

Mississippi Renewable Energy and Energy Efficiency Update

Mississippi Issues

Electric and Natural gas Utilities File Annual Energy Efficiency Program Reports

Per the MPSC Conservation and Energy Efficiency Programs Rule 29, all regulated electric and natural gas utilities must file an Annual Report outlining the performance of all energy efficiency programs by May 1st of each year. Utilities have now completed four full calendar years (2015-2018) of offering energy efficiency programs through the Quick Start portfolio. These customer-funded programs have been providing a range of services, rebates, direct installs and technical assistance to residential, commercial and industrial customers. We have reviewed the Annual Reports and have provide you a summary of program demand savings, energy savings, incentives paid and/or administration costs.

Entergy Mississippi, Inc. (2014-UA-6) – Entergy Mississippi, LLC (EML) serves approximately 447,000 customers in [45 of Mississippi's 82 counties](#). In 2018, EML spent \$9,105,961 on Quick Start program costs which is 4.1% more than the proposed budget of \$8,749,484, and is \$2,814,766 more than 2017 expenditures of \$6,291,195. In 2018, EML achieved total evaluated annual energy savings of 41,869,000 kWh, which is 65% more than program year 2017's net energy savings of 25,316,000 kWh.

Program Notes: 14,591 customers participated in the Residential Programs; 729 customers participated in the Business Programs. Residential Programs created energy savings of 13,194,000 kWh; Business Programs created energy savings of 28,675,000 kWh. EML donated 100,532 LED bulbs in 2018. EML will introduce a website in 2019 for online purchase of energy efficiency products and access to online coupons for appliances. Small Business Solutions programs remain in high demand and exceeded budget and measure expectations in 2018.

Mississippi Power Co. (2014-UN-10) – Mississippi Power Company (MPCo) serves approximately [187,732 customers](#) in 23 of Mississippi's 82 counties. MPCo had a total of \$3,605,326 in Quick Start program expenses in 2018 (approved budget was \$4,390,796) representing 0.40% of annual revenues. In 2017, MPCo spent \$3,988,989. In 2018, MPCo achieved net annual energy savings of 19,123,852 kWh (representing 0.19% of annual energy sales), which is more than 2017 annual energy savings of 18,333,258 kWh.

Program Notes: Although MPCo spent \$785,470 less than budgeted, MPCo achieved 832,000 kWh more in energy savings than estimated. The Large C&I Prescriptive and Custom Program funding has been exhausted early during each program year. The incentives levels were adjusted for 2018 to allow for more program participants.

Cooperative Energy [formerly SMEPA] (2014-UA-18) – Cooperative Energy (CE) provides electrical power for [11 electric distribution cooperatives](#) who in turn serve approximately [427,000 customers](#) in 55 of Mississippi's 82 counties. Several distribution cooperatives do not meet the minimum customers (members) numbers required to implement energy efficiency programs under Rule 29. For those cooperatives that do provide energy efficiency programs to their members, the net annual energy savings achieved as a ratio of program administration expenditures is a mixed bag. Some cooperatives with high program expenditures achieved relatively low annual energy savings. Meanwhile, some cooperatives with low program expenditures achieved relatively high annual energy savings. The way annual savings are calculated could be the culprit. Or it could be type of programs offered and utilized. Regardless, cooperatives collectively spent less on energy efficiency programs in 2018 than in 2017.

Tennessee Valley Authority (TVA) –TVA provides electrical power [to 14 municipal and 14 cooperatively owned utilities](#) located primarily in [the northern half of Mississippi](#). Six cooperatives meet the minimum number of customers (members) that triggers the requirement for energy efficiency programs. The impacted cooperatives achieved very respectable annual energy savings with minimal program incentives expended. During 2018, TVA shifted resources toward additional non-energy efficiency programs and drastically reduced overall spending on energy efficiency programs. This reduction in spending is reflected in the lower amount of Net Annual Energy Savings achieved.

Atmos Energy (2014-UN-17) – Atmos Energy (Atmos) spent \$1,483,731 to achieve an annual energy savings of 824,403 therms in 2018. In 2017, Atmos spent \$1,305,788 to achieve an annual energy savings of 706,409 therms. Atmos’ 2018 program costs represent 0.59% of annual revenues and energy savings represent 0.29% of annual energy sales.

Program Notes: Atmos Energy’s expenditures were 4% less than the amount budget for program delivery in 2018. However, Atmos exceeded its annual energy savings target by 82,460 therms.

CenterPoint Energy (2014-UA-7) – CenterPoint Energy (CenterPoint) spent \$811,788 to achieve an annual energy savings of 275,751 therms in 2018. In 2017, CenterPoint spent \$673,460 to achieve an annual energy savings of 253,372 therms. CenterPoint’s 2018 program costs represent 0.87% of annual revenues and energy savings represent 0.29% of annual energy sales.

Program Notes: CenterPoint Energy’s program expenditures were 85% of projected programs budget. Furthermore, CenterPoint Energy’s EE programs achieved evaluated (actual) savings of 275,751 Therms, 83.2% of the savings goal.

By the numbers: Summary of Total Program Costs and Annual Energy and Demand Savings below.

2018 Energy Efficiency Portfolio Statistics

Utility	Docket Number	Rule 29 Annual Report	Total Program Costs	Net Annual Energy Savings (kWh)	Demand Savings (MW)
Electric Utilities					
Entergy Mississippi	2014-UA-6	Report	\$9,105,961	41,869,000	7.85
Mississippi Power Company	2014-UN-10	Report	\$3,605,326	19,124,000	5.7
Cooperative Energy Association Members					
Coahoma Electric Power Association	2014-UA-18	Report	\$12,000	0	0
Coast Electric Power Association		Report	\$320,289	5,866,000	1.033
Delta Electric Power Association		Report	\$0	211,000	0.045
Dixie Electric Power Association		Report	\$244,398	1,990,000	0.413
Magnolia Electric Power Association		Report	\$76,190	1,217,000	0.280
Pearl River Valley Electric Power Association		Report	\$130,695	726,000	0.223

Singing River Electric Power Association		Report	\$629,392	1,056,000	0.156
Southern Pine Electric Power Association		Report	\$524,958	527,000	0.179
Southwest Mississippi Electric Power Association		Report	\$14,117	600	0.0001
Twin County Electric Power Association		Report	\$1,005	0	0
Yazoo Valley Electric Power Association		Report	\$3,000	0	0
Local Power Companies in Tennessee Valley Authority Distribution Area					
Central Electric Power Association	2014-UA-16	Report	\$30,156*	3,000,089**	0.487
East Mississippi Electric Power Association	2014-UA-5	Report	\$134,075	17,200	0.00195
4-County Electric Power Association	2014-UA-15	Report	\$370,248*	6,257,172**	0.375
Northcentral Mississippi Electric Power Association	2014-UA-13	Report	\$168,391*	2,221,647**	0.514
Tallahatchie Valley Electric Power Association	2014-UA-12	Report	\$43,413*	953,701**	0.191
Tombigbee Electric Power Association	2014-UA-14	Report	\$98,992.63*	1,960,806**	0.300
Natural Gas Utilities					
Utility			Total Program Costs	Energy Savings (Therms)	Demand Savings (Therms)
Atmos Energy	2014-UN-17	Report	\$1,483,731	824,403	4,506
CenterPoint Energy	2014-UA-7	Report	\$811,788	275,751	2,757

*Represent incentive costs only

**Represent estimated annual savings value

Summary: Electric utilities' energy efficiency programs helped customers reduce energy use by 68,633,594 kWh and reduced peak demand by over 120 MW (some utilities include demand response in their savings calculations). Natural gas utilities' energy efficiency programs helped customers reduce energy use by 1,100,154 therms and reduced peak demand by 7,263 therms. While these figures may sound impressive, we could be doing so much more to reduce energy demand and increase savings. But the MPSC has allowed all utilities to delay implementation of next phase of comprehensive energy efficiency programs.

If the recent heat and humidity across Mississippi is any indication, we're in for a long, hot summer. And with the hot temperatures, comes high energy bills for many households trying to stay cool. So why would the MPSC continue to drag its feet on energy efficiency programs? Especially when many people

remember the high energy bills from the record cold snap in late winter. This demonstrates that our aging housing stock is in need of expanded energy efficiency and weatherization programs.

Furthermore, the MISO South area that includes all Entergy operating companies and all Cooperative Energy distribution cooperatives has already issued two “Max Gen” alerts in 2018. The first alert took place [January 17-18](#) due to record cold, high demand loads, and unavailable generation resources. The subsequent declared alerts took place on May 14-16 and May 23 because of above normal temps and unavailable generation resources. These Max Gen events demonstrate a need for greater energy efficiency across all customer classes so as to avoid these threats to reliability.

Not only do we need to see energy efficiency programs expanded, we also need long-term energy savings targets for each utility put in place. Following the great example of Arkansas, Mississippi could become the next energy efficiency leader in the southeast.

Electric Utilities Submit Annual Net Metering Reports

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 Mississippi Renewable Energy Net Metering Rule. Entergy MS, MS Power Co. and Cooperative Energy had previously reported their net metering connections.

Tennessee Valley Authority (TVA) –TVA provides electrical power [to 14 municipal and 14 cooperatively owned utilities](#) located primarily in [the northern half of Mississippi](#). TVA and its electric distribution partners are not required to submit an annual Net Metering Report to the MPSC. TVA voluntarily provided information on the number of distributed generation installations in the TVA service area. When combined with other utility distributed generation customer numbers, we found that Mississippi has over 53 MWs of capacity across 655 distributed generation projects.

By the numbers:

Utility	RENMICs at end of 2016	RENMICs at end of 2017	RENMICs at end of 2018	# of all DGF Customers in 2018	Total Installed RENMICs Capacity	% of Peak System Demand
Entergy MS	10	34	53	79	513.85 kW	0.0176%
MS Power Co	29	67	105	148	1,341.48 kW	0.01397%
Cooperative Energy	89	197	319	320	3,316.92 kW	0.1294%
TVA	n/a	n/a	n/a	114 solar 4 biomass	47,939 kW	n/a
Total		298	477	665	53,111.25 kW	

(info as of Dec. 31, 2018)

RENMICs = Renewable Energy Net Metering Interconnected Customers

DGF = Distributed Generation Facility

A review of the annual electric utility filings found that a total of 477 renewable energy net metering systems were interconnected to the grid in the as of December 31, 2018 (Entergy MS, MS Power and

Cooperative Electric). This was an increase of 179 over the end-of-2017 number of 298 systems. Overall, there are 665 distributed generation systems in the state. Most systems are solar. However, Entergy MS and MS Power connected few renewable energy net metering customers in 2018 than they did in 2017. Conversely, Cooperative Energy saw a 54% increase in renewable energy net metering customer from 2017 to 2018. Mississippi ranked 41st in the nation for solar capacity installed in 2018, according to the [Solar Market Insight Report 2018 Year In Review](#).

Review of MPSC Regular Meeting – May 7

On May 7, the MPSC held its regular docket meeting. The Commission took no action on electric or natural gas utility matters.

The next [Meeting](#) of the MPSC will take place on June 11, 2019, at 10 am in the Woolfolk Building.

Other Recent Docket Actions at the MPSC

Proposal to Amend MPSC Rule 21, Docket No. 2018-AD-99: Amends rule to clarify that use of a private aircraft will be reimbursed at the rate of comparable commercial travel in coach class.

MS Power Co. Management Review, Docket No. 2018-AD-68: The Commission ruled that it will be the policy of the Commission to order operations reviews of investor-owned utilities in advance of anticipated Commission ordered rate cases for those utilities. Today's action authorized Phase II of the operations review of MS Power Co.

Selection of consultants to perform fuel audit for Entergy (EEML), Docket No. 2019-AD-24; Selection of consultants to perform fuel audit for MS Power Co. (MPCo), Docket No. 2019-AD-25. The Commission approved the selection of auditors at its May meeting. The auditors selected for the next round of fuel audits are: Financial – Horne for EML, Carr Riggs and Ingram for MPCo.; Management/Procurement – Liberty for EML, London Economics for MPCo.

The MPSC held a hearing on **Docket No. 2019-UA-21: SR Meridian I** and **Docket No. 2019-UA-22: SR Meridian II:** On January 31, Silicon Ranch filed a [Facility Application](#) for the construction and operation of a 1.0 MWdc solar photovoltaic generation facility on the Naval Air Station Meridian base in Lauderdale County, Mississippi. The project investment is estimated at \$600,000. The entire electricity output will be sold to the Tennessee Valley Authority ("TVA") under a 20 year power purchase agreement. Silicon Ranch also filed a [Facility Application](#) for the construction and operation of a 5.0 MWdc solar photovoltaic generation facility on the Naval Air Station Meridian base in Lauderdale County, Mississippi. The project investment is estimated at \$3,200,000. The entire electricity output will be sold to TVA under a 20 year power purchase agreement.

The purpose of the hearing was to evaluate Silicon Ranch's application to obtain a Certificate of Public Convenience and Necessity as set forth in Miss. Code Ann. § 77-3-14 for the construction and operation of the solar facilities for the generation, transmission, and wholesale sale of electricity. The CPCN for Meridian I and Meridian II were approved by the MPSC.

In a related project, Silicon Ranch general contractor McCarthy Building Companies [held a job fair](#) to fill 150 general labor positions related to the Meridian III solar farm project. The Meridian III is a 52.5 MW solar farm on 550 acres in Lauderdale County. The MPSC approved the project in August 2017. Silicon Ranch expects the project to be completed by the end of the year.

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.

Tesla Service Center Opens in Pearl

Tesla Inc. has announced the opening of a service center in Pearl to accommodate an increase in Tesla owners in the area. The service site, located at 322 Airport Road, will cover all Tesla vehicles, and include: software diagnostics and resolutions, hardware adjustments, and parts replacement. The closest service center for Tesla owners had been in Memphis.

Enviva Pellets Lucedale, LLC Hearing Draws Opposing Views

Enviva announced it will build a pellet mill in Lucedale through a \$140 million investment and further a ship-loading terminal in Pascagoula with an additional \$60 million. Enviva will hire about 90 workers in Lucedale. The project has caused some folks to draw lines in the sand regarding the project.

Commissioner of Agriculture Andy Gipson authored an op-ed in support of the project: [Out-of-state interests mobilizing against Mississippi's working forests](#). Meanwhile, others say that [Mississippi deserves better](#) than Enviva's proposed wood pellet plant.

25x'25 filed comments in support of Enviva's proposed wood pellet manufacturing plant in Lucedale, MS. 25x'25 views the construction and operation of this proposed facility as an important measure to increase the utilization of renewable biomass resources, sustain and grow businesses that harvest and support the harvesting of these biomass feedstocks, and provide forestland owners additional market opportunities for their managed forest products. The forests and the woody biomass that our forestland owners produce can be sustainable for energy, for traditional forest products and for myriad other societal uses and benefits. The use of wood for energy should be considered an opportunity to enhance and expand both the extent and productive capacity of our forestlands.

Seraphim Solar Manufacturing Remains Shuttered

In October 2016, I shared my experience and photos from a tour of the Seraphim facility in Jackson. It was a very modern, automated process. However, the plant closed near the end of 2018 under the auspices that it would upgrade and expand operations. However, the [plant remains closed](#) and no activity has taken place at the site in six months. No one knows if the plant will ever reopen.

Solar Power Slowly Growing in MS

Mississippi Solar, LLC, recently visited the Starkville Rotary Club to talk about the [growth of solar power in Mississippi](#) and across the United States. Solar power has seen growth not only because it's an environmentally friendly way to produce power, but because it can help save money. Solar panels have also grown more efficient over time. When coupled with efficient technologies like LED light bulbs, the increased solar production goes farther.

Piney Woods School Gets Seed Funding from DOE

Piney Woods School was one of 34 teams out of more than 170 teams from 40 states, the District of Columbia, Guam, and Puerto Rico to [receive a seed award](#) of up to \$60,000. Seed awards were disbursed in increments based on completed milestones over the course of [The Solar in Your Community Challenge](#). The challenge competition is designed to incentivize the development of new approaches to increase the affordability of electricity while expanding solar adoption across America.

Go Solar in 2019 to get Full Federal Tax Credit

Solar PV system owners will have until the end of 2019 to qualify for the 30% Solar Investment Tax Credit (ITC) before it [begins to step down](#). Starting in 2020, the ITC steps down to 26%. In 2021, the final year that homeowners can use the ITC, the ITC will be stepped down further to just 22%. The ITC has

proven to be the most influential and important Federal policy to incentivize the solar industry's growth. Despite the inevitable step down, the solar industry is positioned to continue its growth trajectory.

What the latest on Kemper?

On April 29, 2019, the Civil Division of the Department of Justice informed Southern Company and Mississippi Power of an investigation related to the Kemper County energy facility. Mississippi Power received total DOE grants of \$387 million, of which \$382 million reduced the construction costs of the Kemper County energy facility and \$5 million reimbursed Mississippi Power for expenses associated with DOE reporting. The DOE and DOJ are now trying to determine just how much should be recovered from MS Power and Southern Company since the money was granted to build a first-of-its kind plant turning soft coal into a gas and burning it to generate power, while removing carbon dioxide and other pollutants. Because the conditions of the grant have not been met, the DOJ is seeking to recoup the taxpayers' money. MS Power is also evaluating its options regarding the final disposition of 61 miles of CO2 pipeline, including removal of the pipeline. Depending on the outcome, both of these matters could have a material impact on Mississippi Power's financial statements and a significant impact on Southern Company's financial statements.

Furthermore, Mississippi Power is contractually obligated to fund all lignite mine reclamation activities. Mississippi Power also has annual costs in the millions of dollars associated with gasifier-related closure activities, abandonment costs, dismantlement costs, costs for compliance and safety, property taxes for the mine and gasifier-related assets, etc.

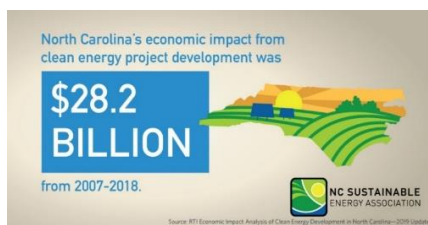
Regional Issues

Solar on Schools Has Many Benefits, Study Shows

A new [study](#), published in the peer-reviewed journal *Environmental Research Letters*, shows taking advantage of all viable space for solar panels could allow schools to meet up to 75 percent of their electricity needs and reduce the education sector's carbon footprint by as much as 28 percent. While solar provides proven financial, educational, health, environmental and climate benefits, many challenges still exist for schools to make this investment. Report authors found that projects make most financial sense for schools if schools contract a company to install, own and operate the system and sell electricity to the school at a set rate.

Economic Impact Analysis of Clean Energy Development in North Carolina

NCSEA has published the [Economic Impact Analysis of Clean Energy Development in North Carolina—2019 Update](#) report. RTI International conducted the report to identify associated economic impacts of clean energy development (renewable energy and energy efficiency) in North Carolina and identified that, from 2007-2018, the total economic impact from clean energy project development in the state was \$28.2 billion, with 32 percent of the cumulative clean energy investment over the last 12 years occurring in 2017 and 2018. Renewable energy project investment in 2018 was \$1.9 billion, or 97 times the \$19.5 million invested in 2007.



New Tennessee Renewable Natural Gas (RNG) Facility Online

The [new RNG facility](#) will upgrade the methane gas captured from Carter Valley Landfill, owned by Republic Services, into RNG to be used as fuel for the transportation sector. This site will produce enough RNG to fuel more than 80 class 8 trucks daily, equivalent to displacing 1,500,000 gallons of diesel per year.

Athens, GA Commits to 100% Clean Energy by 2035

Athens has become the fourth city in Georgia to commit to 100% clean energy. The Athens-Clarke County Commission voted recently to set a community-wide goal of getting all of its power from renewable sources by 2035. Athens joins Atlanta, Augusta, and Clarkston, in making a commitment to transition to clean energy. The resolution lays out a timeline for the hometown of The University of Georgia to move from roughly 15% reliance on renewable energy to 100% by 2035.

Facebooks Invests Directly in a Large Solar Project

Facebook announced it has finalized an agreement to provide tax-equity financing for [a 379-megawatt solar project developed by Longroad Energy Partners in Andrews County in West Texas](#). Shell Energy North America also signed a 12-year power-purchase agreement for the project's power. Both Facebook and Shell will use the renewable energy credits from the project.

Agencies in Arkansas and Georgie Reduce Energy Costs with Solar

The Northeast Arkansas Community Correction Center in Osceola has installed six large panel arrays that is helping to [power about 40% of the Center's needs](#). The solar panels were installed as part of the correctional agency's energy upgrades through a contract with Entegriy. Those clean energy upgrades are being paid for with the savings they are creating.

Three Colquitt County, Georgia government facilities have, or will have, solar panels installed as part of an effort to reduce energy costs. Two projects, on land at Colquitt County Jail and on the roof of the courthouse annex building, have been completed and went online in March. The third set of solar panels will be placed at Colquitt County Correctional Institution. The jail and prison were selected because they are the highest energy consuming facilities and [will offer the most potential savings](#). The solar arrays are part of a project between the county and the firm ABM to reduce energy use in the county and is expected to save the county at least \$350,000 per year.

South Carolina Governor Signs Breakthrough Solar Bill

The [S.C. Energy Freedom Act](#) (HR 3659) aims to protect 3,000 jobs and [help grow the state's solar industry](#). The comprehensive solar legislation will:

- Eliminate the net metering caps and extend the existing residential solar rates for two years until the Public Service Commission determines a successor program;
- Require the Public Service Commission to initiate a new proceeding to review and approve rates and terms provided to large-scale solar facilities, ensuring contract terms are reasonable for such projects;
- Allow large energy consumers, such as industrial manufacturers, to negotiate directly with a renewable energy supplier to more easily realize savings from solar;
- Requires utilities to provide usage data to customers and establishes a "customer bill of rights";
- Provide for more transparency and competition in long-term utility generation planning; and

- Give the Public Service Commission the authority to establish a new neighborhood community solar program with the opportunity to expand solar access to low-income customers.

Solar growth has slowed significantly in South Carolina since Duke Energy Carolina customers hit the 2% net metering cap in July 2018. South Carolina Electric and Gas and Dominion Energy were also close to hitting their total solar generation capacity caps and putting net metering rates and solar industry jobs at risk.

Arkansas PSC Moves to Start Discussions on Distributed Generation

The Arkansas Public Service Commission issued a [new order](#) in Docket No. 16-028-U, "IN THE MATTER OF AN INVESTIGATION OF POLICIES RELATED TO DISTRIBUTED ENERGY RESOURCES." Highlights include:

- The Commission announced its selection of Christopher Villarreal, President of Plugged In Strategies, and Ward Camp, Principal of East Fork Group, LLC, to serve jointly as third-party facilitators in the Docket.
- The Commission will host the first public Educational Workshop on Distributed Energy Resources and Grid Modernization Issues on June 11 and 12, 2019, in the Commission Hearing Room, beginning at 9:30 a.m.
- Facilitators will schedule meetings with all parties prior to the educational workshop to get a sense of the initial interests and perspectives of the parties.

National Issues

Reducing Rural Energy Burdens through Energy Efficiency

ACEEE has released a series of [fact sheets](#) on rural energy efficiency. The series builds on their [prior research](#) showing that energy efficiency can help alleviate the energy burdens of Americans in rural areas, who spend a disproportionately high share of their income on energy bills. ACEEE also highlights numerous utility and state programs that save energy for rural communities. The fact sheets explore rural energy burdens, efficiency [strategies for electric cooperative utilities](#), tools to [reduce the upfront costs of rural efficiency projects](#), and [coordination of rural efficiency with distributed energy resources](#).

Furthermore, energy efficiency offers a great return on investment. A light energy efficiency retrofit of a typical existing home can deliver a whopping 18.5% return annually. A medium efficiency retrofit saves more energy (29%), but because of its higher cost, has a lower return. A deep efficiency retrofit saves the most energy but takes longer to pay back. Either way, homeowners get a big bang for their buck by prioritizing energy efficiency.

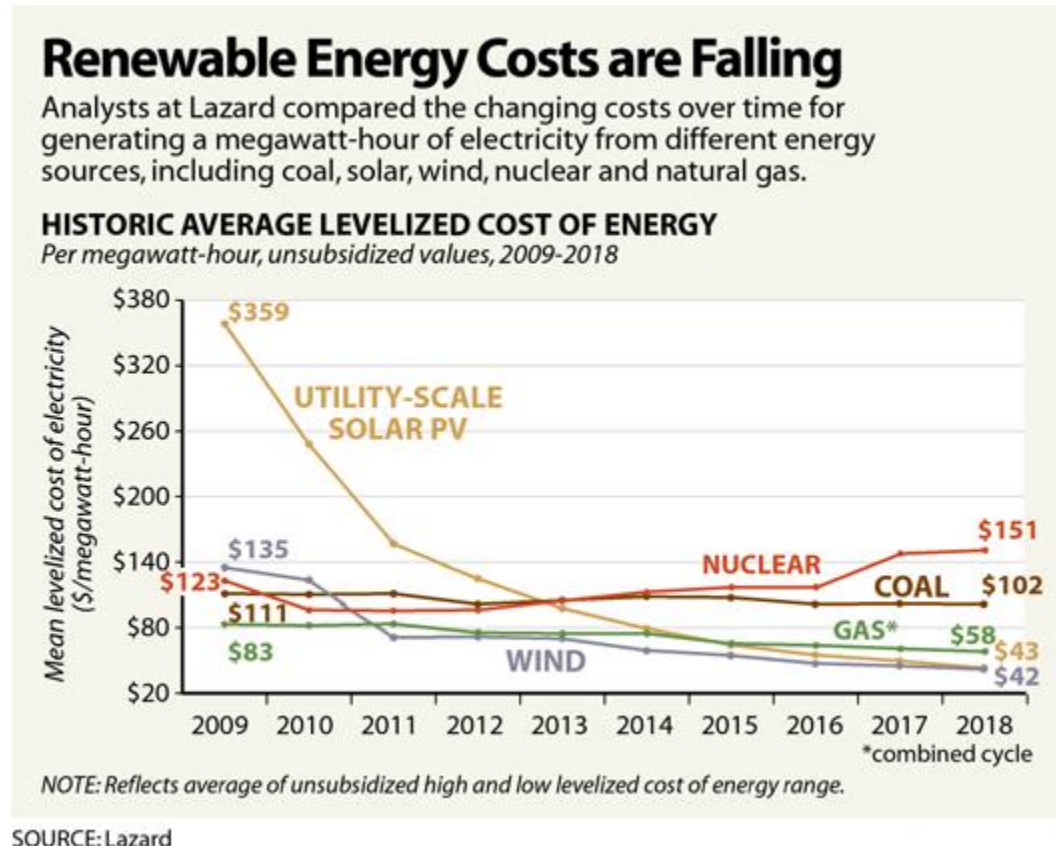
New Report Outlines Environmental Benefits of Ethanol

To underpin the scientific and economic opportunity for ethanol use to increase via low carbon fuel markets, the American Coalition for Ethanol published a White Paper titled ["The Case for Properly Valuing the Low Carbon Benefits of Corn Ethanol"](#) that highlights how U.S. farmers and ethanol producers are improving efficiencies, investing in technologies, and adopting practices to dramatically reduce lifecycle greenhouse gas (GHG) emissions from corn ethanol.

EIA Bullish on Renewables Going Forward

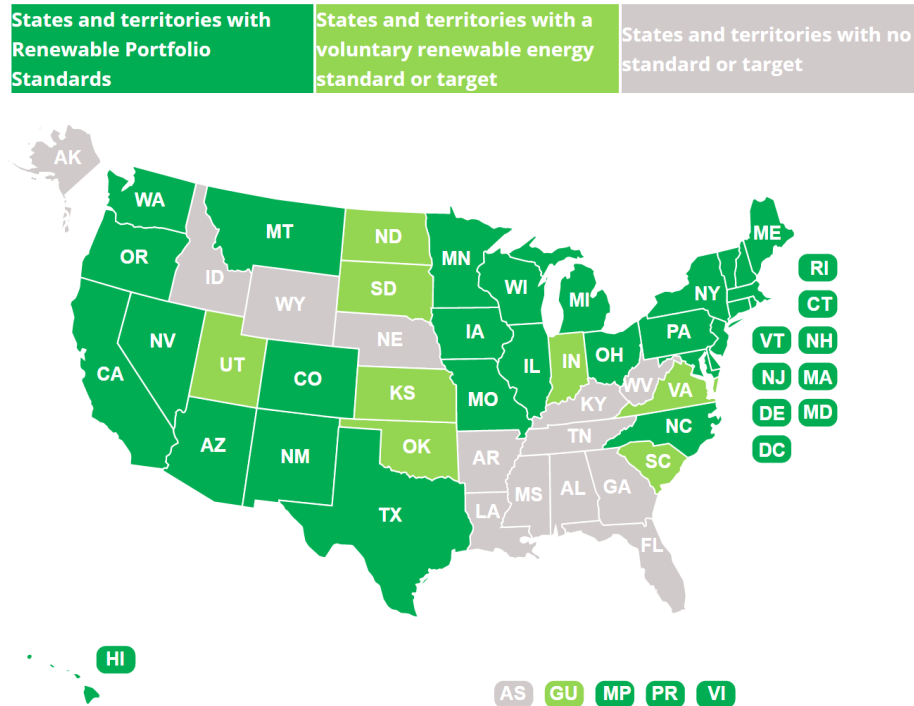
The Energy Information Administration's (EIA) latest [Short-Term Energy Outlook](#) (STEO) forecasts that all renewable fuels, including wind, solar, and hydropower, will produce 18% of U.S. electricity in 2019 and

almost 20% in 2020. EIA expects that wind generation will surpass hydropower generation for the first time to become the leading source of renewable electricity generation in 2019 and maintain that position in 2020. The EIA report comes two weeks after the Institute for Energy Economics and Financial Analysis (IEEFA) reported that data shows renewable energy—including hydro, biomass, wind, solar, and geothermal—in April for the first time generated more electricity in the U.S. than coal-fired power plants. Furthermore, analysts have found new wind and solar power, bolstered by battery storage, is cheaper than some fossil fuel resources in much of the U.S. now.



State Renewable Portfolio Standards and Goals

With the costs of renewables falling as outlined above, what is the status of various state efforts toward the clean energy transition? Absent federal leadership, much activity has occurred locally with an increasing number of states making clean energy commitments. The [National Conference of State Legislatures](#) (NCSL), and specifically their [appendix of state renewable portfolio standards and goals](#) is a good resource for existing RPS levels. See the map below:



New Report Documents Connection Between Toxic Fuel Additives, Vehicle Emissions and Human Health Threats

The new Fact Book entitled [What's in Our Gasoline is Killing Us: Mobile Source Air Toxics and The Threat to Public Health](#) is the result of research and review of hundreds of studies and medical and technical reports. The Fact Book documents the rise in air pollution and the direct correlation to increasing concentrations of benzene and other toxic compounds in gasoline that have replaced lead.

New Study: Renewable Fuel Standard Saves Consumers 22 Cents on Every Gallon of Gas

A new study from energy policy expert, Dr. Philip K. Verleger, Jr., has found that consumers save 22 cents on every gallon of gas thanks to the Renewable Fuel Standard. That's a savings of nearly \$5 every time you fill up, or \$250 per American family every year.

[The Renewable Fuel Standard Program: Measuring the Impact on Crude Oil and Gasoline Prices](#) looks at the impact of the Renewable Fuel Standard program (RFS) on crude oil and gasoline prices over the last four years (2015-2018). The findings highlight how the RFS has helped keep prices down at the pumps by requiring oil refiners to blend a certain amount of renewable fuel into the fuel they produce.

You can read more about Dr. Verleger and how the Renewable Fuel Standard lowers gas prices below.

Key Report Findings:

- The RFS program has provided economic benefits to consumers in the United States and worldwide. Retail gasoline prices are lower thanks to the program. The findings from an econometric model show that the savings to consumers resulting from the RFS averaged \$0.22 per gallon from 2015 through 2018.

- The blending of approximately one million barrels per day of ethanol into U.S. motor fuels under the RFS over the 2015 through 2018 period has lowered the average price of crude by \$6 per barrel.
- Because gasoline demand is price inelastic, consumers have been able to allocate a smaller percentage of their total consumption budget to fuel purchases. This has allowed them to expend more on other goods. Over four years, US consumers have been able to spend almost \$90 billion per year more on other goods because of gasoline prices being pulled down by renewable fuel use.

If ethanol was *entirely* eliminated from the fuel supply, as some opponents of renewable fuels have advocated, gasoline prices would surge by more than \$1 per gallon. According to the study, “Retail prices would today be above \$4 per gallon, not \$2.90, were renewable supplies removed from the supply mix.”

A Comprehensive Guide to Electric Vehicle Managed Charging

Managed EV charging can yield a suite of benefits touching every part of the electricity marketplace. EVs are part of the larger discussion around the evolution of the grid and the future of the electric utility industry. For example, managed EV charging can be a powerful tool to better align and balance a power supply that is increasingly diverse, decentralized, renewable, and intermittent with flexible demand. This [guide](#) provides readers with an understanding of managed charging, its potential benefits, the current industry state, utility program requirements, and more.

Demand & Supply for RNG in Transportation Sector Forecast to Grow

A [new report](#) by Washington D.C.-based Bates White Economic Consulting predicts that both supply and demand for renewable natural gas (RNG) from the transportation sector will continue to rapidly grow over the next five years.

New Study Highlights the Untapped Potential of Geothermal Energy

The U.S. Department of Energy [released](#) a [groundbreaking analysis](#) detailing how the United States can benefit from the vast potential of geothermal energy. Geothermal energy is a renewable and diverse solution for the United States—providing reliable and flexible electricity generation and delivering unique technology solutions to America’s heating and cooling demands. Geothermal resources can be found nationwide, are “always on,” and represent vast domestic energy potential.