

ENERGY MATTERS

Soundbite summaries of the energy news you need to know

AN OFFICIAL PUBLICATION OF



AMERICAN ENERGY SOCIETY

September 3, 2024

- The Power Read -

- **Fossil fuels:** Oil's hotspot? The Guyana-Suriname Basin.
- **Renewables:** Last chance to download the [geothermal](#) special report by AES.
- **Policy:** It appears there is no discernable correlation between energy sector economic performance and which party holds the US presidency.
- **Electricity:** Spotlight on VPPs.

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- [Register](#) for Adaptation & Mitigation, by Cleantech Group, in Boston on Sept 10.
- [Houston Energy and Climate Week](#) is happening September 9-13.
- CAFWD hosts [California Economic Summit](#), October 8-10, in Sacramento.
- AASHE Sustainability Conference and Expo on October 27-29 in [Anaheim](#).
- Don't forget [Energy Transition North America](#), also in Houston, December 4-5.

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- Fossil Fuels -

- Oil -

- Offshore [Guyana-Suriname Basin](#) has emerged as one of the hottest new oil hotspots in the world today.

- **Guyana basin:** Exxon projects about 11 billion barrels of oil will come out of a single section of the basin; Hess and China's CNOOC have made over 30 significant discoveries in the Stabroek Block.
- **Suriname Basin:** the epicenter of Suriname's oil boom is offshore Block 58, a 1.4 million gross acres that may hold as much as 6.5 billion barrels.



- Natural gas -

- **The North Sea is probably the hottest natural gas hotspot in the world today**, in part because Europe turned to imports from the US and now Norway after cutting ties with Russia over its war in Ukraine. Norwegian E&P gas investments are expected to hit a [record high](#) this year and will remain strong in 2025. Even Austria's integrated energy company (OMV) is making natural gas [discoveries](#) in the Norwegian Sea.



- Coal and mining -

- Uranium miners in the US [produced](#) more than 82,000 pounds of uranium concentrate in the first quarter of 2024. As a point of comparison, that is **more than all uranium mined in 2023 and much more than the total in 2020 (which was 0)** but a significant decrease from the 194,000 pounds produced in 2022.

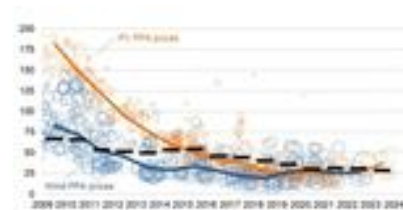
- Carbon capture and removal -

- AES recommends a [map of carbon pipelines in the US](#) (*insert*).
 - **Red lines** = completed pipelines currently in operation
 - **Purple lines** = pipelines under development



- No- / Low-Carbon and Renewable Energy -

- **Wind contract (PPA) prices have drifted higher over the last several years**, from less than \$20/MWh to more than \$40/MWh depending on region and other factors. Wind prices, counting federal tax credits, are still [competitive](#) with solar prices and gas-fired generation. (Insert: levelized wind PPAs and gas prices, over time.)



- Making chemicals, metals, glass, and cement requires extreme heat. Most of those industrial processes use fossil fuels to reach lava-like temperatures. **To decarbonize industrial heat, researchers are testing new thermal energy storage technologies** (like using heated bricks to convert electricity into high-temperature heat). Some startups to watch in this space include: [Calectra](#), [Brenmiller Energy](#), and [Rondo Energy](#).
 - **Spotlight: [white hydrogen](#)**. Like oil and gas, white hydrogen is naturally occurring. Generated by continuous geochemical reactions in hard rock, white hydrogen's characteristics differ from hydrocarbon molecules in that they are small and light, and unlike [hydrogen](#) alternatives such as green or blue, which require inefficient conversion processes, white hydrogen comes ready-made and at a much lower cost. AES recommends the Hydrogen [Online Course](#) by Enerdynamics.
 - The latest edition of **Berkeley Lab's [Tracking the Sun](#)** annual report has been published.
 - **[Mimsi](#)**, a new startup, has developed a way to **replace ITO (indium tin oxide) with a silver alloy** that reduces the materials used to make next-gen photovoltaics.
 - Sage Geosystems, the next-gen geothermal startup, signed a deal to [supply](#) Meta, the owner of Facebook, with 150 megawatts of geothermal power. Note: this is your *last chance* to download [Digging In, A Starter's Guide to Geothermal](#). Members of AES don't have to worry — they have free access to everything forever.
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- Energy Policy & Geopolitics -

(Note: there is very little legislative activity in the US Congress because most Members are campaigning in their districts.)

- The two main political parties in the US suggest that they have [very different](#) positions on the oil and gas industry. And yet, a number of AES SMEs have identified [no discernable correlation between energy sector performance and which party holds the US presidency](#). For an extreme example, in terms of share-price performance, traditional energy had four of their worst years on record during the Trump administration, while new energies soared. Through the first 3.5 years of the Biden administration, those trends reversed, with traditional energy outperforming new energies.
- **Spotlight:** Most policy on behalf of an energy transition in the US is directed by the federal government (like energy production, building codes, land use, transportation, funding, etc.). However, **implementation of federal energy policy happens at the local level** (by city council members, mayors, and local staff) who are far removed from the federal government. AES applauds the ambitious efforts of the [SDG Policy Initiative](#) at UCSD to coordinate policies between every level of government. A good example is the [RDF](#) for San Diego.
- **The top legal decision in H1 2024 (tie):** The DC Circuit Court [upheld](#) California's ability to set its own greenhouse gas standards for vehicles; and, the US Supreme Court ordered the US EPA to [freeze](#) its program to reduce cross-state pollution. [AES Members](#) have access to *Energy Today's* annual issues on the Supreme Court's most important energy and environment cases.

- Global Energy Policy -

- Any energy transition in the developing world will require foreign investment. Many developing economies have the natural resources – solar, wind, hydro, geothermal – to build a low-carbon energy system. But they also [need access](#) to substantial external sources of low-cost capital to develop them. **The developed world finally met its commitment at COP15 in 2009 to invest \$100 billion a year** (USD) in low-carbon energy systems for developing economies. The main topic of discussion at the first Global Energy Transition Congress (Milan, 7/1 - 7/4) was the need for a Global Climate Bank ([GETCon](#)).

- Related, **the 5 countries leading and farthest behind in an [energy transition](#):**

- | | |
|----------------|-----------------|
| 1. Sweden | 116. Mongolia |
| 2. Denmark | 117. Mozambique |
| 3. Finland | 118. Tanzania |
| 4. Switzerland | 119. Yemen |
| 5. France | 120. DRC |

- Climate, Sustainability, and Resiliency -

- In Antarctica, temperatures this time of year are typically between minus 58 and minus 76 degrees Fahrenheit. **They are [currently hovering closer to minus 13 to minus 22 degrees Fahrenheit](#)**. The 50 degrees above normal is more on par with summer temperatures than winter ones.



- Since 1988, developed economies around the world have passed about 1,500 notable emission reduction policies. Of that total, **it appears that only [63 worked effectively](#)**. AES recommends the interactive resource [Climate Policy Explorer](#).

- On February 11, 1994, President Bill Clinton signed [Executive Order 12898](#), a **landmark declaration on behalf of "environmental justice"** — all federal agencies will address disproportionate health and environmental effects on minority and low-income populations.

- **Healthy soil makes a [sound](#)**.

- **Glacier retreat is a real thing:**

- Venezuela is now glacier-free (its last one melted this year).
- New Zealand has lost about 264 glaciers.
- The western US has lost about 400 glaciers since the middle of the 20th century.
- The Swiss Alps have lost 1,000 small glaciers.
- East Africa has less than 2 square kilometers of total glacial ice remaining.

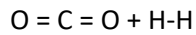


- Research and Markets -

- **Scientists at Rice University have developed a machine that can turn carbon dioxide into liquid fuel.** The device uses a catalytic reactor to transform CO₂ into [formic acid](#), an important chemical reagent that is also found in bee and ant venom.



Chemically, the final product as formic acid:



or, $O = CHO\text{H}$

- *Insert below:* [Cumulative climate investment, by verticals](#) (2020 - 2024). *Note:* the top-3 verticals receiving the most Series A + B capital:

1. Transportation
2. Clean energy generation
3. Food/land use



- Canada announced it will impose [100% tariffs](#) on Chinese EVs starting October 1.

- Wilson Sonsini published [updates](#) on its sustainability and ESG advisory practice.

- Since 1902, Goodwill Industries has been practicing what today is called the **circular economy** (reselling used clothing and housewares). Goodwill has determined that 60% of all clothing that they don't resell cannot be turned into new textiles; instead, it gets thrown into landfill.

Walmart Foundation has [funded](#) a pilot study to support RD&D of new textile recycling technologies.

- Electricity & Power -

- **Power plant developers and owners will [add 62.8 GW this year in the US](#)**, up 55% from 2023 when 40.4 GW came online.

- About 12 GW of utility-scale solar came online in H1 2024, or about 59% of new capacity; another 42.6 GW will be added in the second half this year.
- Texas and Florida made up 38% of the total solar additions.
- In the first half of 2024, developers and utilities installed 4.2 GW of battery storage — almost all in California, Texas, Arizona and Nevada.
- Only about 2.4 GW is scheduled to retire, mostly coal and gas-fired capacity.
- **[AES Members](#) have access to *DevCo DNA: What Makes A Renewable Energy Project Development Company Great*.**
- The overwhelming majority of the new capacity that has been added this year — 97 percent — came from [no-/low-carbon sources](#) (solar, battery storage, wind, and nuclear projects).

- In a potentially precedent-setting decision, the **Federal Energy Regulatory Commission rejected a proposal from Basin Electric Power Cooperative to establish a special lower-rate schedule for cryptocurrency mining and operations** than for all other large loads or residential use. [AES Members](#) have access to the FERC docket.

- **Spotlight VPPs ([virtual power plants](#)):**

- On the one hand, VPP has 33 GW of capacity operating or in development across 1,459 deployments participating in 321 US markets.
- On the other hand, VPP capacity accounts for only 19.5% of total distributed energy resource capacity.

- Inflation is falling in the US; however, **electricity prices are still rising twice as much as overall inflation** — the average cost of electricity bills last month [rose](#) by 4.4% (compared to June of last year), surpassing overall economy-wide inflation of 3%.

- Universities in the Spotlight -

- The energy team at the **University of Rochester** is working on simulations of various applications of energy using computational fluid dynamics ([CFD](#)).

- AES applauds the Center for Resilient Infrastructures, Systems, and Processes ([CRISP](#)) at **Purdue University**.

- AES also applauds [Safe Electricity](#), the award-winning public awareness program of the Energy Education Council (EEC) at the **University of Illinois at Urbana-Champaign**.

- Quotes -

Norway energy: transition or tradition?

"The latest [oil] discoveries confirm our high-grading of Norway."

- Berislav Gašo, Executive Vice President of Energy at OMV, Austria's NOC, on its new discovery in the North Sea Aasta Hansteen region

"Norway is the gift that keeps on giving. Carmen proves there are important discoveries still to be made."

- Norwegian oil and gas operator DNO Executive Chairman Bijan Mossavar-Rahmani, on the largest O&G discovery in the North Sea Carmen region in the last 10 years

"The upward adjustment of investment in oil and gas development and exploration in Norway for 2025 is driven by higher opinions about the category."

- SSB, the national statistics office for Norway

- Bulletin Board -

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- **Orrick** published [2024 Offshore Wind Report](#). The report is an update on the current OSW market and trends in 20+ key jurisdictions with some forward looking analysis. AES Members have access to [Winds of Change](#).

- **Clearpath** has [primer resources](#) on Ag-Tech, CCUS, Water-Tech, Industrial Fuel.

- **Title Leader** launched a Title Commitments [platform](#) to support title searches by parcel.

- Gratitude -

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