



ENERGY MATTERS

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

Volume 21 (2); October 17, 2016

Table of Contents:

[Headline News](#) - Conventional, Renewables, Policy, Climate, Electricity & Power, Tech-to-Markets...
[Features](#) - Movie Reviews



— HEADLINE NEWS —

Conventional

Petroleum

- Now that oil prices have stabilized, perhaps it's time to look back and assess the carnage ... according to OPEC Secretary General Mohammad Barkindo, [cartel member nations lost the equivalent of \\$1 trillion \(USD\)](#) over the course of the three-year slump.

- Much like the world's major oil exporters — Nigeria, Venezuela, Saudi Arabia, Iraq, etc. — the US has its own [petro-states](#) whose specialized economies suffer when oil prices drop; they include: **Alaska, Wyoming, Louisiana, North Dakota and Oklahoma.**

Natural gas

- Featured story: The US Department of State considers the **spread and use of natural gas around the world a key geopolitical strategy**, calling the fuel "[critical to economic growth](#)" and [democracy](#). The department is working with national governments to put "the right investment climate in place," according to Robin Dunnigan, deputy assistant secretary of state for energy diplomacy.

Coal

- In the first half of 2016, **six former Soviet countries produced 232 million tons of coal**, the highest output in a six-month period since 1996. Meanwhile, China's National Development has asked 74 coal mines to [boost thermal coal output](#) by 500,000 tons per day in order to ease supply shortages ahead of the winter; this directive will bring another 15 million tons of new supply each month to the market.

- Don Blankenship, who led Massey Energy Co. during the 2010 Upper Big Branch disaster that killed 29 miners in 2010, wrote a 68-page booklet from prison declaring that he is **a victim of long-running animosity** from labor unions, the Obama administration, the judiciary system and Hillary Clinton. AES Members have access to his [self-published book](#).

Nuclear

- In 2010, Japan got 25% of its electricity from [nuclear power](#); today, it gets .4%.

Renewables

- **Clean energy investments are on the retreat.** Worldwide [investments in clean energy](#) totaled \$42.4 billion in the third quarter of 2016, down 31% from the second quarter and down a striking 43% from the equivalent three-month period of 2015. The summer quarter is typically sluggish, but the main reason is because investments in China and Japan have slowed considerably.

- **Featured resource:** After three years, Comcast has finalized its plan to **reduce energy use and CO2 and achieve sustainability**. AES Members have [access to Comcast's strategic plan](#).

- **New questions have been raised about the climate impact of biofuels.** Some scientists, including the US DoE, have argued that [using biofuels to replace gasoline significantly reduced CO2 emissions](#). On the other hand, new research suggests that once all the emissions associated with growing feedstock crops and manufacturing biofuel are factored in; biofuels actually increase CO2 emissions. AES Members have access to the [peer-reviewed article](#).

- The departments of both Energy and Interior just released the National Offshore Wind Strategy report, the federal government's **playbook to build 22 GW of offshore wind capacity** by 2030 and 86 GW by 2050. AES Members have access to the 84-page [report](#).

- In an effort to cut costs and reduce carbon emissions, a popular Paris public swimming pool is [heating its water](#) by recovering the warmth generated by local sewers.

- **In the five boroughs of New York City there are 5,300 solar installations**, up from 186 in 2011; an additional 1,900 are in the pipeline.

- **Percent of electricity generated from wind in 2015 for European countries:** Denmark (50%); Ireland (23%); Portugal (22%); Spain (18%); Germany (13%)

- **Bill Gates has invested again in biomass**, this time with Renmatix, a company that converts plant waste and biomass into [sugars that can be converted into biofuels](#).

Policy

- International negotiators meeting in Kigali, Rwanda, finalized an amendment to the Montreal Protocol that will **eliminate HFCs**. Pound for pound, these chemicals trap thousands of times more heat than carbon dioxide. This agreement is especially important because the worldwide demand for air conditioning and refrigeration is skyrocketing, making HFCs one of the fastest growing climate-impact greenhouse gas. For more information about this agreement, *Energy Matters* recommends an [expert blog by AES Member David Doniger of the NRDC](#).

- **Distribution of global investment in climate protection initiatives in 2014** (for comparison, \$392 billion was invested in the US):

- * \$10bn to sub-Saharan Africa, \$9bn to North Africa.
- * \$41bn was transferred from countries in the Global North to those in the Global South
- * \$10bn was a "South-South" investment.

- **[Australia's 2030 greenhouse gas emissions](#) reductions pledged at Paris in 2015 were made**

without any modeling to show whether existing policies could achieve the targets. The government also admitted that it did not have a model that projected when Australia's emissions would peak. This means Australia's pledge was essentially a guesstimate.

- **Canada will establish a [minimum price for carbon pollution](#)** in a bid to meet its Paris climate agreement targets, setting Prime Minister Justin Trudeau's government up for a legal battle with the country's energy-producing provinces.

- **The EPA is preparing a rule that will allow offshore oil and gas drilling activities to [discharge wastewater](#) in the eastern Gulf of Mexico but not in the rest of the Gulf.**

- **According to Alaskan policy, [producers of oil pay no taxes](#) until the price of oil reaches \$73/barrel - or about \$20 above current rates.**

- **The Great National Parks Scorecard [grades](#) each Member of Congress.**

Climate

- **Pollution exposure may be more unequally distributed than income in the US.** AES Members have access to the [peer-reviewed article](#).

- Courtesy of Bloomberg Philanthropies, AECOM, and CDP, AES Members have access to "[It Takes A City: The Case For Collaborative Climate Action](#)," a report on cities that collaborate with companies, investors, and regional governments to mitigate the impact of climate change.

- A top-secret US military project from the Cold War and the toxic waste it conceals, which was thought to have been buried for forever beneath the Greenland icecap, is not visible right now, but projections estimate that the toxic waste **will be visible in 75 years due to rising temperatures and melting ice**. AES Members have access to the [peer-reviewed report](#).

- **About one gigaton of greenhouse gas emissions comes from man-made [reservoirs](#)** - about 1.3 percent of the global total.

- **Top 3 emitters of [toxic air emissions](#)** (by company, in million pounds released in 2014):

1. Basin Electric Power Cooperative, in Beulah, ND (19.8).
2. Southern Company - Watson Power Plant, Gulfport, Miss. (7.5).
3. CF Industries - Donaldsonville fertilizer plant, in Donaldsonville, Louisiana (6.1).

- **Top 3 emitters of [greenhouse gases](#)** (by company, in million tons released in 2014):

1. Southern Company, Scherer power plant, in Juliette, Georgia (20.5).
2. Southern Company, James Miller power plant, in Quinton, Alabama (19.9).
3. Silver River Project, Navajo power plant, in Page, Arizona (17.2).

- **Data centers may be more ubiquitous than indoor growing operations for marijuana, but the latter are [more energy-intensive](#) than the former.**

Electricity, Utilities and Power

- **Electricity prices in the US are on track to [fall for the first time in 14 years](#).** For the first half of 2016, American residential consumers paid on average 0.7% less than the same period in 2015.

- Special Report: *Energy Matters* recommends a new report by EPRI on **the impact of PEVs on the**

electric power system. This report will benefit any utility interested in the value of transportation electrification and the development of associated programs and infrastructure. AES Members can download the [full report](#) at no cost.

- **US utilities find that [the timing of tax incentives is often incompatible with the time it takes to develop new renewable projects](#).** Renewable energy tax credits are available for about two- or three-years, but planning a new project and organizing construction takes much longer. The same incongruity exists for nuclear power. On average, [a new nuclear plant](#) takes eight years to build and costs between \$10 and \$12 billion USD. "A major wave of [plant] retirements starts around 2030 [and] when you look at the planning and permitting processes involved, we don't have a lot of time." Energy Secretary Ernest Moniz testifying before the Senate Appropriations Committee.

- A reduction in working hours generally correlates with a reduction in energy consumption. Case in point, **Americans consume [20% less electricity on Saturday and Sunday than during the week](#).** AES Members have access to an older [study](#) on the correlation between work and energy consumption in the US and Europe.

Basic Research and Tech-to-Markets

- **Featured opportunity:** The American Energy Society does NOT redirect Members to sites or resources that require private information to login. However, Members of AES have a special opportunity to acquire an investment guide, [The Insider Secrets to Energy Investing](#), for free (normally \$389). The 10-part course covers geology, investing abroad, balance sheets, scams ... Upon completion, students may not be experts, but they will have a strong understanding about investing in the oil sector. NOTE: AES receives no compensation for this offer.

- **Victoria Orphan was named a MacArthur Fellow**, winning a \$625,000 "genius" grant for her study of [methane-gobbling microbes](#) that play a key role in regulating our planet's atmosphere.

- **GE has developed a [methane-sniffing drone](#) that successfully found gas leaks** from a pair of well sites a half-mile from each other in Fayetteville, Arkansas.

- **InnoGen has built a new device, the X200 Power-Hub, an innovative and versatile Portable Energy System** that can power lights, smartphones, laptops, and other electronic devices. Though InnoGen touts its versatility, the American Energy Society applauds the device because it is capable of providing electrical power for the "bottom-billion" who desperately need it. More information about InnoGen is available on their [Kickstarter campaign](#).

- An engineer from Japan has designed a **durable, [eggbeater-shaped wind-turbine](#)** that can withstand the awesome forces generated by a typhoon.

- **The [Mexico unit of SolarCity](#) aims to invest as much as \$1 billion** over the next five years.

- Rumor mill: **Tesla Motors Inc. plans to introduce a new [combination solar power, battery storage and electric-vehicle charging system](#)** at an event near San Francisco on October 28.

- Since 2015, **Goldman Sachs has invested \$41 billion [in clean energy projects](#):** the 89 companies that received funding are generating 31 GW of clean energy, employ about 129,000 people, and earned \$34 billion in revenue.

Energy Movie Reviews

- [Deepwater Horizon](#) (7.6 on Rotten Tomatoes). Though the storyline required a bit of "creative license" to connect some disparate facts, it nevertheless accurately depicts the horrific consequence of a blowout, or the uncontrolled flow of formation fluids during drilling operations. A must-see for OIMs (Offshore Installation Managers). 7.6 on Rotten Tomatoes.

- [Before the Flood](#) (8.4 on Rotten Tomatoes). An informative and thoughtful National Geographic documentary on climate change, starring and produced by Leonardo DiCaprio. The movie might be "preaching to the choir," but this film's topic, and the man at the center of it, has a very large choir.

- [Stranger Things](#) (9.0 on Rotten Tomatoes). Some members of the real-life US Department of Energy had a lot to say about the "[sinister \(yet awesome\)](#)" TV series. For instance, DoE employee Paul Lester wrote, tongue firmly in cheek, that the DoE "doesn't mess with monsters."

Quotes

"The agency works very well ... It's not perfect, but if all the agencies in the federal government ran as well as FERC, we'd be in a much better spot." - Former FERC Commission Philip Moeller

"It's like a 'race to the bottom'.... Every megawatt I've bought — of solar particularly — I kind of wish I had not bought it, because I can buy it tomorrow so much cheaper." - Southern Co. renewable generation development manager Brandon Looney on the long-term trend of declining solar prices

American Energy Society, 654 Gilman Street, Palo Alto, CA 94301