

ENERGYMATTERS

Soundbite summaries of the energy news you need to know

AN OFFICIAL PUBLICATION OF



AMERICAN ENERGY SOCIETY

The week of May 4, 2026

For Members of American Energy Society

- The Power Read -

- **O&G:** The war in Iran is the first major test of global strategic petroleum reserves.
- **Renewables:** Nuclear power is surging, but China is driving most of that growth.
- **Policy:** IEA countries are preparing the largest emergency release of oil in history.
- **Climate:** Sea levels are rising faster than anticipated.
- **Electricity:** Power and gas outages are most frequent in the South.
- **Universities in the spotlight:** Brown (including resources), SUNY ESF and Dayton .

Member Spotlight

[Biocatalyst](#) on May 21 in Lodi: Join innovators, investors, and industry leaders from across food, agriculture, and biomanufacturing for a deep dive into market trends and emerging opportunities shaping the rapidly-growing circular bioeconomy sector.

- Need interns? **We have interns** ... including students studying engineering. [Contact us](#) if you can put an intern to work!

Power Plays: Influence in Energy Investments

In two weeks, the American Energy Society publishes *Power Plays*, the third in a decade-long study of influence in energy tech investing. Based on 100+ investor interviews and 200+ investment groups, it maps how reputation—not just capital—drives early-stage funding decisions.

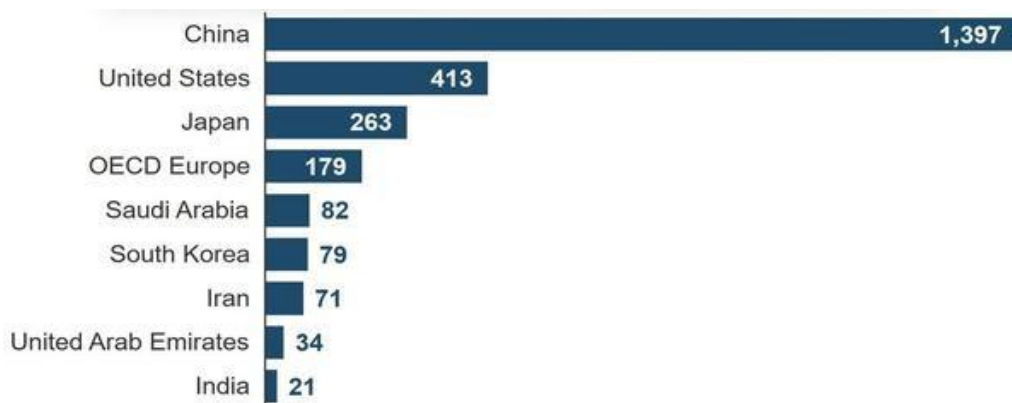
A preview of the findings: influence is increasingly being filtered through a return-on-investment (ROI) lens, with financial performance displacing the earlier emphasis on “impact” as the dominant signal of credibility and reach.

[AES Members](#) will have access to the research and data.

- Hydrocarbons -

- Oil -

- The war in the Middle East has triggered one of the largest supply disruptions in the history of the global oil market. It is the **first major test of the strategic petroleum reserves** which was established in the 1970s by the US and other OECD countries to protect against future shocks to the global oil market (a reminder that energy crises have been repeating, in different forms, since the 1970s. Below is a [ranking of the 9 countries](#) with the largest reserves. *Editor's note:* Given the lack of transparent data on strategic inventories in most countries, these are all estimated totals.



- Gas -

- On April 22, 2026, Golden Pass LNG in Port Arthur Texas [shipped its first cargo](#), becoming the ninth liquefied natural gas export terminal in the US. Its debut coincided with geopolitical disruptions in the Strait of Hormuz that have constrained more than 10 Bcf/d—roughly 20%—of global supply, **a reminder that timing can matter as much as strategy.**

- Coal / Mining -

- China has built a dominant position in the DRC mining sector, controlling roughly 80% of output in the Congo. Now the US is [moving in](#) with a different playbook: a **\$100 million, US-backed mining security force** to protect sites and stabilize supply chains. The contrast is instructive—China leans on capital and operations; the US on military security and risk. It is **a reminder that the best strategies exploit comparative strengths.**

- Carbon Capture, Sequestration, Utilization -

- Carbon removal is trying to move from theory to commercial deployment, but its greatest challenge is market credibility and trust. **The [CORE Framework](#) offers guidelines for accountable carbon removal**, with the CORE Wheel summarizing best practices—a **reminder that new markets depend on trust as much as technology.**

Editor's reminder to [AES Members](#) to see the previous issue of *Energy Today* about second- and third-order geopolitical consequences.

- No- / Low-Carbon and Renewable Energy -

- Perovskite solar cells have long promised to outperform conventional silicon panels but haven't reached commercial scale. A startup called [Tandem PV](#) is now manufacturing them in the former Tesla manufacturing facility in Fremont, California, where its **perovskite-silicon hybrid panels could reach 30% efficiency** compared to the industry-standard 22%

- Nuclear power is experiencing a global [resurgence](#), with the world generating a record amount in 2025, but **China is driving most of that growth**, with nearly half of all reactors under construction worldwide. The US remains the top producer by volume and both parties support expansion, but no new large-scale facilities are currently underway.



- The primary feedstock for biodiesel is soybeans because their oil content is used in renewable fuel blending. **Brazil is the epicenter of global soybean supply**. US production is stable, China is building domestic oilseed capacity to reduce import dependence, and other producers like Paraguay are scaling back. [Brazil is taking advantage](#), setting record production and expanding export capacity.

- Energy Policy -

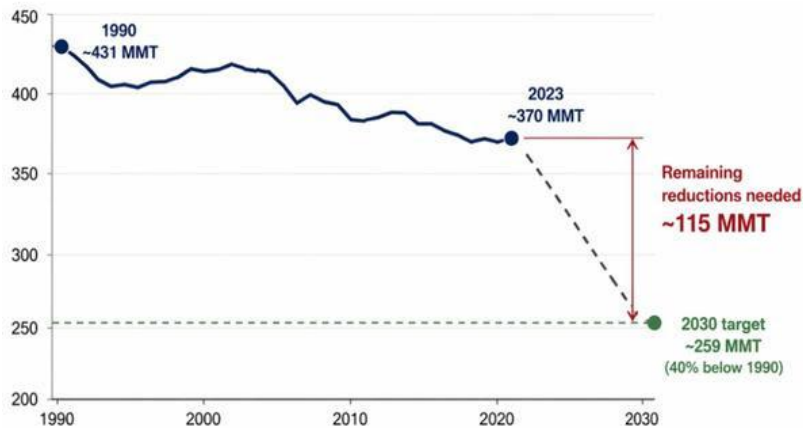
- Beltway Buzz -

- The Trump administration [dismissed](#) every member of the independent board that oversees the National Science Foundation, "effective immediately."

- France removed climate change from the agenda of this week's G7 talks to [prevent a rift](#) with delegates representing the Trump administration.

- Duke Energy's Robinson nuclear power plant in South Carolina received from **the Nuclear Regulatory Commission's approval to operate for another 20 years**—it was the fastest license renewal review in the agency's history.

- California has set the world's most ambitious emissions reduction targets but is not on track to meet them. **The legislature has directed agencies to improve performance by strengthening the state's carbon market**—one of about 30 in the world. At the same time, it has added requirements for justice and affordability, which create [inherent tensions](#) with market efficiency and the original emissions goals.



- The US-Israel/Iran conflict -

- In order to stabilize global energy markets, [IEA member countries](#) are moving forward with a coordinated 400-million-barrel emergency release, the largest in history (restricted access). This is the sixth time that IEA Member countries have taken emergency collective action to support oil markets since the IEA was created in 1974. Previous collective actions were taken in 1991, 2005, 2011, and twice in 2022. *Table below:* The nine countries contributing the most to the emergency release.



- | | | |
|-----------------------------|----------------------|-----------------------------|
| 1. United States — 172.2 mb | 4. Korea — 22.5 mb | 7. United Kingdom — 14.0 mb |
| 2. Japan — 79.8 mb | 5. Germany — 19.5 mb | 8. Türkiye — 11.7 mb |
| 3. Canada — 23.6 mb | 6. France — 14.6 mb | 9. Spain — 11.6 mb |

- **The United Arab Emirates' exit from OPEC** has [unlocked](#) higher oil output and billions in new revenue, but strained ties with Saudi Arabia and heightened price volatility risks.

- Climate, Sustainability, and Resiliency -



- **Thirty-one sloths died before Orlando's Sloth World "slothnarium" could open.** The owner of the attraction said the cause of death was a virus "undetectable even after necropsy." Sloth World tried to open in December 2024, but 21 sloths died due to cold conditions at a warehouse in Florida where they were stored. They tried to open again in February 2025, but two of 10 sloths travelling from Peru arrived dead and the remaining eight "appeared emaciated" and died soon after arrival.

- **Sea levels are rising faster than anticipated because of a "blind spot" in research,** as coastal land sinks while oceans rise. This "double threat" is driven by human activity, including groundwater extraction, sediment-blocking dams, and the weight of urban infrastructure.. [AES Members](#) have access to the peer reviewed research.

- **Data centers also use a lot of water.** For instance, a typical 300-megawatt data center requires about 700,000 gallons of water to operate ... [each day](#). An industry rule of thumb for evaporative cooling: roughly 1 to 9 liters of water per kWh. (Doing the math, at a 300 MW load, a data center could technically evaporate over 2 million gallons a day if operating at peak capacity in a warm climate.)

- Research and Markets -

- **Trend-spotting the most common questions currently driving early-stage investors in energy- and climate-tech:**

- New power generation: What are the proof points for advanced nuclear, enhanced geothermal, and fuel cells to be a material component of power markets?
- EVs: Can any country compete with China? Will every other country accept the "Chinafication" of their auto industry?
- Physical AI / robotics: Which companies will show growth and returns from applied AI?
- Electricity demand is surging. What are the implications? Is the long-term effect additive or subtractive? If additive, what energy sources are required? What are the geopolitical consequences? (For example, there is a correlation between applied AI and the conflict in Iran.)



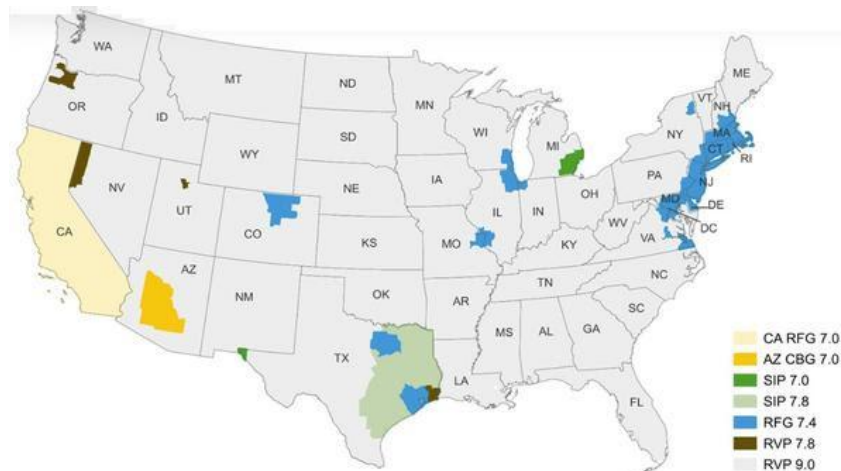
- In the last five years, **electricity demand has increased 7% while [transformer demand](#) has increased 116%**. Meanwhile, transformers needed to move electricity across the grid have 128-week delivery times, a 30% supply shortfall, and most in-service transformers are approaching the end of their service.

Power Plays: Influence in Energy Investments

Stay tuned: in two weeks the American Energy Society will publish its next report on influence in the energy technology investment community, the third in a series conducted over the past decade.

Sneak peek: This latest phase reveals a pronounced shift toward "return on investment" (ROI) as the dominant lens through which influence is now exercised, displacing the "impact" orientation that prevailed in earlier eras. More broadly, the findings show that influence is cyclical—shifting across investors, geographies, and archetypes as markets, policy regimes, and technological frontiers evolve.

- Gasoline in the US is blended to different formulas depending on region and season to meet federal and state air quality standards. Key differences between formulations including octane rating, volatility—commonly measured as Reid vapor pressure (RVP)—and emissions designed. **This year, the EPA is [relaxing](#) its summer volatility standards in an effort to bring prices down at the pump.**



- Electricity and Power -

- **Utility companies in the US shut off power about 13.4 million times and gas 1.7 million times each year.** Disconnections are most frequent in the South: Oklahoma had the highest rate, at three shutoffs for every 10 customers (though some customers were disconnected more than once) followed by Texas, Florida, Alabama, Louisiana, Tennessee, Mississippi and Arkansas. [AES Members](#) have access to the federal report (PDF).

- *The state of the market:* Electricity markets face volatility from unpredictable demand in data centers and EVs alongside a grid retiring coal power plants. **This instability is compounded by a shifting technological landscape** as utilities adopt new efficiencies and consider emerging resource options like small modular reactors and long-duration storage.

- Spring is always "planned nuclear outage season." **At the end of April, there were 15 nuclear power plants 100% offline for refueling**, including Arkansas Nuclear One, Unit 2 (Arkansas), Beaver Valley, Unit 2 (Pennsylvania), Braidwood, Unit 2 (Illinois)... *Note:* this list does not include the handful of unplanned outages.

- **California data show that commodity electricity costs are relatively low, but requirements for renewable procurement and resource adequacy more than double retail prices.** Additional charges not reflected in wholesale tables—such as local taxes, public purpose fees, and wildfire mitigation costs—can further [raise](#) overall electricity costs significantly. (Thank you AES SME [Greg Allen](#).)

California (SP15) Power Price Indicatives				
Delivery Period	Commodity	RPS	RA	Total
Balance Cal 2026	\$34.22	\$5.85	\$43.60	\$83.67
2027	\$33.80	\$10.83	\$35.80	\$80.43
2028	\$36.10	\$13.55	\$36.15	\$85.80
2029	\$38.00	\$14.35	\$36.75	\$89.10



- Quotes -

Old rules, new grid, real costs

“We are building the energy system of the future on the rules of the past.”

— Fatih Birol

“Every kilowatt-hour has a story behind it.”

— Arun Majumdar (frequently used framing in grid discussions)

“Markets are designed around reliability; everything else is layered on top.”

— FERC staff (paraphrased from FERC market design discussions)

- Universities and Labs –



- AES applauds the incredible resources available through the Climate Solutions Lab at **Brown University**, including its [Syllabus Bank](#) (an archive of climate-related academic courses) and the interactive Iran War Energy Cost [Tracker](#).

- The SUNY College of Environmental Science and Forestry (**SUNY ESF**) conducts extensive research focused on [biofuels](#), bioeconomy, bioenergy, and biomass.

- The **University of Dayton** Research Institute ([UDRI](#)) focuses on power and energy management, advanced manufacturing, and sustainable engineering solutions. Key initiatives include the [Industrial Assessment Center](#) for energy efficiency and significant interest in waste heat to power technology.

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