



AMERICAN
ENERGY
SOCIETY

The world's professional association for the advancement of sustainable energy.

Energy Matters

12 May 2015

Premium Members:
Welcome to the e-Newsletter of the American Energy Society

Energy Matters

"Sound-bite" summaries of the
energy news you need to know right now.

Topics include: conventional, renewables, funding, jobs, policy, climate, events, online courses and professional development, new commercial technologies, featured organizations and experts
...

NOTE: As a Premium Member, you are welcome to **invite colleagues to [join the American Energy Society](#) as Premium Members at no cost - this offer is good through June 30, 2015.**

Reply to this [email](#) with names (and contact information) of people to invite.

Conventional

- **The 10 countries most reliant upon oil** (whether as a producer, consumer, or both).

10th - Australia

9th - Mexico

8th - Brazil

7th - South Africa

6th - China

... To see the rest, log into your your [American Energy Society account](#).

- In the shadow of the worst oil price crash in years, **the major oil producers** (Exxon Mobil Corp., BP Plc, Royal Dutch Shell Plc, Eni SpA, and Total SA) **beat analysts' profit estimates** by an average of 46 percent for the first quarter.

- The Breakthrough Group is probably the extreme edge of the radical eco-fringe, but the group just released its "EcoModernist" Manifesto, and it advocates some rather moderate solutions: "... if the goal is to facilitate access to energy without further ecological damage, then **nuclear energy has a unique role to play.**"

- Energy in Europe is a mess. And yet, the **major European energy companies are indicating unprecedented confidence in O&G**: Portugal's Galp is betting on refining margins, Italy's Saipem confirmed its commitment to drilling, France's Engie confirmed its interest for LNG in Montoir-de-Bretagne, while Germany's E.ON is expanding its O&G structure and strategies.
- **Russia has arrived at the NG party too late** and catches the worst of the perfect storm.

Renewables

- **BREAKING NEWS - The MIT Clean Energy "Best of Year" Award.**
OptiBit - helps data centers keep up with skyrocketing volumes of data by offering revolutionary hardware that brings the high bandwidth and energy efficiency offered by fiber optics directly inside computer chips. To see the finalists in the competition, log into your [AES account](#).
- **FEATURED STORY** - Amid audience gasps, Tesla CEO Elon Musk unveiled the "**Powerwall**," a **wall-mounted home battery**. It weighs 220 lbs. with dimensions of 52" X 34" X 7". **It costs \$3,000.**
- **Renewable energy installations are now outpacing new installations of fossil fuel systems.** Even though solar energy currently makes up less than 1% of the world's global energy supply, the tides are changing in favor of renewable energy technology. Go to your account at the [American Energy Society](#) to see more of this story.
- Despite abundant wind, solar and bioenergy resources, Mexico relies heavily on fossil fuels. But this could change rapidly in the next few years. **Mexico's recent "Energy Reforms" represent a fundamental shift toward renewable energy.**

Policy

- The biggest news in energy policy right now is **the showdown between Majority Leader Mitch McConnell and EPA Administrator Gina McCarthy**. Senator McConnell used a routine Senate Appropriations subcommittee hearing to confront McCarthy while she was describing her agency's budget needs. His surprise appearance was a not-so-veiled threat that he might try to cut EPA funding. The Approps panel chair is Lisa Murkowski, who knows a thing or two about energy and environmental issues as well. Stay tuned ... the AES will help you follow this "discussions."
- U.S. oil producers are asking Congress a straightforward, black-or-white question: Do you support free trade? But **a pair of Democrats have broken from this tired discussion with an offer of a compromise: they will support a bill that allows for an increase in oil exports if it includes policies that support environmental protection incentives, economic safeguards, and a commitment to national security.** (Reps. Joaquin Castro of Texas and Brad Sherman of California.) For more information, log into your American Energy Society [account](#).

Technology and Commercial Opportunities

- There is **growing commercial interest in "personal power"**, "home energy independence", "empowering the consumer", and the rejection of "government-created monopolies". In the not-so-distant future, residential PV may be augmented with onsite storage (as suggested by Tesla's announcement this week of its Powerwall home battery system). For more on this story log into your [American Energy Society](#) account.

- Household incomes are rising around the world and global temperatures are increasing. Both factors are causing an **enormous global demand for air conditioners**. In China, for example, sales of air conditioners have nearly doubled over the last 5 years, while Mexico, Sub-Saharan Africa, and Southeast Asia are seeing even greater growth.

Climate News

- Prime Minister Stephen Harper signaled last week that **Canada will not be able to meet its ambitious 40% carbon emissions-reduction goal by 2025**.

- In 2013, the World Bank pledged to stop loaning money for new coal energy projects; President Obama said the same for the United States in a 2013 speech: "I'm calling for an end of public financing for new coal plants overseas." However, guess who are **the prime funders of a proposed coal-fired power plant in Kosovo? The World Bank and the U. S. government**. For more on this story log into your [AES account](#).

- Australia's largest electricity producer has committed to closing its coal-fired power plants within 35 years. The plan to **shift away from coal comes after the heads of more than 40 global companies** including Ikea, Dow Chemical Co. and HSBC Holdings Plc **demand that Australia push toward a lower-carbon economy**.

- Because of the unprecedented drought, many of California's farmers won't be allocated any water this year, due to the way that the state's water rights work. But what actually happens to the farms that don't get water? Some of the **farmers are ditching produce altogether for a more profitable alternative - they're installing solar farms**. [Check your AES account for more on this story](#).

Energy Courses, MOOCs, and Prof. Development

FEATURED COURSE: "[Utility Ratemaking Solutions](#) for a Changing Energy Marketplace"

- Course - [Energy Economics](#)

- Course - [Energy and Technology](#)

- Course - [Environmental Ethics](#)

- Course - An [Introduction to Oil & Gas](#)

- Certificate Program - [Energy and Resource Management](#).

Funding

- **FEATURED FUNDING OPPORTUNITY: \$500k ARPA-E Awards for Short-Term Funding of [Novel and Disruptive Energy Technologies](#)** - This FOA supports revolutionary applied energy research that may lead to transformational and disruptive energy technologies. Studies are defined as single-phase efforts of less than 12 months and cost less than \$500,000. The broad objective of this FOA is to identify disruptive concepts in energy-related technologies that challenge the status quo and represent a leap beyond today's technology. Deadline for submission of concept papers is September, 28 2015. Full applications deadline currently TBD.

- \$10.5 M in Total **Funding Available for Study of and Improvements to Durability and Survivability of Ocean Hydrokinetic Energy Systems** - This [FOA](#) (DE-FOA-0001310) focuses

on innovation of MHK systems with high performance potential, reliability, and survivability at lower price-points. Prototypes will be instrumented and monitored. Closing date is July 1, 2015.

- \$11 M in DoE Funding Available for Advancement of **Intelligent Monitoring Systems for CO2 Storage Operations** - Objectives: (1) advancing Intelligent Monitoring Systems (IMS) for monitoring, controlling, and optimizing CO2 injection operations. And (2) advancing diagnostic tools and methods capable of characterizing borehole leakage pathways or fluid flow in existing wells. Current closing date for applications is May 25, 2015.

Jobs

The energy industry is hiring! These are just a sample - for more openings visit [AES](#).

- Featured Job Opening - Laboratory Directory, National Renewable Energy Laboratory.

After 10 years as National Renewable Energy Laboratory (NREL) director, Dr. Dan Arvizu announced in March 2015 his plans to retire from the laboratory. Consequently, NREL is conducting a national and global search for the next Laboratory Director. Interested applicants and nominations from the science community and other interested parties should submit [nominations](#).

- [Sustainability Program Manager](#), FACEBOOK, Menlo Park, California

Facebook is seeking an experienced sustainability professional to join the infrastructure Sustainability team. The Sustainability Program Manager will work with other members of the team to coordinate and run a diverse array of sustainability projects across the company.

5+ years relevant experience required, 10+ years preferred.

Bachelor's degree required. Graduate degree (or MBA) in sustainability or technical field preferred.

- Student Intern, Summer 2015 - Electric Power Research Institute, Charlotte, NC.

Undergraduate, Electrical Engineering or similar. Purpose of the [position](#): Support technical staff in implementing tasks under their guidance and supervision. Candidate must have basic understanding of physics, electrical engineering principles, and familiarity in Microsoft Office Applications.

- Product Management Intern (Full time) - Opower, San Francisco, CA.

Product Managers are the CEOs - end to end, cross-functional owners and leaders - for Opower's respective Solutions, Initiatives, and/or Products. As a Product Management intern at Opower, you'll help us drive the development of new products and features designed to motivate and educate consumers to reduce their energy use. This is an excellent opportunity for an individual seeking product management experience at a growing company in a vibrant market. This position is for the summer of 2015. About You: BS degree in Computer Science, Engineering or related technical field with excellent academic credentials; ability to guide a small group and provide general direction on project tasks and schedules; strong English writing and oral communication skills; excellent analytical skills: ability to solve problems quickly, establish frameworks, think on your feet; experience with software product management preferred but not required; preference for graduate students in a technical discipline or entrepreneurial-focused MBA program, but college seniors and recent graduates will be considered. How to

Apply: http://opower.com/careers/job/45233?gh_jid=45233

- The Natural Resources Defense Council (NRDC) is seeking **two two-year Science Fellows for its China Shale Gas Environmental Safeguards Project**, based in the Beijing office. The Fellows' work will contribute to the project's ongoing efforts to help develop effective environmental regulations and standards for China's burgeoning shale gas industry. NRDC is an international nonprofit environmental organization with more than 1.4 million members and online supporters. With a team of nearly thirty experts in Beijing and the United States, NRDC's China Program is at the forefront of supporting China's efforts on energy efficiency, renewable energy and environmental protection.

Required Qualifications: Ph.D. (or a Masters with extensive research or industry experience) in geoscience, petroleum engineering, hydrology, environmental science, or a related field. Interested applicants should submit a letter of interest, which addresses: (a) why the fellowship is desired; (b)

how the candidate is qualified; (c) what project-related issues interest the candidate; and (d) how the candidate hopes the fellowship will advance her/his career goals. Applicants should also submit a resume and both English and Mandarin writing samples for consideration. To apply, please upload a cover letter, CV and any relevant writing samples through NRDC's on-line jobs website - <http://www.nrdc.org/jobs/>. If you have any questions about this position, please send an email with the position title in the subject line to hr_bj@nrdc-china.org. No phone calls please. Consideration of applications will begin on March 15, 2015, and the positions will remain open until filled. For further information about NRDC, please visit www.nrdc.org or www.nrdc.cn.

Events and Reports

- 12th Annual **Renewable Energy Finance [Forum](#)- Wall Street**, June 24-25, 2015, at the Grand Hyatt, New York City, NY. AES Premium Members can respond to this email if they would like a substantial event *discount* before registering for the event.

- AES applauds and recommends the new report released by **SNL-Energy, "Power Prices Continue Downward March."** AES Premium Members can receive this [report](#) for free.

- **Titans of Energy** - Join NVTC on Tuesday, May 19 for a Titans of Energy [breakfast](#) featuring Frank Kendall, Under Secretary of Defense for Acquisition, Technology and Logistics, U.S. Department of Defense. Kendall is leading the Pentagon's focus on innovation, including efforts to transform the DoD through technology and improve the performance of the defense acquisition enterprise, with an emphasis on energy. Held at The Ritz-Carlton, Tysons Corner, McLean, VA.

- **Solar Siting Survey Webinar - Wednesday, May 13:** This free [webinar](#) provides an overview of the Community Microgrid Initiative, with an emphasis on methods to identify future micro-grids and solar siting opportunities. As part of this complimentary webinar, the Clean Coalition will also provide details about its Solar Siting Survey.

Featured Organization: NREL

The National Renewable Energy Laboratory ("[NREL](#)") had perhaps its greatest year, including 43 patents issued in FY 2014, commercialization and partnering successes and honors too many to mention, and many individual awards, including **Min Zhang as the "Distinguished Innovator of the Year"** and **Chuck Booten and John Simon with "Rising Star" awards**. Dave Danielson, Assistant Secretary of Energy Efficiency and Renewable Energy (EERE), was spot-on in his celebratory remarks: **"the National Renewable Energy Laboratory is a scientific and engineering powerhouse."** The American Energy Society applauds and admires the contributions of the NREL and its staff for moving all of us closer to a sustainable energy future. Note: The AES would be remiss if it did not also mention that NREL is currently accepting collaborative [proposals](#) that support "technology transfer."

Featured Expert - Bill Polen, USEA

We are fortunate that so many smart, talented, experienced people choose "energy" as their profession. However, **there are very few that are as smart or as talented – and even few with so much experience – as Bill Polen, Senior Director at the United States Energy Association.** With twenty-five years managing and implementing international energy and utility projects for USAID, U.S. Trade and Development Agency, U.S. Department of Energy and U.S. Department of State, Mr. Polen deserves greater recognition for his achievements. For his deeply intuitive judgment and insight into market and regulatory reform, trade and investment promotion and technology transfer, the America Energy Society salutes Bill Polen.

What You Missed at AES Last Week

Not to toot our own horn, but

- When O&G prices went down in February, *Energy Matters* predicted the [rise](#) of gas prices on or around May 1 - we were right.
- In March, *Energy Matters* forecasted the **shift of the business focus of Tesla from electric cars to [home battery](#) systems** - we were right, again.
- In March, *Energy Matters* volumes 8 and 9 encouraged Members to **prepare for substantial increases in federal research funding for storage, smarter grids, and security** - and we were right, again.

Please Encourage Colleagues to Join AES

We invite Members to **encourage colleagues to join the [American Energy Society](#)**. True to our commitment to sustainable energy, anyone nominated to join the American Energy Society will automatically become a Premium Member - *free, and always will be*. Tell them to join as a Basic member, and they will automatically receive complimentary Premium Member. **Please reply to this email if you know of a colleague(s) who may be interested in becoming a Member of the American Energy Society.**

Contacts

DoE, EERE

<http://energy.gov/eere/transportation/bioenergy>

National Renewable Energy Laboratory

<http://www.nrel.gov>

Visit: www.energysociety.org



Quote of the week:

"I don't think we've seen the full economic benefit of the fall in the price of oil yet because they're still working their way through the system, and it's a process that could take up to a year."

- Jason
Furman, Chairman of the
White House Council of
Economic Advisers