

ENERGY MATTERS

Soundbite summaries of the energy news you need to know

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AMERICAN ENERGY SOCIETY

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- The Power Read -

- **Carbon:** US is the only country in the world that grants federal permission to conduct ocean-based CDR (CO2 removal) trials.
- **Renewables:** Virtually all planned electric generation additions are solar PV.
- **Policy:** Congress should be focused on the budget, but it has sidelined the topic to focus on tariffs and the impending March 14 government funding deadline.
- **Climate:** About half of all CO2 emissions involve just 36 companies.
- **Electricity:** Koomey's law.

News from the Society

- Mark your calendars -

- [CERAWeek 2025](#) takes place March 10–14 in Houston, Texas. We'll be there—let us know if you'd like to connect!
 - **National Association of Energy Service Companies (NAESCO)** is hosting a Federal Market [Workshop](#) on March 13 at the National Housing Center in Washington, DC. This one-day event brings together federal government officials, energy service companies, and suppliers to discuss energy and building infrastructure projects in the federal market.
 - Carnegie Mellon University's **(CMU) Energy Week 2025** will be held March 24–28 at the Cohon University Center in Pittsburgh, PA.
 - The **2025 UT Energy Week** will take place March 31–April 4 at the University of Texas at Austin.
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- Fossil Fuels -

- Oil -

- The 5 **largest** (by volume) transportation fuels in the US are:

1. Automobile gasoline (for ICE motors)
2. Distillate fuel oil (typically diesel)
3. Jet fuel
4. Biofuels
5. Natural gas

- Natural Gas -

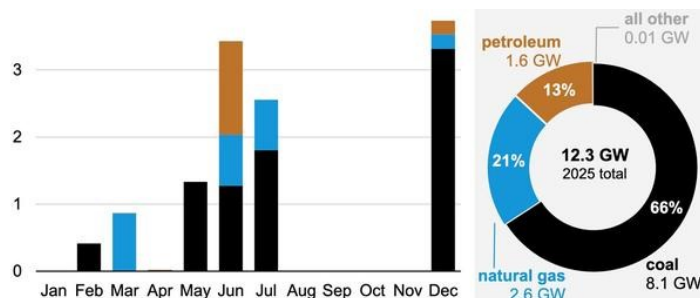
- Last year, 55% of total US LNG exports went to Europe, 34% went to Asia, and most of the remainder went to C/S American countries. **Trump's Energy Dominance Council is shifting market emphasis from Europe to Asia.** The Council has identified four large **target** import markets for US LNG:

1. China: Adding 20 more gigawatts of natural gas capacity. China buys most of its LNG from Australia, Qatar, and Russia (by pipeline).
2. Japan: Currently negotiating to increase LNG imports from the US. (Note: in addition to the US, Japan is also negotiating with Canada and Qatar.)
3. South Korea: The third largest importer of US LNG in Asia (currently 5.7 million tons from the US, or about 12% of its total).
4. India: Currently negotiating with the US to increase its LNG import total.

Note: Natural gas prices are rising due to low temperatures and high geopolitical tension.

- Coal / Mining -

- **Electricity generators will retire 12.3 gigawatts (GW) of coal-fired capacity in 2025**, a 65% increase in retirements compared with 2024. Last year, 7.5 GW were retired from the US power grid, the lowest amount since 2011. The second most planned capacity retirements are natural gas (21%). *Editor's note:* it is worth remembering that the oldest, least efficient, most deteriorated plants are the first to be retired. *Insert below:* planned utility scale electricity generating capacity retirements in 2025.

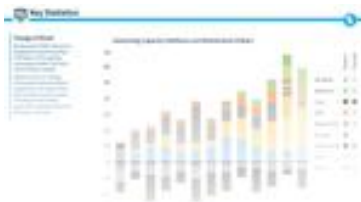


- Carbon -

- Ocean carbon removal is a [new field](#) that has not yet solved difficult geopolitical issues like permitting, accountability, and community support. The US is the only country in the world that is granting federal permission to conduct ocean-based CDR trials.

1. Last year, Vesta acquired the first federal permit in US history to conduct standalone CDR trials in US waters.
2. This year, Ebb Carbon acquired the second permit in history, using the Clean Water Act's NPDES framework. (In May, 2022, AES featured Ebb Carbon in [Energy Today](#).)
3. A third permit is currently under review: LOC-NESS has asked the EPA for a permit to conduct trials in the Gulf of Maine.

- No- / Low-Carbon and Renewable Energy -



- By the end of 2025, the US will have more than 220 GW of PV capacity; almost **all planned electric generation capacity for the next two years will be PV**, along with some wind, and almost all of that will pair with batteries.

- The US Nuclear Regulatory Commission (NRC) has granted two [permits](#) to build "advanced" nuclear reactors (small, one megawatt molten salt reactors); both target completion in 2027.

1. Beneath a new [laboratory](#) at Abilene Christian University in Texas, in an underground trench 25 feet deep and 80 feet long, covered by a concrete lid and serviced by a 40-ton construction crane.
2. California-based Kairos Power, is building its 35 megawatt [test reactor](#) in Oak Ridge (PDF), Tennessee, the 80-year capital of American nuclear power science.

- Meanwhile, Italy has [approved a law](#) to overturn a 40-year ban on nuclear energy so that small modular reactors can be encouraged.

- Some hydrogen markets are doing well, others are not. **Based on current orders of [hydrogen as a transportation fuel](#), demand for trucks and aircrafts is increasing, while demand for material handling equipment (MHE), like ships, buses, and rail remain flat or are declining.**

- Energy Policy -

- **The White House moved forward with higher import duties on China, Canada and Mexico (now postponed for the latter two), which has touched off a trade war.** There is a lot of speculation, but in truth energy sector (including traders, utilities, investors and business executives) are scrambling to assess the likely impact of the new tariffs.

- **Congress should be focused on the budget, but it has sidelined the topic to focus on tariffs and the impending March 14 government funding deadline.** Most likely, both chambers will pass a short-term extension to allow time to develop a new budget.

- **79% of operating clean power capacity is sited in Republican-held districts.** On the manufacturing side, 85% of [newly commissioned cleantech manufacturing projects](#) are in states that voted Republican in the previous election. Meanwhile, clean energy project cancellations are [increasing](#).

- 70 companies and investors **lobbied Congressional members of both parties to protect IRA energy tax credits** including Bayer, Ceres, Ford Motor, Franklin Energy, Ikea, REI, and Sierra Nevada Brewing.

- Global energy policy and geopolitics -

- *Spotlight:* IEA. The [International Energy Agency](#) (IEA) is a Paris-based autonomous intergovernmental organization established in 1974 that provides policy recommendations, analysis, and data on the global energy sector. There are 31 member countries and 13 associate member countries, which together represent 75% of global energy demand. **India is currently an associate IEA member country that is applying to become a full member.**

- Climate, Sustainability, and Resiliency -



- **More than 50% of the world's CO2 emissions involve just 36 companies.** Most of these companies contributed greater emissions last year in comparison to the previous years. AES recommends The Carbon Majors [database](#). *Insert left:* Top 5 organizations contributing CO2.

- **The US State Department has ended its air quality assessment program.** The program had used air quality sensors at more than 80 US embassies and consulates around the world — mostly in countries where such data was otherwise [limited or unreliable](#).

- Of the 5,500 USAID contracts [cancelled](#) by the Trump administration, **125 were categorized as "climate-related"** and specifically involved either deforestation, climate effects on agriculture, mangrove coastal regions, or greenhouse gas emissions in waste management.

- As President Trump seeks to **purge the federal government of “[woke](#)” initiatives**, agencies have **flagged hundreds of words to limit or avoid**, such as:

Activism Bias **Climate** (all variations) Diversifying Equality Female...

- Related, the US Coast Guard has [eliminated](#) "climate change" and related terminology from its curriculum. (AES editor's note: it seems there is now a "cancel culture" on the political right and left, which makes it "interesting" for everyone else.)

- Resiliency / Res-Tech -

- **Despite rapidly rising policy rates, the homeowner’s insurance market lost money in 18 states last year**; those states experienced [unprecedented climate-worsened extreme weather](#). The issue extends beyond insurance — if home values fall, governments take in less tax revenue; and, if insurance companies stop or cancel policies, banks will limit mortgages.

- Research and Markets -

- *Special report:* [One quarter of all vehicle sales in the US are electric \(EV\)](#); in China, 50% of all new car sales are EV. In regions with significant amounts of solar (like California), wholesale power prices at the sunniest hours are low, but EV owners charge at night when prices are higher. More solar power would be used to charge electric vehicles and rate payers who own EVs would pay less **if inexpensive level-1 chargers were deployed** at workplaces, and rate design favored daytime charging. [AES Members](#) have access to the peer-reviewed journal article.



- Investment in cleantech is [declining](#), but **Blackstone's \$5.6 billion energy transition fund is still [deploying capital](#)**, making key acquisitions in energy infrastructure and technology.

- **There are 1,653 natural gas delivery companies in the US that provide natural gas to end-use customers**; 33% of that natural gas is delivered by [pipeline companies](#) to the electric power sector.

- A former coal-fired power plant in Alabama will be [converted](#) into a **large battery storage facility and connect directly to the grid**. This will be Alabama's first ever utility-scale battery energy storage system.

- Electricity & Power -

- *Spotlight: [Kooomey's law](#)*. Kooomey's law describes a trend in the history of power for computing hardware. **For about a half-century, the number of computations per joule of energy used [doubled](#) about every 1.57 years.** Professor Jonathan Kooomey described the trend in a 2010 paper in which he wrote that "at a fixed computing load, the amount of battery you need will fall by a factor of two every year and a half." This trend had been remarkably stable since the 1950s. But in 2011, Kooomey re-examined this data and found that after 2000, the doubling slowed to about once every 2.6 years. This is similar to the [slowing](#) of [Moore's law](#) and the challenge of building even smaller transistors.



- **The world's electricity consumption is rising at its fastest pace** in recent years, [growing](#) at close to 4% annually through 2027 as power use climbs in a range of sectors across the economy. Most additional demand over the next three years will come from emerging and developing economies, which account for 85% of the demand growth. The trend is most pronounced in China, where electricity demand has been growing faster than the overall economy since 2020. But, electricity demand is also expected to pick up in advanced economies after 15 years of consistent and stable demand.

- **Northern Virginia is "Data Center Alley,"** the world's densest data center hub. The states building data centers at the [fastest rate](#) are Georgia and Texas.

- *AES special report:* Amazon, Google, Meta, Microsoft, OpenAI, Oracle, and xAI are all competing for AI leadership. However, **demand for all-things-AI (chips, electricity, data centers, etc.) is actually unclear.** Forecasts are based on a range of unknowable assumptions, from future computing efficiency to manufacturing capacity for AI chips and servers. Meanwhile, developers of individual data centers are submitting bids for multiple interconnections to multiple grids at the same time in order to find the best deal.

- Quotes -

[A tariff war comes to energy](#)

"President Trump gave both Canada and Mexico ample opportunity to curb the dangerous cartel activity and influx of lethal drugs flowing into our country, they have failed to adequately address the situation."

Statement released by the White House shortly before the tariffs took effect

"I will do everything, including cut off their energy, with a smile on my face."

Ontario Premier Doug Ford, pledging to retaliate with a 25% export tax on the electricity the province exports to 1.5 million homes in Minnesota, Michigan and New York

"A restrained, targeted approach aimed at causing pain to those energy sectors that matter the most to the supporters of the Trump administration."

- Alfredo Montufar-Helu, head of the China Center for the Conference Board, on China's retaliatory tariff strategies

"China will fight till the end [if the US] insists on waging a tariff war, trade war, or any other kind of war."

- Lin Jian, a spokesperson for China's Foreign Ministry

"This is a very dumb thing to do."

- Canadian Prime Minister Justin Trudeau

- Universities and Labs in the Spotlight -

- **TAMU** is proposing [Energy Proving Ground](#), an offer of land, resources, and facilities to test commercial advanced nuclear reactors, aiming to become a hub for nuclear energy innovation.



- AES also applauds the Oregon Wood Innovation Center ([OWIC](#)) at **Oregon State University**.

- The [Center for Energy Studies](#) at the **University of Tulsa** is focused on 4 silos: security; investments; regulations; and, energy systems and management.

- The Energy Systems Management MS degree program at **USF** in San Francisco is now accepting [applications](#) for Fall 2025 — the closing date to apply is April 1.

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