

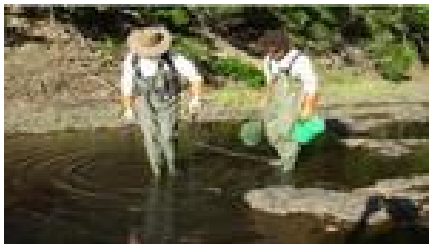


A special year-end publication for Members

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The Darwin Energy Award



Electrofishing, by Javier. In an attempt to catch more fish faster, Javier jerry-rigged a fishing rod with a live electrical wire, intending to stun fish in nearby waters. However, his lack of understanding of electrical currents and aquatic environments proved fatal. The electrified metal fishing rod became a conduit for his demise. *Note:* The Darwin award for energy is given to a

person or people who have accidentally removed themselves from the gene pool because they used energy or electricity in a particularly foolish way.

Runner up: A prisoner in Arizona was taken for an MRI. The technician told the guard he didn't need to remove the prisoner's shackles for the scan, nor did he need to remove his gun. Both the guard and the prisoner were immediately sucked up against the machine. To make matters worse, instead of hitting the big red emergency "off" button, the technician spent more than 15 minutes trying to call the supervisor to ask what she should do.

Shithead of the Year (new award category)



Michael Hart, 58, of San Diego, pleaded [guilty](#) of smuggling hydrofluorocarbons (HFCs), a potent greenhouse gas used in refrigeration and air conditioning. He posted buckets of HFCs for sale on social network sites like Facebook Marketplace and OfferUp.

Best Comedy Skit



Nate Bargatze on global warming: "As a spokesperson for all of Earth just, you know, relax. I did some research. I looked at some other planets. And they are nowhere. We are so much farther ahead. They haven't even started and we're almost done!"

Zombie Cargo



Crocs. About 1,500 shipping containers tumble overboard each year. One of the most common items from lost shipping containers: [Crocs](#).

Zombie Vessel



EM Longevity. Singapore-flagged oil tanker EM Longevity made its final voyage almost three years ago, after more than two decades at sea, and then was sent to a scrapyard in Bangladesh. However, it suddenly [reappeared](#) this year in the Dalian Port in China's Liaoning province, then again in the Yantai port in Shandong province before disappearing again. Its last known locations were in ports in Japan and the Suez Canal. (*Editor's note:* Either a new vessel stole the same identification number or the old tanker was resurrected and never actually made it into the Bangladesh scrapyard.)

Nature is *not* a trash can



Tourists. A tourist dropped a Cheetos bag in the Carlsbad Caverns National Park in New Mexico. The processed corn, softened by the humidity of the cave, formed the perfect environment to host microbial life and fungi. Cave crickets, mites, spiders and flies soon organized into a temporary food web, dispersing the nutrients to the surrounding cave and formations. Invasive microbes and molds spread on the cave surfaces, causing natural organisms to die. (*Note:* similar events happened when a tourist spit out a piece of chewing gum.) The Carlsbad Caverns now has a “leave no trace” policy.

A Wild Kingdom



Salmon on the Klamath. On October 2, 2024, the Klamath dam was removed. *The very next day*, a Chinook salmon began swimming up the undammed previously inaccessible Klamath River for the first time in more than a century. (*Note:* the former Iron Gate dam, one of four dams near the California-Oregon border, were demolished as part of a national movement to let rivers flow freely. In 1912, the Klamath was the third-largest salmon-producing river on the west coast.)

David takes down Goliath



Dixie Valley toad. The mighty Dixie Valley toad lives in hot springs in northern Nevada. A proposed geothermal development was halted because it threatened the toad's habitat. (*Note:* This is the only known population of Dixie Valley toads.)

Meanwhile, a rare [bee](#) species blocked the plans of Meta to build an artificial intelligence data center that would run on nuclear power.

Cocktail of the year



Margaritas. Researchers have shown that on a hot summer day, one of the most effective ways to cool your body is to drink a slushy, a frappé, or a frozen margarita—the drink has to contain a lot of tiny chunks of ice. Drinking a margarita can drop your internal body temperature by about 1°F within 20 minutes.

Meme of the year...

The origins of the energy crisis, the hole in the ozone, and climate change can be traced to the 1980s.



And now a word from our historian...

What geological era are we in?

Industrial?

Holocene?

Anthropocene?

Or, maybe this is the **Plasticene epoch**.



Dad jokes of the year



"I opened my electricity and water bills at the same time. **I was shocked!**"

Honorable mentions:

How do you pick out a dead battery from a pile of good ones? **It's got no spark!**

And,

What do you call it when an electron cheats? **A current affair.**

"This seems like a bad idea" award



Serbia's parliament decided to ban all lithium mining even though its Jadar lithium mine is the largest in Europe. At capacity, Jadar can produce about 58,000 tons of lithium/year. (Meanwhile, the EU is concerned about China's mineral monopoly. Did they learn anything from their dependence on Russian NG?)

"This is definitely a bad idea" award



Should an oil producing country host a climate event? Elnur Soltanov, chief executive of COP29 and also Azerbaijan's deputy energy minister, used the global climate event to broker oil deals for his country.

American Energy Society; guilty as charged

LAUGH AT YOURSELF



Full disclosure: we were going to poke fun at business executives who had not yet adopted any AI technology in their workplaces ... until we realized that we haven't either. We've never used AI to write any AES news stories, magazine articles, reports, or email correspondence.

Proudly "AI illiterate," we put together all of our publications with a bit of blood, some sweat, a few tears, and a ton of pride. We believe the content you read from AES is better for our process.

The winner of the Elon Musk Award is ...



Elon Musk, who has won this award for 9 consecutive years. Elon earned his award this year because of *Colossus*, the world's largest AI supercomputer and training center, in Memphis, Tennessee. Perhaps we need "ABE" regulations on [xAI](#)? ("All But Elon").

Captain Obvious award



We have a transportation problem. Even though the US is one of the largest emitters of greenhouse gases (on a per capita basis), it does reasonably well in 3 of 4 emissions buckets compared with other economically developed or industrial regions (agriculture, industrial processes, electricity generation). *So, why does the US have one of the highest emission rates in the world? **Transportation**.* 92% of American households own at least one car, 33% own two, and 23% own three cars or more. In addition, fuel inefficient trucks are the most popular vehicle type in America, most of which are not used for commercial or agricultural purposes. (Insert: a truck "[rolling coal](#)".")

Headline of the Year



[Climate-Controlled Sausage;](#)
[Courts Crack Down on Greenwashing](#)

Will 1 billion people really use this app?



A new \$1.5 million gift from Open Philanthropy to the EPIC Air Quality Fund will "provide 1 billion people with access to information about air quality data."

Who's got it bad?



The Alberta grid. The grid in Alberta, Canada, operates at the extremes, frequently hitting both its price floor (\$0/MWh) and price cap (\$1000/MWh). From 2020 - 2023, the grid had less than 15 hours at the price floor; in 2024, they have had 315 hours at \$0/MWh. At the price cap, the number of hours increased from about 4 hours each year from 2018 - 2023, to almost 30 hours in 2024 (a 7X increase).

Do you suffer from hydrologic whiplash?



Weather extremes. If you live in the Western US, you probably already do. In the last ten years, the region has recorded six record setting dry years and two of its wettest.

A flood of floods



Resiliency. In 2000, the federal government issued two disaster declarations for floods; in 2024, it issued 66. (Also, since the 1990s the cost of flood damage has roughly doubled each decade.)

Monty Python's Holy Grail Run Away! award



Green hydrogen. On the supply side, it is possible to make green hydrogen (hydrogen produced from renewable energy). But while cleaner hydrogen can decarbonize some industrial sectors, it will have a limited role because it doesn't compete economically, even with tens of billions of public investment. "[The Great Hydrogen Reset](#): hydrogen is expensive ... more than anybody thought." —Michael Liebreich (YouTube video)

Note: The best ways to use green hydrogen? To make chemicals instead of fuels.

This sector is flying!



- Astron Aerospace (in Kansas) has developed a hydrogen-burning airplane engine that releases mainly water and has a 60% efficiency rate.
- Wisk is developing self-flying air taxis.
- Toyota has invested \$500 million to support commercial production of Joby's electric air taxi.
- SAF are surging (led by [Twelve](#)).

Those who forget their history are ... doomed.



The energy sector often has a presentism bias, a mistaken notion that the current era is always new, different, and advanced. For instance:

- [Circular Economy](#): We give it a name as if it's new, but the concept has been practiced for a very long time, and it is still crucial for about 2B+ people around the world.
- ["Wind-powered boat"](#): A professional network invited its members to "enjoy a brisk breeze, cold drink, open water, and spectacular views of the city" on a wind-powered boat. (Umm, it's called a sail boat.)
- [Extreme weather](#): Rough waters in the North Sea? That's not new, and this isn't a story about emissions and climate change.
- An environmental catastrophe? Participants in the open water swim at the Paris Olympics were worried about "[alarming](#)" bacteria levels found in Seine River." Some triathletes withdrew from competition and the open water swims at the Paralympic Games were postponed until E. coli levels dropped. (The dirty truth about the Seine River is that it has been filthy—and bloody—for centuries.)

Continuing "those who forget their history"...



No words. Perfect.

I'll have the lobster.

No wait ... maybe I'll just have a hamburger.



High seafood diets contain significant amounts of PFAS "forever chemicals." Of all seafoods tested, shrimp and lobster had the [highest](#) levels of PFAS compounds.

Good, Bad and Ugly



Good. The National Geographic Society's Pristine Seas team found the largest coral ever recorded: 34 meters by 32 meters—longer than a blue whale. The 300-year-old "mega coral" is thriving in the waters of the Solomon Islands, and remains an essential habitat, shelter and breeding ground for an array of species from shrimp and crabs to fish. Explorer in Residence Enric Sala, who leads the Pristine Seas team, shared, "This is a significant scientific discovery. It's like finding the world's tallest tree."



Bad. The USPS administration ignored heat-index warnings during record-breaking summer temperatures across the country, issuing a new policy to local post offices: drivers and all mail carriers should "turn A/C off while delivering the mail."



Ugly. An average person generates 265 pounds of food waste per year, while a typical American produces 304 pounds of food waste per year; on the other hand, South Korea reuses 98% of its food waste.

Can you say "conflict of interest?"



There is a broken EV charger pandemic. About 25% of all EV public charging ports across the US are broken. The federal offices of Energy and Transportation in Washington, DC put together a funding package of \$150M to speed up repairs of out-of-service charging stations.

Q. Which region was the first to receive funding?

A. **Washington, DC** (of course).

A no-good-very-bad year



Indoor farming startups won over AgTech investors with bold promises to revolutionize agriculture. But this year, several ran out of money, including industry leader Bowery Farming, which had raised over \$700 million from investors with a \$2.3 billion valuation. Indoor farms suffered heavy losses after the phytophthoraen leaf-eating

pathogen invaded crops and resisted treatments. Big grocery partners like Albertsons, Safeway, and Whole Foods dropped produce from indoor farms.



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