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The U.S. Is Forfeiting the Clean-Energy Race to China

As President Trump doubles down on fossil fuels, the U.S. and China offer competing visions for the future of energy



An oil field with power lines in New Mexico. PHOTO: RAMSAY DE GIVE FOR WSJ

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An empty, 1.3-million-square-foot warehouse north of Denver was supposed to be an emblem of cutting-edge manufacturing. Colorado Gov. Jared Polis heralded a California company's plan to build a battery factory on-site as a push to "power the future."

But an already weakening growth outlook for electric vehicles deteriorated as President Trump's tax bill [wound its way](#) through Congress. Amprius Technologies didn't wait for the legislation to pass and pulled out of Colorado earlier this year.

The technical know-how for such work is "still developing in the U.S.," Amprius Chief Executive Kang Sun said. "Meanwhile, other countries have spent years building mature, cost-efficient battery industries, giving them a significant head start."

Three of the four manufacturers Amprius contracts to pump out its batteries for drones, bikes and maybe one day cars are in China.

The company's U-turn underscores a new reality: America has given up its effort to challenge China in the [renewable-energy industries](#) that increasingly power the global economy.

As Trump [doubles down on fossil fuels](#), the U.S. and China are offering competing visions for the future of energy, representing the next dimension in the showdown between two superpowers vying for global influence and artificial intelligence supremacy.



THE ENERGY DEPARTMENT IS OFFERING LOAN GUARANTEES FOR ENERGY INFRASTRUCTURE INCLUDING COAL.

The U.S. renewables retreat goes far beyond the tax bill that is winding down more than \$400 billion in estimated subsidies. Federal agencies have tightened rules for new development. The

Trump administration recently terminated a multibillion-dollar loan guarantee for a Midwest transmission line, halted a [near-complete wind farm](#) off the coast of Rhode Island and canceled \$3.7 billion of funding for technologies that could reduce industrial emissions.

The whiplash has hit investment. Companies in the second quarter canceled more green-manufacturing projects than they announced for the first time on record, according to the Massachusetts Institute of Technology and the Rhodium Group. Clean-electricity investment plunged 51% from a quarter earlier. The advocacy group E2 tallied \$22 billion of electric-vehicle, battery, solar, wind and other renewables projects that were delayed or canceled in the first half.

Trump, meanwhile, is browbeating trading partners in Europe and Asia to buy U.S. oil and gas to stave off higher tariffs. But Chinese technology poses a long-term threat.

The rapid pace of EV adoption in China and elsewhere casts a long shadow over oil demand. Natural gas will be burned for decades, but increasingly competitive solar panels and batteries might sap how much of it the world will need.

China installed 277 gigawatts of wind and solar capacity in the first seven months of the year, quadruple the utility-scale additions federal analysts in the U.S. project across all power sources for 2025. That could give China a big advantage in the power-hungry AI race.

Chinese companies have also stepped up manufacturing capacity of batteries and solar modules, pumping out exports. Their global market share for those technologies has swelled to 75% or higher, according to BloombergNEF.

Countries across the world “are going to be even more reliant on Chinese technology to power their economies, to make the cars they drive,” said Wally Adeyemo, who was deputy Treasury secretary under President Joe Biden. “It creates real chokepoints for China.”

AN ENERGY REVOLUTION

Geology shaped the diverging strategies of the superpowers. The U.S. is rich in oil and gas, while China [relies on imports](#).

In a meeting with his economic team in 2014, Chinese leader Xi Jinping called for a “revolution” in the nation’s energy system. Renewables were earmarked for special state support as part of Xi’s “Made in China 2025” initiative. By owning the production chain for equipment such as photovoltaic panels and wind turbines, the government bet it could ease its energy-security challenge while creating jobs.

Even as Chinese companies continued to erect coal plants, billions of dollars of subsidies flowed to such companies as JinkoSolar and the battery maker Contemporary Amperex Technology, also known as CATL. Innovation followed.

Both companies said they strive for innovation, and it is common for governments around the world to provide subsidies to emerging industries.



A SOLAR FARM IN CHINA'S NINGXIA HUI AUTONOMOUS REGION EARLIER THIS YEAR.

By 2023, a solar module produced in China was 65% cheaper than one made in the U.S., according to the energy consultancy Wood Mackenzie. CATL said it spent more than \$2.6 billion on research and development last year alone, with a staff of more than 20,000 people.

Caroline Wang, an analyst with the Australian think tank Climate Energy Finance, said the resulting renewables buildout has recently left China's world-leading coal fleet running at less than half capacity.

"They are just leading the world by an absolutely mind-boggling margin," Wang said.

Emissions in China are estimated to have fallen 1% in the first half. Meanwhile, nearly half the passenger vehicles sold in the country last year were all-electrics or plug-in hybrids.

China's ability to build and operate vast power capacity of all types is an important asset as it gears up for a future increasingly dominated by AI. Power demand from data centers is projected to jump by double digits annually in coming years.

Facing excess capacity and price wars at home, Chinese manufacturers are looking overseas. That has helped China's BYD surpass Tesla as the world's largest electric-vehicle maker, and CATL become the biggest global battery producer.

China's exports of all-electric and plug-in hybrid passenger vehicles jumped by nearly a quarter last year, to about 1.3 million.

"It doesn't aspire to export clean tech for the sake of climate-change ideology," said David Fishman, an expert on China's power market with the Lantau Group. "Chinese companies just want to do business."

That creates challenges for other countries.

"We cannot just rely on production coming from China," said David Ruiz de Andrés, chief executive of Grenergy, a project developer operating in Latin America, the U.S. and Europe. "But right now, if we want to address the energy transition in a quick way, Europe has no alternative in the next few years."

Grenergy's portfolio shows how countries are split. In Chile, it has used gear from China in giant solar-and-battery plants in the Atacama Desert. The countries have close ties, with Chinese companies owning swaths of Chile's grid and importing its lithium and copper.

BYD sold more than twice as many plug-in vehicles in Chile as Tesla in the first eight months of the year.

In the U.S.—which Ruiz de Andrés said is "a different planet"—Grenergy has pulled back its expansion plans.



GREENERGY HAS USED CHINESE EQUIPMENT FOR SOLAR-AND-BATTERY PLANTS IN CHILE.

Attitudes in Europe are relatively ambivalent. Although the European Union has no U.S.-style tariff wall, some officials fret that Chinese energy technology comes with risks, and they are working to beef up the grid against cyberthreats.

Bart Groothuis, a Dutch member of the European Parliament, is among those worried that inverters—devices that connect wind and solar farms to the grid—made in China could be controlled remotely to disable power networks.

“We should be very vigilant about too much dependency on a country like China,” he said.

‘OIL AND GAS IS OUR FRIEND’

Washington has long been concerned about Chinese control of essential technologies, but the drive to decouple from those supply chains is no longer tethered to a parallel effort to nurture U.S. clean-energy manufacturing. Instead, Trump is pushing to open the spigots for fossil fuels.

The U.S. pledged to fast-track approvals for new natural-gas export terminals, launched an initiative to accelerate power projects and took aim at emissions standards for cars. BloombergNEF estimates EVs will comprise 27% of U.S. passenger vehicle sales in 2030, down from a projected 48% last year.



BYD ELECTRIC CARS WAITING TO BE LOADED ONTO A SHIP AT A PORT IN CHINA'S EASTERN SHANDONG PROVINCE LAST YEAR.

Discussing China's EV prowess in a recent TV interview, Commerce Secretary Howard Lutnick said: "They're always trying to get us to buy their cars because they don't have oil. We'll be helping them if we do it."

The Energy Department is offering \$200 billion in loan guarantees for energy infrastructure including coal, which has declined in the face of cheaper natural gas.

At home, Energy Secretary Chris Wright argues that boosting America's world-leading oil-and-gas production will rein in energy costs and handle ballooning data-center power demand. Abroad, he has criticized climate regulations that could hinder U.S. exports.

"Oil-and-gas is our friend right now," said Richard Goldberg, a former senior official on Trump's National Energy Dominance Council and senior adviser at the Foundation for Defense of Democracies. "It's our greatest asset to use and expand and find ways to power ourselves until we bridge to advanced nuclear power."

Some investors believe the clean-energy market will adapt to fill a demand gap that is widening with data-center growth. Renewable electricity has already overtaken coal and nuclear power. Solar remains the largest source of new capacity coming online.

“If you went to bed the day before [Biden’s climate law] was passed and woke up yesterday, you’d still believe the transition is happening,” said Jonah Goldman of the investment firm Generate Capital.

For now, clean-energy businesses are staggering ahead.

Companies such as Georgia-based Alternative Energy Southeast are racing to install rooftop solar panels before subsidies expire at year’s end. After that, Chief Executive Montana Busch expects residential demand to drop by as much as 90%.

“The leadership of my country is against me in a lot of ways,” Busch said. “Other countries aren’t slowing down.”

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