

# ENERGY MATTERS

The trusted source for objective sound-bite summaries of the energy news you need to know

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Register now for ...

## The Digital Oilfield

November 13 and 14, Minute Maid Ballpark, Houston, Texas

At this special event, leading oil and gas executives will discuss new technological innovations that are having a profound impact across the entire industry, from exploration and production to efficiencies and operations. Information about the speakers and other highlights of the [event below](#).

## — HEADLINE NEWS —

### Conventional

#### Petroleum

- The [Permian Basin](#) in western Texas is once again the center of an E&P boom. Right now there are about 300 rigs in operation, but it is the future growth of the region that stands out. Since early 2017, the Texas Railroad Commission (the state governing body that regulates drilling activities) has issued 974 permits in Reeves County; the Commission has also issued 725 permits to drill in Midland County. **These two counties represent about one quarter of all permitting activity in the Permian.** (Note: Texas Railroad Commissioner Ryan Sitton will be a panel-moderator at the upcoming AES event, [The Digital Oilfield](#).)

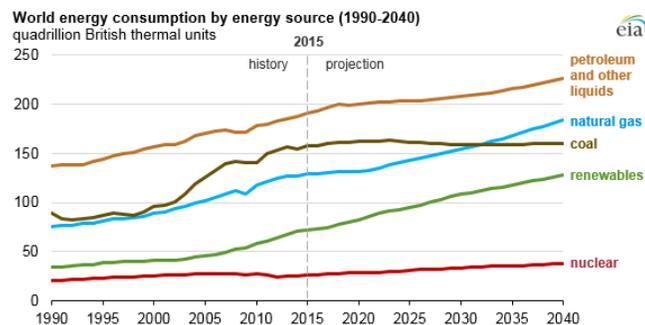
- Quite a few oil companies are contractually obligated to pump crude oil at \$50 bpd for the rest of 2017 and much of 2018. Some companies are struggling under these contracts, both because it costs them more than \$50 bpd to produce and they add supply into a saturated market. However, some companies that have adopted new "digital oil" technologies can [survive oil in the \\$30s/barrel](#) range. (Note: The upcoming AES event, [The Digital Oilfield](#), will feature some of these first-mover companies.)

#### Gas

- Millions of people across northern **China are preparing for their first winter to be heated by gas rather than coal.** The effort involves almost 4 million homes in 28 cities ... and a lot less soot. The government is spending tens of billions of yuan in subsidies to install and build thousands of kilometers of pipes.

#### Coal

- **World energy consumption is forecast to grow** by 28% between 2015 and 2040, and use of every source of energy (petroleum, natural gas, renewables and nuclear) will increase except one: *coal*.



## Nuclear

- The world's biggest scientific experiment is becoming the most complex and the most expensive. The [international thermonuclear experimental reactor](#) ("ITER"), in southern France, is designed to **produce a massive amount of power with no pollution**. Since 2006, about 800 scientists from 35 countries have spent about 20 billion € (or \$24 billion USD) to acquire more than a million parts. Assembly of the reactor will finally begin in May, 2018. (Note: unlike traditional nuclear plants that split atoms, the ITER reactor will fuse them together at temperatures 10-times hotter than the Sun: 150 million C, or 270 million F).

## Renewables

- *Special feature, Solar around the world:*

- [China](#) is going all-in on solar energy. A record 75 GW of solar energy capacity was installed in 2016 (enough to power 12.3 million homes) with another 50 GW to be added in 2017, as feed-in tariffs drive project development. But, China faces a [shortfall](#) of funding to support the country's ambitious renewables push. At current spending rates, in two years China will have a budget shortfall of about 200 billion yuan (\$30.2 billion), up from 50 billion yuan last year.
- [Iran](#) - solar energy is booming (as well as other sources of renewable energy including wind power, hydropower dams, and biomass and waste). Installed solar capacity is expected to grow at least sevenfold over the next five years. A number of European companies are installing 2,380 megawatts (MW) in renewable capacity in the country, in addition to the 340 MW currently in place.
- [Brazil](#) - solar energy is booming. As a result, last year Canadian Solar opened a solar-panel manufacturing plant in Sorocabo just outside Sao Paulo.
- [Argentina](#), with 450 MW of solar, just launched a 1.2 GW renewable tender.

Note: [contact us](#) about the AES-hosted event in Los Angeles: "Global Trends in CleanTech," in Spring, 2018.

- **Meanwhile, solar in the US:**

- In the ongoing [solar trade case](#) at the US Trade Commission, both the plaintiffs and the defendants have submitted exhibit documents that show a \$.40/watt tariff cuts solar demand in half. In a separate study, research found that solar demand declines about 9% for every \$.10/watt tariff.
- Solar energy capacity in 2016 was 4,500 percent higher than projected 10 years ago, and wind supply is 350 percent above projections. AES Members have access to the NRDC [report](#).
- Puerto Rico received from Tesla its first recovery project: a [solar-plus-storage system](#) to support Hospital del Niño, a children's hospital on the island.

## Policy

- President Trump has publicly stated that **the EPA will not weaken the federal [Renewable Fuel Standard](#) for required ethanol/biodiesel additives in gasoline**. This is a risky political stance for the President because it pits the Farm Belt (which supports the RFS) against the oil industry, the auto industry and environmentalists, who collectively oppose it. (Note: Iowa holds the first-in-the-nation presidential caucus, and there are 88,000 corn-ethanol family farms in Iowa alone.)

- Liberty Project (operated by Houston-based Hilcorp) has proposed to **build a series of artificial gravel islands** along the coast of Alaska, Canada and Washington. These islands will provide stable ground to hold an interconnected system of production wells, processing facilities, and an undersea pipeline that carries oil-to-shore and links up with the trans-Alaska pipeline. The Bureau of Ocean Energy Management is collecting comments on its draft environmental review until Nov. 18. AES Members have access to the [BOEM review](#), to the Draft Environmental [Impact Statement](#), and can offer [comments](#).

- The US cannot formally leave the Paris Climate accord until 2020. In the interim, **the White House is trying to [rewrite the Paris agreement's rule book](#)**. Secretary of State Rex Tillerson and National Security Adviser, Lt. Gen. H.R. McMaster, are testing terms that might persuade the president to reconsider his original objection.

- The EPA is preparing to release a new and substantially **lower metric for the "social cost of carbon."** AES Members have access to the current [metric](#) that is about to be replaced.

- A bipartisan quartet - Representatives Mia Love, Eddie Bernice Johnson, Ryan Costello and Marcy Kaptur sent to fellow Members in Congress a "Dear Colleague" letter urging bipartisan support for legislation [H.R. 3681 \(115\)](#) that would **reauthorize and allow "reasonable growth" in the ARPA-E program and its budget.** AES Members should write to Representative Johnson to [support](#) ARPA-e; Representative Lamar Smith is collecting [opposing](#) comments.

- The oil-and-gas sector benefits from a federal tax subsidy called "Master Limited Partnerships" (or MLPs). Normally, money made by a publicly traded company is taxed twice — both the corporation and its shareholders pay their own separate tax bills. But an MLP allows publicly traded companies to create a "pass through" company, whereby earnings pass through the partnership to shareholders without being taxed. First used in the 1980's, oil and gas firms create MLPs for individual pipelines, refineries and other energy infrastructure projects. However, **the current tax code prevents renewable energy companies from using MLPs.** In other words, wind, solar, hydropower, energy-efficiency projects, etc., are not allowed to claim an MLP tax subsidy. Right now, there is centrist/bipartisan support in Congress for broader and expanded application of MLPs for renewable energy. The oil and gas sector supports the effort because more companies using MLPs will protect the subsidy for everyone. However, Tea-party Republicans (like Paul Rand) and Progressive-wing Democrats and Independents (like Bernie Sanders) oppose MLPs.

- In an attempt to [clean the air](#) in the world's most polluted cities, **India has banned the use of petroleum coke, the sale of firecrackers, and the use of furnace oil.**

## Climate

- There are **159 companies around the world that have more [ambitious climate targets](#) than the Paris Climate Accord.** About 1/5th of the companies are US-based firms like Philip Morris, Microsoft, Bank of America, Biogen, etc. AES Members have access to [CDP reports](#), including this corporate/climate survey.

- **The number of flying insects (like butterflies) has decreased** by three-quarters over the past 25 years. AES Members have access to the peer-reviewed paper. (Note: The [research](#) was conducted by dozens of amateur entomologists working in nature reserves throughout Germany.)

- An exhaustive **study of [pollution and its effects on public health](#) has been completed.** The full report will not be published until the story-embargo is lifted but a summary of the study follows:

- Of all the types of pollution, air pollution is the most harmful (linked to 6.5 million deaths in 2015) followed by water pollution (1.8 million deaths) and workplace-related pollution (0.8 million deaths).
- Almost all pollution-related deaths (92%) occur in lower-income and/or rapidly industrializing countries (such as India, Pakistan, China, Bangladesh, Madagascar and Kenya).
- The primary cause of air-pollution is the burning of wood, charcoal, coal, dung and crop waste that creates gases and particulate matter.
- In 2015, the largest numbers of deaths due to pollution occurred in India (2.5 million deaths), followed by China (1.8 million).

- **The recent [oil spill in the Gulf of Mexico](#)** (unrelated to any hurricane) might be twice as big as first reported. Another small oil spill occurred at about the same time in [Valdez, Alaska](#).

- Many countries suffered from this year's brutal hurricane season. But in terms of destruction per capita, the country of [Dominica](#) **has suffered the most.** To date, 26 people are confirmed dead, 31 are missing, and more than 50,000 people are displaced on an island that has a total population of roughly 74,000.

## *Electricity and Efficiency, Utilities and Power*

- DoE Secretary Rick Perry's bid to [provide subsidies for unused coal and nuclear power](#) stored in reserve has run into strong opposition from eight former members of the Federal Energy Regulatory Commission. They filed a letter with the commission **opposing Sec. Perry's proposal to pay coal and nuclear plants a subsidy to store unused electricity** in case of emergency. The former commissioners said that Perry's proposal would undermine the competitive marketplace for electric power generators. Related, a conservative think-tank is also concerned about the DoE's plan to subsidize coal and nuclear power, stating, "It is not the best solution." AES Members have access to the position [paper](#).

- **More than 75 percent of [Puerto Rico is still without electricity](#).**

- **Africa has about 15 percent of the world's population but [uses about 3 percent of worldwide electricity](#).** On the other hand, Europe has 7 percent of the world's population, and consumes about 13 percent of the world's electricity.

- The Department of Homeland Security and FBI issued a warning that nuclear, energy, aviation, water and manufacturing **industries have been recently [targeted in cyber-attacks](#)**. The agencies warned that hackers succeeded in compromising some targeted networks, particularly utilities, but did not identify the victims.

- **Statoil has opened the first [floating wind farm](#) in the world**, and it has already started to deliver electricity to the Scottish grid.

## *Research to Tech-to-Market*

- "**phytoremediation**" [fahy-toh-ri-mee-dee-ay-shuh n] noun, def: the use of plant life to help clean up pollution. On the site of the abandoned Moffett Field military base in Mountain View, California, is a small forest of poplar trees that are being used for a phytoremediation experiment. [It's working](#). On any given day, these trees suck up about 40,000 gallons of toxic water (primarily TCE, the common carcinogenic contaminant) through their roots and then break down the worst contaminants into benign byproducts. AES Members have access to the [research](#). Related, a different study provides evidence that it is possible to offset changes to the climate by planting trees. AES Members have access to the peer-reviewed [article](#) on "natural climate solutions".

- Featured opportunity: the Climate Technology Centre is [seeking proposals](#) for **5 separate technical assistance projects**:

1. Recycling of organic waste for energy and smallholder livelihood in Gambia.
2. Training of local technicians on manufacturing techniques for metal-ceramic fire places in Guinea.
3. Accelerating the transition to sustainable mobility and low carbon emissions in Panama city.
4. Application of environmental flows and management for the Tebicuary river basin in Paraguay.
5. Piloting industrial energy efficiency and efficient water utilization in the industrial sector in Zimbabwe.

- **Top 7 graduate [business schools](#) that support a career in CleanTech**, according to BusinessBecause:

1. UC Berkeley's Haas School of Business
2. Duke's Fuqua School of Business
3. UT-Austin's McCombs School of Business
4. University of Michigan's Ross School of Business
5. Clark University
6. Presidio Graduate School
7. Stanford University Graduate School of Business

- **Blackberry is back ... in autotech**, with an on-street test of a BlackBerry QNX-equipped Lincoln MKZ [self-driving car](#) - the first operating autonomous vehicle in Canada - and a new cybersecurity [consulting service](#) for the self-driving sector.

- *Rumor mill*: **Aramco may [decide against an IPO](#) next year** and is now in talks with a Chinese investor.

## — FEATURES —

### *The Digital Oilfield, November 13 and 14, at Minute Maid Park, Houston*

**Confirmed speakers and attendees include:** Raymond Smelley, CIO at Chevron; Bill Johnson, CTO at DCP Midstream; Jim Claunch, VP at Statoil; Todd Abbot, COO at Pioneer Natural; Ryan Sitton, Texas Railroad Commission; and, executives from leading oil-tech companies like C3IoT, and Invatara AI.

**Highlights include:**

- Commander Kirk Lippold USN (Ret.) will deliver an inspiring opening keynote address about the nexus of energy security and national security (Commander Lippold, USS Cole, Yemen, 2000).
- Shark-Tank-Lite, a competition featuring ten proven energy-technology startups.
- Award ceremony announcing the winner of the “*Energy Writer of the Year, 2017*”.
- Whiskey & Wine Tasting! (Balcones Whisky and Hess Winery).
- Tour of the Houston Astros Minute Maid Ballpark.

**Context:** “The rapid adoption of new digital technologies by the oil and gas sector is fueling a historic market-driven revolution,” said [Eric Vettel](#), President of the American Energy Society. “However, like most revolutions, change is chaotic, and not all of the adopted solutions are rational. Those who lead the next generation of this industry have a deep understanding of the disruptive technologies that enhance efficiency, improve productivity, and provide security. Others will find their companies left behind. In response to overwhelming demand by our Members throughout this sector, we are pleased to host a conference that highlights first-mover insights and practical, value-driven solutions.”

**Registration:** Attendance is limited to 350 people. Credentialed members of the media may receive complimentary registrations. [More information and registration is available online.](#)

**Sponsors include:** J.P. Morgan, PwC, Merrill Lynch, McKinsey, Bank of Texas, North Highland, Cavanal Hill, and many targeted exhibit sponsors. Special [group-registration benefits](#) are also available.

### *Quotes - See, hear, speak, and Tweet no evil*

"Our 'all of the above' approach to #AmericanEnergy must include everything below!"

- Tweet by Rick Perry, Secretary of the DoE, on the importance of supporting mining, and especially coal, as an important energy-related resource.

"Compared to coal, natural gas plants hum 'the sound of money'."

- Tweet by Patricia Poppe, CEO of CMS Energy Corp, on why utilities are shifting from coal to natural gas.

- "Going live."

- Tweet by Telsa about its solar-plus-storage project at Hospital del Niño, a children's hospital in Puerto Rico.

"It scares the bejesus out of me,"

- Tweet by Richard J. Pierce Jr., a George Washington University law professor who specializes in energy regulation, about the DoE's proposal to subsidize unused and stored coal and nuclear power.

"Congress passes new toxic chem law. EPA devises actual rules. Pruitt arrives. His ex-industry appointee rewrites rules"

- Tweet by Eric Lipton of the *New York Times*, criticizing the EPA for its 'regressive' regulatory policies. The EPA responded to Mr. Lipton's Tweet with an email message sent to *The Times*: “No matter how much information we give you [Eric Lipton], you never write a fair piece. The only thing inappropriate and biased is your continued fixation on writing elitist clickbait trying to attack qualified professionals committed to serving their country.”