

# ENERGY MATTERS

Soundbite summaries of the energy news you need to know

AN OFFICIAL PUBLICATION OF



AMERICAN ENERGY SOCIETY

September 11, 2023

## The Power Read

- **News from the Society:** Having trouble hiring? [We have deep](#) pools of talent!
- **Fossil:** The 'dead cow' in Argentina is bouncing.
- **Low-carbon:** There was one winning bid in the Gulf of Mexico OSW auction.
- **Policy:** Congress is returning from summer recess with a massive to-do list.
- **Climate:** The worst-case climate scenario (5° C above normal) seems unlikely.
- **Markets:** EVs and hybrids make up 16% of all US auto sales.
- **Electricity:** Electricity is still the fastest-growing source of final energy demand.

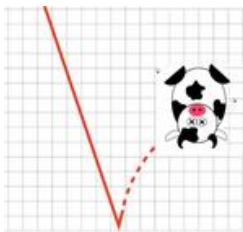
## News from the Society

- Need help hiring? **AES has deep pools of highly talented, early-career professionals seeking interesting employment opportunities.** Hiring qualified people is the main challenge for any energy transition, and the bottleneck is significant. [McKinsey](#) reports that there are about 550,000 job openings in energy. [Contact us](#) if you are hiring and need help or if you are seeking employment. *Note:* in 2021, AES editors projected a [Roaring 20s](#) employment surge in all energy sectors.

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## Fossil Fuels

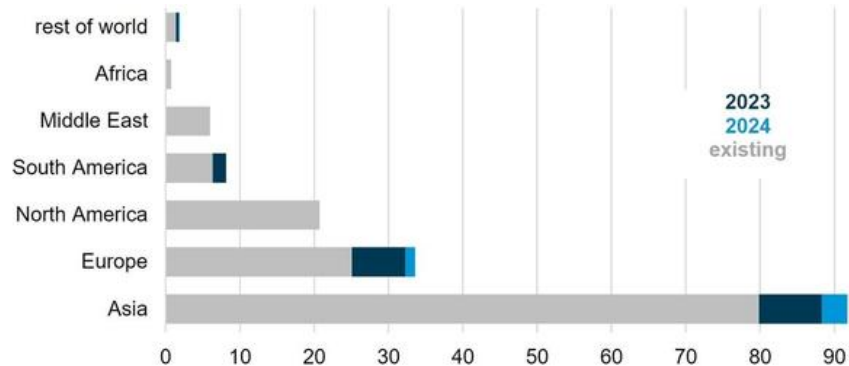
- Oil -



- **Argentina has the second largest shale-gas reserve in the world,** mostly in *Vaca Muerta*. The "dead cow" formation has been underperforming for about a decade due to perpetual political and currency [disruptions](#). But recent foreign investments in Argentina's national oil company, YPF, has led to increased production (aka a "dead cow bounce"), with some expecting Permian-like [output](#) in the next few years.

## - Natural gas -

- **Three countries began importing LNG this year (Germany, Philippines, and Vietnam)** and next year, Antigua, Australia, Cyprus, and Nicaragua will begin importing LNG. In spite of the fact that importing LNG requires substantial and expensive regasification infrastructure, in the last 10 years global LNG imports have grown 49% across [48 total countries](#); Asia (with or without China) is by far the fastest growing market. *Insert:* LNG import capacity by region, in billion cubic feet per day:



## - Coal and Mining -

- In 2022, global coal consumption increased 3.3% to 8.3 billion tons, setting a new record. **That record will be broken in 2023 due to increased industrial use of coal in Asia.** Indeed, China, India and Southeast Asian countries consume [3 out of every 4 tons](#) of coal worldwide.

## - Carbon/Carbon Capture -

- It takes a lot of energy and equipment to capture CO<sub>2</sub> before it escapes into the atmosphere. However, MIT researchers have designed a [capture system](#) that uses an **electrochemical cell at room temperature and requires less energy** than conventional, amine-based carbon-capture systems.

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## No- / Low- Carbon and Renewable Energy

- **The [market](#) for mined minerals necessary for the clean energy transition** — such as lithium, cobalt, nickel and copper — doubled between 2017 and 2022.

- Related, the [top 3](#) critical mineral producing countries (China, South Africa, DR Congo) have **increased their 75% market share** of mined lithium, cobalt and rare earth elements in the last three years.

- Germany's RWE (RWE.GE) bid of \$5.6 million for 102,480 acres **was the [only](#) winning bid in the first ever auction of offshore wind development rights in the Gulf of Mexico.**

- Meanwhile, **onshore wind energy contributes about 10% of the nation's electricity**, and 300 GW of wind development projects are still seeking transmission interconnection. The [growth](#) of the industry is due to falling prices (mainly, federal tax support) and technological improvements (turbines are getting larger).

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# Energy Policy & Geopolitics

## - Beltway Buzz -

- *Summary*: Congress is returning from summer recess with a massive to-do list and very little time. **By the end of this month, lawmakers need to pass 12 spending bills** — including disaster relief, a National Defense Authorization Act, stalled Federal Aviation Administration legislation, and the five-year Farm Bill that must pass by October 1 — to keep the government funded. Many of the federal spending bills carry significant provisions on energy and the environment, and some of the riders, like nuclear energy development, rare earth mineral acquisition, and chemical cleanups, have strong bipartisan support. Meanwhile, interest in a comprehensive permitting reform bill has waned.

- **The DoE is offering five vouchers to help [fund](#) energy technology startups**. The deadline to apply is September 26. *Note*: A second set of vouchers will be announced soon after this round closes.

- The Biden administration shifted and is now **blocking oil drilling** in Alaska's North Slope.

- **Wilson Sonsini has updated its Clean Energy and Climate Solutions Federal Funding [database](#)**, including new funding opportunity announcements (FOAs).

## - State Spotlight -

- **Colorado**: Suncor is distributing electric lawn and garden equipment (like e-lawn mowers, e-leaf blowers, e-chainsaws, etc.) to cities and counties throughout Colorado.

- **Louisiana** electricity customers experience about 80 hours of outages each year (second is Oregon with 25 hours of outages/year, followed by Texas with 19 hours of outages/year).

- **Chicago, IL; Philadelphia, PA; Baltimore, MD; Washington D.C.; Atlantic City, NJ; Wilmington, DE**: The [2c2i](#) is offering funding for startups focused on climate change mitigation and resiliency.

## - Global Spotlights -

- **Africa**: African Carbon Markets Initiative, a nonprofit that facilitates the [sale](#) of carbon credit offsets, sold \$200 million in credits to HSBC Asset Management and \$440 million to a United Arab Emirates investor group.

- **Asia**: Japan, the world's third-largest economy and fifth-largest greenhouse gas emitter, has passed its version of the US IRA (Inflation Reduction Act). The Green Transformation Basic Policy, also called GX, will commit 2 trillion yen (\$14 billion), mostly in support of [energy technology innovation](#). For comparison, the IRA offers about \$500B.

- **Europe**: UK Prime Minister Rishi Sunak announced plans to "[max out](#)" drilling for oil and gas in the North Sea.

- **Other**: *Shared Socioeconomic Pathway 3 (SSP3)*, noun, def: The name of the worst-case climate model. In this scenario, geopolitics are the primary cause of climate catastrophe, where nationalism breeds regional competitiveness and national security concerns prompt countries to retreat inward, all of which causes a feedback loop of conflict.

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## - Climate and Sustainability -



- 7 cities/regions at greatest **risk** of extreme heat:

Basra, Iraq  
Bele'm, Brazil  
Delhi, India  
Hermosillo, Mexico  
Kolkata, India  
Lagos, Nigeria  
Phoenix, Arizona

- **The worst-case climate scenario — a global mean temperature rise above 5° Celsius — now seems unlikely**, mainly because the US and Europe have reduced emissions.

- **Forests in the western US are getting old** and beginning to die off, which means they don't store as much carbon as they used to.

- Medium- and heavy-duty trucks account for 4% of all vehicles in the US but **consume 25% of total highway fuel and contribute about 30% of all highway carbon emissions**.

- AES recommends the **satellite-detected natural gas flaring interactive map** by SkyTruth.

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## - Research, Development and Markets -



- Researchers at the Korea Advanced Institute of Science & Technology and Myongji University developed a smart zinc-ion battery that, by changing colors, can visually represent its charging and discharging processes.

- **Electric vehicles and hybrids make up 16% of total US automobile sales:**

1. Hybrid: 7.2%
2. Electric: 6.7%
3. Plug-in hybrid: 1.7%

- **The number of people without access to basic clean cooking technologies (like LPG cookstoves) has halved in India in the last decade.**

- Researchers from the Los Alamos National Lab have launched Spiritus, a new startup company that will manufacture a material similar to a human lung that is capable of **absorbing CO2 from the air**. Khosla Ventures invested \$11M in Spiritus.

- Nest cofounder Matt Rogers has a new startup, Mill, which makes **high-tech trash cans that convert household food waste into chicken feed**. Mill's business model is similar to Nest because it takes advantage of federal and local government subsidies.

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## - Electricity, Power, and Efficiency –

- **Electricity is still the fastest-growing source of final energy demand.**
  - **Inefficiencies resulting from grid failures [account for](#) 1 gigaton of CO2 emissions** annually (i.e. like using diesel fuel as a backup generator), or about twice the emissions of all the cars in Europe.
  - US commercial buildings in **cold or very cold climates are five times more energy intensive** for space heating [than](#) buildings in hot or very hot climates.
  - **The DOE awarded nine tribal nations to help [modernize](#) electric grids**, including:
    - Beaver Village: \$112,917 to train utility workers on preventative maintenance.
    - Chilkat Indian Village: \$117.116 to train workers for utility repair.
    - Jamestown S’Klallam Tribe: \$169,830 to replace obsolete grid equipment.
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## - University Spotlight -

- **The DoE announced the Collegiate Energy Innovation prize.** The [Collegiate Track](#) challenges students to work alongside a community partner to identify a critical issue in their community related to the energy transition. Teams will propose a project with measurable impact in the CONCEPT Phase.
  - **University of Dayton** researchers are trying to shorten the lifespan of ‘[forever](#)’ chemicals.
  - **University of Wyoming** is building a carbon storage [database](#).
  - The **USF** Systems Lab is evaluating the Smart Grid Power [vulnerability](#) of a power grid during extreme weather events.
  - **WashU** researchers have found that wildfires have a much [greater](#) warming effect than previously assumed.
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## - Quotes -

### Hydrogen: Hope or Hype?

- "Hydrogen is super important, not only because it's one of our biggest programs. It does move the needle — depending on how you count and how far you take possible hydrogen uses."
  - DOE Undersecretary for Infrastructure David Crane
- "Hydrogen will be a huge boom that ... replaces natural gas."
  - German Chancellor Olaf Scholz
- "H2 is a silver bullet ... excess wind power can produce green hydrogen."
  - UK Energy Secretary Jacob Rees-Mogg

But ...

"I'm told that hydrogen is the Swiss Army knife for energy.... However, you can cut your hair with a Swiss Army knife, and you can prune your trees with a Swiss Army knife, and you can replace a tire on your ... bicycle with a Swiss Army knife, but you don't. And the reason you don't is because there's always something cheaper, safer and easier to use.... Hydrogen is starting to look like an economic bubble."

- [Michael Liebreich](#), BNEF

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## - Bulletin Board -

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- AES applauds the new **WE2** (Women for Energy Efficiency) [program](#) of the IAC.
- **SPOTLIGHT: Schneider Electric** is hiring [Project Development Managers](#), [Senior Account Executives](#), [Automation Engineers II](#), and [Performance Assurance Consultants](#).
- #SolarAPP+, a free online [platform](#) developed in partnership between **Sunrun** and the US DoE, helps local governments navigate the solar permitting process.
- **Unearth** is a dynamic Mobile GIS that connects assets, data, and field teams for critical infrastructure providers. Start your [free](#) trial today.

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