



Gaslighting

President Trump has declared an “energy emergency,” requiring an increase in fossil fuel production—particularly the use of natural gas. U.S. gas production has already been at record levels. Meanwhile, the industry is gearing up to export it in liquid form



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THE FIELDS of environmental law, relevant policy, and the realities of politics are central to understanding both the promise and perils from the increasing production, distribution, and export of natural gas. On the plus side, gas-fueled power plants are for the time being an important complement to less reliable solar and wind power. And when gas replaces coal-fired power generation, levels of pollutants, including greenhouse gases, can tumble. Moreover, its promoters say, it may be necessary to meet growing power demand from data centers and extreme heat events. However, the long-term resource and public health negatives are considerable. Burning gas still releases considerable pollution, including greenhouse emissions; this is especially so when compared with renewables, which also are often the less-expensive option.

And now there is intense debate regarding export of liquefied natural gas, known as LNG, which is even worse for the environment but has the virtue that it can be shipped by sea. This processed gas can meet the energy needs of foreign countries, but it saddles the United States (and other LNG sources) with the pollution and infrastructure of gas development, particularly pipelines and drilling sites. But even worse, as we shall see, LNG is not much better than burning coal in terms of climate emissions. Indeed, a 2024 report by the climate group Re-claim Finance concluded that recent global expansion of LNG export terminals could lead to a “climate bomb,” equivalent to the annual emissions from all the world’s coal plants.

In the near term, in the United States meeting peak power demands with gas will make sense in some locations until renewable energy and storage are available in sufficient amounts. This means that reducing methane emissions from natural gas operations and infrastructure is critical for meeting shorter-term climate goals until this transitional fuel is phased out.

Any discussion of natural gas issues necessarily begins with an appreciation of the extraordinary growth in U.S. production, which doubled from 2005 to 2022. The use of gas for generating electricity domestically has risen with a resultant decline in prices, producing a simultaneous decline in coal use. Natural gas now accounts for more than 40 percent of national power production. The United States has become the largest producer of natural gas in the world, responsible for about a quarter of the global total. This growth was primarily due to horizontal drilling and

hydraulic fracturing—“fracking”—techniques that force sand, water, and a mix of chemicals into deep rock formations. U.S. gas production now greatly exceeds domestic demand and prices have fallen. Spot market prices reached a record low in 2024. Upstream oil and gas development in the United States exceeded \$200 billion in 2023. Global investment in LNG export projects approached \$20 billion in that year and was projected to exceed \$24 billion in 2024 when the numbers are final.

LNG is natural gas that has been cooled more than halfway to absolute zero. At that point, its volume shrinks as it liquefies, and thereby becomes suitable for shipping and storage. Chilling gas to incredibly cold temperatures requires a lot of energy, still more for keeping it cold while storing and transporting it by boat, railcar, and truck—yet more to return the liquid to a gaseous state at the point of arrival. When you add all of that up, LNG is responsible for about twice as much greenhouse gas per unit as ordinary natural gas and roughly comparable or even worse than burning coal in most countries.

Demand for gas from other countries, mostly in the form of LNG, has now become a key driver of U.S. production. The number of overseas LNG importing markets grew in 2023 to 48. In 2024, two new export plants started operation—with that, the United States became the globe’s biggest exporter of the liquefied fuel. Add to the above the fact that the United States is not alone in having LNG to sell. New export facilities are opening in several countries, including Canada, Qatar, and across Africa, all potential sources of competition—and more increases of greenhouse gases.

Advocates for LNG exports often rely on national security considerations, most recently the need to reduce and replace EU imports of Russian gas. LNG from the United States and Qatar has emerged as the EU’s prime alternative, along with demand reduction measures and expanding renewable energy. Large gas discoveries have been made in Africa, to date primarily intended for export. LNG exports have also become a political issue, as Japan promised to import more from the United States to curry favor, while China imposed a retaliatory 15 percent tariff.

The time required to permit, build, and operate the multiple components necessary for LNG export is another consideration, as new facilities planned today costing many billions of dollars will require decades to return profits to investors. If the cost of renewables, particularly solar and battery storage, continues

to fall sharply, there is a risk that some of the large long-term facility investments in LNG may become stranded assets. Importing countries with long-term contracts will be stuck paying the excess costs—and the world will continue warming from carbon dioxide and methane emissions.

FRACKING was an issue during the 2024 election because of its importance in some gas-rich states. The technology has both positive and negative environmental impacts. New drilling and natural gas recovery technologies significantly reduce the land area required to develop oil and natural gas resources. Horizontal and directional drilling techniques also make it possible to produce more natural gas from a single well than in the past, so producers need fewer sites to develop a gas field. On the other hand, fracturing produces large amounts of wastewater, which often contains contaminants.

There are multiple other environmental issues associated with natural gas production, processing, distribution, and use. Even though burning gas for electricity produces roughly half the amount of carbon dioxide as coal, it is far from zero and is growing as the United States and other countries develop data centers and also need to power growing populations facing higher individual heating and cooling demand as a result of climate change. As the Energy Information Administration reports, U.S. CO₂ emissions from burning natural gas for energy are enormous—about 35 percent of total U.S. energy-related CO₂ emissions in 2022. Renewables, on the other hand, would contribute hardly any greenhouse gas emissions and effectively zero of the other pollutants released by burning gas.

Methane released from natural gas production and distribution is a potent greenhouse gas, 84 times the effects of CO₂ when compared over a 20-year period. Methane is responsible for about a third of the warming since the industrial revolution. About a third of methane in the atmosphere is attributable to natural gas (other anthropogenic sources include cows and landfills). Thanks to its shorter atmospheric lifetime, reductions in methane emissions would have a much more immediate impact on global warming than cutting CO₂, a gas which remains in the atmosphere for centuries. Cutting methane may offer the best (perhaps the only) chance of meeting the Paris warming targets. That requires no new conventional oil and gas projects and also requires some existing produc-

tion to cease. In Dubai in 2023, the parties to the UN climate convention endorsed a transition away from fossil fuels for the first time; however, the parties also recognized that “transitional fuels can play a role in facilitating the energy transition while ensuring energy security,” language widely understood to be support for continued use of natural gas. No reference to limiting fossil fuels was agreed by the parties meeting in Baku the following year.

The Methane Pledge, a voluntary commitment in 2021 to reduce methane emissions from all sources by at least 30 percent from 2020 levels by 2030 and promoted by the Biden administration, was signed by over 155 countries. However, several of the largest emitters including China, Russia, India, and Iran, are not signatories. Biden announced a more ambitious goal, 35 percent, but the target is unlikely to be respected by the new administration.

The U.S. oil and gas industry—with substantial financial support from the federal government—has been reducing its methane emissions intensity (the amount released per unit, usually 1,000 cubic feet) although as the think tank CSIS has noted advances have been uneven, sometimes even within the same production basin. Many other countries lack the human capacity and technologies necessary to monitor and reduce gas leaks. In recent years substantial efforts have been made to increase detection of methane leaks using satellites (a strategy promoted by the Environmental Defense Fund) and locally based monitoring with financial support from the U.S. Department of Energy. These efforts have enabled more focused monitoring and control efforts. However, recent studies by Stanford researchers and the NGO Carbon Mapper found there is still reason for concern regarding the accuracy of methane tracking.

The oil and gas industry has also made major investments in carbon capture, storage, use and disposal—which we’ll call CCUS—for reducing their CO₂ emissions, a strategy consistent with continued investment in new production and supported by federal subsidies and tax credits. Since January 2022, the International Energy Agency reports, 15 CCUS projects at gas-fired power plants were announced, including six in the United States. Over 600 such projects are currently in various stages globally according to the Global CCS Institute. The IEA has become increasingly skeptical regarding the near-term promise of CCUS, noting that its history to date “has largely been one of unmet expectations.” In a statement at COP28 in Dubai, IEA Executive Director Faith Birol said to help the world meet its climate goals, the oil

Methane Powers Over the Public Interest

Earlier this century, methane was touted as the clean transition fuel to take us from coal and oil to renewable energy. Production and use of this natural gas was purportedly necessary to make our country less reliant on imports of fossil fuels from untrustworthy regimes.

Today, we know that the life-cycle pollution impacts of methane are just as bad as coal, that the gas industry and utilities have no tangible plan of cutting back in favor of proven renewables, and that for almost a decade, the United States has been a net fossil fuel exporter due to methane gas. The net result has been a rise in domestic energy prices for most consumers.

The rise and dominance of the methane industry in the United States is about raw political power that has infiltrated every branch of the federal government, as well as state governments (and foreign governments too). Let's start with the massive sums of money. Literally hundreds of billions are made every year, frequently tax-free, by methane companies owned or operated in the United States. That money employs a lot of people, funds a lot of retirement accounts, and influences a lot of politicians. Every president since George W. Bush, Democratic and Republican, has received huge donations from the industry.

As U.S. methane production has more than doubled over the last two decades, the pernicious impact of the industry's reach has been repeatedly displayed. In 2005, when Congress passed a national energy bill to promote large-scale domestic fracking of gas, which involves the massive use of water and creation of wastewater, the industry was exempted from compliance with the Safe Drinking Water Act despite ample evidence (to this day) that fracking endangers water supplies.



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During the Obama administration, EPA's Clean Power Plan allowed methane power plants to operate at existing pollution levels, in part by underestimating the greenhouse impacts of leakage through the lifecycle of extraction, transportation, and consumption.

During the Biden administration, despite ordering a pause of liquefied natural gas export facilities late in his term, LNG terminals were permitted at a rate that doubled U.S. exports. These permits were issued despite a 2021 White House study that conceded that communities located near gas production suffered health problems, lower life expectancy, and reduced property values. Low-income communities are also more susceptible to harmful home methane pollution from stoves.

Although over 330,000 miles of gas pipelines already exist in the United States, the Federal Energy Regulatory Commission and state agencies continue to approve more. Over the past 20 years, these pipelines have exploded or burst roughly once per day. Further, fracking and associated wastewater disposal have caused an exponential increase in earthquakes in Oklahoma, Alabama, Arkansas, Ohio, Pennsylvania, and other gas-producing states.

The Supreme Court has also joined the gas fan club. In its 2021 decision in *Penneast Pipeline v. New Jersey*, Chief Justice John Roberts and a 5-4 majority allowed a private gas pipeline company to condemn state land set aside for conservation, an area heretofore thought to be subject to state sovereignty.

The current administration has made no qualms about rolling back environmental and public health safeguards, including eliminating methane fees imposed by Obama and Biden, and actively promoting LNG export operations no matter what the consequence.

As the new administration forces us all to re-think our (lower-case) republican democratic values, here's hoping methane gets a second hard look as well. It's time to sever the seductive power cord that connects us all to the gas industry.

At this point, one thing is abundantly clear: if our governments cannot protect the public interest by traditional regulation and/or incentives, then harmed individuals will turn to nuisance actions in the courts. Perhaps, in the end, only the threat of losing big money will stop the methane industry from inflicting so much public harm.

and gas industry will have to let go “of the illusion that implausibly large amounts of carbon capture are the solution.”

Another early-stage, energy-intensive, and expensive means of reducing CO₂ emissions is direct air capture, a technology for removing the gas from the air through chemical processes. Research on the possibility of methane removal from the atmosphere is also being proposed, and was the focus of a 2024 National Academy of Sciences report.

CLIMATE CHANGE is also the source of significant risks to natural gas production, distribution, and use. LNG export terminals are necessarily being built along shorelines. The Gulf Coast, which has become an area popular for locating terminals, is exposed to twice the average global rate of sea-level rise and is also a region of sinking lands. To protect these expensive facilities, they are being built with massive fortifications. A project under construction on the Louisiana coast includes sea walls built on pilings buried over 200 feet in the ground and steel walls above ground 26 feet high around a 632-acre site—that’s a square mile that might be left high and hopefully still dry in the event of a major hurricane.

Natural gas facilities and power plants may also be disrupted by extreme weather events, with significant economic disruption. That concern became the basis for a report by the Federal Reserve of Dallas in 2023. The Texas deep freeze in 2021 caused numerous equipment failures, a significant factor in rolling blackouts. The efficiency of gas power plants also declines with extreme temperatures and droughts. LNG exports from Texas were again disrupted by snow and cold from a winter storm this past January.

In addition to climate change, natural gas production and use is the source of public health risks, many summarized in a 2021 White House paper. Communities located near areas of high gas production often experience pollutants that result in lower life expectancy and reductions in property values. Lower-income homes are at a higher risk of exposure to gas stove pollution because of smaller unit sizes, more people per home, old and poorly maintained appliances, inadequate ventilation, and use of the stove for heating in some poor households. Extracting oil and gas generates volatile organic compounds, a key ingredient in ground-level ozone, and multiple air toxics. Such impacts have been the basis of litigation by community and envi-

ronmental groups challenging the issuance of permits for new gas power plants.

Additional environmental risks arise from the over 2.6 million miles of gas pipelines in the United States. The increase in natural gas production and processing as LNG has required significant additional pipeline construction. According to the Environmental Defense Fund, U.S. pipelines leak between 1.2 million and 2.6 million tons of methane per year. A 2021 study of methane emissions in the Boston area found that an average of 49,000 tons leaked into the air each year—an estimated 2.5 percent of all gas delivered to the metro area and equivalent to the CO₂ emissions from roughly a quarter-million cars operating for a year. Additional environmental concerns and litigation arise from pipeline routes that run through lakes, rivers, aquifers, waterways, and sacred or protected lands.

The demand for electricity has been growing. Projections for the future are that this trend may accelerate, ironically due to the increasing occurrence of extreme temperatures. And the growth of data centers, about to be fueled even more to accommodate AI, promises even more electricity demand. President Trump has already announced a \$500 billion initiative, Stargate, with tech companies to finance dedicated power plants to meet the projected increase in demand needed by AI. Very soon after, a Chinese company, DeepSeek, announced a much lower cost, open-source AI system with much lower power demand. The result has been significant turmoil among AI developers and investors, and vigorous debate concerning the implications for power demand.

There is also considerable potential for emerging AI chip technologies to power applications using much less power. The new Chinese AI product is only one example, with startups like Groq offering products for energy efficient AI. The Electric Power Research Institute is bringing utilities together with data center and technology developers to demonstrate innovative solutions. Methods to use AI to more efficiently operate data centers are also being evaluated.

Power shortages and outages have already become an issue in several regions in the United States, resulting in delays for planned coal plant closures and utility proposals to build new gas plants. The New England power grid declared a low-level emergency in response to a heat wave in June 2024, warning more power supplies were needed. In response to outages during winter storms in 2021, Texas approved a \$5 billion increase in the state’s energy fund in 2024 to help construct new gas power plants. California had to delay planned closure of gas power plants in 2023 after

Natural Gas as a Bridge, Not a Destination

The assertion that the United States is facing an “energy emergency” is dubious at best. Since the advent of slick water hydraulic fracturing, we have produced more petroleum and gas than any other country and are also the largest exporter of liquefied natural gas. Declaring an energy emergency and enabling out-of-market construction of fossil fuel-based power facilities and systems set us on a problematic course away from competitive forces.

Natural gas will continue to play a role in the U.S. and global energy mix in the next several decades, in part to support the transition away from fossil fuels. Indeed, the industry frequently refers to gas as a “bridge fuel.” It has provided an initial path away from coal-fired power, which has sickened or prematurely killed millions of individuals globally.

It also helps to keep the lights on as electricity sectors move toward intermittent renewables—solar panels and wind turbines that do not constantly produce power. There are non-gas solutions to intermittency, including broad transmission grids that draw power from diverse regions, and batteries and other forms of storage. But as these approaches evolve, natural gas has served as a convenient filler.

Despite its contribution to the ongoing energy transition, natural gas must be an actual bridge if the human race is committed to reducing the health and environmental impacts of fossil fuels. And this bridge cannot be too long.

How can natural gas be a bridge rather than a destination? First, recognize the facts: many of the purported drivers of the “energy emergency” are not present. The United States has diminishing “reliance on foreign energy” due to burgeoning production of domestic fossil fuels and electricity from sun-



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light and wind. Several of the factors driving problematically high energy prices are constrained transmission infrastructure, growing weather extremes that necessitate massive generation capacity and weatherization investments, and rising demand.

In many cases there is adequate non-fossil fueled supply to meet this demand, but this generation lacks access to transmission. Hundreds of renewable energy projects are waiting to connect to transmission lines in the Mid-Atlantic transmission region called PJM, for example.

Beyond recognizing the real energy challenges, we should rely largely on well-designed markets, not top-down commands, to guide gas infrastructure development—particularly capital-intensive LNG export. Oil and gas prices are notoriously volatile, and those in the boom and bust-prone energy industry make calculated infrastructure investments based on deep understandings of global economic risk. This is particularly true for LNG exports and imports. If markets properly accounted for externalities through mechanisms such as the (recently repealed) methane fee, they would even more accurately guide export and gas production decisions.

Finally, so-called future proof-

ing is a challenge for all forms of energy—an infrastructure-heavy field. How can we build the gas infrastructure needed to support the energy transition without locking it in? One approach is to build infrastructure that requires little conversion for alternative future uses, such as transporting hydrogen in pipelines or burning hydrogen in power plants. Another is to build lower-cost, more temporary and flexible infrastructure.

Floating LNG import, export, and regasification terminals are an example of this, although costs have been higher than anticipated, and these terminals can be more vulnerable to storms. A gas industry serious about using the fuel as a bridge should invest more in effective, albeit temporary, infrastructure solutions.

Properly designed markets will not move us away from natural gas overnight. But with solar and wind offering the cheapest forms of new U.S. generation, market forces are moving us in that direction. Efforts to replace energy markets with top-down governmental control are ill-advised—indeed, risky, given the high capital costs of LNG export infrastructure and the rapidly changing nature of foreign gas markets.

experiencing record demand during heat extremes. Meanwhile, new gas plants are being built in northern California to avoid a repeat of rolling blackouts in 2020 and 2022. Utility promises to reduce GHG emissions are correspondingly being called into question in many states.

Yet alternatives to power from gas continue to improve. Large utility-scale batteries are increasingly the largest source of supply to the grid at night, and their prices continue to fall with scale and improving technology. Expanding the transmission system with new long-range power lines can also improve reliability, as demand varies across regions, a strategy now being promoted by several midwestern states. Other low-carbon alternatives like small modular nuclear reactors are being actively promoted.

Many more potential solutions exist. Renew Home, a spinoff of the Google Nest smart thermostat service, announced a plan for a 1 gigawatt “virtual” power plant in Texas—measured by avoided watts due to conservation—reducing the need for new generation as well as customer utility bills. Alternatives are increasingly being identified that may not be as attractive to utilities but may be cheaper, cleaner, and faster. These include ground-source heat pumps and thermal storage using compressed air, bricks, and molten salts for night time generation. However, utility regulation in many states continues to reward power companies for selling electricity and building infrastructure, not for reducing demand.

RESTRICTIONS ON natural gas in general and LNG in particular are being significantly relaxed under the Trump administration and his declaration of an “energy emergency.” The president’s cabinet appointments include several prominent supporters of fossil fuels, such as Chris Wright at the Energy Department and Doug Burgum at Interior. Burgum will also head a new National Energy Council that Trump created to fast-track projects. Other orders aim to open Alaska lands to more exploration, relax efficiency standards for appliances—and cut back support for electric vehicles and restrict federal leasing for wind projects. However, increasing oil and gas production significantly could take a decade or longer, and energy companies may find market prospects highly uncertain, particularly in a supply glut that has already lowered prices and profits.

As noted earlier, the outgoing Biden administra-

tion imposed a pause on new permits for LNG export facilities to allow for a review of the implications for national security, the economy, and climate change. Notably, the pause did not apply to projects already permitted which, if completed, would be sufficient to double U.S. exports. The Biden administration managed to release the study in January, with very negative conclusions based on projections of significant environmental impacts and questionable economic benefits. The increase in exports, DOE concluded, could reduce domestic supply, potentially increasing wholesale gas prices by more than 30 percent.

Biden’s delay on new LNG permit issuance prompted intense industry opposition and criticism from pro-fossil fuel members of Congress from both parties. The decision was termed a “wake-up call” by industry due to expectations that the permits could potentially be the source of billions of dollars in long-term contracts. The industry lobbying included many questionable claims, leading UN Assistant Secretary Selwin Hart

to call out fossil fuel companies for running a massive “disinformation” campaign. However, reflecting the complex issues involved, some more independent analysts were also critical of the report’s conclusions. Columbia professor Jason Bordoff, for example, questioned the significance of future projects and risks to perceptions of the United States as a reliable energy supplier. On his first day in office, President Trump issued an executive order reversing the Biden pause and mandating approval of an LNG export facility off the coast of Louisiana.

Numerous legal actions have been brought by local community groups and environmentalists to challenge LNG projects. For example, federal permits for two export terminals under construction in Texas near the Mexican border were delayed by the D.C. Circuit Court in August based on the need for a supplemental environmental impact statement to address environmental justice concerns.

There are several additional EPA regulations on gas power plants likely to be reversed by Congress through a Congressional Review Act resolution or by the Trump administration using a new rulemaking. (The latter could take much longer to comply with Administrative Procedure Act requirements.) In May 2024, EPA finalized regulations imposing tougher limits on GHG emissions from new gas plants that operate more than 40 percent of the time, a policy that applies to the majority being built in the United States. Regulations applicable to existing gas plants

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were delayed to allow further consideration, and under the Trump administration are unlikely to emerge. EPA also announced rules providing greater clarity on measurement and reporting of emissions.

SEC requirements for disclosure of significant environmental risks are another evolving topic. The SEC promulgated rules in March 2024 mandating disclosure of “climate-related risks that have had or are reasonably likely to have a material impact on the registrant’s business strategy, results of operations, or financial condition.” As proposed, the rules generated more than 24,000 comments, indicative of the business concern, and a court challenge followed in the Eighth Circuit. In February, the SEC acting chair directed the legal team to inform the federal appellate it was pausing its defense of the rule. While the United States may backtrack on climate disclosure, the EU and California have also adopted widely applicable disclosure requirements that could affect some of the same companies.

State policies are a significant influence on utility investments in new power generation and consideration of clean energy alternatives. Given Trump policies, these state-regulated facilities are likely to be increasingly important. In Colorado, for example, a state law mandates that utilities reduce their GHG emissions. The gas company Xcel agreed to offer customers incentives to switch gas heating appliances to electric heat pumps, resulting in a projected 14 percent decline in gas sales. New Jersey approved a gas-fired plant for backup power last year with conditions allowing use only in the event of an emergency outage. However, several states with elected utility regulators voted in pro-fossil fuel candidates in the 2024 elections, making further adoption of such measures less likely. A recent report by the American Council for an Energy Efficient Economy found only 26 states work with their utilities to promote and implement energy efficiency programs. This year Pennsylvania Governor Josh Shapiro, a Democrat, introduced an “all of the above” energy plan consistent with the political importance of fracking in his state.

Perhaps no proposed environmental regulation of natural gas has engendered more controversy than proposals to recognize the health risks of gas stoves. The issue produced colorful rants such as that from Representative Ronny Jackson (R-TX): “If the maniacs in the White House come for my stove, they can pry it from my cold dead hands.” During the 2024 presidential election JD Vance falsely asserted Kamala

Harris “wants to take away your gas stoves.” Legislation proposed but not enacted in California, New York, and Illinois would have required any gas stoves sold in the state to bear a warning label.

Another source of intense battles has been state and local government attempts to implement bans on new natural gas hookups. Such policies have been enacted by the state of New York and District of Columbia, and several municipalities including San Francisco. A ban adopted by Berkeley was struck down by the Ninth Circuit, which concluded it conflicted with federal appliance standards. A subsequent city ballot initiative to tax gas used by large buildings was rejected by voters in the 2024 elections. Republican lawmakers in more than 20 states have passed laws prohibiting gas bans. In Washington state, a ballot initiative to prevent state and local gas bans on stoves promoted by the gas industry was approved last November.

THE ENVIRONMENTAL pros and cons of natural gas are complex but overall decidedly negative. The substitution of natural gas for coal, where possible, can provide significant environmental and economic benefits. However, the damaging environmental and public health impacts of natural gas production, distribution, and use are substantial and increasingly well documented. Additional concerns arise from conversion of natural gas to LNG, an energy-intensive product with CO₂ emissions roughly equivalent or even greater than coal. Reducing methane emissions is critical for meeting short-term climate goals. Communities and low-income households near gas facilities are being impacted by toxic pollutants. The oil and gas industry deserves some credit for efforts to identify and capture gas leaks—with, incidentally, potential economic benefits—although there continues to be evidence that methane leaks remain much greater than reported.

The case for an energy future dominated by renewables is compelling—as prices decline and technological performance and options improve—although Trump has promised to obstruct wind projects. As *The Economist* recently concluded, “Solar cells will probably be the planet’s single biggest source of electricity by the mid-2030s. A decade later they may be the largest source not just of electricity but of all energy.” As battery storage and demand management techniques continue to improve, production and use of gas will be increasingly unnatural. 🐼

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