

ENERGY MATTERS

Soundbite summaries of the energy news you need to know

AN OFFICIAL PUBLICATION OF



AMERICAN ENERGY SOCIETY

October 24, 2022

- The Power Read -

- **Oil:** The US is a net exporter of light crude oil but an importer of heavy crude.
- **Renewables I:** Global capital investments in renewables > capital investments in O&G.
- **Renewables II:** The BOEM has scheduled an OSW-CA auction for Dec. 6, 2022.
- **Policy I:** US Congress is in recess to campaign for the November off-year elections.
- **Policy II:** How should we view OPEC+ cutting oil production by a 2-million b/d?
- **Policy III:** Get ready for COP27 (and look ahead to COP28).
- **Markets:** The average gasoline price in the US is about \$3.88 per gallon.

Also, visit the [AES homepage](#) for
The 10 things you need to know about the Inflation Reduction Act.

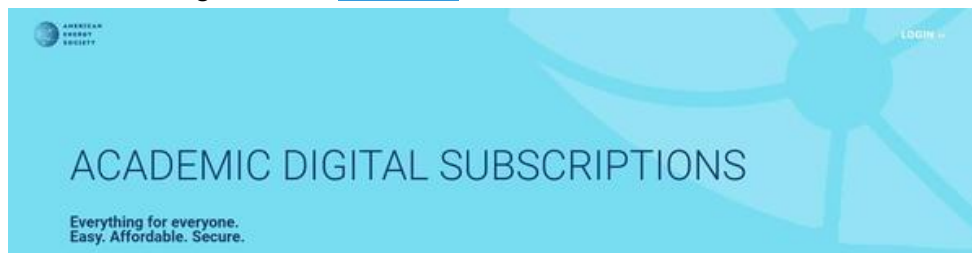
- News from the Society -

- Time is running out to get your *Hydrogen Influencers Watchlist*...



... a global directory of more than 2,000 thought leaders shaping the next energy-tech revolution. Download the Executive Summary from the [AES homepage](#); **you have to be a [Member of the Society](#) to receive the directory of 2,000+ H2 thought-leaders.** [Contact us](#) for more information. Thank you [Ambient Fuels](#) for underwriting the report and directory.

- AES has launched a new "[Digital Subscription](#)" program for universities and organizations. For a limited time, we're offering discounts. [Contact us](#) for more information.

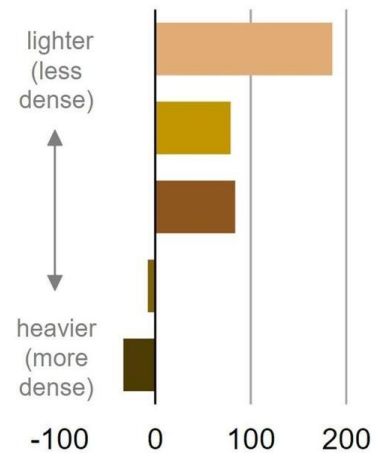


- *Coming soon:* AES Energy Awards, including the [Energy Writer of the Year 2022](#), the premier literary award for energy.

- Fossil Fuels -

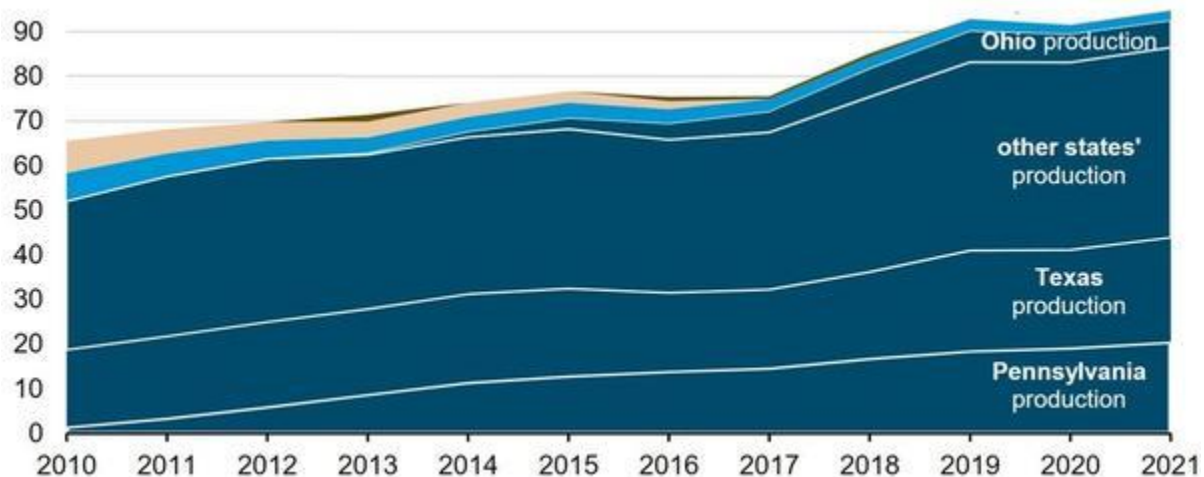
- Oil -

- The US is a net producer of crude oil (11M+ b/d); it exports light crude oil but imports heavy crude oil. *Insert:* a comparison of crude oil production by densities, in thousand barrels per day. A *crude oil primer:* heavy crude oil is a feedstock for things like plastics, petrochemicals, and road surfacing; light crudes are primarily refined into gasoline, diesel and aviation fuels.



- Natural gas -

- US natural gas production set a [new record](#) in 2021, but that record will be broken in 2022 (and probably broken again in 2023). *Insert:* sources of annual US natural gas supply from 2010 - 2021, in billion cubic feet per day.



- Coal and mining -

- During the summer, Southern China's Guangdong province began construction on six coal-fired power plants. In addition, the provinces and regions Anhui, Xinjiang, Guizhou, Shaanxi, Jiangsu, Jiangxi and Guangxi also announced plans to [build](#) new coal power plants (17 million kilowatt capacity).

- Carbon capture and removal -

- There are 190 proposed carbon capture and storage facilities in the global [pipeline](#).

No- / Low-Carbon and Renewable Energy

- Total global capital investments in [renewables](#) are on pace to reach **\$494 billion (USD) in 2022**; for comparison, investments in upstream oil and gas are set to reach \$446 billion for the year.

- **Spotlight on renewables in the [Northeast](#):**

- Pennsylvania, New York, and Massachusetts are in the top-10 states with the fastest growing renewables sectors;
- New York, New Hampshire, Connecticut, and New Jersey are in the top-10 states for lowest power sector CO2 emissions;
- Maine derives 71% of its electricity from renewables, mostly from hydroelectric;
- Vermont generates the most electricity from renewables among all states.

- **[Blue tech](#), examples:**

- Alternative low-carbon fuels for shipping, such as ammonia, methanol and hydrogen.
- Alternative proteins, such as fisheries and kelp.
- Oceanic carbon removal, like ocean alkalinity enhancement and sinking kelp to the bottom of the seabed.
- Offshore wind long-distance transmission.
- Wave power, like [CalWave](#).
- *Note:* the US DoE announced [\\$25 million](#) (USD) for wave energy RD&D.



- On September 20, a **Tesla battery Megapack started a fire at the PG&E Moss Landing energy storage site** in Monterey, California. Firefighters stood back and let the blaze burn itself out, adhering to the current protocol for battery fires. There were no reported injuries and the fire was contained. However, the nearby highway was closed and residents sheltered-in-place for the evening. The event represents the most recent fire in a string of battery [incidents](#) across the globe.



- On October 7, **all demand for electricity in Greece was met by [renewable sources of power](#)** (primarily solar and wind). Separately, the European Commission approved a €2.27 billion (US\$2.56 billion) loan to support the addition of 4.2GW of renewables capacity in Greece.

- Be sure to get the [Hydrogen SME Watchlist](#) by AES, a global directory of more than 2,000 thought leaders who are shaping the next energy-tech revolution.

- *Breaking:* The US Department of the Interior announced that **the Bureau of Ocean Energy Management (BOEM) will hold an offshore wind energy [lease sale](#) on Dec. 6, 2022**, for areas on the Outer Continental Shelf (OCS) off central and northern California.



- Energy Policy & Geopolitics -

- Beltway Buzz -

Note: Congress is out of session until after the November elections

Special insights: visit the American Energy Society [homepage](#):
The 10 things you need to know about the Inflation Reduction Act ("IRA").

AES recommends: the energy and climate federal funding database by [WSGR](#).

- Global energy politics –



- The 2022 UN Climate Change Conference (aka [COP27](#)) will take place **6 through 18 November, 2022 in Sharm El Sheikh, Egypt**. About 35,000 people are expected to attend. (*Note:* COP28 is tentatively scheduled for 6 through 17, November, 2023, at the Dubai Expo City.)

[At COP26, AES presented its special report: Global Sustainability Thought Leaders](#)

- Should we view the decision by **OPEC+ to reduce production by 2-million b/d** (mbpd) in the context of the geopolitical crisis in Europe, the desire of OPEC to work with Russia and China, or the upcoming off-year November elections in the United States? The [Atlantic Council](#) offers an interesting perspective.

- **German Chancellor Olaf Scholz ordered** the country's three remaining nuclear power stations to keep operating until mid-April as the energy crisis sparked by Russia's invasion of Ukraine hurts the economy. Mr. Scholz's order overruled the Greens in his coalition, who wanted two plants kept on standby to be used only if needed. Nuclear power provides 6% of Germany's electricity.

- Climate and Sustainability -

- New research from the University of Bern found that **the ocean carbon sink is more than expected**. *Summary:* Through a process known as gas exchange, the ocean continuously absorbs excess CO₂ from the atmosphere, helping to slow global warming. The extra uptake — about 10% more than previous estimates — increases the remaining carbon budget by about 2 to 4 years of present-day CO₂ emissions. [AES Members](#) have access to the peer-reviewed paper.

- [Research](#) has linked **hotter days with rising hate speech**, flaring tempers, and gender-based violence. Destruction from hurricanes, fires and floods boost extreme anxiety and depression, especially among young people.

- **CO₂ from wildfires is not counted against emissions targets**. If it were, the wildfires would set California back in meeting its climate goals, with the carbon emissions from California's 2020 fire season making up [30%](#) of the state's total greenhouse gas emissions.



- [Lake Erie](#) has two electric, remote-controlled **robots** on its shores and in its waters to help remove plastic pollution. (Thank you Al Hackford, Lake Erie and [Mickey Rats](#) SME, for the insight.)

- Research and Markets -

- The [average gasoline price](#) in the US is about **\$3.88 per gallon**, down from \$3.92 per gallon recently but up from \$3.68 per gallon a month ago. The Biden Administration is concerned about prices ahead of the midterm elections in November and may release more oil from the Strategic Petroleum Reserve. (*Note:* The level of inventories at the SPR has declined from 640 million barrels when President Biden took office to 450 million barrels - the lowest in about 40 years.)

- Brookfield and Cameco are buying nuclear-services firm Westinghouse, a sign of [support for](#) nuclear power after years of decline.

- Investment bank Credit Suisse apparently published a private and internal research note about the Inflation Reduction Act; in said note, the bank argues that the IRA is even more important than has been recognized and could reshape the entire American economy. However, [no one](#) has found evidence of or a link to the Credit Suisse report.

- Related, visit the American Energy Society [homepage](#) for the **10 things you need to know about the Inflation Reduction Act ("IRA")**. Included in the list: the biggest funding opportunity is provision 48(c).

- Electricity & Power -

- **Spotlight on electric utility [transformers](#):**

- There are more than 35 million utility service transformers.
- Most transformers provide 25-35 kilowatts, or about 8 to 12KW per household (most households draw about 2 KW and peak at 9 KW).
- Each transformer serves from 1 to 5 households.
- Most transformers are 50 years or older and some of will run for another 50 years.
- The "electrification of everything" will require a lot more transformers; related, Hitachi Energy and WEG have both announced [expansion](#) of their respective transformer manufacturing facilities.
- For more on "[How Things Work](#)," Members can access the *Energy Today* archives.



- In [Western Australia](#), rooftop solar power briefly provided **71% of power for the grid on September 22nd and 71% on September 23rd**. Note: The Western Australia grid is the largest isolated grid in the world.

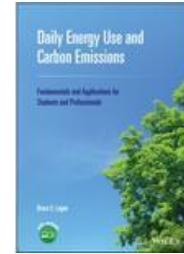
- A [primer](#) on public utility commissions and commissioners:

- About two-thirds of US electricity customers are served by investor-owned public utilities;
- In almost all cases, a public utility commission (PUC) is the regulatory agency that oversees all decisions made by or on behalf of each public utility;
- PUC's have other names, including public service commission, commerce commission or corporation commission;
- Individual public utility commissioners are usually appointed by governors (or, in rare cases, by state legislatures) to terms of four to six years, but in 10 states, they are elected by voters. For example:
 - Arizona Corporation Commission (elected)
 - California Public Utilities Commission (appointed)
- For more on "[How Things Work](#)," Members can access the *Energy Today* archives.



- Universities in the Spotlight -

- AES applauds [Daily Energy Use and Carbon Emissions](#), by Bruce Logan.
- UCSB CET Lab, UC Berkeley, and the Indian Institute of Technology Mumbai are [studying](#) energy efficiency and battery storage technologies for India's low-income households.
- Researchers at **Binghamton** have received NSF funding to explore [pollution](#) exposure across generations.
- The **Wisconsin Energy Institute** was awarded a grant from IN2 to host workshops that [facilitate](#) collaboration between the diverse stakeholders in the circular bioeconomy ecosystem.
- In a discussion hosted by the Yale Environmental Dialogue and Yale Law School, former French Prime Minister discusses the "[unprecedented](#)" legal challenges of the climate crisis.



- Quotes -

When is oil about economics and when is it about politics?

- "A ban on US crude oil exports will ... put downward pressure on prices for American families."
— Ro Khanna, US House of Representatives (CA)
- "Banning or limiting the export of refined [oil] products would likely ... put upward pressure on consumer fuel prices."
— API President Mike Sommers
- "Absolutely not and that would be the road to Hell for America."
— Jamie Dimon, JPMorgan Chase CEO, when asked if the US should ban fossil fuel exports.
- "The only thing worse than OPEC managing the oil markets, is OPEC not managing oil markets."
— Bob McNally on Fox News
- "I personally think that this antiquated notion that if you're for fossil fuels, you're the political right, and if you're for clean energy, you're of the political left is totally outdated."
— Neil Chatterjee, former Chairman of the Federal Energy Regulatory Commission (FERC) under President Trump.

- Bulletin Board -

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- **Scale For ClimateTech** is hosting a free four-day bootcamp (Nov 7 - Nov 10) for companies to engage with vetted manufacturers, supply chain experts, and technical advisors. Companies with a works-like or looks-like hardware prototype addressing the climate crisis should apply [here](#) (deadline extended to 10/28).

- **Honeywell Building Technologies** is hiring a [Solution Consultant Manager](#) and a [Sustainability Break Through Initiative Leader](#) (GM).
- **Wood PLC** has published "[Repurposing gas infrastructure for hydrogen - dream or reality?](#)"
- **DPR Construction** is a [finalist](#) in the 2022 Going Digital Awards in Infrastructure for the expansion of the 20 Massachusetts Ave. building in Washington, D.C.
- **Fluor** was [awarded](#) a contract for the new Fortress Energy Fast Liquefied Natural Gas (LNG) Project in the US Gulf of Mexico.
- Don't miss the **Climate Partnership [Playbook](#) by the State of Green (Denmark)**.
- **Clearpath** has completed a white paper that examines the development of wind power in [Iowa](#), the #2 wind state in the US. The study highlights proponents and advocates of the industry and its plans to expand in the future.
- **Unearth** is a dynamic Mobile GIS that connects assets, data, and field teams for critical infrastructure providers. Start your [free](#) trial today.
- **Ubiquitous Energy**, a leader in transparent solar technology, is [developing](#) energy generating windows and door products.
- **Orrick** has a recorded [webinar](#) on the Inflation Reduction Act, with emphasis on hydrogen.
- **Sunrun**, a residential solar and battery storage installer in the US, has partnered with Ford to launch a new [home electric vehicle \(EV\) charger](#) that is compatible with any EV model.
- If you have [data](#) but not the talent or staff to make it valuable, please consider the **proSkale** platform—it helps organizations manage and invest their data ... like cash.

- Gratitude -

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