

Welcome to the June 2017 MS Renewable Energy and Energy Efficiency Update!

The week of June 26 was Energy Week in Washington, DC and the president and his cabinet have been hard at work touting a fossil fuel-heavy agenda. In a wide-ranging speech to U.S. Dept. of Energy employees, the president never mentioned the benefits and cost-competitiveness of U.S. renewable energy.

Energy Secretary Rick Perry was [expected to release a study of the grid](#) this month that renewable energy advocates fear will be used to criticize wind, solar and other renewables and their perceived effects to the grid and base-load price competitiveness. However, the release of the report has been pushed back to July.

Meanwhile, a new report entitled [Electricity Markets, Reliability, and the Evolving U.S. Power System](#), has concluded that the shifting nature of the US electricity sector does not endanger electric system reliability. Further, the report author concluded that it is market forces — primarily the rise of low-cost natural gas and a flat demand for electricity — that are behind the retirement of coal and nuclear plants across the US, and not federal and state policies supporting renewable energy development.

Another report, [Advancing Past “Baseload” to a Flexible Grid](#), suggests system planners focus on developing a planning framework that accurately defines and measures system needs and consider a wider range of resources to power the grid. The report cites several reasons for less-efficient plants' financial struggles: low natural gas prices, slowed demand growth, increased building and appliance efficiency, and the rapid growth of low-cost renewables.

Eight national business groups representing the diverse spectrum of renewable energy technologies has released a first-of-its-kind [joint statement](#) outlining a positive vision for the future of America's power grid. In "A Shared Vision of the 21st Century Grid," the groups highlight mutual support for market structures that appropriately value new and existing technologies, tax policy continuity and parity for all renewable technologies, and the expansion and modernization of the electrical grid to support the proper operation and integration of clean power sources.

Meanwhile, data from the U.S. Energy Information Administration [over the first four months of 2017](#) shows that renewable energy (a combined total of biomass, geothermal, hydropower, solar, and wind) provided 20.20% of US net electrical generation, while nuclear provided 20.75%. Natural gas continues to lead in electrical generation followed by coal. Renewable output has increased 12.1% over the past year.

Please see the opinion piece from Southeast Energy News: [As Arkansas leads on efficiency, two states poised to follow](#). The writer talks about progress in advancing energy efficiency policy and programs in Arkansas, Mississippi and Louisiana.

Of course, the big news in energy in Mississippi relates to the Kemper County Energy Facility. However, other events in solar, energy efficiency, and grid improvements took place in the month of June. Learn more about these developments below.

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

State's largest solar facility now operational near Sumrall

Mississippi Power Co. and D. E. Shaw Renewable Investments has announced its 52 MW solar generating facility near Sumrall in Lamar County has [begun operating and providing energy to the grid](#). The facility features 220,000 solar panels on 600 acres and can produce enough energy to power around 8,000 homes. The site will be officially dedicated on July 7. Another 50 MW project being developed by Silicon Ranch Solar near Hattiesburg is set to go online later this year.



MPSC Regular Meeting and Docket Call – June 6

At the June 6, 2017, MPSC Regular Meeting ([see agenda](#)), the Commission acted on the following items of interest to clean energy stakeholders:

Docket No. 2014-UN-132: Entergy filed its Formula Rate Plan for calendar year 2017. While Entergy did adjust its rate base to account for capital investments made in the last year, no adjustments to revenue were made.

Next Meeting of the MPSC – The [next regular meeting](#) of the MPSC will take place on **July 6, 2017, at 10 am** in the MPSC Hearing Room to consider the Docket and other matters.

Public Hearing on Solar Project – Following the July 6, 2017, regular meeting, the MPSC will hold a [public hearing](#) on the [Joint Petition](#) from MS Power Co. and SR Meridian III, LLC (Silicon Ranch Solar) for a Certificate of Public Convenience and Necessity Authorizing the Construction, Operation and Maintenance of Solar Energy Generating Facilities and Related Facilities in Lauderdale County, MS. The proposed project is a 52.5 MW solar energy facility consisting of 570,000 panels at a cost of \$90-\$110 million. The 25-year power purchase agreement (PPA) will provide MS Power customers with affordable energy that will put downward pressure on rates over the life of the PPA. Meridian Naval Air Station also plans to access the solar energy to meeting Dept. of Defense renewable energy utilization goals.

“Hire Mississippi” Proposed Rule and Economic Impact Statement Issued

The MPSC is [proposing a rule](#) whose purpose is to foster utility engagement with potential Mississippi suppliers and contractors to promote economic development, create jobs and improve the communities served by the utilities. Any party desiring to intervene or submit written comments or testimony in this

matter shall do so no later than July 18, 2017. A Public Hearing will be held immediately following the July 27, 2017 Commission Work Session. Information on this proposed rule can be found under [Docket No. 2017-AD-86](#).

Utilities and Stakeholders File Energy Efficiency Comments – June 9

The MPSC extended the deadline for submission of comments to June 9 in response to the Commission’s Order Requesting Comments under Docket No. 2010-AD-2. Numerous comments were filed outlining various positions on energy savings targets, industrial opt-out, incentive mechanisms, etc. Below is a comparison of the positions taken on some of the issues identified for comments by the MPSC:

Selected Stakeholder	Selected Issues Identified by MPSC for Public Comment				
	Numerical Savings Targets	Industrial Opt-Outs	Incentive Mechanisms	Cost-Effectiveness Tests	EM&V Delivery
25x’25 Alliance	Supports moderate energy savings targets as percentage of 2017 energy sales	Opposes industrial opt-out option; as alternative, a highly-structured ‘self-direct’ program	Supports the utilities’ ability to collect reasonable incentives; incentives commensurate with level of effort	Avoid use of RIM; Consider use of RVT; include non-energy benefits in tests	Recommend use of an independent, third-party evaluator who reports directly to the Commission
Entergy Mississippi, Inc.	Does not favor specific energy savings targets; prefers portfolio goals	Does not support opt-out provision at this time	Support flexibility in rate-making to include incentives for EE expenditures	Continue use of the four main cost-effectiveness tests	Utilizes an independent evaluator separate from utility and program administrator
Mississippi Power Co.	Does not support specific numerical savings targets	Supports industrial opt-out with usage adjustments	Support incentive mechanism as percentage of portfolio net benefits	Continue use of the four main cost-effectiveness tests	Supports utility-hired EM&V evaluator who acts independently
Cooperative Energy	Energy savings targets do not apply; cause ineffective programs	Supports industrial opt-out for industrial businesses	Don’t need an incentive mechanism to force co-ops to act a certain way	Continue use of the four main cost-effectiveness tests	Supports EM&V evaluation activities within utility or utility-hired third-party evaluator
Atmos Energy Corp.	Supports savings targets with moderate growth schedule; based on local conditions	Supports industrial opt-out for industrial businesses beyond certain volumetric use threshold	Proposes a 15% incentives based on each program’s net benefits capped at 15% of total program costs	Continue use of the four main cost-effectiveness tests with emphasis on TRC	Does not support having Commission consultants; Suggest creating a Technical Resources Manual similar to AR

CenterPoint Energy MS Gas	Support utility-specific energy savings targets; utility proposes and Commission approves	Supports industrial opt-out for large volume industrial businesses; minimal opt-out oversight	Proposes a 15% incentives based on each program's net present value based on TRC	Continue use of the four main cost-effectiveness tests; TRC at portfolio, not program level	Establish expenditure cap for EM&V; third-party EM&V evaluator is an unnecessary cost
Willmut Gas and Oil Company	No stated position; Agrees with Atmos' comments	No stated position	Supports incentive mechanism	No stated position; agrees with Atmos' comments	Supports EM&V audit by an independent, third-party
Sierra Club MS	Supports statewide energy savings targets	Opposes industrial customer opt-out	Supports incentive mechanism/ performance incentive with certain features	Avoid use of RIM; Consider using new cost-effectiveness test resources	Commission should adopt use of an independent, third-party evaluator to conduct EM&V reviews
ACEEE	Recommend that the Commission set targets for at least three years	Opposes industrial opt-out and create strong custom programs; self-direct program as last resort	Supports performance-based incentives under best practice principles	Utilize TRC and UTC; avoid use of RIM; exempt low-income programs	Employ uniform protocols in any EM&V process; consider collaborative stakeholder process

NGA Mississippi Retreat on State Building Energy Efficiency – June 14

The state of Mississippi in partnership with the National Governor's Association Center for Best Practices hosted the *Mississippi Retreat on State Building Energy Efficiency*. Nearly 35 participants explored policies and strategies to improve energy efficiency and reduce energy expenditures in state buildings. Numerous presentations from experts inside and outside of Mississippi shared information on case studies, funding and financing options, benchmarking and facility analysis, and incentives for action.

Of note, Mississippi consumed 974 million kWh of electricity and 34 million CCF of natural gas at a cost of \$126 million. The group sought ways to reduce energy costs and potentially reinvest the savings in support of state agencies' missions. Success case studies include: The 8 public universities have collectively reduced total energy use by 23% while increasing building square-footage by 20% since 2006; The MS Dept. of Environmental Quality has reduced energy consumption by 50% from 2009 to 2016 which reflects a 38% annual reduction in energy costs; A \$5,000 investment in new building controls is saving over \$90,000 annually at The Woolfolk State Office Building. However, not every agency has readily available access to the analytical and technical tools needed to achieve similar savings. Mississippi's elected leaders need to make energy efficiency a statewide policy and provide state agencies the options they need to achieve energy reduction goals.

Kemper Update

MS Power submitted its preliminary [rate plan](#) to the MS Public Service Commission on June 5, 2017. The MPSC had set a June 2017 deadline at the end of 2015, when it [allowed](#) Mississippi Power a 15% rate hike to recover costs for the portion of the plant that is producing electricity with natural gas. The June 5 rate plan does not request a new rate increase and keeps current recovery levels in place. However, MS Power proposes to accelerate the amortization schedule of several in-service asset accounts and correspondingly reduce base rates to offset the increase in amortization expense. MS Power continues to develop a traditional rate case and a rate mitigation plan to address project costs not currently in rates; however, the timing of that filing is uncertain. Customers could be asked to pay \$4.3 billion. Southern shareholders have paid \$3.1 billion. Also, the MPSC is raising its legal spending cap from \$200,000 to \$2.5 million to pay for Kemper-related lawyers.

On Wednesday, June 21, at 10 am, the MPSC held a [special meeting](#) to discuss the Kemper rate plan filing (Docket No. 2015-UN-80) and other matters. At the meeting, the Commissioners quickly went into closed session and then into executive session to discuss sensitive matters related to the overall Kemper project. Upon returning to open meeting, the commissioners unanimously passed a motion instructing its legal staff to prepare an order that does the following:

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

The proposed order will be presented to the Commission at its July 6, 2017 meeting. The Commission gave Mississippi Power Co. 45 days to agree to a settlement of rates and others issues and file a new rate request and certificate modification amendment. See the [Press Release](#).

On June 28, Southern Company and Mississippi Power announced suspension of lignite gasification and carbon capture operations at Kemper. However, the facility will continue to operate its natural gas combined cycle units as it has for nearly three years. The future status of the project will depend on the outcome of the settlement with the MS Public Service Commissioners. See the [Press Release](#) and the [Utility Dive article](#).

Last month, MS Power [announced](#) the Kemper County Lignite Gasification facility would not be operational on May 31 as planned and has [pushed the start-up date](#) to the end of June. The plant, which is running on natural gas, was at one point supposed to go into full operation running on gasified lignite by May 2014. MS Power's [statement](#) says additional improvement projects and maintenance activities are needed. Costs associated with the latest delay has added about \$186 million to the overall cost of the plant. This brings the plant's total costs to nearly \$7.5 billion. MS Power also said that it will have to replace troublesome parts of the facility much sooner than expected, including units that cool the synthetic gas and ash handling systems in the gasifiers. The [April 2017 Independent Monitor Report](#) is now online for review.

Entergy Mississippi and MISO – June 29

On Thursday, June 29, at 10 am, the MPSC held a [special work session](#) to hear a presentation and discuss Entergy Mississippi's (EMI) participation in the Midcontinent Independent System Operator (MISO) network. At the special session, EMI representatives discussed the operational, reliability and financial benefits of participating in MISO. EMI has lower fuel and purchased power costs; reduced need for new generation capacity; better transparency in cost allocations. Notably, EMI claims that its customers have saved \$118 million due to EMI's participation in MISO in the 2014-2016 period.

Also, this week Entergy Mississippi announced that it had the second lowest regulated retail price for residential customers in 2016 at 8.16 cents/kWh according to the U.S. RRA/S&P Global Market Intelligence report. As a company, Entergy Corporation provided power at the lowest average retail price in 2016 of 7.18 cents/kWh to ultimate ratepayers. See the [press release](#).

MSU and Entergy Partner to Improve Electrical Grid

Mississippi State University researchers and Entergy engineers are [working together](#) to improve the reliability of electrical systems that power the U.S. economy. Specifically, the team is working to develop a load-serving capability software and a relay settings automation tool, among other projects. The tools should improve performance, increase grid reliability and reduce costs while identifying potential problems before they occur.

Remember KiOR?

The former CEO, CFO and lead investor of KiOR have been [ordered by a federal district court judge](#) to pay \$3 million to the 23,000 shareholders who lost their money in the failed venture, along with \$1.5 million plus fees for attorneys. Attorney General Hood is also suing the trio and the former company for \$77 million plus interest. The state claims that the company defrauded the state in order to get a \$75 million loan. The plant was supposed to convert wood chips into a synthetic crude oil using a special chemical at high temperature and pressure.

Regional Issues

Rice Farmers in MS, AR and CA among First to Sell Carbon Offset Credits

By implementing conservation practices on their crops, rice farmers reduced methane emissions and thereby generated carbon credits that were sold on the carbon market. Their voluntary conservation practices also reduced energy consumption and water use. These first ever carbon credits generated from rice farmers were sold to Microsoft. This public-private project was funded by NRCS under the Conservation Innovation Grants program and Entergy Corporation. [Read about the program and the farmers who participated.](#)

U.S. Mayors Adopt Clean Energy Resolutions

As the U.S. Conference of Mayors wrapped up in Miami Beach in late June, leaders from more than 250 cities voted on [symbolic resolutions](#) addressing renewable energy, energy efficiency, energy security, sustainability and other matters. Notably, mayors from across the country unanimously backed an

ambitious commitment for U.S. cities to run entirely on renewable sources in two decades. Nearly 35 cities have already the 100% renewable energy goal while six cities have already achieved the target.

NC Clean Energy Tech Center Looks at Solar PV Health and Safety

Education is key for communities to understand and welcome the many benefits solar facilities can bring. The NC Clean Energy Technology Center's [Health and Safety Impact of Solar Photovoltaics](#) study alleviates concerns about the negative health effects of photovoltaic (PV) technologies and offers a deeper discussion on four perceived health and safety risks: hazardous materials, electromagnetic fields (EMF), electric shock and fire safety.

NC Clean Energy Impact Report

NCSEA's new report, [Economic Impact Analysis of Clean Energy Development in North Carolina - 2017 Update](#), shows that between 2007 and 2016, North Carolina saw a total economic impact of nearly \$18 billion generated from \$9 billion in clean energy investments. North Carolina saved over \$1 billion in energy due to energy efficiency programs from 2007-2016. Renewable energy project investment in 2016 alone was \$2.2 billion.

Clean Energy Stories from Citizens in North Carolina

NCSEA has been actively seeking stories of clean energy projects to help portray the people behind clean energy in North Carolina. [The Story of Clean Energy](#) site strives to humanize the clean energy sector, make it understandable to all, and celebrate the progress North Carolinians have made in this industry. The campaign celebrates the progress that North Carolinians have made with clean energy.



FL Governor Scott Signs Solar Tax Credit Bills

Florida lawmakers passed renewable-energy bill ([SB 90](#)), after nearly 73% of voters approved a constitutional amendment last August calling for extending a renewable-energy tax break to commercial and industrial properties, and making renewable-energy equipment exempt from state tangible personal property taxes. The amendment needed lawmakers to approve a bill to carry it out.

Fort Campbell, KY Solar Array Goes Live

Completion of a 5 MW solar array project at Fort Campbell—making it the largest non-utility solar array in Kentucky—was [recognized by state, federal and local officials](#) during a June ribbon cutting ceremony. The project generates enough to power the equivalent of 463 homes and provide more than 10 percent of Fort Campbell's power requirements. It is located on an abandoned landfill at Fort Campbell.

Columbia Metropolitan Airport in South Carolina Completes Solar Project

Constructed on approximately five acres of land between two of the airport's active runways, the 1.38 MW, fixed-tilt, ground-mount project is part of Columbia Metropolitan Airport's Enhanced Construction Opportunities program. The [project](#) is part of the airport's effort to adopt environmentally friendly programs while meeting its obligation to run as economically as possible by lowering energy costs. The project is expected to reduce energy costs by \$250,000 annually.

AR Biodiesel Facility Starts Operations

Solfuels USA LLC, a 40 million gallon/year multi-feedstock biodiesel production facility located in Helena, Arkansas, [began commissioning operations in June](#). The facility can use yellow grease, rendered animal fats, inedible corn oil and refined vegetable oil and will at full production within two months.

ACEEE Releases 2017 Utility Energy Efficiency Scorecard

The nation's 51 largest utilities (based on 2015 retail sales volume in GWh) were ranked across a range of energy efficiency metrics. Each metric relies on primary data to assess a critical aspect of utility sector energy efficiency. Regionally, utilities in the Northeast and West earned the highest average number of points. Utilities in the Southeast received the lowest average number of points. No Mississippi-based utilities were included in this analysis. See the [2017 Utility Energy Efficiency Scorecard](#).

National Issues

Principles for the Evolution of Net Energy Metering

The [Solar Energy Industries Association \(SEIA\)](#) and [Vote Solar](#) have developed a set of principles designed to help shape and unite future state-level advocacy on behalf of the solar industry. The paper [Principles for the Evolution of Net Energy Metering and Rate Design](#) is meant to guide regulators and stakeholders as the solar industry searches for alternatives to traditional net metering. As penetration of solar and other distributed energy resources increases, states and utilities have begun to examine, and in some cases implement, alternative rate and compensation mechanisms.

UPS – Big Brown is Going Green

This week, United Parcel Service announced a series of sustainability goals in its annual [Corporate Sustainability Report](#): 25% of the electricity it consumes will come from renewable energy sources by 2025 (sound familiar??); reduce greenhouse gas (GHG) emissions from global ground operations 12% by 2025; 25% of new vehicles purchased annually will be an alternative fuel or advanced technology vehicle by 2020; 40% of all ground fuel will be from sources other than conventional gasoline and diesel by 2025. UPS operates more than 8,300 alternative fuel and advanced technology vehicles worldwide and has invested over \$750 million in these vehicles and fueling stations. How will Mississippi and local industries help UPS reach its goal locally?

Respected Military Leaders Say Clean Energy is a Matter of National Security

President Trump's pro-fossil fuel policies should be a "bridge" to cleaner, more advanced energy technologies to meet future energy demand at home and abroad, according to members of the CNA Military Advisory Board (CAN MAB). In a new report, [Advanced Energy and U.S. National Security](#), the CNA MAB says new technologies are making clean, affordable advanced energy widely available as well as allowing the extraction of fossil fuels from previously inaccessible sources. Also the growing number of affordable energy choices is a tectonic shift in the global energy posture and as new energy options emerge to meet global demand, nations that lead stand to gain; should the U.S. sit on the sidelines, it does so at considerable risk to our national security.

Study Says Wind, Solar Power Could Overpower Political Headwinds

Demand for renewable energy by consumers and businesses - along with a long-term commitment to cleaner portfolios from utilities - seems to be fundamentally shifting energy attitudes and decisions,

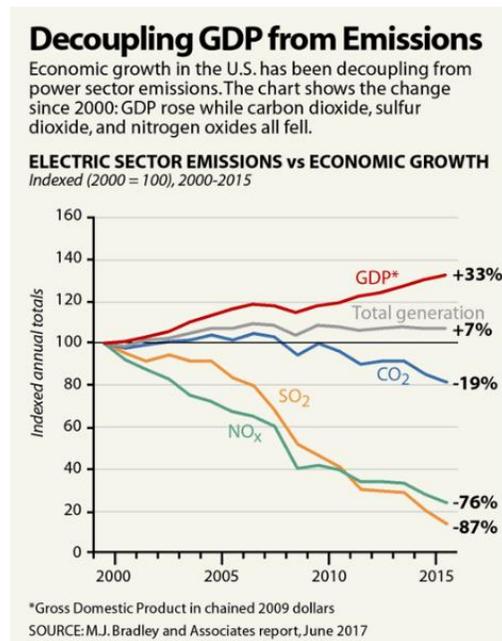
independent of federal stances, according to Deloitte's annual [Resources 2017 Study - Energy Management: Sustainability & Progress](#). Technology advancements and cost declines have made renewables competitive with conventional energy, giving consumers and businesses more clean energy options and pushing utilities to offer smarter, high-tech offerings. Deloitte interviewed 700 businesses.

Report Highlights the Impacts of Ethanol over Life of Renewable Fuel Standard

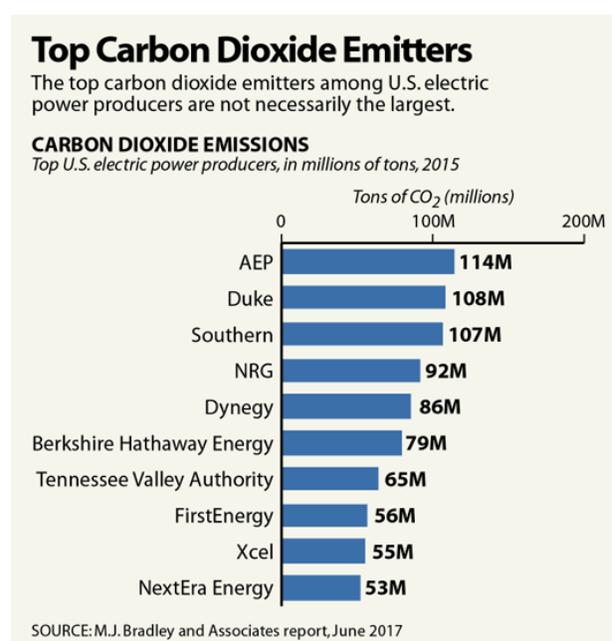
This [brief analysis](#) draws on data from a variety of sources to examine how the world has changed (and how many things have stayed the same) since adoption of the RFS in 2005 and its expansion in 2007. Notably, the report shows that gas prices and dependence on foreign oil imports are down since the RFS was signed in 2005, while ethanol jobs grew 121 percent over the same period.

U.S. Power Plant Emissions Fall While Generation and GDP Increases

A new report looks at the 100 largest energy generators in the U.S. and compares generation data gathered from the U.S. Energy Information Administration with data from the U.S. Environmental Protection Agency on sulfur dioxide, nitrogen oxides, mercury and carbon dioxide. Since 1990 power plant emissions of all four fell. In 2015, the electric generation sector's carbon dioxide emissions were 20 percent below 2005 levels. AEP, Duke Energy and Southern Company are the nation's three largest carbon dioxide emitters among the nation's electric power producers.



InsideClimate News



InsideClimate News

Wind and Solar account for 10% of U.S. Power Generation in March 2017

For the first time, monthly electricity generation from wind and solar (including utility-scale plants and small-scale systems) exceeded 10% of total electricity generation in the United States, based on March data in EIA's [Electric Power Monthly](#). On an annual basis, wind and solar made up 7% of total U.S. electric generation in 2016. Based on annual data for 2016, Texas accounted for the largest total amount of wind and solar electricity generation. As a share of the state's total electricity generation,

wind and solar output was highest in Iowa, where wind and solar made up 37% of electricity generation in 2016.

U.S. Solar Industry Remains Strong

The SEIA and GTM Research [Q2 2017 U.S. Solar Market Insight report](#) shows that the U.S. solar industry added more than 2,044 megawatts of new capacity in the first quarter of this year, marking the sixth straight quarter in which more than two gigawatts of solar was installed. Furthermore, for the first time ever, utility-scale solar prices fell below \$1.00 per watt. PV prices continue to drop across all market segments, falling 63 percent over the last five years.

Renewables 2017 Global Status Report: another record breaking year

The 2017 Edition of the [REN21 Renewables Global Status Report](#) reveals a global energy transition well underway, with record new additions of installed renewable energy capacity, rapidly falling costs, and the decoupling of economic growth and energy-related CO₂ emissions. Additions in installed renewable power capacity set new records in 2016, with 161 GW installed, increasing total global capacity by almost 9% over 2015, to nearly 2,017 GW. Solar PV accounted for around 47% of the capacity added, followed by wind power at 34% and hydropower at 15.5%.

BP Statistical Review of World Energy Provides Data on World Energy Markets

Global energy markets are in transition. The [BP Statistical Review of World Energy](#) provides high-quality objective and globally consistent data. At-a-glance, global primary energy consumption increased by just 1% in 2016. Global GDP grew by 3%. Emissions of CO₂ from energy consumption increased by only 0.1% in 2016. Renewable power (excluding hydro) grew by 14.1% in 2016. Energy intensity – the average amount of energy needed to produce a unit of GDP – fell at historically unprecedented rates.

National Bioenergy Day set for October 18

This year's host sites are highlighting the economic benefits of bioenergy. The presence of bioenergy in a community creates jobs, enhances revenue and forest products markets, and reduces waste. If your company or organization plans to host an event on Bioenergy Day 2017, please [register on the Bioenergy Day website](#). A [Participation Guide](#) will help you brainstorm the ways to mark Bioenergy Day.