commission's [request for comments](#) regarding the proposal to amend the Rules for Energy Efficiency Programs under **Docket No. 2010-AD-2**. It could be a couple of months before the Commission takes up the matter. In the meantime, Quick Start Energy Efficiency Programs should continue to be offered to customers at current incentive and rebate levels.

Next Meeting of the MPSC – The next regular meeting of the MPSC will take place on **January 16, 2018, at 10 am** in the MPSC Hearing Room to consider the Docket.

Kemper Update – New Settlement Stipulation and Hearing Date

On December 1, the parties engaged in the Kemper Lignite Facility rate plan talks agreed to a proposed settlement. The [Second Amended and Restated Stipulation document](#) filed with the Commission says that MS Public Utilities Staff, Mississippi Power, Chevron Products Co., The Chemours Co. and others conclude the unit of Atlanta-based Southern Co. should collect an estimated \$112.6 million annually – or around \$900.8 million total – in rates over a period of eight years starting Jan. 2018 for its in-service assets and liabilities, primarily the cost associated with the natural gas combined cycle units and related investments.

The parties believe the new agreement complies with the [Commission’s request in July](#) that the company propose a settlement removing responsibility from ratepayers for the plant’s lignite coal technology and related assets; that no rate increase to Mississippi Power Company customers, potentially lowering the rates of residential customers; and that the plant’s operating license to only allow for operation of a natural gas facility at the Kemper County project’s location.

Because the Commission has tentatively accepted the conditions outlined in the settlement and needs more time to consider the request, the Commission issued an [Order cancelling the public hearings](#) that were scheduled to begin on December 4 and run through at least December 11.

The Commission has issued a [new Order](#) setting **January 22, 2018** as the hearing date for full consideration of the December 1 Stipulation. The hearing will continue for multiple days if needed. The Commission anticipates issuing its Final order on or before its February 6, 2018 open meeting. The order also contains deadlines for the filing of written comments. The Commission will establish hearing procedural matters at a later date. To view all the latest documents related case Docket 2017-AD-112, go to <http://www.psc.state.ms.us/trinityview/mspsc.html> and enter the case information.

See Mississippi Today: [Miss. Power, regulators reach agreement on Kemper plant](#)

See Associated Press: [Mississippi utility inks deal on troubled \\$7.5B power plant](#)

Cooperative Energy, Origis Energy Donate \$125,000

Cooperative Energy and Origis Energy made a [joint donation](#) of \$125,000 to the [Mississippi Scholars and Tech Master programs](#). The donation is the largest single gift ever made to the programs. The Mississippi Scholars and Tech Master are initiatives of the Mississippi Economic Council’s Public Education Forum of Mississippi. Cooperative Energy and Origis Energy are partners in constructing a new solar generation site at Sumrall, Mississippi. Once operational, the 540-acre facility will generate 52 megawatts of electricity.

Governor Releases 2017 Energy Works: Mississippi Energy Roadmap

Governor Phil Bryant and the Mississippi Development Authority have quietly released its latest Energy Works: Mississippi Energy Roadmap. While little has changed from the [2012 Energy Works: Mississippi Energy Roadmap](#), there are some notable differences that should be recognized:

1. Increasing the supply of a skilled workforce needed in a high-tech economy is an expanded area of focus.
2. The state should proactively address known oil and natural gas exploration and production challenges to position Mississippi as a top state for fossil fuel exploration and extraction.

3. In promoting Mississippi competitive advantages, the state should leverage its water resources strengths. However, this plan drops calls for Mississippi to be a leading location for nuclear power-related investment.
4. The plan calls on the legislature to consider statewide residential energy building codes for new construction to benefit future homeowners.
5. In regards to state transportation and energy infrastructure development, the plan calls for actions that position Mississippi for energy exporting opportunities. However, the plan discontinues to the call to develop an alternative fuel vehicle network.
6. The plan calls for greater interaction between the energy industry and universities.
7. The plan seeks to improve workforce development through better communication between education stakeholders and employers, expanding pathways to employment (include apprenticeships) and to better IT-based workforce development platforms.

From the 2017 Energy Works Roadmap: *An ever-developing global economy will only heighten competition. As Mississippi vies to be a center for innovation and job growth, energy must remain a central area of focus. Not only are Mississippi families and businesses expecting reliable delivery of affordable energy but a 21st century economy will produce energy and demand it. Pursuing diverse opportunities for Mississippi in the energy sector and establishing the state as a leading place for investment is the right policy for Mississippi, both today and in the future.*

Download the [2017 Energy Works: Mississippi Energy Roadmap](#).

Study Shows Bipartisan Support for Renewable Energy Research

A study of public opinion conducted by Yale University shows that a majority of registered Republicans and Democrats in Mississippi would support additional research into renewable energy sources. The study measured public opinion for both parties by congressional district in each state. [In the state of Mississippi](#), 87% of Democrats and 72% of Republicans said they would support renewable energy research. Public opinion estimates by political party are produced using a statistical model based on national survey data gathered between 2008 and 2016. The model combines survey data with voter registration statistics at the state and district level.

Regional Issues

Arkansas Stakeholders Debate Net Metering

Last week, the Arkansas Public Service Commission (APSC) spent two days listening to comments over how — and whether — Arkansas should change its net metering policy. On one side, solar supporters and environmental groups say an existing credit for excess distributed power at the retail rate should remain. The other side, which includes Entergy Arkansas Inc. and the PSC's general staff, supports two-channel billing to address what its members consider a cost shift to other consumers. Prior to the hearing, stakeholders on both sides of the issue participated in a Working Group in an attempt to find consensus on the matter. But after nearly a year of meetings, the sides emerged with diametrically opposite positions. Under 1,000 customers are net metering customers in the entire state, so penetration of solar and other distributed resources remains low in Arkansas. Should the rules change, existing net metering customers would be grandfathered in and retain current net-metering benefits.

See Arkansas Times: [Solar advocates get unlikely boost from GOP lawmaker at pivotal rule hearing](#)

See Arkansas Business: [Solar Power Rate Debate Draws Crowd to PSC](#)

Analysis Recommends Cancelling Vogtle Nuclear Project in Georgia

Analysts appointed by the Georgia Public Service Commission to evaluate progress at plant Vogtle in Augusta say the [project should be cancelled](#) as Georgia Power failed to manage it in a “reasonable manner.” “Completion of the project is no longer economic given the additional costs and schedule delays,” the analysts said in written testimony to commissioners. The total cost estimate for completion of the two new nuclear reactors at Plant Vogtle is \$25 billion, almost twice the original estimate when the project got underway in 2010.

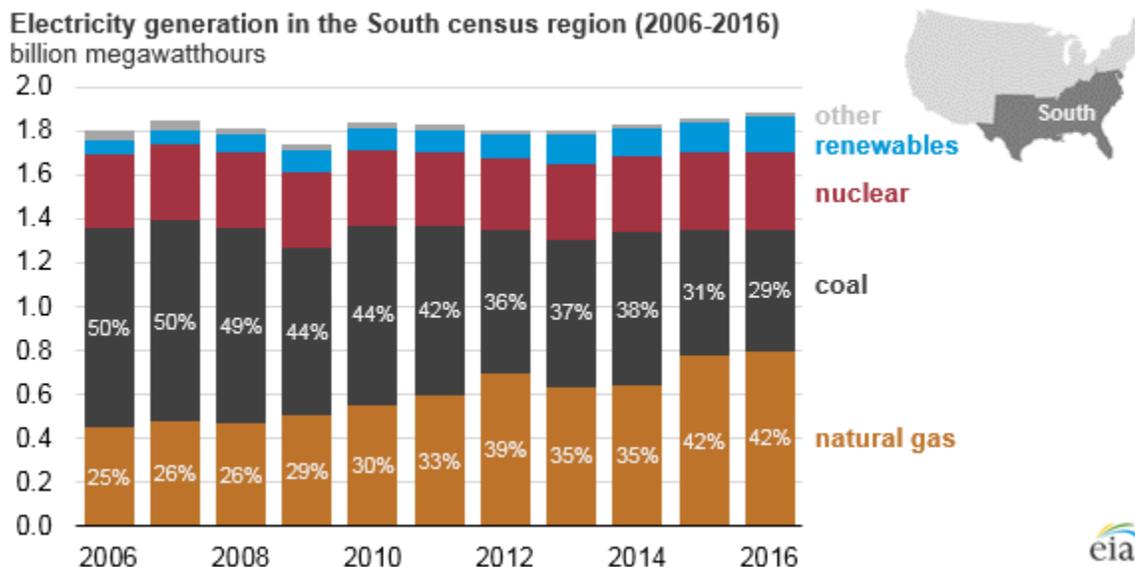
Toyota's New Power Plant will Create Clean Energy from Manure

Unfortunately, we are not talking about the Toyota Blue Springs plant in North MS. However, the company is [planning to build a power plant in California](#) that turns the methane gas produced by cow manure into water, electricity, and hydrogen. The plant is expected to have the capability to provide enough energy to power 2,350 average homes and enough fuel to operate 1,500 hydrogen-powered vehicles daily. Toyota is heavily investing in its hydrogen fuel cell vehicle technology. Toyota has set a goal to cease production of traditional internal combustion engines by 2040 and reduce its vehicles’ carbon emissions by 90% by 2050. This plant will be an important proof-of-concept demonstration.

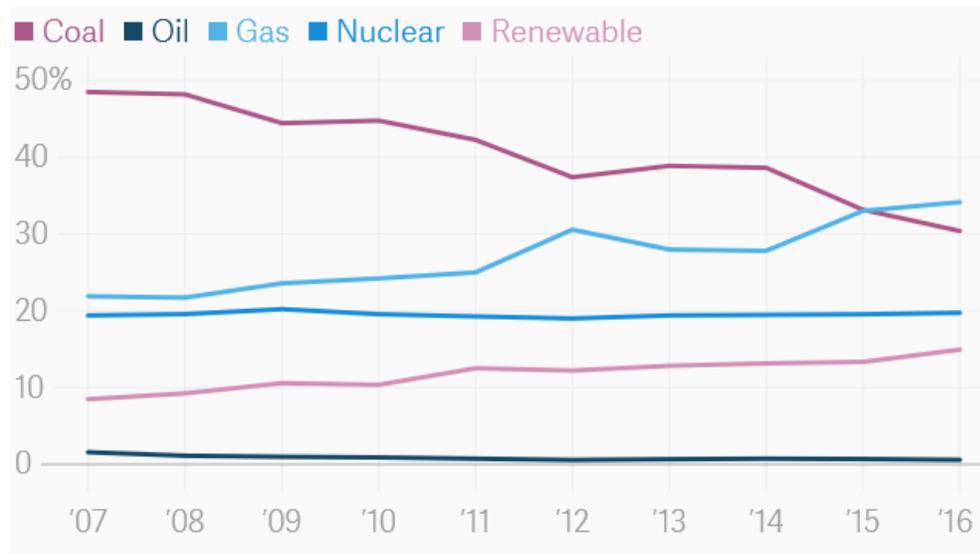
Natural Gas Accounts for 42% of Electricity Generation in the South

Natural gas continues to expand the power generation stack in the South, where the fuel accounted for 42% of electricity generation last year and far exceeded the national average of 34%, the Energy Information Administration said Tuesday in a [Today in Energy](#) post. Meanwhile, Coal’s share of total electricity generation in the South declined over the past decade, from 50% in 2006 to 29% in 2016. Renewable energy is still a small part of the generation mix, but it continues to grow at a respectable rate.

Regional electrical generation mix:



National electrical generation mix:



The reserves of natural gas in the US is so huge that the analytics firm [IHS Markit predicts](#) there will be plentiful, inexpensive global supplies for the next 30 to 40 years. Should these market predictions hold true, it will be difficult for some fuels, such as coal, nuclear and biomass, to compete in the electrical energy market.

Understanding the Interaction between Regional Electricity Markets and State Policies

As states have moved to implement state-specific energy policies, tensions have grown between these states and the regional wholesale electricity markets that serve them. Although regional transmission organizations (RTOs) oversee the markets and manage the electricity grid, states' right to pursue certain energy policies--such as renewable portfolio standards and tax incentives for clean energy generation--is raising fundamental questions. A [new paper](#) explains the workings of regional electricity markets, the effect of state policies on them and summarizes six proposals for changing RTO market design. A [companion Q&A](#) document discusses the phenomena renewing attention to RTO market design, the impulses behind some typical state energy policies, the ways that those policies can affect regional market outcomes, and two challenges of current proposals to better align states' energy goals and RTO market design.

Duke Energy Sets Goal to Purchase 680 MW of Solar in 2018

Duke Energy plans to contract with developers to build 680 MW of new solar capacity next year as part of its new competitive bidding procurement program in North Carolina. 80% to 90% of the new capacity will be located west of Raleigh to balance out the geography of solar deployment in the state. Auctions will be held for 2.66 GW of solar over the next 45 months. North Carolina installed 995 MW of new capacity in 2016.

National Issues

Tax Reform and Its Impact on Clean Energy

Last week, the Senate passed a bill to reform the federal income tax. House leadership will appoint representatives to meet with Senate representatives to reconcile a similar bill passed by the entire

House of Representatives. What we do know is that renewable energy did not fare well in the House version of the bill. Like most groups, we are still trying to grasp what's in the [recently passed U.S. Senate tax reform bill](#). Over the weekend, a number of renewable energy trade groups issued statements expressing concern about [provisions](#) that will have a negative impact on clean energy investment tools that have been critical to the growth of the clean energy sector. Greentech Media [breaks down](#) how the 429-page House tax bill could impact wind, solar, utilities, electric vehicles and more. Congress hopes to finalize and vote on a compromise bill before Christmas.

EPA Releases Final Renewable Fuel Standard Volumes for 2018

The EPA has released its [final Renewable Fuel Standard \(RFS\) renewable volume obligations](#) for 2018. The agency finalized a total renewable fuel volume of 19.29 billion gallons, including 4.29 billion advanced biofuel and 288 million gallons of cellulosic biofuel. The agency maintained the requirement for conventional renewable fuels like corn ethanol at 15 billion gallons. EPA also kept the requirement for biomass-based diesel at 2.1 billion gallons again for 2019.

RFS Volume Comparison (in billions of gallons)

	Statutory 2016 RVOs	Final 2016 RVOs	Statutory 2017 RVOs	Final 2017 RVOs	Statutory 2018 RVOs	Proposed 2018 RVOs	Final 2018 RVOs
Cellulosic biofuel	4.25	.230	5.5	.311	7.0	.238	.288
Biomass-based diesel	No less than 1.0	1.9	No less than 1.0	2.0	No less than 1.0	2.1*	2.1 [#]
Advanced biofuel	7.25	3.61	9.0	4.28	11.0	4.24	4.29
Conventional ethanol	15.0	14.5	15.0	15.0	15.0	15.0	15.0
Total Renewable Fuel	22.25	18.11	24.0	19.28	26.0	19.24	19.29

* The 2018 biomass-based diesel volume requirement was established in the 2017 final rule (81 FR 89746, December 12, 2016).

The Final Rule also establishes the 2019 biomass-based diesel volume

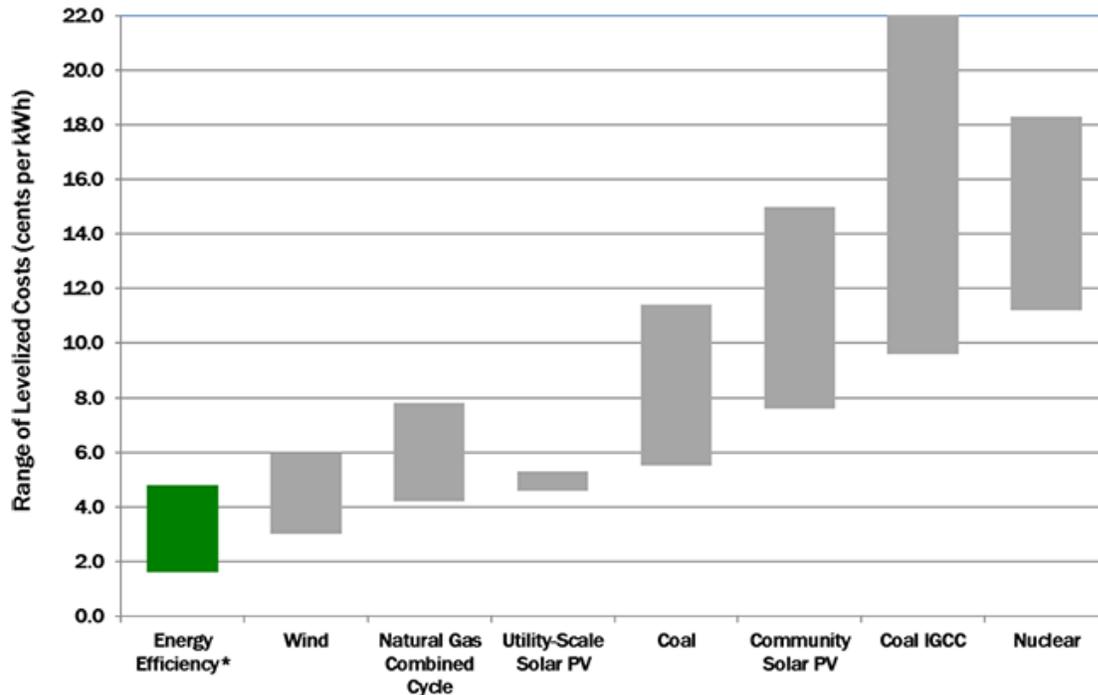
While biofuel advocates say the final rule is an improvement over the original levels proposed in July, many are disappointed that biodiesel levels remained stagnant and cellulosic biofuels numbers actually decreased from last year. Overall total renewable fuel numbers increased by 50 million gallons. Oil refiners were also disappointed in the volumes, but for different reasons.

Farm Bill Energy Title Programs Funding Threatened

My organization recently played an active role in recruiting 40 organizations that have [written](#) the leaders of both the Senate and House agriculture appropriations subcommittees, urging their "continued support for valuable agriculture energy, manufacturing and sustainability programs in the fiscal year 2018 appropriations process, and specifically to reject proposed funding cuts to valuable energy title programs". We are facing an uphill battle to maintain funding for USDA's clean energy programs and need to keep weighing in on their importance, stressing the job creation and economic benefits that they produce all across the country.

Saving Energy is Still Cheaper than Making Energy

In the last Update, we compared Lazard's latest [Levelized Cost of Energy](#) between renewable energy resources and fossil energy resources. The data showed a continued decline in the cost of generating electricity from alternative energy technologies. However, the data on the [cost of utility energy efficiency programs](#) also confirms that energy efficiency is the lowest-cost energy resource out there.



*Notes: Energy efficiency program portfolio data from Molina 2014; All other data from Lazard 2017. High-end range of coal includes 90% carbon capture and compression.

Energy efficiency investments aimed at reducing energy waste cost utilities two to five cents per kilowatt hour (an average of about three cents), while generating the same amount of electricity from sources such as fossil fuels can cost two to three times more. Energy efficiency has a host of other benefits, too. It's clean, readily available, and reliable. It can increase comfort in homes and offices, and spur economic development in cities and towns.

Two New Reports from Berkeley Lab's Electricity Markets and Policy Group:

Impacts of Wind and Solar on Wholesale Prices

In the first study, [Impacts of Variable Renewable Energy on Bulk Power System Assets, Pricing, and Costs](#), authors synthesize available literature, data, and analysis on the degree to which growth in variable renewable energy like wind and solar power has impacted to date or might in the future impact bulk power system assets, pricing, and costs focusing on national and regional system-level trends. All generation types are unique in bringing benefits and challenges to the power system. With increased renewable energy penetrations, power system planners, operators, regulators, and policymakers will continue to be challenged to develop methods to smoothly and cost-effectively manage the reliable integration of these new and growing sources of electricity supply.

In the second study, [Power Plant Retirements: Trends and Possible Drivers](#), authors compile and assess available data on historical and planned thermal power plant retirements. This basic data synthesis highlights trends and correlation between different potential retirement drivers. Future retirement decisions may be influenced by different factors than those that have affected past decisions. Nonetheless, authors find that coal and natural gas plants that are retiring to date generally tend to be older, smaller, less efficient, and more emitting than the remaining fleet.

A free webinar summarizing key findings from the reports will be held on Wednesday, December 13, 2017 at 12:00 noon Central/1:00 PM Eastern. Register for the webinar [here](#).

Technology Roadmap: Delivering Sustainable Bioenergy

Bioenergy is the main source of renewable energy today and will be an essential component of the low carbon global energy future, playing a particularly important role in helping to decarbonize sectors such as aviation, shipping and long-haul road transport.

The [Technology Roadmap](#) re-examines the role of bioenergy in light of changes to the energy landscape over the past five years as well as recent experience in bioenergy policy, market development and regulation. It identifies the technical, policy and financial barriers to deployment, and suggests a range of solutions to overcome them.