

**ECOLE NORMALES SUPERIEURES
ECOLE POLYTECHNIQUE**

CONCOURS D'ADMISSION 2026

MERCREDI 15 AVRIL 2026

14h00 - 18h00

FILIERE PSI - Epreuve n° 5

ANGLAIS (XUSR)

Durée totale de l'épreuve écrite de langue vivante (A+B) : 4 heures

L'utilisation de dictionnaire et traductrice n'est pas autorisée pour cette épreuve.

**PREMIÈRE PARTIE (A)
SYNTHÈSE DE DOCUMENTS**

Contenu du dossier : trois articles et un document iconographique pour chaque langue.

Les documents sont numérotés 1, 2, 3 et 4.

Sans paraphraser les documents proposés dans le dossier, vous réaliserez une synthèse de celui-ci, en mettant clairement en valeur ses principaux enseignements et enjeux dans le contexte de l'aire géographique de la langue choisie, et en prenant soin de n'ajouter aucun commentaire personnel à votre composition.

La synthèse proposée devra comprendre entre 600 et 675 mots et sera rédigée intégralement dans la langue choisie. Elle sera en outre obligatoirement précédée d'un titre que vous choisirez.

**SECONDE PARTIE (B)
TEXTE D'OPINION**

En réagissant aux arguments exprimés dans cet éditorial (document numéroté 5), vous rédigerez dans la langue choisie un texte d'opinion d'une longueur de 500 à 600 mots.

SYNTHÈSE DE DOCUMENTS (A)

A- Document 1:

Old fossil-fuel plants are becoming green-energy hubs

Aug 20th 2025 *The Economist*

For more than a decade the Tamaya power station in the Atacama Desert in northern Chile powered its local region using diesel. Today a shimmering array of solar panels stands in place of the dirty generator. Engie, the French utility that owns the power station, converted it into a solar-energy and battery-storage plant earlier this year. Juan Villavicencio, the company's boss in Chile, describes the site as a place where "the past and future of energy infrastructure meet".

Others share his vision. Developers, governments, startups and utilities around the world are turning former fossil-fuel power stations, and old oil and gas wells, into renewable-energy plants and testbeds for green technology. This way the relics of the fossil-fuel era will be put to good use. "It makes no sense to just throw [them] away," says Arash Dahi Taleghani, an engineer at Pennsylvania State University.

According to the Carnegie Endowment for International Peace (CEIP), a think-tank, there are around 170 ongoing or completed projects to transform old fossil-fuel power stations into renewable-energy plants. The trend is spreading across the world, says Milo McBride, a research fellow at the CEIP. China, for instance, recently announced its first project—parts of the Baotou coal power plant in Inner Mongolia will be turned over to wind and solar generation, as well as battery storage.

The sites offer connections to the grid, which can save developers looking to get renewable-energy projects online lengthy delays. Researchers led by Umed Paliwal at the University of California, Berkeley, have found that 1,000 gigawatts (GW) could be added to the American grid capacity if renewable-energy projects were hooked up to existing fossil-fuel plants and probably more if retired sites were exploited. According to the International Energy Agency, an official body, renewable-energy projects that could generate about 3,000 gigawatts (GW) worldwide are waiting for a grid connection. Repurposing could help resolve that issue.

Old oil and gas wells could also be attractive. A study by Mary Kang at McGill University found that most idle wells in America and Canada might be suitable for at least some kind of geothermal-energy production. Benjamin Burke, the boss of Gradient Geothermal, an American startup, says that the cost of drilling a new well deep enough to host the technology can be prohibitive. Using old wells is comparably cheap, even if their location and build are more suited to oil and gas production.

Yet repurposing facilities presents challenges. Some former fossil-fuel sites are too compact to host vast wind and solar farms. Many will not be able to generate as much power as they did before. Around 35% of projects in CEIP's database partly or wholly deploy technologies that produce carbon emissions, such as bioenergy (burning

organic matter to produce heat) and hydrogen blending (mixing green hydrogen with natural gas).

What's more, regulatory roadblocks may limit progress. Alexandra Klass and Hannah Wiseman, legal scholars at the University of Michigan and Penn State Dickinson Law, say that obtaining permits to develop brownfield sites in America is often costlier than getting permits for pristine land. And, although some support may exist at state level, President Donald Trump has axed federal renewable-energy tax credits that reduced the cost of repurposing.

Nevertheless, demand for more ambitious green projects should continue to grow. Over the next 15 years, 300GW of coal power capacity is set to be retired around the world, and the cost of producing renewable energy could fall by up to 49%, according to BloombergNEF, a data provider. Other countries have created a more nurturing environment than America. Keith Hirsche, founder of RenuWell Energy Solutions, a renewable-energy company, says Canadian authorities fast-tracked his firm's permit to build because it was on a brownfield site. In Indonesia the national energy-transition strategy includes plans to transform old fossil-fuel assets. Many more plants will soon be pumping out green power.

A- Document 2:

There's a Race to Power the Future. China Is Pulling Away.

June 30, 2025 *The New York Times*

David Gelles in New York; Somini Sengupta in Brasilia and in Tirunelveli, India; Keith Bradsher in Beijing; and Brad Plumer in Washington.

In China, more wind turbines and solar panels were installed last year than in the rest of the world combined. And China's clean energy boom is going global. Chinese companies are building electric vehicle and battery factories in Brazil, Thailand, Morocco, Hungary and beyond.

At the same time, in the United States, President Trump is pressing Japan and South Korea to invest "trillions of dollars" in a project to ship natural gas to Asia. And General Motors just killed plans to make electric motors at a factory near Buffalo, N.Y., and instead will put \$888 million into building V-8 gasoline engines there.

The race is on to define the future of energy. Even as the dangers of global warming hang ominously over the planet, two of the most powerful countries in the world, the United States and China, are pursuing energy strategies defined mainly by economic and national security concerns, as opposed to the climate crisis. Entire industries are at stake, along with the economic and geopolitical alliances that shape the modern world.

The Trump administration wants to keep the world hooked on fossil fuels like oil and gas, which have powered cars and factories, warmed homes and fueled empires for

more than a century. The United States is the world's largest producer of oil and the largest exporter of natural gas, offering the potential for what Mr. Trump has called an era of American "energy dominance" that eliminates dependence on foreign countries, particularly rival powers like China.

China is racing in an altogether different direction. It's banking on a world that runs on cheap electricity from the sun and wind, and that relies on China for affordable, high-tech solar panels and turbines. China, unlike the United States, doesn't have much easily accessible oil or gas of its own relative to its huge population. So it is eager to eliminate dependence on imported fossil fuels and instead power more of its economy with renewables.

The dangers for China of relying on politically unstable regions for energy were underscored recently when Israel attacked Iran, which sells practically all its oil exports to China.

While China still burns more coal than the rest of the world and emits more climate pollution than the United States and Europe combined, its pivot to cleaner alternatives is happening at breakneck speed. Not only does China already dominate global manufacturing of solar panels, wind turbines, batteries, E.V.s and many other clean energy industries, but with each passing month it is widening its technological lead. (...)

Washington is essentially pursuing a strong-arm energy strategy, both at home and abroad with allies and friends. It's premised on the idea that the modern world is already designed around these fuels, and the United States has them in abundance, so exporting them benefits the American economy even if solar energy is cleaner and often cheaper.

The competition between the United States and China to sell the world their wares has serious consequences for the health of the planet.

Burning fossil fuels for more than 200 years has helped create the modern world while delivering great prosperity to developed countries such as the United States, which ranks historically as the biggest emitter of greenhouse gases. But it has also led to what scientists now say is a growing crisis. The carbon dioxide pumped into the atmosphere by the burning of oil, gas and coal acts as a heat-trapping blanket, leading to rapid global warming.

Cheap Chinese-made solar, batteries and E.V.s have made the pivot to cleaner technologies possible for many large economies including Brazil, South Africa and even India, a regional rival to Beijing. That affordability is crucial for bringing down global emissions.

A- Document 3:

Nevada's Lithium Could Help Save the Earth. But What Happens to Nevada?

Many climate experts see its deserts as a place to build the green-energy future. For two local activists, the price is too great.

Jan. 24, 2025 *The New York Times*
Meg Bernhard

Few Americans follow the nation's lithium-mining industry as closely as Patrick Donnelly. Since 2021, he has set up 30 or so Google Alerts for variations on the word "lithium," and he uses the findings to populate an online map of projects across the West. It is so useful that one industry insider has referred to it as "an investor's handbook."

This is paradoxical: Donnelly, who works at an environmental nonprofit called the Center for Biological Diversity, is one of the industry's most vigilant watchdogs. The true spirit of his monitoring and mapping efforts comes through in a Twitter exchange he had with one mining firm, Rover Critical Minerals, a few years ago. In November 2022, he noticed an alert for a Rover project in southern Nevada, but he couldn't find any information about its location. He decided to message Rover on Twitter. "In all of your materials, you never actually state where your Let's Go Lithium project is located," he wrote. "I'd like to add it to my lithium tracker map."

The proposed mine, the company replied, would be in Pahrump, Nev., a town where Donnelly did his grocery shopping. But a month passed before a different alert revealed the project's precise location: the edge of Ash Meadows National Wildlife Refuge, a beloved and biodiverse wetland not far from where Donnelly lived.

He messaged the company again. "Just saw your map," the message began. "I would abandon that project right now, because you stand zero, and I mean zero, chance of getting it permitted." He ended, "No chance that mine moves forward."

The company wrote back. "We believe otherwise. We are well outside any area of environmental concern."

(...)

Donnelly's attitude toward lithium complicates an expert consensus that America must rapidly increase its capacity for renewable energy to confront climate change. Those heeding that warning have been prioritizing wind, solar and geothermal projects — as well as lithium mines, which provide the key ingredient for the batteries required to store all that renewable energy and also power electric vehicles.

This "green-energy transition" is underway on public and private lands across the country: Today there are more than 4,000 utility-scale solar facilities nationwide; more than 70,000 wind turbines scattered across the United States, a sizable number of which are in Texas; and 51 geothermal power plants on public lands around the West.

(...)

In the process, the expansion of renewable-energy infrastructure is fundamentally reshaping the landscape of the West, often at the expense of ecosystems. Lithium mining in particular alarms conservationists. Depending on the type of process used,

mining can pollute groundwater, emit carbon dioxide, create toxic waste and destroy habitats. As companies scramble to acquire mineral rights, in many cases under an antiquated mining law, some conservationists are criticizing the fact that there isn't a federal plan to protect the landscape, without which they fear a ruinous mining free-for-all. (...)

Among the most strident of these critics are Donnelly and his partner, the scientist Naomi Fraga, who are well known in the American West for their work to protect Nevada's ecosystems. While they understand the necessity of renewable energy, they also warn against the devastation that such projects might bring. They want the federal government to create a plan to identify sensitive places and prioritize the most environmentally friendly green-energy projects — especially when it comes to lithium mining.

The proposed Rover mine is just one of many projects they've opposed (...)

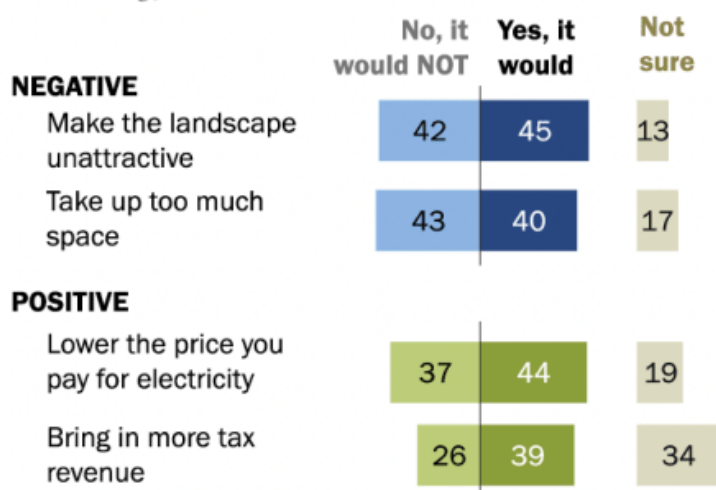
Their work highlights the difficult calculus stakeholders must grapple with as they confront climate change. To help prevent catastrophic global warming that will devastate ecosystems, the nation needs to build renewable-energy infrastructure. Domestically mined lithium is crucial to that infrastructure, green-energy advocates say, even if it means the prospect of destruction in parts of southwest Nevada. "There's always a trade-off," says Mark Jacobson, a Stanford University professor of civil and environmental engineering who studies energy. "But we have to do something. And the cleanest thing to do is add solar, to add wind, and that will replace much dirtier fossil fuels."

Donnelly and Fraga think that these trade-offs might result in more enduring environmental damage than renewable-energy advocates want to recognize. They want people to think critically about these possible costs and are fighting certain lithium mines in order to reframe the national conversation: In our rush to harness green energy, what consequences might we be inviting?

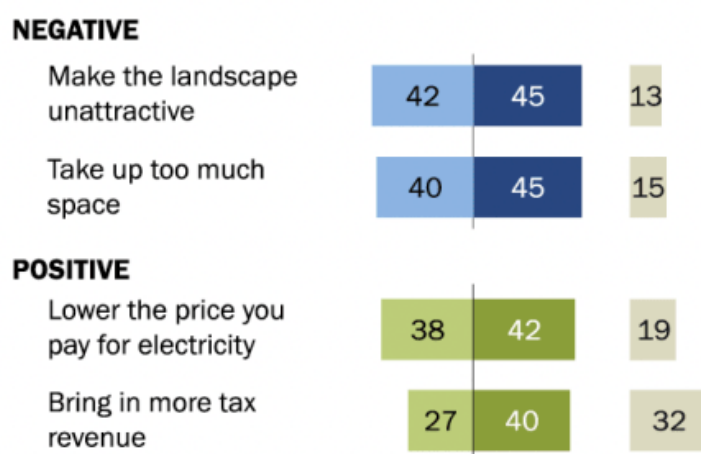
A- Document 4:

Americans have mixed views on how wind and solar power developments would impact their community

*% of U.S. adults who say that if a **solar power farm** to generate electricity was built near their community, it would ...*



*% of U.S. adults who say that if a **wind power farm** to generate electricity was built near their community, it would ...*



Note: Respondents who did not give an answer are not shown.

Source: Survey of U.S. adults conducted May 13-19, 2024.

"How Americans View National, Local and Personal Energy Choices"

PEW RESEARCH CENTER

www.pewresearch.org, June 2024

TEXTE D'OPINION (B)

The high cost of California's green energy policies

Joel Kotkin, *The Los Angeles Times*, May 7 2025

Since the early 2000s, governors and legislators from both parties have signed onto a climate agenda in California that is making energy steadily unaffordable.

Gasoline in California, according to AAA, which tracks national gas prices daily, costs an average of about \$4.78, compared with \$3.16 nationally. The cost of electricity in the state is now the highest in the continental U.S., at 30.22 cents per kilowatt hour.

You might want to blame the discrepancies on greed — Big Oil practicing price gouging, as Gov. Gavin Newsom has suggested, and utilities lining their shareholders' pockets. But at the pump and on your light and power bill, California's high energy prices are better understood as a self-inflicted wound, traceable to the state's quixotic green energy policy.

The notoriously high cost of gas in the state is the result of a lot of factors — we tax gas to pay for road infrastructure and a less-polluting fuel mix in the summer months. Last year, Sacramento decided to move harder, faster toward its goal of a carbon-less future, adding disincentives for refineries and incentives for EVs that the California Air Resources Board has predicted will add 47 cents a gallon at the pump.

Overall, California's zero-carbon climate policies — pushing EVs as your next car purchase and heat pumps to cool and heat your house — rely largely on electricity that in turn depends on expensive, and intermittent, energy sources, such as wind and solar. (...)

Unfortunately, as green-skeptic energy analyst Robert Bryce notes in books and on his Substack, wherever governments have tried to base their energy supply on a swift shift to renewables — the UK, Germany, California — the result has been huge spikes in energy prices. Germany's vaunted industrial economy has slowed in part, according to most observers, because of the high cost of renewable energy.

These costs also undermine California's prosperity in multiple ways. They add to the state's "energy poverty," increasing an already extreme divide between haves and have nots, and not just because of how hard it is for low-income Californians to pay their gas and utility bills. (...)

Fortunately, energy realism may finally be back in fashion. Newsom's Public Utility Commission last year decided to keep the Aliso Canyon natural gas storage facility online for now, explicitly in response to the need for gas to help bring down power bills that have been hijacked by the high cost of electricity. Newsom also granted the controversial Diablo Canyon nuclear plant a stay of execution despite environmental protests. He has even sought to keep oil refineries in the state from shutting down.

California can only prosper if it can develop affordable, reliable energy from all sources, including the state's fossil fuel supplies. Without a change of direction, the trajectory is building toward a neo-feudal future — a state widely divided between the few rich and the many struggling.

Joel Kotkin is a contributing writer to Opinion Voices, the presidential fellow for urban futures at Chapman University and senior research fellow at the Civitas Institute at the University of Texas, Austin.