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## China's paradox: The world's biggest polluter and a leader in the environmental transition

The country is building nearly two-thirds of the world's solar and wind power projects – eight times more than the US – while continuing to open new coal-fired power plants.

By Harold Thibault

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The dynamic capital of Shandong province may embody China's ambivalence toward the climate crisis. The country, which emits by far the most CO<sub>2</sub> (a third of global emissions for a population representing just under a fifth of the world's total), is also the one making the most effort to install renewable energy sources. The city of Jinan, with a population of over 5 million and bordered by the Yellow River to the north and the sacred Tai Mountain to the south, is constantly under construction, with fields of solar panels sprouting up alongside brand-new coal-fired power plants.

"There's still a lot of coal consumption because otherwise we wouldn't have enough electricity, but we can imagine that one day, green energy will replace it," said Chen Ying, standing on her doorstep, on the western edge of the city. The 36-year-old woman and her family benefit directly from the change. Early in the summer of 2023, representatives of a state-mandated solar panel installation company approached them with an offer to join the government's fast-track photovoltaic policy, paying them to generate electricity on the roof of their home.

At first, the housewife and her husband, a truck driver, were suspicious: Were they being asked for their property rights, or was this some other kind of scam? But some neighbors had already taken the plunge, and the offer was tempting. Installing the panels took just one day's work, with no effort or expense on their part. Since then, the family has been earning 60 yuan per panel per year, for a total of 3,600 yuan (€460), a significant additional income.

Programs like these are springing up all over Jinan, at a time when China is leading the world in the installation of renewable energies. According to the San Francisco-based NGO Global Energy Monitor, China is building nearly two-thirds of the world's solar and wind power projects, eight times more than projects underway in the US. In July, China reached its target – six years ahead of schedule – of installing 1,200 gigawatts of solar and wind power by 2030, while the European Union is currently at 480 gigawatts. In practice, however, 59.6% of China's electricity still came from coal in the first half of 2024. This figure, just below the 60% threshold, illustrates the challenge of integrating photovoltaic capacity into the grid and ensuring its stable management.

### A boost for its economy

China's efforts keep its factories running, producing the majority of the world's solar panels today, driven by the appetite of its entrepreneurs and boosted by public support policies. The high volume of production has pushed down prices, wiping out what's left of the industry elsewhere, while encouraging Beijing to install even more to absorb production and maintain jobs. As a result, China is faced with the challenge of storing the energy, which is intermittent as it depends on weather conditions, but it is taking advantage of this in the battery sector in which it is already dominant. Its companies are now able to offer the private sector or local authorities entire industrial cabinets of batteries.

China sees this as a long-term strategic advantage: Whereas the 20<sup>th</sup> century was marked by dependence on imported oil, renewable energies are set to become a key source of energy in the 21<sup>st</sup> century, and much of this energy is now in Chinese hands.

"The harsh reality is that the race for low-carbon technologies increasingly resembles international ping-pong competitions, where most of the action revolves around the Chinese players," summed up Li Shuo, director of the China Climate Center at the Asia Society Policy Institute, a US-based think tank.

On the international stage and in climate negotiations, China's leaders are now positioning the country as a transition leader, even though it remains the largest emitter. This rhetoric was particularly evident in early September at the China-Africa Cooperation Summit in Beijing, where the Chinese government pledged to launch some 30 transition projects on the continent, stressing that it is the key to self-sufficiency and a response to climate crises, not to mention that these new opportunities are a boost for its economy.

At a time when the real estate market is losing momentum and internet technology companies are being reprimanded by Beijing for being too powerful, the transition economy is now seen by China's leaders as an important engine of economic growth.

"Over the last two or three years, the renewable energy sector has become strategic, a necessity for GDP," noted David Fishman, Shanghai-based analyst for the Lantau Group, a consultancy firm specializing in Asian energy markets.

### **Reducing dependence on outside sources**

It is also an important political lever. When Western leaders who want to speed up the energy transition have to face the problem of having to buy equipment like solar panels, wind turbines and batteries in China – not an easy sell to the public and when it comes to jobs – China can tell its population that it is strengthening its industry while investing in the transition.

"China has laid a solid foundation for the development of new energy sources, and is playing a very important role in global energy transformation and the response to climate change," proudly stated President Xi Jinping on February 29.

These efforts are paying off. Ten years after the Chinese government, under pressure from public outrage over health problems, launched a "war on pollution" in March 2014, a University of Chicago study published in August estimates that China has managed to reduce its air pollution by 41% in 10 years, allowing its citizens to gain two years of life expectancy.

In addition to addressing the health and future concerns of the emerging middle class, the strategic goal is also to reduce China's dependence on imported energy sources. The example of

Europe's dependence on Russian hydrocarbons, despite the war in Ukraine, has once again reminded Beijing of the dangers of such dependencies.

### **Growing demand for electricity**

However, the obsession with energy security in Jinan and elsewhere in China reveals a much less green reality. Economic development is driving up demand for electricity, as is the increased use of air-conditioning in increasingly sweltering summers. For China, coal remains indispensable because it is readily available in the country at low economic cost, despite its impact on the environment.

Along the G104 expressway, which runs southwest from the center of Jinan, a large chimney is growing taller by the day, already reaching 200 meters, accompanied by two cooling towers just behind it. At the site entrance, concrete mixers and dump trucks take turns, while workers in orange safety vests and yellow safety helmets step outside for a cigarette. On the huge scaffolding, a banner proudly reads: "Reliability, precision, team spirit." Soon, a new combined heat and power plant will open its doors here, on the outskirts of the city.

This project was launched in 2023, a year when China also began building 70 gigawatts of thermal power plants – four times more than in 2019 – compared with less than four gigawatts worldwide, the lowest global level since 2014. China accounts for 95% of new coal-fired power plant capacity, according to research by Global Energy Monitor, although the pace may have slowed by 2024.

These paradoxical construction projects reflect the growing concerns of local officials about the evolution of China's energy mix, and the challenges these changes entail. The poor experience of Sichuan is often cited as an example. The large, mountainous western province, crossed by the Yangtze River, used to be regarded as a model of renewable energy, leading the way in electricity generation by dams, some of which was exported via high-voltage lines to the more densely populated and industrialized regions of the east, under long-term contracts.

### **Power cuts**

In the summer of 2022, however, a historic drought drastically reduced river levels, while sweltering heat led to massive use of air conditioners. As supply contracts with coastal provinces – which are mandatory – continued to be enforced, Sichuan was forced to apply severe electricity restrictions to its businesses, followed by power cuts to its population, impacting the economy and angering residents.

Since then, no provincial official wants to risk such a backlash from public opinion or the disapproval of Beijing, which keeps a close eye on the stability of the situation. Infrastructure stimulus measures implemented since 2022, in response to the economic slowdown, have led to an increase in provincial approvals for new coal-fired power plant projects, including Jinan's. Local leaders seem to prefer to have too much rather than too little, focusing solely on the province they oversee.

The country is trying to develop a "spot" trading energy market, similar to the one that exists between European countries, in order to transfer electricity from one region to another according to available resources and actual needs. However, this requires major upgrades to the grid.

China's efforts, along with its progress in nuclear power and the slowdown of its economy, should reduce global coal consumption by 1.7% per year until 2026, according to the International Energy

Agency. The speed with which thermal power plants are replaced by solar panels in cities like Jinan will ultimately determine what happens with the global energy transition.

# FINANCIAL TIMES

## How red Texas became a model for green energy

The state's solar surge proves that the energy transition defies politics

JOHN BURN-MURDOCH

MAY 24 2024

A remarkable thing happened in March this year. For the first time, the fossil fuel rich state of Texas generated more electricity from solar power than from coal.

Perhaps even more striking, on the early afternoon of May 14, Texas briefly hit 19.1 gigawatts of energy generation from solar farms. This set a new US-wide record according to figures from Grid Status, which tracks electricity generation data across the US.

What makes the achievement even more significant is the state that Texas pushed into second place: California. A progressive stronghold that has mandated clean energy targets for more than 20 years and built up a dominant lead in utility-scale solar energy, it was outshone by a Republican-led fossil fuel powerhouse, governed by a serial obstructor of clean energy legislation.

As recently as five years ago this would have been unthinkable. In 2019, Texas had just over 2GW of large-scale solar plants to California's 13GW. Since then, however, the Lone Star State has entered into a solar boom. As of this month it has deployed 23.6GW of utility-scale solar to California's 21.2GW.

When the latest batch of solar plants come on line, Texas will have added more solar capacity per capita in a single year than any US state and any country in the world, according to data from energy think-tank Ember. Almost overnight, a state synonymous with dirty fuels has become America's clean energy giant, and the trend is still accelerating.

Texas is still heavily reliant on gas, but its transition towards clean energy is emblematic of a dynamic that plays out time and time again in climate discussion: economics has a habit of winning out over politics and ideology. The fact that most Texans want to increase fossil fuel production, and are more hostile than the average American to clean energy targets, is powerless in the face of financial incentives.

It's not that politics don't matter. But economics, which shape politics, can turn even the biggest climate change sceptic into a clean energy evangelist. This is exactly what has happened in Texas, where an unlikely coalition for clean energy has formed. Urban progressives in blue cities like Austin have been joined by rural west Texas conservatives who recognise that renewable energy is becoming a critical source of economic development for their communities.

Despite accounting for only a tiny portion of the state's population, rural counties will receive more than 60 per cent of the tens of billions of dollars expected to flow into Texas from renewables and storage over the coming years, according to a report by Joshua Rhodes, an energy policy expert and research scientist at the University of Texas at Austin.

Notably, the report is full of pro-renewable testimonials from small business owners, ranchers and Republican politicians. It was funded by a conservative organisation and pro-business think-tank. Gone are the days when pamphlets extolling the virtues of clean energy were the preserve of progressive non-profits appealing to the reader's better nature.

Perhaps the clearest sign yet that economics has transformed the politics of climate change in Texas came last year, when several proposed legislature bills aimed at making it harder to build new solar and wind installations failed to make it to a vote.

The ease of building and connecting new renewable projects in Texas relative to elsewhere has been one of the key reasons for the state's clean energy boom. Its electricity grid operator uses a "connect and manage" model. This assesses new projects based on the essential local requirements needed to connect to the grid instead of carrying out protracted studies into the broader potential ramifications.

The result is that new power generation takes about half as long to come online in Texas as elsewhere. The US Federal Energy Regulatory Commission is now looking to follow a similar approach in order to speed up the transition nationwide. Red Texas has become the model for going green.

The polarised nature of US political discourse can make it seem as if renewables are still a divisive topic. But shift your gaze from cable news to the plains of Texas and a different story is unfolding. For those with skin in the game and an eye for a good investment, clean energy has become a no-brainer.



## **EU emissions fall by 8% in steep reduction reminiscent of Covid shutdown**

Decline over 2023, helped by switch to renewable power, means greenhouse gas pollution is now 37% below 1990 levels

**Ajit Niranjana**

Thu 31 Oct 2024

The EU's greenhouse gas emissions fell 8% last year, the European Environment Agency (EEA) has found, as the continent continues to close down coal-fired power plants and make more electricity from sun and wind.

The steep drop in planet-heating pollution in 2023 is close to the fall recorded in Europe at the start of the Covid-19 pandemic, when travel restrictions grounded planes and shuttered factories.

The findings come as scientists say that the climate crisis acted to strengthen the furious downpours that inundated southern and eastern Spain on Tuesday, killing more than 150 people.

"The impact of climate change is accelerating," said the EEA's executive director, Leena Ylä-Mononen. "This leaves us no choice but to strengthen our resilience to climate change and reduce greenhouse gas emissions."

The report found the EU's greenhouse gas emissions were now 37% below their levels in 1990.

The European Commission, which released a separate progress report on Tuesday, described the reduction as "very encouraging". It said it "reinforced confidence" in the EU's ability to meet its target of cutting emissions 55% by 2030.

But the EEA found there was still a gap to close. Current policies from member states are expected to reduce emissions by 43% by 2030 from their 1990 levels. Planned measures that have not yet been rolled out would bring this up to 49% – still leaving a gap of six percentage points.

"The significant emissions reductions in 2023 mark a major step towards the overall 2030 climate target," the authors wrote. But "an acceleration of efforts will be needed", they added.

The average European has done more than most to clog the atmosphere with planet-heating emissions, but efforts in recent decades to cut pollution have narrowed the gap. The report found the average European emitted 7.26 tonnes of greenhouse gas pollution in 2023, slightly more than the global average of 6.59 tonnes.

The biggest drop in pollution last year came from the energy sector, the EEA found, as a result of the rapid rollout of renewable energy, which has accelerated the shift away from fossil fuels.

Industrial emissions fell 6%, as some factories grew more efficient and others cut production, while similar progress was observed in the building sector.

Progress in other sectors was well below the levels needed to hit net zero emissions by 2050. Emissions from farms fell by just 2% last year, while the transport sector's emissions fell by just 1%.

The findings come as diplomats prepare for the Cop29 climate summit in Azerbaijan in November, with the aim of speeding up and paying for the shift to a clean economy.

Wopke Hoekstra, the EU's climate commissioner, said the EU had shown it was possible to "take climate action and invest in growing our economy at the same time".

He said: "Sadly, the report also shows that our work must continue, at home and abroad, as we are seeing the harm that climate change is causing our citizens."

A separate analysis on the climate news website Carbon Brief on Tuesday suggested that emissions in China, the world's biggest emitter, were nearing a peak. It found emissions stayed steady in the third quarter of this year, and would fall overall in 2024 if there were a drop of at least 2% in the final quarter. The country's official plan is to peak before 2030.

Lauri Myllyvirta from the Centre for Research on Energy and Clean Air wrote: "While the rapid clean-energy growth points to the possibility of China's emissions peaking imminently, policymakers are still setting an expectation that emissions will increase until the end of the decade and plateau or fall very gradually thereafter."



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**Le Monde**

### **World's top court paves way for climate reparations**

The International Court of Justice, the UN's highest court, has issued a landmark advisory opinion on states' legal obligations to tackle climate change, which could pave the way for litigation over reparations.

Le Monde with AFP

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The world's highest court declared, on Wednesday, July 23, that states have a legal obligation to tackle climate change and that failing to do so was a "wrongful act" that could open the door to reparations. [...] ICJ advisory opinions are not binding but carry considerable moral and legal weight, and Wednesday's decision was seen as the most consequential in a recent string of landmark climate rulings. [...]

It also said that the climate "must be protected for present and future generations," and the adverse effects of a warming planet "may significantly impair the enjoyment of certain human rights, including the right to life."

Campaigners and countries on the climate frontlines hailed a milestone moment in the fight for accountability from big polluters most responsible for global warming. "This is a victory for our planet, for climate justice and for the power of young people to make a difference," said UN Secretary General Antonio Guterres.

The United States, which has embraced a fossil fuel agenda under President Donald Trump, had a muted response to the ruling. A US State Department spokesperson said it "will be reviewing the Court's advisory opinion in the coming days and weeks." French Environmental Transition Minister Agnès Pannier-Runacher hailed the advisory opinion as a "victory for the most vulnerable states, a victory for France and a victory for the climate." [...]

#### **Wealthy states vs. smaller ones**

The debate pitted major wealthy economies against the smaller, less developed states, which are most at the mercy of a warming planet. Big polluters, including the US and India, argued that legal provisions under the UNFCCC were sufficient, and that a re-examination of state responsibility in relation to climate action was not necessary.

Yet the smaller states refuted this, saying the UN framework was inadequate to mitigate climate change's devastating effects and that the ICJ's opinion should be broader. These states also urged the ICJ to impose reparations on historic polluters, a highly sensitive issue in global climate negotiations. They also demanded a commitment and timeline to phasing out fossil fuels, monetary compensation when appropriate and an acknowledgement of past wrongs.

#### **'No more delay'**

Outside the court in The Hague, about 100 demonstrators waved flags and posters bearing slogans like "No more delay, climate justice today." The journey to the world's highest court was six years in the making, spearheaded by students from the climate-imperilled Pacific region and championed by the tiny island nation of Vanuatu.

Speaking to reporters outside the court, Vanuatu's Climate Change Minister Ralph Regenvanu said that it was "a very strong opinion at the end" and better than hoped. "We can use these arguments when we talk with our partners, some of the high-emitting states. We can say you have a legal obligation to help us. This helps us in our arguments. It's going to give us a lot more leverage (...) in all negotiations."

## **The existential question for climate activists: have disruption tactics stopped working?**

Jack Shenker

As XR shifts away from radical action and the UK government restricts the right to protest, the climate movement is asking tough questions

Mon 6 Mar 2023 13.56 CET

On a bright, chilly morning in January, seven women – some young, some older, all condemned as guilty by the state – gathered at Southwark crown court.

The group had already been convicted of criminal damage following an Extinction Rebellion (XR) action in April 2021 that involved breaking windows at the headquarters of Barclays Bank: a financial institution responsible for more than £4bn of fossil fuel financing during that year alone. “In case of climate emergency break glass”, read stickers they stuck to the shattered panes. Now they were being sentenced. After a long preamble, the judge eventually handed down suspended terms, sparing the defendants jail for the time being. But he used his closing remarks to condemn their protest as a “stunt” that wouldn’t help to solve the climate crisis. “You risk alienating those who you look to for support,” he warned.

Is he right? Outside the courtroom, that’s a question XR has been pondering for some time. Two months ago, we received an answer of sorts: the movement released a statement on New Year’s Eve, dramatically titled “We Quit”, in which it announced it would “temporarily shift away from public disruption as a primary tactic” and promised that its next major action would “leave the locks, glue and paint behind”. Instead, it called upon anyone concerned about climate change to gather peacefully outside parliament on 21 April as part of a mobilisation that will “prioritise attendance over arrest and relationships over roadblocks”. In response, Just Stop Oil and Insulate Britain – the high-profile environmental action groups that have outflanked XR in recent years when it comes to disruptive public protests – both reasserted their commitment to direct civil resistance.

Debates over the pros and cons of different forms of activism are nothing new within the climate movement; see, for instance, fierce disagreements among supporters of Earth First! – arguably Britain’s first direct action environmental group – over the relative merits of sabotage nearly 30 years ago. What lends this one a particular urgency is the scale and pace of planetary destruction under the status quo (last year, the IPCC issued its “bleakest warning yet” regarding humanity’s future), as well as the specific conjunction of social, political and economic forces in the UK. After 13 years of Conservative rule, multiple and intersecting crises – from low pay and soaring inflation to unaffordable housing and a broken NHS – are engulfing the country, pushing more than a million people on to picket lines.

Rather than tackle the root causes of popular discontent, the government is seeking to criminalise those who give voice to it via new legal restrictions on the right to protest or take

industrial action. Against a backdrop of both creeping authoritarianism above and collective fightbacks below, this feels like a moment of real possibility for climate campaigners, albeit one fraught with dangers.

Little wonder, then, that XR's statement has heightened some existing tensions within the wider environmental movement, a landscape that ranges from militant tunnel-diggers to the philanthropic arm of corporate giants such as Ikea. When it first burst into the public consciousness back in 2018, bringing parts of London to a standstill in a nonviolent riot of music, dance and colour, XR was described in the mainstream press as a radical force, particularly as its political strategy rested on maximising arrests of its supporters. The fruit of its first "rebellion" included a formal declaration by the British parliament acknowledging the climate emergency, but subsequent mass actions delivered diminishing tangible returns and fuelled mounting concerns in some quarters about the nature of the group's work.

One notoriously ill-advised intervention at London's Canning Town station in 2019, which resulted in an ethnically diverse and largely working-class group of commuters dragging XR protesters from the roof of a tube train, seemed to visually embody the movement's blind spots and failure to engage local communities.

In recent years, as prime-time news footage of pink boats at Oxford Circus has been supplanted by shots of protesters blocking the M25 or soup being hurled at (unharmd) Van Gogh masterpieces, other organisations have become the media face of supposedly extreme activism. Many of their supporters were once XR activists who have since broken away; at the same time, other prominent XR figures have moved in the opposite direction, calling for a less confrontational set of tactics that can command the broadest possible support base among the public. On the face of it, XR's We Quit declaration looks like a big win for the latter, including the former XR spokesperson Rupert Read, who argues against "polarising" forms of activism and now co-directs an incubator dedicated to growing the environmental movement's "moderate flank".

The reality is more complicated. In truth, few believe that when it comes to the climate emergency there is a binary choice between radical protests and less confrontational forms of activism. Whether acknowledged or not, the former often depend upon the latter to make themselves and their demands appear more palatable to powerbrokers. There is already evidence of a positive symbiotic relationship between the "extreme" and "moderate" wings of the UK environmental movement, with Just Stop Oil interventions being found to increase public support for Friends of the Earth.

A more salient faultline – and one that runs right through the middle of many climate groups, including XR – concerns what exactly is being named as the enemy here, and therefore what sort of changes are needed to vanquish it. It's easy enough to recognise that the environment is being devastated by human activity, but who is responsible: is it a generalised failure on the part of an entire species – or the result of specific actors, and specific political and economic systems built to enrich and protect them? If so, can we really expect concessions granted from within those systems to durably and meaningfully change our relationship with the natural world?

This question matters because alongside a healthy diversity of tactics and movement entry points, what the climate struggle needs is a clear, coherent narrative that knits together the many different ways in which those with enormous wealth are dispossessing the rest of us – including their war on the ecosystems that form the basis of our shared survival – and calls out the extractive, undemocratic structures that enable that process.

Yes, there absolutely must be room in the movement for people who would never dream of blocking a road or smashing a window, just as there must be for those willing to take on such risks. But there should be no space here for a “beyond politics” framing of the climate crisis (a slogan often and problematically espoused by XR, though its supporters insist that it has been misunderstood), because that would root the climate struggle in a fundamental lie. Without a compelling story that links rising sea levels with attacks on the right to strike, environmentalists will allow governments and businesses to pursue a slow, inadequate and ultimately ineffective decarbonisation programme.

Researching this article, I’ve spoken to people hailing from very different parts of the environmental movement, and what struck me most was the degree of mutual respect on display, rather than rupture. Rupert Read, for example, had positive things to say about some of Just Stop Oil’s past interventions; Indigo Rumbelow, a co-founder of Just Stop Oil, encouraged anyone who criticises her group’s tactics but supports their cause to join the XR mobilisation on 21 April. “The debate is not between those who want to take ‘moderate’ or ‘radical’ action,” she told me. “It’s between those who are standing by doing nothing at all, and those who are doing something. That’s where the line is drawn.”