

ENERGY MATTERS

Soundbite summaries of the energy news you need to know

AN OFFICIAL PUBLICATION OF



AMERICAN ENERGY SOCIETY

Week of October 11, 2021

- The Power Read -

- **Oil:** Overlapping federal and state oil royalty rates.
- **Renewables:** SoCalGas blends hydrogen into its gas system.
- **Policy:** Congress stalls, but energy- and enviro-tax policies start to move.
- **Policy II:** Utilities, the climate, and geopolitics are colliding in Europe.
- **Climate:** Six notable ESG metricians.

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- Fossil Fuels -

- Oil -

- **Featured:** **The US federal government currently receives a 12.5% royalty from oil and gas companies that drill on publicly owned lands and waters** — a rate that was established by the [Mineral Leasing Act of 1920](#) and has not been amended. States tend to be far more aggressive — Wyoming and Utah collect about 17% in royalties and Texas as high as 25%. AES Members have access to a [peer reviewed research](#) of the 16 unique subsidies for the oil and gas industry (including recent additions to US tax law as well as regulatory exemptions). Members can also [contact us](#) for the dataset.

- Gas -

- **Top five natural gas-producing states and share of total US natural gas production:**

1. Texas (24%)
2. Pennsylvania (20%)
3. Louisiana (9.3%)
4. Oklahoma (8.5%)
5. Ohio (7.7%)

- Mining, Minerals and Coal -

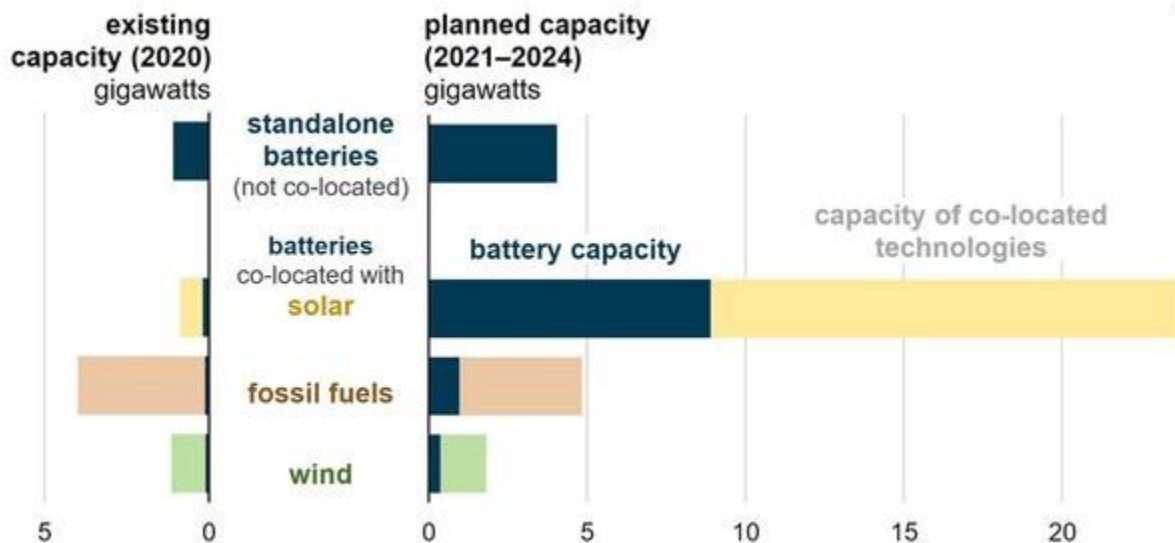
- The price for metallurgical coal (essential for making steel) is at an [all-time high](#).

- Carbon Capture -

- **USDA Request for Public Comments:** [Climate-Smart Agriculture and Forestry Partnership Initiative](#), a new pilot program to support and expand market opportunities for agricultural commodities grown using "climate-smart practices," or techniques that increase soil carbon sequestration as well as resilience to climate change. (Deadline for comments is Nov. 1, 2021 via the Federal Register, Docket ID: USDA-2021-0010.)

- Low-Carbon Energy -

- [Storage](#): the 14.5 gigawatts (GW) of battery storage power capacity planned to come online in the US in the next three years, 9.4 GW (63%) will be **co-located with a solar photovoltaic**: 4.2 GW will be stand-alone, 1.8 GW with fossil fuels, and .8 GW will be paired with wind power.



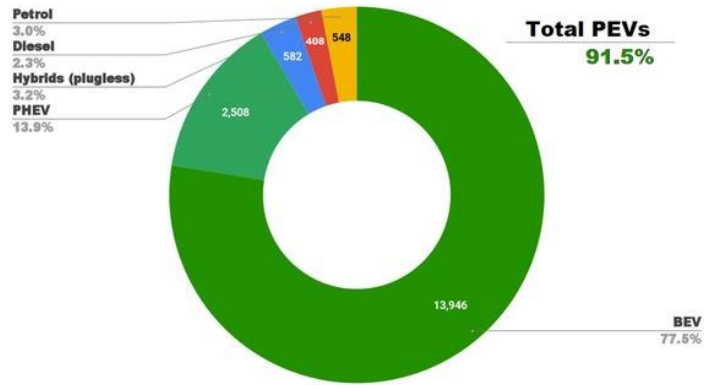
- **Agrivoltaic.** Noun, def: A system that [combines](#) the production of photovoltaic power and agricultural crops. The coexistence of solar panels involves shade-sharing, such that panels placed above crops creates a shady microclimate. The [University of Arizona](#) is the leader in agrivoltaic studies (the university has a productive farm in the Sonoran Desert).



- Southern California Gas (SoCalGas) has successfully tested a [blend of 20% hydrogen](#) through a closed loop natural gas system. (Note: the blend is still 80% natural gas.)

- AES recommends a [primer](#) for project development in the renewable energy sector.

- *Insert: Total EV registrations in Norway, as a percentage of all registered vehicles:*



- Policy -

- *Beltway Buzz: The following energy and environment issues have been postponed* until larger issues ([long term debt ceiling](#), budget and Infrastructure bill) have been resolved:

- Senate Energy investigates the [Mining Law of 1872](#) and drought conditions.
- House Oversight hearings on damage caused by extreme weather and hurricanes.
- House Transportation discussions about [PFAS \(aka "forever"\) chemicals](#).

- *Beltway Buzz II: There are a number of individual energy and environmental tax policy issues that lawmakers may resolve regardless of a House-Senate agreement* on the budget, debt or Infrastructure issues:

- **Clean energy tax incentives:** Looking at a possible hybrid structure that links tax incentives to environmental performance (see the Clean Energy for America Act) rather than arbitrary technology-specific categories.
- **Plastics Recycling:** Senator Sheldon Whitehouse (D-RI) introduced the [REDUCE Act](#) (the Rewarding Efforts to Decrease Unrecycled Contaminants in Ecosystems Act of 2021, or S. 2645) for the purpose of accelerating the adoption of plastics recycling. Opponents say that this is not the right time for a tax because of the supply-chain crisis.
- **Carbon capture tax credits:** There is a lot of support for stronger [45Q](#) carbon capture incentives (aka more generous). See for example the [CATCH Act, H.R. 3538](#). Given the administration's support for carbon capture as well as Senator Manchin's interest in strong CCS incentives, this issue is likely to pass.

- About [20 federal agencies](#) published action plans that outline how they will try to reach the Biden Administration's climate goals.

- *When the changing climate and geopolitics collide. Anticipated weather extremes this winter are causing countries to compete for natural gas supplies:*

- Ukraine is upset with Hungary for making a natural gas deal with Russia that's below market prices; Ukraine tried to block the deal (Hungary's Foreign Minister posted his criticism on [Facebook](#)).
- Kazakhstan and Kyrgyzstan reached out to the [Taliban](#) as a new gas market.
- European countries (including the UK and [Germany](#)) are buying coal from [Russia](#).
- Asia and Europe are competing to secure greater natural gas supplies ahead of winter; the Energy ministry for China has ordered state utilities to secure supply for the winter "[at all costs](#)" (including a long-term agreement with Qatar).

- Spotlight COP26 -
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- If you're interested in COP26, follow the debate between [SDG7](#) vs. [SDG13](#).

- Climate and Sustainability -

- On a per capita basis, [Britain](#) is responsible for more of the CO2 now in the atmosphere than any other nation because it has been burning coal since the beginning of the Industrial Revolution.



- Coal is responsible for as much atmospheric carbon dioxide as all other fossil fuels combined; moreover, it is the fossil fuel with the most reserves.

- The US did not sign the [Kyoto Protocol](#), yet its emission rates are no different, for better or worse, than any of the countries that did sign the treaty.

- Foresight Energy defied regulations and dumped 46,000 gallons of highly toxic [Perfluoroalkyl foam](#) (PFAS) into an underground well in Illinois in order to (unsuccessfully) extinguish a fire. *Note:* Foresight declared bankruptcy last year yet continues to produce more than half of Illinois' 32 million tons of coal mined each year.

- *Recommended resource:* [Climate TRACE](#) has launched an interactive tool that tracks greenhouse gas emissions by region, sector, time, etc.

- Sustainability Spotlight -

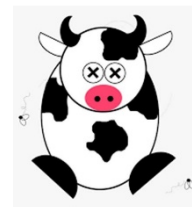
- **Featured: Six notable organizations measuring ESG** (according to AES SME members):

- [MSCI](#) – The “gold standard” for the financial world.
- [Sustainalytics](#) – Owned by Morningstar; stronger in Europe (“though there are a lot of similarities to other methodologies”).
- [TCFD](#) – Established by the Financial Stability Board, a task-force on climate-related financial disclosures.
- [3Degrees](#) – Carbon neutrality/sustainability consultants.
- [E3](#) – More policy focused, as it relates to ESG.
- [KKS Advisors](#) – “SG” consultants (often overlooked but certainly important metrics).

Note: [contact AES](#) for introductions to, or information about, ESG evaluating organizations.

- Research and Markets -

- [Dead Cow](#): one of the hottest O&G regions in the world. (Note: AES applauds the Wilson Center for noticing [Vaca Muerta](#), Argentina, one year early.)



- **Requests for Proposals:**

- The Kazakhstan Electricity Grid Operating Company (KEGOC) is seeking [FACTS](#) for Reactive Power Compensation.
- The Oserian Two Lakes Power Company (on the southern banks of Lake Naivasha, Kenya) is seeking a [feasibility study and design](#) for a high voltage KPLC interconnection (deadline October 29, 2021).
- USAID is seeking a "[market opportunities assessment](#)" for private market participation and investment in the energy transition in South Asia (deadline October 22, 2021).

- **Spotlight on the [yellow school bus](#):**

- There are nearly half a million school buses in the US transporting more than 20 million children to and from school.
- **About 95% of all school buses run on diesel**, a known carcinogen.



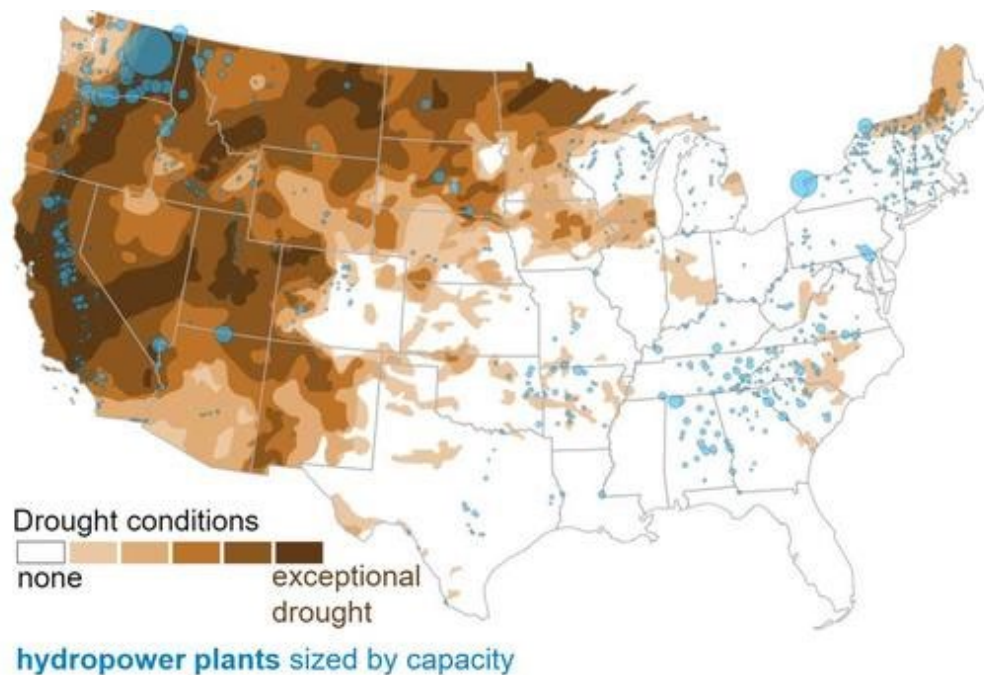
- **Air pollution inside buses are about 12 times higher than ambient levels.**
 - **Less than 1% of school buses are electric.**
 - There are 1,164 "committed" electric school buses in the US — meaning announced, procured, delivered, or in operation.
 - Of the 14 school districts in the US that have 10 or more EV school buses, 12 are in California.
 - Montgomery County Public Schools in Maryland is adopting EV school buses the fastest, with plans to procure 326 EV buses over the next four years.
-

- Electricity, Power, Efficiency, and the Grid -

- *Spotlight, the electricity [crisis](#) in Europe.* The region is heavily invested in renewables, especially wind and solar, but recent weather patterns have significantly reduced output. European natural gas prices are soaring so high that hundreds of millions of people could be facing cold homes or inflated energy bills over the winter. In a panic, several European utilities are turning to coal to secure winter electricity supply in spite of record high coal and emission prices. Food prices are also starting to rise as the price for CO2 emissions and fertilizer made with natural gas gets more expensive.

- During the last week of September, Britain was generating some 46.5% of its electricity from wind farms; one week later, the share of wind in the energy mix had fallen to 35.67%.
- Electricity rates have hit record highs in Norway, and the lack of rain has left water levels in reservoirs at record lows.
- Spain has 14.6 GW in installed solar capacity - during the last week of September Spain was utilizing 0.52% of its 14.6 GW installed solar capacity (or 75 MW); a week later this had gone down to 0.13%.
- A German power plant, which relied heavily on renewable sources, just [ran out of coal](#).
- Sweden restarted an oil-fired power plant despite no shortage of electricity.

- *When the changing climate and power production collide. **Electricity generation from US hydropower plants will be 14% [lower](#) in 2021** than in 2020; extreme drought conditions have affected hydropower production in the Pacific Northwest and California – the regions with the greatest hydropower capacity. (Insert: US drought conditions and hydropower capacity. Note: AES Members have access to the AES white paper, [Water Works](#).)*



- **Illinois, Indiana, Michigan, Minnesota and Wisconsin are forming a Regional Electric Vehicle Midwest Coalition, or “[REV Midwest](#).”**

- *Spotlight: Access to electricity in [Africa](#):*

- 770 million people worldwide had no access to electricity in 2019, 75% of which are in sub-Saharan Africa.
- Nearly half of Africans did not have access to electricity in 2018.
- ~ 80% of sub-Saharan African companies suffered frequent electricity disruptions leading to economic losses.

- Cybersecurity Spotlight -

- A comparison of the three **most active** cyber-threat actors in the energy sector:

- Chinese state-backed attacks tend to be concerned with long-term intelligence gathering and also slow moving and methodical with the aim of infiltrating an organization to extract data.
- The Russian approach has a short-term focus, more concerned with gathering and exploiting data right now; therefore, Russian tactics tend to be "noisier" than their Chinese or Western counterparts.
- Western intelligence agencies tend to follow the idea that "the best defense is a good offense."

- Bulletin Board -

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- Featured event: [Drone Deploy](#) is hosting a virtual global conference, October 19 - 20. AES has a few complimentary tickets - [contact us](#) if you are interested.
- Shopify is accepting applications for its [Sustainability Fund](#).
- **Uearth has published a report on wildfires and utilities.**
- Clearpath released a report: [The Role of Utility Commitments on the Path to 2050](#)
- **Clearpath has [three job openings](#):**
 - Policy Analyst (Carbon Capture, Utilization, and Storage)
 - Finance Associate
 - Brand Associate
- Cleveland State University *might* have an opening for an analyst in their [Energy Policy Center](#). [Contact us](#) for more information about the position.

Quotes

The chaos of an energy transition

"Part of the answer [to the energy shortage problem] is to put more windmills up in different places, because the wind will be blowing somewhere."

- Matthew Paterson, Manchester University, professor of international and climate politics

"We're heading right into an energy crisis."

- [Tor Svelland](#), CEO of Svelland Capital

"Our transition [to a new energy economy] is going to be very different. I can tell you that the transition is going to happen. People in West Virginia realize that — just don't leave us behind."

- Senator Joe Manchin during a Senate Energy and Natural Resources Committee Hearing.

- Gratitude -

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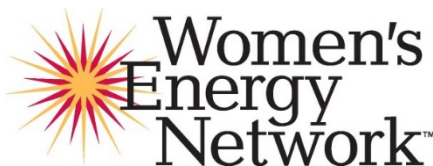
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