BCCC

ICAS
Institute for China-America Studies

ICAS Blue Carbon & Climate Change Program

Quarterly

Quarter 1 - 2025

ICAS Blue Carbon & Climate Change Program

The ICAS Blue Carbon and Climate Change (BCCC) Program explores new policy pathways for sustainably developing the blue carbon economy and combating climate change.

The goal of this program is to establish a platform for academic exchange between experts around the world to produce tangible policy recommendations for countries to follow together. Most prominently, the program endeavors to find new pathways for multilateral engagement and mediation in areas of competition to promote mutually beneficial cooperation on climate change where possible.

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BCCC

January - March 2025

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This Season's Global Climate Affairs

Issues & Updates on Blue Carbon

Sarawak Launches First Blue Carbon Project in Tanjung Manis to Restore 10,232 ha of Mangroves

Thursday, March 20
Source: *The Borneo Post*
[Malaysia]

Sarawak, Malaysia, has launched its first Blue Carbon Project in the Paloh and Serdeng areas, aiming to restore 10,232 hectares of mangrove forests. Led by the Sarawak Timber Industry Development Corporation (STIDC), the project targets climate mitigation and local job creation through ecotourism and conservation. A carbon permit application will be submitted soon, with carbon credits expected to be marketable within two years. The project also plans community engagement and structured coastal development, benefiting both the environment and local livelihoods.

Study Finds Alarming Threats to India's Mangroves, Seagrasses & Salt Marshes

Wednesday, March 19
Source: *Deccan Herald*
[India]

A new study warns of severe threats to India's blue carbon ecosystems. Mangroves have shrunk by 7.43 sq km since 2021, and over 50% are now endangered. Seagrass meadows face damage from pollution, overfishing, and climate change. Salt marshes even still remain highly neglected. Major risks include aquaculture, urban expansion, and disrupted freshwater flows. The study urges immediate, cross-sectoral action for restoration and long-term resilience.

Mangrove Conservation Urged in PH's Race Against Rising Sea Levels

Wednesday, February 26
Source: *GMA News Online*
[The Philippines]

The Philippines launched its National Blue Carbon Action Partnership (NBCAP) on February 26, collectively pushing for the planting and conservation of more mangrove forests. The NBCAP is a project of the Department of Environment and Natural Resources (DENR) with the Zoological Society of London (ZSL) as the secretariat. It seeks to bring in various stakeholders and experts to formulate policies and create a roadmap for the conservation of blue carbon ecosystems.

Mangrove Deforestation for Commodities Limits Conservation Funding in SE Asia

Tuesday, February 25
Source: *Mongabay*
[Southeast Asia]

A new study finds that 85% of Southeast Asia's mangroves viable for blue carbon credit projects face threats from commodity-driven deforestation, particularly for aquaculture, oil palm, and rice cultivation, as well as climate change and sea level rise. These pressures undermine the effectiveness of carbon credits as a conservation funding mechanism, jeopardizing mangroves' role in climate mitigation. The study also recommends diversifying conservation funding sources and increasing investments in community-led mangrove protection efforts.

Collective Effort Begins to Map Seagrasses in the Western Indian Ocean

Friday, February 21
Source: World Economic Forum
[The United Kingdom, Indonesia]

The UK government has launched a Blue Planet Fund Country Plan for Indonesia, introducing up to £18 million in new funding over the next five years. This initiative aims to enhance the climate resilience and prosperity of vulnerable coastal communities by protecting and sustainably managing Indonesia's blue carbon ecosystems.

Advancing Blue Carbon in New Zealand's Coastal Wetlands

Tuesday, February 11
Source: *The Nature Conservancy*
[New Zealand]

The Nature Conservancy (TNC) in New Zealand is collaborating with local councils, iwi, and coastal communities to advance blue carbon projects. Their efforts include research, mapping, pilot projects, and policy advocacy. Coastal wetlands in the region are threatened by agricultural use, development, and sea level rise, limiting their effectiveness as carbon sinks and more conservation efforts are still much needed.

Peatlands and Mangroves Key to Reducing Carbon Emissions in Southeast Asia, Finds International Study

Monday, February 10
Source: *PR Newswire*
[Singapore]

A new study found that conserving and restoring Southeast Asia's peatlands and mangroves could mitigate over 50% of the region's land-use carbon emissions—about 770 $MtCO_2e$ annually. Researchers urge ASEAN nations to include them in updated Nationally Determined Contributions (NDCs), unlocking carbon credit opportunities and benefiting local communities. Their irreversible carbon storage potential makes them vital for cost-effective, nature-based climate solutions.

Introducing BC+: A Trailblazing Initiative to Make Thriving Coastal Blue Carbon Ecosystems a Pillar of Economic Success

Tuesday, February 4
Source: *The Nature Conservancy*
[Global]

The Nature Conservancy and Conservation International have launched Blue Carbon Plus (BC+), an initiative aimed at preserving coastal blue carbon ecosystems while boosting local economies. BC+ seeks to develop financially viable, ecologically regenerative business models that incentivize communities to protect and restore blue carbon habitats.

Novel Guidance Documentation Launched by GFOI on Blue Carbon Reporting

Friday, January 31
Source: Global Forest Observations Initiative
[Global]

The Global Forest Observations Initiative (GFOI) has launched a new blue carbon module within its GFOI Family of Resources (GFoR) to support countries in incorporating coastal wetlands into national greenhouse gas (GHG) inventories. The guidance provides methodological steps for reporting emissions and removals from blue carbon, enhancing REDD+ payments. It also includes case studies and best practices to improve monitoring, reporting, and verification (MRV) processes for carbon sequestration in coastal ecosystems.

Collective Effort Begins to Map Seagrasses in the Western Indian Ocean

Monday, January 6
Source: Pew Charitable Trusts
[Africa]

The Large-Scale Seagrass Mapping and Management Initiative (LaSMMI), a new research collaborative, has begun mapping seagrass meadows in the Western Indian Ocean along the coastline of the African continent and of island nations like Madagascar and Seychelles. The Western Indian Ocean Initiative is led by the University of Oxford, the Western Indian Ocean Marine Science Association (WIOMSA) and several in-country research partners.

Scottish Seaweed Startup Lands Significant Investment

Wednesday, January 1
Source: *The Fish Site*
[Scotland, Europe]

Kaly Group, a new seaweed farming start-up company based in Scotland, announced that it has successfully raised £300,000 to support its continued establishment of a “large-scale, profitable, and environmentally sustainable seaweed-based supply chain” amid an increasing awareness of the potential for seaweeds to provide environmentally-friendly alternatives in several fields.

Environmental Protection

Fueled by Climate Change, Wildfires Spread Worldwide

What is Happening

- A UCLA analysis found climate change made the recent Los Angeles wildfires larger and more intense by adding 25% more burnable vegetation. Wet winters spurred excessive grass growth, followed by extreme drought, creating severe fire fuel. Researchers warn that "weather whiplash" from climate change worsens wildfire risks and advocate for aggressive fire suppression and safer urban planning to adapt. (*CNN*, January 14)
- A scientific study by World Weather Attribution confirms climate change made the extreme heat and dryness fueling the devastating LA wildfires 35% more likely. Droughts are now 2.4 times more likely, and the fire season has lengthened by 23 days since industrial-era warming began. The overlap of dry conditions and strong Santa Ana winds raises wildfire risks, with further warming expected to increase such events. (*Axios*, January 12) (*BBC*, January 28)
- Experts believe that the recent Eaton and Palisades wildfires in Los Angeles were intensified by climate change, which contributed to extreme heat, drier atmosphere, and drying vegetation. Global warming increases fire risk by 35%. However, the extreme Santa Ana winds, which fueled rapid fire spread, are harder to attribute directly to climate change. Experts emphasized the importance of better prevention mechanisms during dangerous wind events. (*npr*, January 29)
- Climate change made the extreme conditions driving the recent Los Angeles wildfires about 35% more likely, according to scientists. Heavy rains spurred dense plant growth, followed by severe drought that dried vegetation into tinder. Record-late winter rains, intense Santa Ana winds, and climate-driven atmospheric shifts fueled the Palisades and Eaton fires, now the second- and third-most destructive in California history. (*NBC News*, February 6)
- Wildfires in South and North Carolina, intensified by drought and strong winds, have burned thousands of acres. South Carolina declared a state of emergency and issued an air quality alert, and North Carolina faces similar risks. Drought, dry fuels, and rising temperatures driven by climate change are worsening wildfire behavior across the region. (*CNN*, March 4)
- Japan's largest wildfire in decades has burned 2,900 hectares in Ofunato, Iwate Prefecture, driven by dry conditions and poor forest management. Thousands evacuated, 78 homes were destroyed, and one death was reported. Experts cite climate change, low snowfall, and lack of maintenance as factors. (*WSWS*, March 8)
- Wildfire risks in southeast Texas are rising, especially in less developed rural areas like San Jacinto County. Climate change induced shifting climate patterns—alternating between floods and droughts—are increasing fuel loads and drying them out, creating ideal wildfire conditions. (*ABC News*, March 20)
- In late March, Scotland faced an "extreme risk" of wildfires as two major blazes erupted within 24 hours. A fire broke out in Tomfat Woods near Inverness after a week of dry, sunny weather. Meanwhile, a large wildfire spread through Kilpatrick Hills near Glasgow. The dry conditions have

heightened concerns over further wildfires across the region. (*The Scottish Sun*, March 21)

Why it Matters

The surge in destructive wildfires—from California and the Carolinas to Japan and Scotland—shows a growing and dangerous connection between environmental degradation and climate change. Wildfire is nothing new, but the changing climate is clearly intensifying both the likelihood and severity of such disasters. A growing body of scientific research confirms this link, reinforcing the urgent need to treat wildfire risk not just as a local emergency issue, but as a global climate and environmental challenge.

Recent wildfires in Los Angeles were found to be 35% more likely due to climate change, with climate-driven shifts increasing the length of the fire season by 23 days since pre-industrial times. "Weather whiplash"—a term used by UCLA researchers—describes the increasingly erratic cycles of heavy rainfall followed by extreme drought, both of which are exacerbated by climate change. Wet winters now stimulate excessive vegetation growth, which later dries out under prolonged heat and becomes tinder during fire season. Similar patterns are being observed elsewhere: from the strong Santa Ana winds in California to the dry conditions that fueled fires in Texas, North Carolina, Japan, and Scotland.

The most alarming part of this trend is not just the frequency or size of wildfires, but the cascading damage they cause. Fires destroy homes and displace communities, degrade ecosystems, and contribute significantly to air pollution, suggesting that the consequences are not just environmental—they are also social and economic. They also threaten biodiversity by burning natural habitats, and in the process, release large amounts of carbon dioxide previously stored in forests and soils. This, in turn, fuels further warming—creating a vicious cycle where environmental destruction accelerates climate change, and climate change increases the probability of future destruction.

This evolving landscape requires a more integrated approach. Traditional environmental protection, climate mitigation efforts, and disaster preparedness can no longer function in silos. Preventing and responding to wildfires must involve coordinated climate action, smarter land and forest management, stronger early warning systems, and sustainable urban planning. As one of the reports recommends, aggressive fire suppression alone is no longer sufficient; governments must plan around climate realities.

More on Environmental Protection:

- **The United States:** In 2024, the U.S. economy maintained its long-standing trend of decoupling from emissions, a pattern observed over the past two decades. According to estimates by the Rhodium Group, emissions decreased by 0.2% even as the economy expanded by 2.7%. Emissions remain below pre-pandemic levels and are approximately 20% lower than 2005 levels, the reference point for U.S. commitments under the Paris Agreement. (*Rhodium Group*, January 9)

- **Congo**: The Congo Basin, the world's largest tropical forest carbon sink, faces threats from war, poverty, and climate crises. The DRC government and its partners are announcing the Kivu-Kinshasa Green Corridor

at Davos, intending to expand this model to a protected area of over 54,000 km², comparable to the size of France. (*World Economic Forum*, January 22)

- **Global**: Satellite data shows global sea-ice has hit a record low, with just 15.76 million km^2 around the poles—breaking the 2023 record. Arctic sea-ice is at its smallest ever for this time of year, while Antarctic ice nears another record low. Scientists attribute this to warm air, warm seas, and winds breaking up the ice. A study found such lows would be extremely rare without climate change. (*BBC*, February 14)

- **Brazil**: Brazil's environmental agency seized over 5,000 truckloads of illegal timber in the Amazon during "Operation Maravalha" across Amazonas, Pará, and Rondônia. Nearly a dozen sawmills were shut and $2.7 million in fines were issued. The operation targets illegal logging on protected and Indigenous lands, where timber sales often fund deforestation for cattle pastures. Although deforestation slowed under President Lula, conservationists warn illegal logging and fires remain a serious threat. (*Reuters*, February 17)

- **Global**: The world's glaciers have lost over 6,500 billion tonnes of ice — 5% of their mass — since 2000, with melting accelerating by more than a third in the last decade. Scientists warn this climate change driven rapid loss threatens freshwater supplies for millions and could raise sea levels by 32cm if fully melted. (*BBC*, February 19)

- **Brazil**: A new four-lane highway is being built through protected Amazon rainforest to ease access to Brazil's COP30 climate summit in Belém, drawing outrage from locals and conservationists over deforestation. Critics argue the project that cut through rainforest and wetlands contradicts the summit's climate goals. (*BBC*, March 12)

- **Germany**: Germany's greenhouse gas emissions fell 3.4% in 2024 to 649 million tons, now covering 54% of electricity consumption. The country remains on track for its 2030 climate target of a 65% emissions cut from 1990 levels and its government also remains confident, but it risks missing EU targets due to weak progress in transport and buildings.(*Reuters*, March 14)

- **Zambia**: A tailings dam collapse at a copper mine in northern Zambia spilled around 50 million liters of acidic waste into a stream connected to the Kafue River. Pollution has been detected over 100 km downstream, threatening the environment and millions who rely on the country's most important waterway. (*Associated Press News*, March 15)

- **Portugal**: Portugal has become the first country to enact a 25-year moratorium on deep-sea mining, set to last until at least 2050, pending presidential approval. This binding law distinguishes Portugal from other European nations that have only passed resolutions opposing deep-sea mining. (*Oceanographic*, March 18)

- **Global**: The Arctic experienced its weakest winter sea ice buildup since record-keeping began 47 years ago, highlighting the effects of climate change with potential global repercussions. The annual peak of sea ice, typically reached in March, was measured at 14.33 million square kilometers on Saturday. This measurement is approximately 80,000 square kilometers smaller than the previous record low, set in 2017, according to the National Snow and Ice Data Center. (*Euronews*, March 28)

Climate Policy & Diplomacy

Updates on Nationally Determined Contributions (NDCs): Few Submissions Made, and Global Debates Over Climate Obligations Continue

What is Happening

- Botswana's latest nationally determined contributions (NDCs) plan prioritizes adaptation to droughts, floods, and cyclones over reducing greenhouse gas emissions by introducing measures like rooftop water storage and drought-resistant crops. African climate negotiators have praised this approach as a model for other developing countries with limited financial resources. (*Climate Home News*, January 8)
- The International Court of Justice (ICJ) held hearings to determine whether the Paris Agreement imposes legal obligations on states to prevent climate change. Much of the legal debate comes from the obligations states have regarding NDCs under Article 4, paragraph 2 of the agreement. While large emitters argued that the treaty supersedes other international laws and does not create additional legal obligations, developing nations contended that climate change-related damage violates human rights and necessitates reparations. The ICJ hearings did not reach any conclusion. (*Forbes*, January 10)
- Uruguay's Third Nationally Determined Contributions (NDC3) extends its existing climate commitments to 2035, maintaining caps on CO2, CH4, and N2O emissions while emphasizing energy efficiency and industrial decarbonization. With an electricity sector already dominated by renewables, the focus is on optimizing supply-demand balance, increasing renewable fuel use, and advancing green hydrogen. Additionally, Uruguay aims to enhance climate resilience in its energy sector. (*Enerdata*, January 16)
- The UN urged countries to submit "first-rate" climate targets by September after only a few met the February deadline for updating their 2035 emissions plans. Despite geopolitical setbacks, UN Climate Chief Simon Stiell emphasized the positive impacts in clean investments to prove the benefits of NDCs. The necessity of actors besides national governments were also mentioned and acknowledged. (*Climate Home News*, February 6)
- Although China did not submit its NDCs on time, it reaffirmed its commitment to addressing climate change during the Foreign Ministry's Regular Press Conference. China prefers to determine the approach, pace, and intensity of achieving its climate goals independently and stated that it will submit its NDCs to the UN "at an appropriate time this year." (*Beijing Daily*, February 10)
- February 10 was the targeted deadline for countries to submit their 2035 NDCs climate plan under the Paris Agreement, but only 15 of the 195 parties communicated their new NDCs on time. Canada and Japan submitted theirs days after the deadline. The majority of major emitters, responsible for 83% of global greenhouse gas emissions, have yet to submit their NDCs. (International Institute for Sustainable Development, February 21)
- Before leaving office, the Biden administration set the U.S. NDC target at a 61-66% reduction in emissions by 2035. Since taking office, Trump has already submitted the documents to withdraw

again from the Paris Agreement, ending U.S. participation in global climate efforts. With full expectations of a federal rollback on climate commitments under Trump, subnational actors believe they can still achieve a 33-62% reduction in emissions, depending on changes in relevant policies. (*Reuters*, February 27)

Why it Matters

Nationally Determined Contributions (NDCs) remain one of the backbone of global climate action under the Paris Agreement. As a country-driven climate action plan, NDCs reflect and respect national priorities of different countries, balancing mitigation and adaptation efforts based on local circumstances. For example, Botswana and Uruguay, both updated their NDCs according to their specific domestic needs. Despite the voluntary nature and lack of legal enforcement, NDCs have achieved unprecedented global recognition. Nearly every country has submitted an initial plan, and these commitments have influenced real-world progress—spurring renewable energy investments, coal phase-out strategies, and unlocking climate finance. Some countries, like Morocco and Costa Rica, have even woven their NDC targets into national development strategies, showcasing their role in driving long-term policy and investment decisions.

However, the slow progress in the current NDC update cycle raises serious concerns about the future of this framework. The 2025 update is a critical checkpoint, yet less than 20 out of nearly 200 countries met the initial deadline to submit revised targets. Major emitters—accounting for over 80% of global greenhouse gas emissions—remain silent. While the Paris Agreement designed NDCs as flexible and non-binding to encourage participation, this same structure now risks undermining accountability.

Nevertheless, climate action is ultimately measured by implementation, not reporting. Some countries, like China, missed the submission deadline but maintain a credible record of climate action through ongoing investments in renewable energy and emissions control. It is not as concerning when China announced to delay updating its NDCs in 2025. Conversely, a country can submit ambitious NDCs yet fail to deliver—creating a more dangerous outcome. The U.S. example illustrates this risk: while the Biden administration committed to a 61-66% emissions reduction by 2035, the Trump administration's withdrawal from the Paris Agreement and climate policy rollbacks erased these gains almost overnight. Climate action cannot afford such reversals. Global efforts hinge not only on ambition but on continuity and credibility. When countries overpromise or reverse course, it distorts collective progress—creating a false sense of security while actual emissions rise.

Ultimately, the NDC process only works if every country does its part, consistently and transparently. Climate change does not wait for political cycles or paperwork; it responds to real-world emissions. Strengthening the NDC framework means ensuring that reported targets reflect genuine commitments—and that countries remain accountable for achieving them.

The United States Climate Policy Shifts Amid Trump's Second Term

What is Happening

- Lee Zeldin, President-elect Donald Trump's nominee to lead the Environmental Protection Agency

(EPA), while acknowledging climate change as real, avoided directly addressing Trump's history of calling it a hoax or whether he saw it as an existential threat. Democrats questioned whether he would prioritize environmental protection or cater to industry interests, while Republicans praised him as a leader who would balance environmental concerns with economic growth. (*Courthouse News Service*, January 6)

- President-elect Donald Trump vowed to block all new wind farm construction during his second term. He criticized wind energy as costly and harmful, specifically targeting offshore projects like one by EDF Renewables and Shell off New Jersey. Trump pledged a first-day executive order against wind farms. Industry supporters warned his stance could raise power costs and weaken U.S. energy independence. (*Bloomberg*, January 7)
- On his first day back in office, President Trump signed an executive order to withdraw the U.S. from the Paris climate agreement, calling it unfair and harmful to American industries. The withdrawal process takes about a year. Trump also pledged to expand fossil fuel production, reverse clean energy efforts, and remove limits on drilling. Critics warn this move undermines U.S. global leadership on climate action and could significantly increase U.S. emissions by 2030. (*The Guardian*, January 20)
- President Trump revoked Joe Biden's 2021 executive order aiming for 50% of U.S. new vehicle sales to be electric by 2030. Trump halted $5 billion in EV charging funds, pushed to end California's zero-emission vehicle mandate by 2035, and may repeal EV tax credits. He also directed a review of stricter federal emissions rules favoring EVs. (*Reuters*, January 20)
- President Trump signed an executive order halting offshore wind lease sales and pausing permits, loans, and approvals for both onshore and offshore wind projects. Trump cited environmental concerns, economic costs, and subsidy impacts. It also temporarily blocks Idaho's Lava Ridge Wind Project. (*Associated Press*, January 20)
- The Senate confirmed Lee Zeldin as the new head of the U.S. Environmental Protection Agency. He is expected to advance Trump's agenda of rolling back environmental regulations. While Zeldin pledged to uphold the EPA's mission, he refrained from committing to specific policies, aligning with Trump's broader efforts to dismantle Biden-era climate rules. Supporters claim he will restore balance in climate action by reducing regulatory burdens. (*Associated Press News*, January 29)
- The USDA has ordered the removal and review of climate change content across its websites. The directive could impact climate-smart agriculture and wildfire programs. It comes as Trump's executive order targets halting climate-related spending from the Inflation Reduction Act, jeopardizing billions in conservation payments to farmers. (*Politico*, January 31)
- The Trump administration has placed nearly 200 EPA employees on leave and is reducing staff in the Justice Department's environmental programs, aligning with efforts to weaken support for diversity, equity, and inclusion initiatives and climate regulations. Critics argue these cuts endanger minorities and low-income communities near polluting facilities. (*Reuters*, February 6)
- The Trump administration has ended Power Africa, a U.S. initiative launched under President Obama to expand electricity access across Africa. The program, which aimed to add 30 gigawatts of power and 60 million new connections, had significantly facilitated the development of local renewable

energy projects. Its cancellation aligns with broader budget cuts, raising concerns about slowing progress in improving clean electricity access across the continent. (*Reuters*, February 26)

- Lee Zeldin has moved to rescind the EPA's Endangerment Finding, which mandates regulatory action on greenhouse gas emissions. This decision would strip the agency of its legal obligation to regulate carbon pollution from key sectors like power plants, vehicles, and oil and gas infrastructure. (*The Washington Post*, February 26) (*Inside Climate News*, March 2)
- Lee Zeldin announced the termination of $20 billion in climate grants from the Greenhouse Gas Reduction Fund, citing concerns over fraud, waste, and misalignment with agency priorities. The decision has sparked backlash from environmental groups and congressional Democrats. (*Bloomberg*, March 11)
- A federal judge temporarily blocked the Trump administration's EPA from clawing back $14 billion in Biden-era clean energy grants, ruling the agency provided no credible evidence of fraud and violated due process by abruptly freezing funds. The judge ordered the money—part of the Greenhouse Gas Reduction Fund—held in recipient accounts while the case proceeds. (*The Washington Post*, March 18)
- The U.S. National Weather Service is suspending or reducing weather balloon launches at eight locations due to staffing shortages from Trump's government layoffs. These balloons collect vital atmospheric data used in forecasting severe weather and feeding global computer models. The cuts could reduce forecast accuracy domestically and internationally. (*Axios*, March 21)

Why it Matters

The dramatic shift in U.S. climate policy under President Trump's second term marks a major setback for global climate action. As the world's largest economy and one of its top greenhouse gas emitters, the United States holds disproportionate influence over the pace and direction of international efforts. Decisions made in Washington ripple far beyond U.S. borders, affecting not only global emissions trajectories but also the future development of multilateral climate agreements like the Paris Agreement.

Trump's swift reversal of key Biden-era policies—starting with the U.S. withdrawal from the Paris Agreement on his first day back in office—sent a clear signal that the U.S. would no longer prioritize climate action. The rollback of clean energy initiatives, such as freezing $5 billion in EV charging infrastructure and canceling wind projects like Idaho's Lava Ridge, undermines progress in sectors critical for global decarbonization. The termination of $20 billion in climate grants and attempts to claw back $14 billion more from the Greenhouse Gas Reduction Fund severely disrupt funding flows essential for clean energy innovation and deployment. Meanwhile, the attempt to rescind the EPA's Endangerment Finding—a foundational regulation requiring the U.S. to control carbon emissions—strikes at the legal backbone of domestic climate policy.

These reversals carry global consequences. As climate change accelerates, vulnerable countries—usually least responsible for emissions—bear the brunt of worsening impacts, from rising sea levels to devastating droughts. Yet instead of leading, the U.S. retreat leaves these nations with fewer resources and less leverage to demand stronger global action. Domestically, the U.S. is not immune. The suspension of weather balloon launches due to government layoffs weakens America's own ability to predict extreme

weather, increasing risks from wildfires, hurricanes, and other disasters already intensified by climate change. The recent fire in California is a perfect example of how the U.S. itself could suffer from its irresponsible decisions.

Although Trump leverages the economic agenda as an excuse to push forward his retreating climate policies, the economic cost of falling behind in the global clean energy race is actually significant. Renewable energy, electric vehicles, and climate-friendly technologies represent the future of economic growth. By vowing to halt new wind farm construction and dismantling clean energy programs, the U.S. risks ceding leadership to its major competitors—most notably China, which continues to invest heavily in green technologies. As President Biden once warned, climate leadership is not just environmental policy—it is industrial strategy.

Finally, this policy whiplash exposes a deeper structural issue: the growing perception of the U.S. as an unreliable partner on global climate commitments. The difference between a Paris Agreement with or without the U.S. is profound. Other countries' responsibilities in combating climate change differ significantly depending on whether the U.S. is involved. Repeated withdrawals and reversals also create uncertainty, weaken diplomatic leverage, and make collective action harder to achieve. If the U.S. pledges today but reverses tomorrow, it signals that climate ambition is vulnerable to domestic politics—discouraging others from making or trusting long-term commitments.

Climate change is a cumulative challenge. Progress depends not only on ambitious pledges but on sustained, consistent action. The U.S. turning its back on climate action risks slowing global momentum at a critical juncture—when time is running out for meaningful change.

More on Climate Policy & Diplomacy:

- **The United States:** The U.S. Supreme Court declined to hear oil and gas companies' appeal to block Honolulu's climate lawsuit, allowing the case to proceed. Honolulu seeks damages for climate-related costs, accusing oil companies of misleading the public about fossil fuels' role in climate change. This decision could open the door to more climate accountability lawsuits across the country. (*Associate Press*, January 13)
- **The United Kingdom**: Climate science deniers are organizing politically in the UK as the US-based Heartland Institute opens a UK/Europe branch. Nigel Farage and Reform UK are aligning with Heartland's anti-net zero stance, pushing for policies like reopening coal mines. Linked to ExxonMobil funding and the Trump administration, Heartland has a history of extreme climate denial. Their UK launch signals a broader conservative push against climate action. (*The Guardian*, January 15)
- **Indonesia:** Indonesia's special envoy for climate change, Hashim Djojohadikusumo, questioned Indonesia's continued commitment to the Paris Agreement after the US withdrawal. He argued that Indonesia emits far less carbon per capita than the US but faces pressure to transition away from fossil fuels. Despite this, Indonesia remains committed to renewable energy development as part of its environmental responsibility. (*Antara*, January 31)
- **South America**: Representatives from Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and

Venezuela agreed to strengthen efforts against climate change and biodiversity loss. Their focus is on concrete actions to combat deforestation and illegal mining—both major contributors to greenhouse gas emissions and environmental degradation—in the Amazon region. (*teleSURtv*, February 3)

- **France**: French President Emmanuel Macron faces backlash from allies over his push to delay EU green rules, including corporate sustainability reporting and due diligence directives. Critics warn the move risks undermining Europe's climate leadership and handing regulatory power to others like the U.S. Macron's call for a "regulatory break" is seen as a shift toward populist, pro-business priorities. (*Politico*, February 17)
- **South Africa**: President Cyril Ramaphosa called on G-20 nations to set aside differences and prioritize urgent global challenges, especially climate change and economic debt relief. However, his proposals have faced resistance from the Trump administration, which has deprioritized climate finance and global cooperation under its "America First" agenda. (*Bloomberg*, February 20)
- **China:** China is stepping up efforts to eliminate severe air pollution by the end of 2025 through better air quality forecasting, improved management of PM2.5 and ozone pollution, and stricter emissions standards, according to Li Tianwei, Director of the Department of Atmospheric Environment. Despite progress in 2024, air pollution remains a major issue globally, causing around 2 million deaths annually. To tackle this, China plans to boost the use of new energy vehicles, enhance transportation systems, and align emission standards with global best practices. (*Reuters*, February 25)
- **European Union**: The European Commission has proposed key adjustments to the Carbon Border Adjustment Mechanism (CBAM). The most important changes include a one-year delay in purchasing CBAM certificates until 2027 for emissions embedded in 2026 imports and a revised exemption threshold based on carbon intensity rather than financial value. The changes aim to reduce administrative burdens while keeping over 99% of embedded emissions within CBAM's scope. These revisions come amid industry pressure to simplify the system and concerns over European industrial competitiveness (*S&P Global*, February 24)
- **The United Kingdom**: UK Energy Secretary Ed Miliband announced the launch of a new annual UK-China climate dialogue, criticizing the previous UK government's failure to engage China on climate issues. During his visit to Beijing, Miliband emphasized that the dialogue aims to strengthen cooperation on energy transition topics like carbon capture, market reform, and climate targets, while also raising concerns over forced labor in China's solar supply chain. (*The Guardian*, March 17)
- **European Union**: The European Commission has delayed proposing the EU's 2040 climate target, originally expected in early 2025, due to political resistance—especially against a 90% emissions cut. Some member states and industries argue tougher rules hurt economic competitiveness. The delay also avoids clashing with Poland's elections while the country holds the EU presidency. (*Reuters*, March 21)
- **The United States**: The U.S. Supreme Court has declined to hear an appeal in *Juliana v. United States*, ending a landmark youth-led climate lawsuit that accused the federal government of violating young people's constitutional rights by supporting fossil fuel policies despite knowing their harm. The broader impact of the case on youth climate activism is still highly valued despite the legal loss. (*Reuters*, March 24)
- **Global**: In an interview with AFP in Paris, Jim Skea, a British sustainable energy professor, addressed divisions within the IPCC, the U.S. retreat from climate cooperation, and record-breaking global

temperatures. Skea insists that the IPCC, the UN climate panel he chairs, is not in crisis and remains relevant despite criticism that it is too slow in publishing its landmark scientific reports on climate change. (*NBC News*, March 16)

Clean Energy & Technology

Electric Vehicles Is the Future, but the World Is Divided on How to Get There

What is Happening

- To meet the European Union's tougher 2025 emissions standards, automakers like Stellantis, Toyota, Ford, Mazda, and Subaru are planning to purchase carbon credits from electric vehicle manufacturers such as Tesla, according to an EU filing. By buying credits from fully electric companies like Tesla and Polestar, these automakers can lower their overall emissions averages and potentially avoid fines worth hundreds of millions of euros. (*Reuters*, January 7)
- President Donald Trump instructed his administration to consider eliminating subsidies and policies that favor electric vehicles, arguing that such measures create market distortions that effectively mandate EV adoption. While the order doesn't directly target EPA or Transportation Department regulations, it calls for ending waivers allowing states like California to restrict gas-powered car sales, challenging its mandate for all new cars to be zero-emission by 2035. (*Bloomberg*, January 21)
- Chinese electric vehicle manufacturers BYD, Geely, and SAIC have filed legal challenges against the EU's import tariffs at the General Court of the Court of Justice of the European Union (CJEU), according to court filings. The tariffs, imposed in late October following an anti-subsidy investigation, include rates of 17.0% for BYD, 18.8% for Geely, and 35.3% for SAIC, in addition to the standard 10% EU car import duty. The cases, filed just before the deadline, typically take around 18 months to be resolved and may be appealed. (*Reuters*, January 24)
- Chinese electric vehicle makers ushered in the Year of the Snake with a wave of consumer incentives following a slowdown in early-year deliveries. In January, Tesla launched a five-year interest-free financing plan for its new Model Y in China, with deliveries starting in March. Xpeng eliminated down payments and offered similar financing for four models, while Nio introduced its own five-year, 0% interest deal on February 1. (*CNBC*, February 9)
- Chinese miners are stepping up investments in critical mineral projects abroad to bolster electric vehicle adoption and clean energy development amid growing geopolitical tensions. A Hong Kong-listed company backed by state-owned China Minmetals announced plans to acquire Anglo American's nickel business in Brazil, one of the world's largest nickel reserves, for up to $500 million. (*Bloomberg*, February 18)
- The global battery market is growing rapidly, fueled by rising demand and declining prices. Lower lithium prices and advancements in battery manufacturing have reduced average battery pack costs to below USD 100 per kilowatt-hour, enhancing the competitiveness of electric vehicles. With manufacturing capacity reaching 3 TWh and expected to triple in the next five years, the industry is heading toward consolidation, standardization, and diversified supply chains driven by government policies. (*IEA*, March 5)
- Chinese shipyards are rapidly constructing massive car transport vessels to strengthen their control over global shipping and support the overseas growth of electric vehicle manufacturers like BYD.

Shanghai Waigaoqiao Shipbuilding Co recently completed a new ship capable of carrying 8,600 cars in just 200 days, highlighting China's efforts to boost its shipping capabilities. (South China Morning Post, March 21)

- China has called on the EU to strengthen the multilateral trade system by resolving its anti-subsidy case against Chinese electric vehicles, amid economic uncertainty fueled by U.S. tariff policies. Commerce Minister Wang Wentao emphasized the need for a proper resolution to convey a positive message in an international environment increasingly shaped by unilateralism and protectionism. (South China Morning Post, March 23)
- BYD recently introduced groundbreaking battery charging technology capable of adding 250 miles of range in just five minutes, far surpassing Tesla's Superchargers, which require 15 minutes to add 200 miles. Last month, BYD also launched "God's Eye," a driver-assistance system comparable to Tesla's Full Self-Driving feature, offered at no additional cost for most models. BYD's rapid advancements in technology, sales, and affordability demonstrates its ambition to accelerate the global transition to cleaner transportation and reduce carbon emissions. (CNN, March 26)

Why it Matters

Electric vehicles have become the front line of both climate action and industrial competition. In 2024 and early 2025, China launched an aggressive and comprehensive price war in the EV market, with domestic companies like BYD, Xpeng, and Nio—alongside Musk owned Tesla—offering steep discounts, interest-free loans, and waived down payments to drive EV adoption and the new age of transportation. The competition also doesn't stop at the car itself. China is cutting costs and expanding influence across the EV value chain: batteries, critical minerals, shipping logistics, and even driver-assistance technology. This is a full-spectrum push to lead the future of transportation. China's ambition is clear—it wants not just to electrify its roads, but to dominate the global EV market. Investments in foreign mineral assets such as a planned $500 million acquisition of one of the world's largest nickel reserves in Brazil, major expansions in battery manufacturing, and the construction of massive car transport ships show a country aligning its industrial engine with its climate goals. Technologically, it's pulling ahead too: BYD's new battery can add 250 miles of range in five minutes—far ahead of Tesla's current Supercharger performance.

From a climate perspective, China's strategy has global benefits. More EVs on the road will directly lead to lower emissions. Faster EV adoption—especially in developing markets where Chinese cars are increasingly present—directly contributes to carbon reduction targets. Nevertheless, many regions are less concerned about the emissions curve, but more worried about industrial and economic competitiveness of their automobile industries. For example, the European Union embodies this dilemma. On one hand, it is working to reduce emissions by guiding traditional automakers to purchase carbon credits from Tesla and other EV-only manufacturers to meet 2025 standards and encourage EV manufacturing. On the other hand, it has imposed tariffs of up to 35.3% on Chinese EV imports, citing unfair subsidies and market distortion. Chinese automakers are now challenging these tariffs in court, but the legal and political battle may last for years. In the meantime, European EV adoption risks being delayed—ironically undercutting the region's own climate ambitions.

In fact, these tariffs may prove ineffective. China is no longer a developing EV producer—it is a price leader. The EU, if it focuses only on protectionism, will find it increasingly difficult to catch up. Instead, it

could consider reversing the logic of past cooperation. Just as joint ventures with European automakers once helped China develop its auto sector, a new phase of joint development—where Chinese companies support European electrification in exchange for market access—could serve both industrial and environmental goals for both places. Accelerating EV adoption in the EU is not just about market share, it's about making a real dent in transportation-related emissions.

The United States is moving in another different direction. Under President Trump, the federal government has reversed course on EV policy—ordering reviews of EV subsidies, rolling back support for charging infrastructure, and challenging California's zero-emissions vehicle mandates. While much of the world is either entering trade disputes or price battles to lead the EV future, the U.S. is stepping back altogether. That decision may satisfy short-term political goals, but it risks long-term consequences. Not only does it compromise the country's climate trajectory, but it also places U.S. automakers at a disadvantage just as global competition intensifies.

Outside the climate debate, electric vehicles have already proven itself as a better consumer product. They offer smoother driving, lower maintenance costs, and increasingly longer range at competitive prices. That's why Chinese EVs like BYD are capturing increasingly larger domestic market shares once dominated by companies like Toyota and Ford. The transition is already underway. The only real question is: who will shape it, who will participate in the innovation, and who will be left reacting to it?

Chinese Critical Mineral Export Control And Its Global Ripples

What is Happening

- The Chinese Ministry of Commerce has proposed new export restrictions on technology used in processing lithium and gallium, which are key materials for EV batteries and semiconductors. It aims to protect China's dominant position in critical mineral processing and secure domestic supply chains. It will challenge Western lithium producers relying on Chinese tech, but also hinder overseas expansion of Chinese battery giants. The proposal opens for comment until February 1. (*Reuters*, January 2) (*Bloomberg*, January 2)
- China imposed export controls on key metals including tungsten, indium, and processing technologies for lithium and gallium, critical for defense, electronics, and clean energy sectors. The move is considered as a response to the new U.S. tariff. China aims to safeguard its dominance in critical mineral processing and renewable energy amid growing trade tensions with the U.S. and the West. (*Reuters*, February 4)
- China tightened export controls on five minerals but avoided targeting specific countries. Analysts argue that the impact on U.S. industries is limited as the U.S. produces molybdenum domestically and has reduced dependence on Chinese indium and tungsten. Analysts view the move as relatively mild compared to China's previous mineral bans. (*The Wall Street Journal*, February 4)
- President Trump proposed a deal to secure rare earth minerals from Ukraine in exchange for military aid. It is one of the U.S. efforts to reduce reliance on China amid Chinese export control. This shift will be challenging because alternatives like Ukraine lack infrastructure. Despite U.S. efforts, breaking free from China's rare earth dominance could take a decade and the impacts on relevant

sectors including renewable energy could be significant. (South China Morning Post, February 6)

- China halted antimony exports to the EU from last October after imposing export controls, driving global prices up over 300% according to recent studies. Antimony is critical for semiconductors, solar equipment, and munitions. China also banned antimony exports to the U.S. since December. Unlike previous restrictions, no export has resumed yet. (Reuters, March 20)

Why it Matters

China's recent export restrictions on key minerals are best understood as strategic moves rooted in geopolitical competition, not climate policy. Although these materials are essential for clean energy, they are also critical to semiconductors and defense, and the rationale behind these controls is more about securing supply chains, protecting technological advantages, and responding to escalating trade tensions with the U.S. and its allies. So far, the move has already triggered market volatility: antimony exports to the EU and U.S. were halted, driving global prices up over 300%.

Nevertheless, these restrictions certainly carry climate-related implications. Minerals like lithium and gallium are central to renewable technologics, notably electric vehicle batteries and solar panels. In the worst-case scenario, slower access or higher costs could delay energy transitions in affected countries, particularly those without diversified supply chains. That said, the impact must be viewed in context. The controls are largely aimed at the U.S. as a part of the comprehensive strategic competition between China and the U.S. The U.S. has also recently reversed course on climate commitments under Trump. With subsidies slashed and EV policies rolled back, the U.S. is no longer operating in climate-first mode—further making the mineral controls more about strategic competition than about slowing the global energy transition.

In places where climate ambitions remain strong, like the EU, the controls are a potential obstacle but not a deal-breaker. Diversification efforts, green tech investment, and diplomatic initiatives may blunt the impact. The real risk lies in situations where trade policy overshadows shared climate responsibility. A clean energy transition requires global cooperation—especially in areas like critical minerals that underpin renewable infrastructure. But cooperation is only possible when all parties treat climate change as a priority, rather than a bargaining chip.

China's mineral policy should be seen as a signal: clean energy supply chains are becoming a contested space. While collateral damage to the climate transition is possible, the real divide is not about the materials—it's about political will. Climate progress demands collective focus, not zero-sum strategies. Without it, the risk isn't just delay—it's disintegration of the fragile trust that global climate cooperation depends on.

More on Clean Energy & Technology:

- **The United Kingdom:** UK electric vehicle sales hit a record 19.6% of new car sales in 2024, driven by zero-emission mandates, though concerns over costs and charging persist. SUVs became the top-selling class. However, the development of EV remains uncertain as the government considers easing the target of imposing steep fines on oil-fueled vehicles this year. (The Guardian, January 4)

- **The United States**: In his final remarks, President Biden urged Trump to confront China's dominance and overcapacity in clean energy, calling it a race the U.S. "must win" to protect jobs and competitiveness. Biden warned against reversing the Inflation Reduction Act, which has boosted clean energy jobs. Trump plans to use tariffs against China but may face challenges balancing this with domestic job creation. (*South China Morning Post*, January 14)

- **China**: State Grid Corp. of China plans a record investment exceeding 650 billion yuan ($89 billion) in 2025 to upgrade its power grid. The spending aims to handle rapid wind and solar expansion and improve energy storage and long-distance ultra-high-voltage transmission. China's renewable surge strains existing grids, making infrastructure upgrades crucial for reliability and balancing supply. Analysts expect rooftop solar networks and large transmission lines to benefit most. (*Bloomberg*, January 15)

- **China**: China's EV makers saw strong January sales, boosted by extended trade-in subsidies. Market leader BYD delivered over 296,000 cars, including a record 66,336 overseas, despite rising tariffs. Geely hit a record 266,737 units, while Xpeng surged 268% year-on-year to surpass Nio and Li Auto. The government offered up to 20,000 yuan rebates in subsidies, which boosted demand during the typically slow Chinese New Year period. (*Bloomberg*, February 3)

- **Germany**: Germany's state-owned energy company SEFE signed an agreement with Saudi Arabia's ACWA Power to import 200,000 tons of green hydrogen annually starting in 2030. The deal supports Europe's future hydrogen needs for industries like steelmaking and power generation. (*Handelsblatt*, February 4)

- **The United Kingdom**: UK Prime Minister Keir Starmer pledged to accelerate nuclear energy development. He aims to overcome planning barriers and revive the stagnant sector. Environmental groups, however, criticized the plan as expensive and unrealistic, warning of unproven technology and radioactive waste. Critics argue renewables and energy storage are better investments. (*The Guardian*, February 6)

- **China**: China released an action plan to boost its new-type energy storage manufacturing sector, aiming for global competitiveness by 2027. The plan promotes technological innovation, especially in lithium battery upgrades and disruptive tech, while curbing overcapacity risks. It encourages green manufacturing, integration of AI, blockchain, and 5G, and deeper international cooperation through initiatives like the Belt and Road and BRICS. (*Xinhua*, February 17)

- **Japan**: Japan plans to boost nuclear power to 20% of its electricity supply by 2040, reversing its post-Fukushima policy of reducing reliance on nuclear energy. Rising demand from AI and semiconductor sectors and energy security concerns drive the shift. Japan currently operates 14 reactors, down from 54 before 2011's Fukushima disaster. (*BBC*, February 18)

- **China**: China invested 6.8 trillion yuan ($940 billion) in clean energy in 2024, nearly matching global fossil fuel investments. Although growth slowed due to overcapacity and price drops in solar and batteries, lower costs boosted adoption. Despite the cooling pace, clean energy sectors grew three times faster than the overall economy. Analysts expect strong investment through 2025 and call for more ambitious 2026-2030 targets. (*Reuters*, February 19)

- **China**: China released new guidelines to boost its Green Power Certificate (GEC) market. According to the guidelines, by 2027, a national GEC trading system will be established, combining mandatory and voluntary consumption, with cross-regional trading fully open. Measures include stabilizing supply,

enforcing mandatory green power use in key industries, improving price mechanisms, and promoting international application, all to support China's green transition and renewable energy goals. (*Xinhua*, March 19)

- **Saudi Arabia**: Aramco launched Saudi Arabia's first direct air capture (DAC) test unit, capable of removing 12 tons of CO_2 annually, in partnership with Siemens Energy. The pilot aims to test advanced materials suited for the region's climate and reduce costs for future large-scale DAC projects. Aramco is also developing a Carbon Capture and Storage (CCS) hub in Jubail, expected to store up to 9 million metric tons of CO_2 annually by 2027, supporting its 2050 net-zero emissions target. (*Middle East Economy*, March 20)
- **The United Kingdom**: GB Energy, a UK state-owned firm, plans to invest £200 million in installing solar panels on schools, hospitals, and other public buildings to cut energy bills and reduce emissions. The initiative aims to lower reliance on gas amid global geopolitical tension, ease pressure on the National Grid, and support clean energy goals. (*Oxford Mail*, March 21)

Climate Finance

As Trump Reverses Course, The UK Seeks to Become a New Leader in Climate Finance

What is Happening

- British International Investment (BII) has launched a call for asset managers to propose climate finance projects for emerging economies, backed by a £100 million UK mobilization facility. Up to £50 million is earmarked as concessional capital for high-impact proposals that can attract private investment. (*Investment & Pensions Europe*, January 28)
- The UK Labour government faces tension between climate goals and economic growth. Chancellor of the Exchequer Rachel Reeves said growth takes precedence if forced to choose. Experts warn this balancing act risks undermining green commitments, especially with monetary policy tightening. Proposals include green bond purchases and adaptive inflation targeting to better align growth and climate action. (Green Central Banking, January 29)
- The UK government announced new partnerships with the financial sector to drive climate action and economic growth, especially in the Global South. Initiatives include £100 million for the MOBILIST programme to help sustainable businesses list on global stock exchanges and the first $500 million Climate Investment Funds bond to support clean energy in developing countries. The strategy aims to mobilize private capital, strengthen the UK's climate finance leadership, and create future export markets while addressing global poverty and climate challenges.(Foreign, Commonwealth & Development Office, The United Kingdom, February 3)
- The UK will cut its overseas aid budget from 0.5% to 0.3% of national income to boost defense spending, raising concerns about meeting its £11.6 billion climate finance pledge to developing nations. Analysts urge exploring alternative funding options like taxing private jets to uphold climate commitments as wealthy nations face mounting pressure to scale climate finance. (*Climate Home News*, February 25)
- British International Investment (BII) is partnering with London's financial sector to boost funding for

sustainable energy projects in Africa. This effort comes as the U.S. retreats from global climate commitments. BII aims to leverage £100 million in UK government funds to attract private capital. (*Semafor*, March 18)

- China will issue up to 6 billion yuan (US$830 million) in sovereign green bonds in London—its first overseas green bond sale. The move boosts the yuan's internationalization and strengthens UK-China financial ties on climate change. The issuance follows January's UK-China Economic and Financial Dialogue and aligns with China's 2030 carbon peak and 2060 neutrality goals. Experts see it as a symbolic step promoting green finance cooperation amid rising geopolitical tensions. (*South China Morning Post*, March 20)

Why it Matters

The United Kingdom's growing ambition to position itself as a leader in global climate finance marks a strategic move with far-reaching implications. As the world scrambles to mobilize the trillions of dollars needed to address climate change—especially in developing countries—any effort to expand financial flows toward climate solutions is welcome. From a climate perspective, more capital means more opportunities to accelerate renewable energy deployment, build climate-resilient infrastructure, and fund innovation in clean technologies, particularly where resources are scarce.

The UK's recent initiatives reflect this dual ambition: to drive global climate action while expanding its own geopolitical influence. Through British International Investment (BII), the UK is channeling £100 million into emerging economies, offering concessional capital to de-risk projects and attract private investments. Programs like MOBILIST, which supports sustainable businesses listing on global stock exchanges, and the UK-backed $500 million Climate Investment Funds bond demonstrate how London is turning its financial expertise into climate leadership, particularly in the Global South. These efforts not only bolster climate mitigation and adaptation globally but also create future export markets and investment returns for the UK.

At a time when the U.S. is retreating from international climate commitments under the Trump administration, the UK's proactive approach positions it to fill the leadership vacuum. By embedding itself in the next generation of climate-related investments, the UK enhances its global standing and strengthens economic ties with key partners. The issuance of China's first overseas green bond in London symbolizes the UK's success in attracting foreign climate capital and deepening cooperation with major players like China. This creates both economic opportunities and diplomatic leverage in shaping global climate rules and markets.

However, the UK faces its own balancing act. Domestic tensions are growing between climate goals and immediate economic needs. Chancellor Rachel Reeves' comments prioritizing growth over green targets, alongside the decision to cut overseas aid from 0.5% to 0.3% of national income, raise questions about the UK's ability to sustain its climate finance pledges. These challenges are understandable—competing priorities strain public budgets—but they also underscore the importance of attracting more external capital and innovative funding mechanisms.

Ultimately, the UK's strategy offers a model worth watching. By leveraging private investment, building partnerships, and expanding green financial instruments, it can mitigate budgetary constraints while

scaling impact. For the U.S., this trend should serve as a warning: retreating from climate finance risks global isolation and ceding leadership in the industries and technologies that will define the future. And for the world, increased competition in climate finance—if managed well—can only accelerate collective progress.

More on Climate Financing:

- **The United States:** The Biden administration finalized rules for Congress approved tax credits for clean hydrogen producers. The guidelines ease some conditions after industry pushback, balancing climate goals with industry growth. The $100-billion program targets decarbonizing sectors like steel, transport, and energy storage, positioning hydrogen as key to U.S. climate efforts. (*The New York Times*, January 3)
- **China**: China renewed its trade-in subsidy program, offering up to 20,000 yuan for buyers replacing old cars with electric or hybrid vehicles and 15,000 yuan for fuel-efficient gasoline cars. Over 3.7 million new cars were sold last year through the initiative, generating 920 billion yuan in sales. The policy aims to stimulate economic growth as well as EV expansion. (*Bloomberg*, January 7)
- **Global**: Global banks' low-carbon financing rose in 2023 but remains far below the 4:1 ratio needed by 2030 to align with 1.5°C climate targets until now. The current ratio is still only 0.89:1. Although low-carbon energy investment surpassed fossil fuels for the first time, much of the fossil fuel financing drop stemmed from shifts in China's market. (*Bloomberg*, January 30)
- **The United States**: Columbia Climate School has launched the first master's program in the U.S. for climate finance, starting fall 2025. The one-year M.S. degree integrates climate science, finance, and policy to prepare professionals for roles in climate risk assessment, sustainable investments, and mobilizing finance for climate solutions. The program addresses growing demand across sectors for experts bridging climate and financial knowledge. (*Columbia Climate School*, February 11)
- **Pakistan**: An IMF mission will visit Islamabad from Feb 24-28 to review Pakistan's request for $1 billion in climate financing under the Resilience and Sustainability Trust. Pakistan, highly vulnerable to climate change, seeks this concessional funding after 2022 floods caused major losses. (*Reuters*, February 20)
- **China**: China's Ministry of Finance has released the Green Sovereign Bond Framework, which will guide the issuance of Chinese green sovereign bonds in international markets. The framework ensures that all proceeds from these bonds will be allocated to eligible green expenditures within the central government budget to support climate protection goals. (*Securities Daily*, February 20) (*China Daily*, February 21)
- **South Africa**: As the hosting country of G20 this year, President Ramaphosa said South Africa will prioritize financing for developing countries' low-carbon transitions. He emphasized the need for more concessional and grant funding and support for carbon markets and critical minerals development. Ramaphosa stressed that African countries rich in critical minerals should benefit most from the energy transition. (*Reuters*, February 26)
- **China**: China's Ministry of Finance released the "Clean Energy Development Special Fund Management Measures", which is strictly dedicated to supporting the development of renewable energy, clean fossil energy, and cleaner use of fossil fuels. The program runs from 2025 to 2029 and focuses on key technology demonstrations, large-scale clean energy development, capacity building, public platform construction,

integrated application pilots, and other major clean energy tasks assigned by the government. (*People's Daily*, March 14)

- **Germany**: CDU, SPD, and Greens reached a major compromise on a €500 billion infrastructure fund, with €100 billion specifically allocated to the Climate and Transformation Fund (KTF). All investments must meet the "additionality" principle and contribute to achieving climate neutrality by 2045, it will primarily finance projects like industrial decarbonization and heating system upgrades. (*Tagesspiegel*, March 14)

Climate Risks & Adaptation

Temperature Hits Record High Again and Again

What is Happening

- China recorded its warmest year in 2024, with an average temperature 1.03°C above normal. Experts consider the abnormal situations as a result of global warming and the El Niño effect, and warn of increasing extreme weather, sea-level rise, biodiversity loss, and agricultural risks. Scientists urge enhanced climate risk monitoring, early warning systems, and adaptation measures to protect ecosystems and human health. (*China Daily*, January 5)
- A report led by China's Institute of Atmospheric Physics noted that 104 countries set new temperature records in 2024, highlighting the intensifying impacts of climate change. In 2024, China's coastal waters recorded their highest average sea surface temperature at 21.50°C, 1.16°C above the long-term average. This follows the global sea surface temperature hitting a record 20.87°C. The warming is linked to increasing extreme weather events worldwide. (*China Daily*, January 13)
- A heatwave has begun across central and northern Argentina, with temperatures expected to exceed 40°C in several provinces. Buenos Aires will see peak heat on the 16th before a cold front lowers temperatures on the 17th. Northern provinces like Santiago del Estero and Chaco could reach 43°C, with extreme heat persisting there until the 18th. The phenomenon is driven by an atmospheric blocking pattern. Experts warn similar heatwaves may return later this summer due to current climatic conditions. (*La Nacion*, January 15)
- Driven by a strong low-pressure system over Iceland and unusually warm North Atlantic seas, temperatures near the North Pole soared over 20°C above average, reaching around 0°C—high enough for ice to melt in an extreme weather event in early February. Scientists note such events are becoming more likely due to climate change, with the poles warming faster as reflective ice melts, amplifying global heating. (*The Guardian*, February 4)
- January 2025 was the hottest on record, with global temperatures 1.75°C above pre-industrial levels, defying expectations of cooling from La Niña. Scientists warn this signals accelerating climate breakdown, increasing extreme weather risks. Experts point to continued fossil fuel use as the main driver, with wildfires and floods already showing severe impacts. (*Sky News*, February 6)
- In Brazil's Rio Grande do Sul, extreme heat has delayed the school year after historic 2024 floods destroyed infrastructure. Recent temperatures hit a record 43.8°C, forcing over 60 towns into

drought emergencies. Scientists link the intensifying heatwaves and floods to the climate crisis, warning of growing unpredictability. (*The Guardian*, February 12)

- The UN's World Meteorological Organization (WMO) reported that 2024 was the hottest year on record, with 151 unprecedented extreme weather events worldwide, causing massive destruction, economic losses, and displacing over 800,000 people. Experts criticized President Trump's climate rollbacks as global emissions continued rising, warning that ignoring science and delaying action will deepen the climate crisis and its devastating impacts. (*The Guardian*, March 18)
- India is facing unusually early severe heatwave conditions, with temperatures exceeding 40°C in several regions like Odisha, Vidarbha, and Telangana. Odisha's Boudh recorded the highest at 42.5°C, marking an earlier start compared to last year when the first severe heatwave hit in April. (*Hindustan Times*, March 19)

Why it Matters

Once again, global temperatures have shattered records—this time, in the very first quarter of 2025. January marked the hottest month ever recorded, with global temperatures rising 1.75°C above pre-industrial levels. Across the world, countries from China and India to Brazil and Argentina are facing unprecedented heatwaves, extreme weather, and severe disruptions to ecosystems and societies. These aren't isolated anomalies; they are part of a pattern signaling accelerating climate breakdown.

The consequences of this sustained warming are vast. On the environmental front, high temperatures directly intensify wildfires, as seen in California and South Carolina, by drying vegetation and extending fire seasons. Ocean surface temperatures have hit record highs—20.87°C globally and 21.50°C in China's coastal waters—disrupting marine ecosystems and threatening coral reefs, fisheries, and food chains. Warmer seas drive more intense storms, endanger marine ecosystems, and contribute to coral bleaching. In polar regions, temperatures near the North Pole soared more than 20°C above average in February, briefly rising to melting point—a stark sign of feedback loops at work, as melting reflective ice accelerates global warming. Such heatwaves are becoming more frequent, severe, and unpredictable—pushing the limits of what human bodies and societies can safely endure.

High temperatures also wreak havoc on human systems. Agricultural yields decline under heat stress, water shortages become more frequent, and infrastructure built for past climates increasingly fails. The economic consequences are mounting: extreme weather events cause billions in damages, displace populations, and destabilize livelihoods. The World Meteorological Organization has warned that without urgent action, the scale of destruction will only grow.

Adaptation is critical, but it is not enough. Rising temperatures did not emerge overnight—and they won't be reversed overnight either. Monitoring systems, early warning tools, and local resilience-building are necessary steps, but the ultimate goal must be to stop and reverse global heating. In this context, President Trump's renewed embrace of fossil fuels is particularly alarming, as it fuels the very problem of global warming the world is racing to control. By contrast, Brazil's reforestation efforts, the UK's growing climate finance leadership, and China's rapid expansion of clean energy offer hope—examples of how countries can take responsibility and help tip the scales in the right direction. The true endpoint of adaptation is not endless adjustment to worsening conditions—it is transformation. Reversing temperature rise is the only path to lasting safety, and it demands coordinated, persistent, and ambitious

global action—starting now.

More on Climate Risks & Adaptation:

- **China**: China has implemented a zone-specific environmental management system with 4,406 zones categorized for priority protection, key control, or general control. Each zone has a tailored project blacklist to guide development and protect ecosystems. The system integrates with ocean and groundwater management and supports environmental assessments. By 2025, the system aims to be established nationwide and fully operational by 2035, promoting high-quality, sustainable development. (*China Daily*, January 20)
- **Australia**: Severe flooding in north Queensland, Australia, has left one person dead and forced thousands to evacuate low-lying areas. Authorities warned of ongoing threats to life and property, with more intense rain and damaging winds possible. This climate pattern follows years of frequent extreme flooding events across eastern Australia. (*Reuters*, February 1)
- **Global**: Renowned climate scientist James Hansen warns the 2°C global warming target is no longer achievable due to underestimated climate sensitivity and reduced shipping pollution that previously masked warming. His team projects 2°C warming by 2045 without geoengineering. Hansen urges a carbon fee, nuclear energy, and research into solar geoengineering, warning of accelerated Arctic ice melt and a potential Atlantic circulation shutdown within 20–30 years. (*The Guardian*, February 4)
- **China**: Tsinghua University researchers found China is largely on track with its 14th Five-Year Plan (2021-2025) but faces challenges meeting energy efficiency and carbon reduction goals. China saw significant progress in water efficiency, clean energy growth, and R&D spending. Researchers recommend expanding natural gas imports for energy security. (*South China Morning Post*, February 10)
- **The United Kingdom**: UK regulators say banks and insurers have made progress on climate risk management, but gaps remain in data quality, risk tools, and consistent application. The Prudential Regulation Authority will update its guidance and launch a consultation in 2025. The UK government will also consult on adopting international sustainability reporting standards. (Green Central Banking, February 11)
- **The European Union**: Germany's first National Climate Risk Assessment warns climate change poses an existential threat to the EU, driving migration, food insecurity, and political instability—especially in southern Europe. Rising disasters like droughts, heatwaves, and floods will strain economies and defense, while worsening supply chain vulnerabilities. The report links global warming to weakened EU cohesion and increased security risks. (*Politico*, February 12)
- **Peru**: Heavy rains in Peru have caused widespread destruction, leaving 46 dead and thousands affected. Storms and landslides have damaged over 23,000 homes, and over 48,000 people were impacted. (*El Comercio*, February 18)
- **Global**: The UN warns that rapid glacier retreat threatens the water and food security of 2 billion people globally. Two-thirds of irrigated agriculture relies on mountain water, now at risk due to melting glaciers and snow. (*The Guardian*, March 20)

BCCC Commentary of the Quarter

Rolling Back Climate Policies Won't Solve Industrial Struggles, and Better Solutions Exist

By Zhangchen Wang
March 11, 2025

Climate policy has become a powerful force shaping industrial regulations. Climate objectives foster governments to introduce industrial regulations that effectively accelerate innovation in cleaner industries while phasing out outdated, high-emission sectors at the same time. Beyond reducing carbon emissions, these policies also drive transformation and advancements in next-generation industries. However, recent trends show that when industries face fierce global competition, most governments unfortunately choose to roll back climate regulations rather than pursue solutions to improve industrial competitiveness within a low-carbon framework—slowing down both climate progress and industrial adaptation. Instead of reversing course, governments should stick with their climate commitments and explore proven strategies such as targeted policy incentives, international cooperation to adopt advanced technologies, and structural adjustments—to meet climate goals while overcoming economic challenges, ensuring that industrial policies remain aligned with long-term sustainability objectives.

One of the clearest benefits of climate-driven industrial regulations is their ability to push for cleaner upgrades across industries. Regulations that mandate lower emissions and stricter sustainability requirements stimulate companies to invest in cleaner technologies and production processes to meet long-term environmental obligations. For example, the European Union's (EU) initial ban on internal combustion engine (ICE) vehicles by 2035 has been at the forefront of this transition. By setting a clear deadline for phasing out gasoline and diesel cars, the policy creates a clear regulatory pathway for the auto industry to shift toward electric and hydrogen-powered alternatives.

This shift is also more than just replacing combustion engines with electric motors; it drives broader innovations in areas such as battery efficiency, charging infrastructure, and alternative fuel sources. For example, the EU Battery Regulation not only enforces stricter carbon footprint disclosures and ethical sourcing requirements but also drives technological advancements in battery performance, durability, and recycling efficiency. Together, these policies do not just reduce emissions from transportation—one of the largest sources of carbon pollution—but also reshape the entire electric vehicle (EV) supply chain, influencing production standards both within and beyond the EU.

Beyond promoting cleaner industries, climate-oriented industrial regulations also contribute to the gradual elimination of outdated, high-emission sectors, particularly those industries struggling with overcapacity and inefficiency such as steel, cement, and aluminum. One of the most significant ways this happens is through carbon pricing mechanisms such as emissions trading systems and carbon taxes. Policies like the EU Emissions Trading System (EU ETS) set a cap on total emissions and require companies to pay for their carbon output, making carbon-intensive operations increasingly expensive. This disproportionately impacts industries that rely on outdated, high-emission production methods, forcing companies to either modernize or

close unprofitable facilities.

Nevertheless, despite the clear benefits of climate-oriented industrial regulations, their implementation has not been without challenges. Some industries, particularly those facing strong global competition, have struggled to keep pace with stricter climate mandates. Rather than addressing these industrial difficulties through innovation and policy support, some governments have responded by loosening regulations—delaying decarbonization efforts in the process.

The EU's recent loosening of climate-related regulations for automakers is a clear example of how climate-oriented regulations can be rolled back amid increasingly intensified industrial competition. Originally, the emission targets required automakers to reduce fleet emissions by 15% by 2025, but amid declining EV sales and growing pressure from foreign competitions, the EU extended the compliance period to 2027, allowing manufacturers more time to transition without incurring substantial fines. While this move is framed as necessary to prevent economic disruption, it raises concerns about its long-term consequences, as it delays industrial adaptation and slows the global transition to cleaner mobility.

Critics argue that the new regulation only "rewards laggards and does little for Europe's car industry except to leave it further behind China on electric vehicles." Indeed, while the EU might give its domestic industry a temporary competitive edge, it is definitely delaying the overall progress on transportation decarbonization, risking slowing global advancements in cleaner mobility at this critical moment of climate change. Instead of helping the industry compete, such policy reversals risk making European automakers even less prepared for the inevitable shift to electrification. This is also a signal to the world that regulatory flexibility is acceptable when domestic industries face difficulties.

Therefore, rather than rolling back climate-oriented rules, governments should focus on measures that strengthen their industries' competitiveness in a decarbonized economy—whether through investment in research and development, targeted policy incentives, public-private partnership, or international collaboration to advance technology. The experience of countries like China, which has successfully expanded its EV sector while maintaining ambitious emissions policies, demonstrates that industrial competitiveness and strong climate regulations are not mutually exclusive. The Chinese government has consistently facilitated EV development through measures such as tax breaks and infrastructure investments, enabling automakers like BYD and Li Auto to achieve domestic success while also emerging as global leaders. Similarly, the United States' Inflation Reduction Act (IRA), though highly controversial given its subsidiary nature, exemplifies the potential of public-private partnership in leveraging market force to drive green investments. It has already catalyzed significant private-sector investments in renewable energy by offering substantial tax credits and rebates, effectively reducing the financial burden on consumers and businesses adopting clean energy solutions.

Thus, instead of reversing course, the EU should also look to successful models and strengthen their industries within the emission reduction framework. One key approach is to expand policy incentives that stimulate both consumer and corporate adoption of EV. The European Commission's plan to phase out tax breaks for fossil fuel-powered corporate cars is a positive step, considering that corporate fleets make up

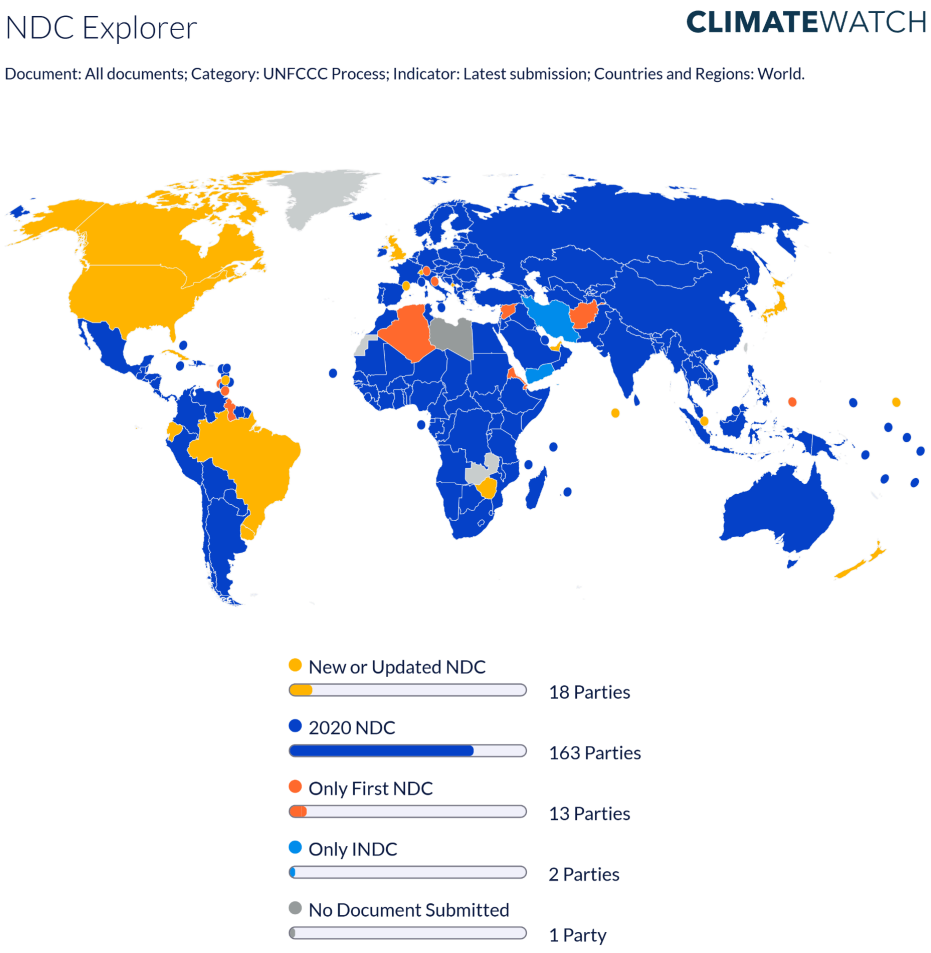
around 60% of new car registrations in the EU. Additionally, discussions around pan-European subsidies to boost EV demand signal a growing recognition of the need for streamlined incentives across member states. Another critical strategy is strengthening international partnerships, particularly with established EV industry leaders. Given Europe's current gaps in technology and production capacity, closer collaboration with China's advanced EV sector could help accelerate industrial development. Some European companies have already recognized this potential—such as France's Orano partnering with China's XTC New Energy Materials to produce EV battery components, a €1.5 billion joint investment expected to create 1,700 jobs and strengthen Europe's EV supply chain. This is a positive step, and more joint initiatives should follow—not only in battery production but also in the development and manufacturing of finished EVs. Expanding cooperation between European and Chinese automakers would allow both sides to leverage their strengths—Europe's automotive expertise and demand for climate-friendly vehicles and China's leadership in cost-effective EV production—to create competitive, high-quality electric vehicles for the global market.

This season's BCCC Commentary was written by Zhangchen Wang, Research Assistant at the Institute for China-America Studies.

Climate Change Project Profile: Nationally Determined Contributions

A. Understanding Nationally Determined Contributions (NDCs)

Nationally Determined Contributions (NDCs) are country-driven climate action plans detailed in Article 4 of the Paris Agreement. They outline how each country intends to reduce greenhouse gas emissions and adapt to climate change, reflecting national priorities and circumstances. Participation is voluntary—there are no legal penalties for failing to meet targets. Still, NDCs have achieved exceptionally high global recognition and acceptance, with nearly every country submitting an initial plan, making them the most widely endorsed mechanism for climate cooperation. It has also already influenced tangible outcomes. They have driven renewable energy investments, accelerated coal phaseout plans, and unlocked climate finance flows. Countries like Morocco and Costa Rica have even integrated NDC targets into broader development strategies, demonstrating how NDCs can shape policy and investment decisions.[1]



[1] Image: Latest NDC submission of each country. (CC BY-NC 4.0)

The Paris Agreement established a five-year cycle for countries to update their NDCs, with each round expected to reflect stronger ambition based on evolving capacities, technology, and climate urgency. By 2023, however, reports revealed that even if the existing NDCs are fully implemented, it would still result in approximately 2.5°C of warming by 2100, largely falling short of the Paris goals. Adding to this challenge, as mentioned in the previous sections, the scheduled 2025 update cycle has already seen many countries missing deadlines or delaying submissions, with less than 20 of the almost 200 countries submitting their updated agendas on time. This growing uncertainty over the NDC process presents a major test for international climate governance and will require further discussion in later sections.

NDCs typically cover three interconnected areas: mitigation actions to reduce emissions, adaptation measures to manage climate risks, and additional sections where countries—especially developing countries—outline and communicate their financial needs, technology transfer requests, and capacity-building requirements necessary for implementation. Developed countries are expected to lead on ambitious emissions reductions while providing financial and technological support to developing countries. In contrast, developing countries balance their mitigation and adaptation efforts with economic growth needs and often submit conditional targets based on the level of external support they receive. Mitigation elements commonly include energy transitions, industrial decarbonization, and land-use changes. Adaptation priorities range from strengthening infrastructure and food security to enhancing resilience against natural disasters. The implementation section outlines how countries plan to achieve these goals, often highlighting gaps requiring international assistance.

B. How Does NDCs Work

Submission and Update Procedures

Back in 2015, 214 countries and regions submitted their Intended Nationally Determined Contributions (INDCs) ahead of the 2015 Paris Agreement, and these were formalized into official NDCs once the agreement entered into force in 2016. According to Article 4.9 of the Paris Agreement, countries are required to update their NDCs at least every five years to continuously enhance ambition. This process is commonly referred to as the "ratchet mechanism." This mechanism ensures that each update is progressively stronger than previous commitments, preventing regression in ambition and steadily advancing global climate goals. Technically the first mandatory update was due in 2020, but the COVID-19 pandemic delayed COP26 to November 2021, leading many countries to also submit their updated targets during this adjusted timeline. While countries must update their NDCs every five years at a minimum, they are also encouraged to update their targets whenever they can increase ambition. For example, the European Union voluntarily updated its NDC again in 2023 as a response to the increasing internal political and public pressure for stronger climate action. The EU's updates in 2023 matched the "Fit for 55" package, which raised the EU's emission reduction target from "at least 55%" to a more defined and ambitious trajectory.

Factors Influencing National Decisions

There are several interlinked factors influencing national decisions regarding NDCs. Socioeconomic

development priorities are central, as countries at varying stages of economic progress approach climate commitments differently. Developing countries commonly balance ambitious climate action against pressing economic objectives like poverty alleviation, industrialization, and basic infrastructure development. The transition toward low-carbon economies brings considerable socioeconomic costs to most underdeveloped countries that still heavily depend on fossil fuels and non-renewable industries. Linked closely to economic considerations is the principle of equity and historical responsibilities. The concept of "common but differentiated responsibilities" acknowledges that developed countries bear greater obligations due to their historical emissions and higher economic and technological capabilities. Hence, developed countries are encouraged to set more ambitious climate goals through NDCs, and they are also expected to offer international financial aid, technological transfer, and capacity-building support to directly facilitate developing countries in realizing their climate goals and socioeconomic development objectives.

Additionally, internal conditions such as technological readiness, policy frameworks, and political willingness also affect a country's ambition over their NDCs. Countries with well-established policy environments and strong governmental leadership tend to set clearer and more ambitious NDC targets. Conversely, weak governance structures, limited public support, and low technological capacities can severely constrain national climate planning and target-setting processes. There are also researchers suggesting that countries with more individualism tend to submit higher mitigation targets for NDCs. Further, the specific adaptation needs and climate vulnerabilities of a country greatly influence NDC priorities. Small island states facing sea-level rise—such as Solomon Islands and Nauru—often prioritize resilience and adaptation funding. Lastly, another research indicates a positive correlation between air pollution levels and the ambition of climate actions, suggesting that countries experiencing greater air pollution are more likely to set stronger NDC targets.

Regularly Monitoring and Reporting

In order to make sure that each country "prepares, communicates, and maintains" successive NDCs as required in Article 4, paragraph 2 of the Paris Agreement, all countries are mandated to track and report their progress according to the Enhanced Transparency Framework (ETF) codified in Article 13 of the Paris Agreement. A key component of the ETF is the submission of Biennial Transparency Reports (BTRs). The BTRs offer comprehensive updates on countries' greenhouse gas inventories, progress toward NDC targets, climate policies, and adaptation measures. The first round of BTRs was due by 31 December 2024, and as of January 2025, 90 Parties had submitted their reports, including 13 Least Developed Countries and Small Island Developing States. These reports provide not only emissions data but also information on climate finance and support received. For example, Canada's BTRs provides comprehensive details on its greenhouse gas emissions, mitigation strategies, and the overall progress toward its Nationally Determined Contributions (NDCs). As a result, Canada is able to reaffirm its 2035 target of reducing emissions by 45% to 50% below 2005 levels, as well as information on successful policies and measures implemented to achieve these goals. Similarly, China's BTR provides detailed information on its national greenhouse gas inventory, progress toward achieving its NDC targets, and the implementation of key mitigation and

adaptation policies. It reaffirms China's commitment to peak carbon emissions before 2030 and reach carbon neutrality by 2060. The report also highlights some significant milestones, including a more than 50% reduction in carbon dioxide emissions per unit of GDP compared to 2005 levels, a 6.49 billion cubic meter increase in forest stock, and the expansion of non-fossil energy to 17.9% of total energy consumption. These monitoring and reporting mechanisms enable countries to measure their progress and identify clear pathways toward setting and achieving future NDCs.

C. *How NDCs is Making A Difference*

Economic Growth

Nationally Determined Contributions (NDCs) play a pivotal role in fostering economic growth by integrating climate action into national development strategies. A recent study by the Organisation for Economic Co-operation and Development (OECD) and the United Nations Development Programme (UNDP) provides compelling evidence supporting this assertion. The study indicates that enhanced NDCs—updated NDC plans that reflect greater commitments and actions—not only will not hinder economic growth but also can lead to a 0.2% increase in global GDP by 2040 compared to current policy scenarios. This growth is mainly attributed to investments in clean energy and energy efficiency. The significant cost reductions in renewable technologies, such as an 88% decline in solar photovoltaic costs and a 68% drop in onshore wind costs since 2010, is making clean energy economically a competitive and attractive option for most developing countries. Moreover, NDCs create policy certainty that encourages private sector investment in sustainable infrastructure and technologies. Without such certainty, even the current global GDP risks dropping by as much as 0.75% by 2030, not to mention the potential increases. Additionally, ambitious climate actions outlined in enhanced NDCs deliver economic benefits beyond immediate growth. By effectively reducing the frequency and severity of climate-induced disasters, these plans can significantly prevent economic losses associated with natural catastrophes, potentially increasing global GDP by up to 3% by 2050 and up to 13% by 2100. Therefore, clearly articulated and consistently updated NDCs not only mitigate climate risks but also underpin a resilient and prosperous global economy.

Public Health

NDCs can play a powerful role in protecting and promoting public health, particularly in developing and climate-vulnerable countries where health systems are already under strain. As the World Health Organization (WHO) emphasizes, climate change is one of the greatest threats to public health in the 21st century, and action to reduce emissions—such as shifting to cleaner energy sources—can simultaneously reduce the burden of air pollution, which is responsible for one in eight deaths globally. These so-called “health co-benefits” of climate mitigation—such as fewer respiratory diseases, reduced heat-related illnesses, and greater food and water security—are particularly significant in low-income countries, where both health risks and potential gains are magnified.

Academic research supports the view that poorer and more vulnerable nations are more likely to

incorporate health into their climate strategies—not because they have more capacity, but because they face the most urgent climate-related health threats. A 2022 study found that low-income countries, especially small island states and those with high pollution burdens, were more likely to highlight health concerns in their NDCs. The study also noted a positive correlation between countries' air pollution levels and the likelihood of adopting ambitious, health-aware climate actions. This shows how NDCs can serve not only as climate tools but also as platforms for addressing the social and economic determinants of health in vulnerable populations.

However, despite 70% of NDCs mentioning health in some form, only a small fraction link these references to concrete policy targets, financial commitments, or monitoring frameworks. There is a gap that undermines the potential of NDCs to fully deliver on their public health promise. And the 2025 update cycle brings both hope and warning. According to the Global Climate and Health Alliance (GCHA), governments have made noticeable progress in recognizing the connection between climate policy and public health. Yet major implementation gaps persist: most countries still lack measurable health targets, robust monitoring systems, and dedicated financing within their NDCs. The GCHA stresses that the 2025 submission window is a critical moment to shift from general references to concrete action—by embedding health objectives, budgeting for health-related adaptation and mitigation, and including health expertise in the NDC drafting process. For developing countries in particular, integrating health more systematically into NDCs could unlock not just climate resilience but significant health gains and economic savings. As many countries are yet to submit their updated NDCs, scholars are anticipating more efforts in this regard.

International Cooperation

NDCs are not just national commitments filed to the UNFCCC, it is also a framework for directing technical and financial support to developing countries. While challenges remain in ensuring long-term financing and equitable implementation, the growing track record of successful partnerships shows that, when well supported, NDCs can transform into platforms for meaningful, cooperative climate action at both national and regional scales. The NDC Partnership, a global coalition of over 200 members—including more than 130 countries and numerous international institutions—was established specifically to assist nations in implementing their climate goals. By using countries' NDCs as entry points to identify needs and match them with support, the Partnership enables a structured, demand-driven model of collaboration. This has resulted in concrete cooperative efforts that translate high-level climate commitments into national development strategies.

For instance, Rwanda has partnered with the NDC Partnership to pioneer a programmatic approach to climate finance, enabling better coordination and greater access to international funding for its NDC priorities. Antigua & Barbuda has leveraged its NDC to develop investment plans and attract private sector engagement, increasing both resilience and financing for local adaptation efforts. In Georgia, cooperation through the NDC Partnership led to the development of a national low-emission development strategy. Even at the regional level, the Partnership has proven effective: in August 2023, it convened government

officials and stakeholders from Pacific island nations in Fiji to elevate local needs and coordinate responses to climate threats, particularly in adaptation and resilience planning.

D. The Latest on NDCs And What It Means

The Missed Deadline

The 2025 update cycle for NDCs was meant to be a pivotal moment for global climate ambition. Under the Paris Agreement, countries are expected to submit new or enhanced climate action plans every five years, and the February 2025 deadline was set to provide ample time for synthesis and review ahead of COP30. Yet, as of March, fewer than 20 out of nearly 200 parties had submitted updated NDCs. Major emitters responsible for the majority of global greenhouse gas emissions—including China, India, and Russia—missed the deadline. While some, like Canada and Japan, submitted days later, others have provided little clarity about when or how they will update their plans.

The Not All Negative Consequences

The lack of timely response is concerning. The value of the NDC process lies not only in the ambition of climate targets, but also in their continuity and comparability. When countries skip the update, they effectively break the iterative "ratchet mechanism" at the heart of the NDC. NDCs are not just symbolic pledges—they are tools that guide national policy, attract finance, and facilitate international cooperation. At worst, delayed or absent updates may signal a deeper problem: waning political attention to climate change. The voluntary and non-binding nature of NDCs was designed to encourage participation, but it also leaves the door open for inaction. Even the NDC leaves room for vague and unmeasurable “wish lists,” many chose to submit nothing at all. This erodes the collective trust that climate agreements depend on. Countries that delay their submissions without clear timelines risk losing international credibility and missing out on the benefits that an effective NDC framework can provide—economic direction, investment signaling, health co-benefits, and the ability to engage with partners on shared challenges. Or as shown by the U.S. case, an ambitious NDC means little if it is not implemented or is reversed by political shifts.

Yet it is important not to be entirely pessimistic. China has announced its intention to submit updated NDCs “at an appropriate time.” If it is not an excuse of being unresponsive, it may actually suggest a more deliberate and thoughtful approach—one that aims to make updated NDCs more actionable and credible. After all, the effectiveness of the NDC system depends not just on when countries submit their plans, but on how realistic, measurable, and implementable those plans are. Countries like Botswana and Uruguay, for example, submitted updated NDCs that reflect strong alignment with domestic priorities—from water and drought resilience to industrial decarbonization—demonstrating that NDCs remain a flexible but effective planning tool for countries of diverse capacities and circumstances.

In the end, this update cycle has exposed the strengths and fragilities of the NDC framework. The framework still works—and works well—when countries engage with it seriously. It has already helped catalyze renewable

energy investment, shape policy reforms, improve health and energy outcomes, and guide international partnerships. But it only functions if countries participate with consistency and purpose. The current delays should serve as a warning, not a verdict, and the progress must be reaffirmed—not abandoned—at each update cycle.

E. What's Next for NDCs...

There is one important gap that is worth mentioning: there is limited attention given to cooperation among developed countries and major emitters within the NDC framework. Much of the international support mechanisms tied to NDCs focus rightly on helping developing countries, which is valuable and necessary. However, what arguably holds even greater potential for global impact is strategic cooperation—or even healthy competition—between major emitters such as the United States, China, the European Union, and India.

NDCs offer a unique platform for transparency and coordination. When major countries submit their targets and sectoral priorities, they are also sending signals to each other. This makes it easier to compare efforts, identify common ground, and evaluate areas for joint action. It also creates a constructive pathway for climate competition to maintain international credibility, market leadership, or diplomatic influence. However, the current NDC ecosystem largely underutilizes this potential. Moreover, the gap is even more pronounced considering the uncertainty surrounding U.S. climate policy. With the likelihood of the U.S. exiting the Paris Agreement again under a second Trump administration, national-level climate cooperation between the U.S. and China—already politically fragile—could face renewed setbacks. Yet, the Biden administration's 2035 NDC target of a 61–66% emissions reduction still exists as a matter of public record. Even if it no longer guides federal policy, that NDC could become a benchmark for subnational climate cooperation between U.S. states, cities, and international counterparts.

In short, the global climate agenda would benefit from a deeper integration of NDCs into the strategic thinking of major emitters. Whether through cooperation or rivalry, major powers could use NDCs to sharpen their climate diplomacy and set the pace for meaningful global progress. The absence of such discourse is a missed opportunity—and one worth addressing before the next update cycle passes us by.

Main Sources & Expanded Reading

90 Parties Submit First Biennial Transparency Reports, United Nations Climate Change, January 22, 2025
Adaptation And The NDCs, NDC Partnership, October 2020
A WHO Review: Health in the Nationally Determined Contributions, World Health Organization, 2020
Canada's First Biennial Transparency Report under the Paris Agreement (2024) – Executive summary, Government of Canada, last visited on March 31, 2025
Countries - Overview, Climate Action Tracker, last visited on March 31, 2025
Evaluating The Enhancement of The Nationally Determined Contributions (NDCs) of Developing Countries: An International Support Programme Perspective, *Climate Policy*, May 11, 2022
Engagement with Health in National Climate Change Commitments under The Paris Agreement: A Global

Mixed-methods Analysis of The Nationally Determined Contributions, *Lancet Planet Health*, February 10, 2021
Explainer: The 'Ratchet Mechanism' within The Paris Climate Deal, *Carbon Brief*, December 3, 2015
How We Work, NDC Partnership, last visited on March 31, 2025
Individualism and Nationally Determined Contributions to Climate Change, *Science of The Total Environment*, July 10, 2021
Investing in Climate for Growth and Development, Organisation for Economic Co-operation and Development, March 24, 2025
MRV 101: Understanding Measurement, Reporting, and Verification of Climate Change Mitigation, World Resource Institute, August 16, 2016
Nationally Determined Contributions (NDCs), United Nations Climate Change, last visited on March 31, 2025
NDC Registry, United Nations Climate Change, last visited on March 31, 2025
Paris Agreement: What Are NDCs And Why Do They Matter?, World Economic Forum, February 11, 2025
Report: As Deadline Hits, Countries Must Seize Opportunity to Plug Health Gaps in National Climate Commitments, Global Climate & Health Alliance, February 10, 2025
Strengthening National Monitoring, Reporting and Verification Systems For More Ambitious Climate Commitments, NDC Partnership, September 9, 2019
Submission by Spain And The European Commission on Behalf of The European Union And Its Member States: The Update of The Nationally Determined Contribution of The European Union and Its Member States, European Commission, October 16, 2023
The NDC Partnership & UNFCCC Launch Tool to Support Countries in Raising NDCs 3.0 Ambition and Accelerating Implementation, United Nations Climate Change, June 11, 2024
What Are Nationally Determined Contributions (NDCs) and Why Are They Important?, World Resource Institute, August 5, 2024
What Are NDCs And How Do They Drive Climate Action?, United Nations Development Programme, May 31, 2023
What Is An INDC?, World Resource Institute, last visited on March 31, 2025

This season's Climate Change Projects Profile on Nationally Determined Contributions (NDCs) was primarily researched and written by Zhangchen Wang, Research Assistant at the Institute for China-America Studies.

Climate Change Actor Profile: U.S. Environmental Protection Agency

A. Understanding The U.S. Environmental Protection Agency (US EPA)

The U.S. Environmental Protection Agency (EPA) is the principal federal agency responsible for protecting human health and the environment in the United States. It was established in 1970 through an executive reorganization plan proposed by President Nixon and approved by Congress. Its powers are now defined and reinforced through various environmental laws passed by Congress, such as the Clean Air Act, Clean Water Act, and Toxic Substances Control Act. These statutes grant the agency regulatory and enforcement powers, allowing it to investigate violations, issue fines, and even bring civil or criminal actions against polluters. [2]

The EPA's significance lies in its role as both a standard-setter and an enforcer in virtually all areas of environmental protection in the United States. Its actions directly affect public health, ecosystems, and industry practices. Over the decades, EPA initiatives have helped drastically reduce lead in gasoline, restore polluted waterways, and improve air quality nationwide. Moreover, EPA rulemaking is carefully grounded in scientific research and undergoes public notice-and-comment procedures. These rules can be challenged in

[2] Image: Trump-nominated EPA Administrator Lee Zeldin. (Source: Photo by Kayla Bartkowski/Getty Images)

court, are subject to oversight by Congress, and are implemented in collaboration with state and tribal governments. These processes ensure the agency's authority is both procedurally and legally accountable, although critics argue that political shifts can undermine long-term consistency.

Despite its accomplishments, the EPA is receiving renewed attention in 2025 due to the recurring scrutiny and political pushback it faces. Its effectiveness fluctuates with changes in presidential administrations, as priorities shift between stronger regulation and deregulatory agendas. President Trump ordered to roll back over 100 environmental rules during his first term, and has recently started to launch the "biggest deregulatory action in U.S. history" after returning to the White House. Some rollbacks in his initial term were later reversed, but the swings still caused strong regulatory uncertainty and inconsistency. In comparison, the new Trump Administration's sweeping changes surpass almost all previous actions in scale and scope, affecting regulations on many critical issues including greenhouse gas emissions, water protections, and vehicle emissions standards, which could potentially lead to significant environmental and public health consequences not previously encountered. Additionally, critics have long raised concerns about the agency's responsiveness to environmental justice, noting that pollution disproportionately affects low-income and minority communities. The future of the EPA and U.S. climate policy is becoming increasingly uncertain under Trump's renewed deregulatory push—it already had a long way to go, and now the path toward meaningful climate action appears more difficult than ever.

B. How Does The EPA Work

Assisting Lawmaking

While the EPA is not given the authority to write laws, it plays a direct supporting role in the legislative process through testimony, technical assistance, and the provision of scientific data. Primarily, the EPA Administrator and senior officials testify before congressional committees to provide expert insights on environmental issues, regulatory actions, and scientific findings. In addition to testimony, the EPA offers technical assistance to lawmakers as well. According to the EPA's Office of Congressional and Intergovernmental Relations (OCIR), this involves reviewing proposed bills and providing expert feedback to ensure that the legislation is scientifically sound and practically enforceable. The OCIR is the principal liaison with Congress, facilitating these interactions between the agency and the Congress. Thirdly, the previously mentioned technical and scientific assistance offered by the EPA all come from the Office of Research and Development (ORD), an office that supports decisionmaking in both internal regulations and legislations.

Rulemaking Authority Under Existing Laws

One of the most important functions of the Environmental Protection Agency (EPA) is to translate broad environmental laws passed by Congress into specific, enforceable regulations. The process by which the EPA creates these rules is governed by the Administrative Procedure Act. According to the EPA, rulemaking typically begins when Congress delegates regulatory responsibility to the agency. From there, the EPA develops a proposed rule based on scientific research, stakeholder input, and cost-benefit analyses. The draft is published in the Federal Register, followed by a public comment period during which the agency collects feedback from individuals, companies, advocacy groups, and other government bodies. After reviewing and responding to public input, the EPA finalizes the rule, which is then published again in the

Federal Register and codified in the Code of Federal Regulations.

Over the decades, this authority has enabled the EPA to create some of the most consequential environmental protections in the country. For example, under the Clean Air Act, the EPA sets National Ambient Air Quality Standards (NAAQS) for pollutants such as ozone, sulfur dioxide, and particulate matter—standards that have driven major reductions in air pollution nationwide. Another landmark rule involves the regulation of greenhouse gas emissions. Following the Supreme Court's 2007 *Massachusetts v. EPA* decision and the agency's subsequent Endangerment Finding, the EPA began issuing regulations on vehicle emissions and industrial carbon pollution. These actions laid the groundwork for federal climate policy and included rules such as the Clean Power Plan and vehicle fuel economy standards. Similarly, under the Safe Drinking Water Act, the EPA has issued rules that limit the presence of more than 65 chemical contaminants in drinking water, including harmful substances like arsenic, lead, and nitrates. Together, these examples demonstrate how the EPA's rulemaking authority is not only central to its mission but also vital to the implementation of national environmental and climate protection law. However, as the political landscape shifts, the future regulatory power of EPA will face more uncertainty.

C. *How The EPA is Making A Difference*

Increasing Vehicle and Power Efficiency

Among the EPA's most ambitious efforts to reduce greenhouse gas emissions and combat climate change are its regulations targeting the transportation and power sectors—two of the largest contributors to U.S. climate pollution. These initiatives began with strong, forward-looking goals. In 2012, the EPA, in coordination with the Department of Transportation, finalized fuel efficiency and emissions standards for passenger vehicles covering model years 2012 to 2025. The agency projected these standards would prevent around 6 billion metric tons of carbon dioxide emissions and save drivers roughly 12 billion barrels of oil over the lifetimes of the regulated vehicles. On the energy side, the EPA introduced the Clean Power Plan (CPP) in 2015 with the goal of reducing carbon emissions from fossil-fuel power plants by 32% from 2005 levels by 2030. This marked the first national limit on carbon pollution from existing power plants, aiming to accelerate the shift toward cleaner energy sources.

As of 2025, the results of these efforts are mixed. The EPA's Automotive Trends Report confirms that average real-world fuel economy for 2023 model-year vehicles reached a record 27.1 miles per gallon, and CO_2 emissions fell to 319 grams per mile—marking a continued improvement in vehicle performance and environmental impact. The power sector story has been even more volatile. After years of legal setbacks, the CPP was repealed in 2019. The Biden administration introduced a replacement rule in 2023 that aimed for a 90% reduction in coal-plant emissions within eight years, and this was allowed to proceed following a key Supreme Court decision in October 2024. Yet, just months later, the newly elected Trump administration began dismantling many of these policies, including electric vehicle rules and power plant emissions standards, in what it called "the biggest day of deregulation in American history". Overall, while the EPA's climate-focused rules achieved measurable progress, their long-term success remains uncertain.

What began as a bold move toward emissions reduction can still be counted as a partial success. But with many of those gains now at risk, the coming years will determine whether the EPA's climate legacy continues forward or is rolled back even further.

Bringing Cleaner Air for Healthier Communities

The EPA was tasked with implementing the Clean Air Act, setting ambitious targets to mitigate pollutants detrimental to public health and the environment. Over the subsequent decades, the nation witnessed substantial improvements in air quality. Between 1970 and 2023, emissions of the six principal air pollutants—particulate matter (PM2.5 and PM10), sulfur dioxide (SO_2), nitrogen oxides (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), and lead (Pb)—declined by 78%. This progress occurred alongside significant economic growth, including a 321% increase in gross domestic product and a 194% rise in vehicle miles traveled, underscoring the feasibility of achieving environmental goals without hindering economic development. Reductions in air pollution have also led to decreased incidences of respiratory and cardiovascular diseases, contributing to enhanced public health outcomes. Notably, the decrease in particulate matter has been associated with increased life expectancy in various regions. For instance, in Los Angeles, PM2.5 levels declined by 57% since 1970, resulting in an average life expectancy gain of 1.5 years for residents.

However, recent policy shifts have introduced uncertainties regarding the continuation of these positive trends. In March 2025, the current administration announced intentions to eliminate numerous regulations supporting clean air. This initiative includes reconsidering the 2009 Endangerment Finding, which underpins many climate-related regulations by recognizing greenhouse gas emissions as a threat to public health.

D. The Latest on The EPA And What It Means

Since the start of Donald Trump's second term in January 2025, the US EPA has entered a period of dramatic transformation. Much of the shift so far points in one direction: a systemic rollback of climate-related policies, deep cuts to environmental programs, and a narrower interpretation of federal regulatory authority. The new EPA Administrator Lee Zeldin, who has already exhibited a complex stance on environmental policy, adds more uncertainty to the picture. A lot of questions have been raised about whether the EPA under Zeldin will completely dismantle climate rules of the previous administrations, or whether it will continue to address specific environmental harms even as its broader role in climate mitigation is weakened.

Budget Cuts and Organizational Restructuring

Since the start of Trump's second term, the EPA has faced extensive budgetary downsizing, raising major concerns about the agency's scientific and community-focused capacities. One major target is the previously mentioned Office of Research and Development (ORD). The administration is reportedly

considering eliminating over 1,000 positions, potentially dismantling one of the EPA's most significant scientific research hubs. Critics warn that such cuts would permanently weaken the EPA's ability to make science-based policy decisions and respond to emerging environmental threats. At the same time, the EPA has also terminated over 400 grants totaling approximately $1.7 billion that were earmarked for environmental justice efforts. These grants were intended to improve environmental conditions in communities of color and low-income areas disproportionately burdened by pollution. Some regional EPA have also stopped sponsoring—or even contacting—their grantee organizations. Many local grantee organizations were locked out of payment systems with no notice or explanation, causing interruptions in many existing projects.

Regulatory Rollbacks

The EPA under the Trump administration has also initiated an aggressive rollback of environmental regulations. Central to this effort is the proposed reversal of 31 environmental rules, including the potential dismantling of the 2009 Endangerment Finding — the legal basis for regulating greenhouse gases under the Clean Air Act. If overturned, this would remove the EPA's obligation to regulate carbon emissions at a national level, fundamentally reshaping U.S. climate policy. The agency also already set up an email system for companies to request exemptions from rules under the Clean Air Act. Environmental groups have criticized this move, arguing that it prioritizes industrial interests over public health. As a part of the move on the Clean Air Act, it has also started to rollback the Mercury and Air Toxics Standards, which were established to limit hazardous emissions, including mercury and arsenic, from coal-fired power plants. In addition, EPA is also targeting the Clean Water Rule, aiming to redefine the scope of waters protected under the Clean Water Act. This revision seeks to streamline permitting processes and reduce compliance costs for businesses, particularly in the agriculture and development sectors.

Public health experts and environmental organizations have expressed deep concern, warning that relaxed pollution standards could lead to increased rates of asthma, cancer, and cardiovascular diseases. These concerns are especially acute for communities already facing environmental injustice. Critics argue that these deregulatory actions prioritize industrial and fossil fuel interests over public health and sustainability. Business groups, however, have welcomed the shift, arguing that the Obama- and Biden-era regulations were burdensome, stifled innovation, and imposed costly compliance requirements that hurt economic competitiveness.

E. What's Next for The EPA...

The current wave of rollbacks within the EPA is reshaping the U.S. environmental landscape in ways that place an even heavier burden on state and local governments. While the EPA has traditionally played a central coordinating and leading role, this framework is now under stress. Yet it's important to recognize that subnational environmental agencies are not merely subordinate bodies. They are independent entities, empowered by their own state laws and often capable of pushing beyond federal minimums. In

fact, many states have already demonstrated leadership in environmental protection. States like California, New York, and Washington have built regulatory frameworks that in some respects outpace federal ambition. Even in the absence of strong EPA leadership, states are legally and practically able to continue advancing positive environmental policies. That's the hopeful part of the picture.

However, their ability to succeed on their own is not limitless. The EPA provides much more than just policy direction—it supplies critical financial support, scientific expertise, legal backing, and enforcement muscle. With federal funding slashed, environmental justice grants canceled, and EPA staff silenced or reassigned, local agencies are left to operate with far fewer tools. The pressure is particularly acute for smaller states and rural areas, which may lack both the budget and the political momentum to compensate for what's being lost at the federal level. Without national coordination, environmental protection risks becoming an unbalanced and inconsistent patchwork system. This fragmentation could undermine even the most determined local efforts to address the large-scale, cross-border challenges associated with climate change. Indeed, state and local leadership will play a more important role than ever. Nevertheless, whether their actions can remain effective—and equitable—without robust EPA support is far from certain. The future of U.S. environmental protection now depends on whether local resolve can stand up to shrinking federal ambition.

Main Sources & Expanded Reading

About the Office of Congressional and Intergovernmental Relations (OCIR), United States Environmental Protection Agency, last visited on March 31, 2025

About the Office of Research and Development (ORD), United States Environmental Protection Agency, last visited on March 31, 2025

Cars Are Polluting Less — But for How Long?, *The Verge*, November 24, 2024

Climate Change Regulatory Actions and Initiatives, United States Environmental Protection Agency, last visited on March 31, 2025

EPA's Attempt to Eliminate Dozens of Clean Air Regulations Would Harm Americans, Clean Air Task Force, March 12, 2025

EPA Launches Biggest Deregulatory Action in U.S. History, United States Environmental Protection Agency, March 12, 2025

EPA Offers Industrial Polluters A Way To Avoid Rules on Mercury, Arsenic And Other Toxic Chemicals, *Associated Press*, March 27, 2025

EPA Report: Automakers Surpassing Light-Duty Greenhouse Gas Standards, United States Environmental Protection Agency, March 26, 2015

EPA's Science Advisory Board: Improved Procedures Needed to Process Congressional Requests for Scientific Advice, U.S. Government Accountability Office, June 04, 2015

EPA Testimony Statements for 117th Congressional Session 1, United States Environmental Protection Agency, last visited on March 31, 2025

EPA Workers Silenced as Agency Cancels Hundreds of Grants, *ABC News*, March 12, 2025

FACT SHEET: Overview of the Clean Power Plan, United States Environmental Protection Agency, last visited on March 31, 2025

Judge Questions Trump Administration Claw Back of $20 Billion Climate Fund, *Reuters*, March 12, 2025

Supreme Court Allows Rule Limiting Pollution from Coal-fired Power Plants to Remain in Effect, *Associated*

Press, October 16, 2024
The Basics of the Regulatory Process, United States Environmental Protection Agency, last visited on March 31, 2025
Trump Administration Aims to Eliminate E.P.A.'s Scientific Research Arm, *The New York Times*, March 17, 2025
Trump's EPA Aims to Cut Pollution Rules Projected to Save Nearly 200,000 Lives: 'People Will Be Hurt', *The Guardian*, March 19, 2025
Regulations for Greenhouse Gas Emissions from Passenger Cars and Trucks, United States Environmental Protection Agency, last visited on March 31, 2025
National Air Quality: Status and Trends of Key Air Pollutants, United States Environmental Protection Agency, last visited on March 31, 2025
Our Nation's Air, United States Environmental Protection Agency, 2024
The Basics of the Regulatory Process, United States Environmental Protection Agency, last visited on March 31, 2025

This season's Climate Change Actor Profile on the U.S. Environmental Protection Agency was primarily researched and written by Zhangchen Wang, Research Assistant at the Institute for China-America Studies.

Climate Research, Analysis, and Beyond

Scientific Research Results & Releases

January 2025

- Journal Article: Global Climate Change And Its Impact on The Distribution and Efficacy of *Bacillus Thuringiensis* as A Biopesticide, *Science of The Total Environment*, Volume 958
- Journal Article: Mitigating Anthropogenic Climate Change with Aqueous Green Energy, *Scientific Reports*, 15, No.1700
- Journal Article: A Multi-model Study to Inform the United States' 2035 NDC, *Nature Communication*, 16, No.643
- Journal Article: A Principle-based Framework to Determine Countries' Fair Warming Contributions to the Paris Agreement, *Nature Communication*, 16, No.1043
- Original Paper: Understanding The Policy Features that Affect Indians' Support for India's 2070 Net-zero Goal, *Climate Change*, Volume 178, No.21
- Journal Article: Half of Land Use Carbon Emissions in Southeast Asia can be Mitigated through Peat Swamp Forest and Mangrove Conservation and Restoration, *Nature Communication*, 16, No.740
- Journal Article: A Catalogue of Land-based Adaptation And Mitigation Solutions to Tackle Climate Change, *Scientific Data*, 12, No.166

February 2025

- Original Paper: How Fast is Climate Changing? One Generation is Sufficient for Unfamiliar Heatwave Characteristics to Emerge in Europe, *Climate Change*, Volume 178, No.26
- Original Paper: How Climate Change Affects Agricultural Clean Productivity in China: Roles of Agri-structure And Digital Technology, *Climate Change*, Volume 178, No.28
- Research Article: Planted Forests in China Have Higher Drought Risk Than Natural Forests, *Global Change Biology*, Volume 31, Issue 2
- Original Article: Global Warming Has Accelerated: Are the United Nations and the Public Well-Informed?, *Environment: Science and Policy for Sustainable Development*, Volume 67, Issue 1
- Journal Article: Alarming Patterns of Mature Forest Loss in the Brazilian Atlantic Forest, *Nature Sustainability*, 8, page 256-264
- Journal Article: Projection of Climate Change Impact on the Occurrence of Drought Events in Poland, *Scientific Reports*, 15, No.5609
- Journal Article: Community Estimate of Global Glacier Mass Changes from 2000 to 2023, *nature*, 639, page.382-388

March 2025

- Research Article: Tropical Forests in the Americas are Changing Too Slowly to Track Climate Change, *Science*, Volume 387, No.6738
- Journal Article: Navigating the Sea: A Comparative Study of Maritime Identity and Policies in Indonesia and Taiwan, *Maritime Studies*, 16, No.2206
- Journal Article: Climate-driven Connectivity Loss Impedes Species Adaptation to Warming in the Deep Ocean, *Nature Climate Change*, 15, page.315-320
- Original Paper: Carbon Credit Does Not Buy Moral Credit: Moral Licensing And Perceived Hypocrisy of Carbon Emission Offsetting And Reduction, *Climate Change*, Volume 178, No.48
- Journal Article: Greenhouse Gases Reduce The Satellite Carrying Capacity of Low Earth Orbit, *nature*

sustainability

- Journal Article: Record Sea Surface Temperature Jump in 2023–2024 Unlikely But Not Unexpected, *nature*
- Research Article: Assessing the Impacts of Climate Change Scenarios on Soil-Adjusted Vegetation Index in North African Arid Montane Rangeland: Case of Toujane Region, *Climate*, Volume 13, No.3
- Journal Article: How will the Cumulative Effects of Fishing and Climate Change Affect the Health And Resilience of the Celtic Sea Ecosystem?, *Science of The Total Environment*, Volume 969
- Original Paper: How Does Bias Correction Impact Simulated Drought Characteristics by Regional Climate Models?, *Climate Change*, Volume 178, No.67
- Journal Article: Permafrost Thaw-related Infrastructure Damage Costs in Alaska are Projected to Double under Medium and High Emission Scenarios, *Nature Communications Earth & Environment,* 6 No.221

Third-Party Views on Climate Change

Nations grapple with energy transitions, revealing divergent strategies to cut carbon emissions.

- How Do China And America Think About The Energy Transition? (Brookings Institute, January 13)
- Five Ways to Cut Emissions from Shipping (*The Conversation*, January 22)
- How Japan is Looking Deep Underground to Solve Its Carbon Problem (*The Japan Times*, January 26)
- The Times View of Labour's Pledge to Build Mini Reactors: Generation Game (*The Times*, February 6)
- Skepticism about China's Commitment to Green Transition Misplaced (*Global Times*, February 13)
- The Decision to Expand Gatwick is the Perfect Excuse for oil Giants to Ditch Green Energy (*Independent*, February 27)
- BP Dropping Its Green Ambitions is A Travesty. But That's Exactly How Capitalism Works (*The Guardian*, March 3)
- China has Opportunity and Capability to Take Leading Role in the Global Energy Transition (*China Daily*, March 19)
- It's Time for Shipping to Launch First Global Tax on A Polluting Sector (*Climate Home News*, March 24)

Domestic politics increasingly threaten to reshape international climate commitments.

- How Trump-proof is Biden's Environmental Legacy? See Our Analysis. (*The Washington Post*, January 17)
- China Will Be Thrilled if Trump Kills America's Green Economy (*The New York Times*, January 23)
- Why Climate-Change Ideology Is Dying (*Wall Street Journal*, January 27)
- Puerto Rico Must Not Be Left in The Dark (Yale Climate Connections, February 3)
- Commentary: Trump's Climate Data Purge Hurts Americans' Health And Wallets (*Union Bulletin*, February 5)
- The Times View on Germany's Green Problem: Dark Doldrums (*The Times*, February 12)
- Peter Franklin: Why has the Conservative Party Turned Against Net Zero? (Conservative Home, February 18)
- The US is Destroying Climate Progress. Here's A Strategy to Win Over The Right (*The Guardian*, February 26)
- Editorial: Courts must uphold New York's Climate Superfund Act (*Times Union*, February 26)
- The Global Battle Against the Climate Crisis Needs China. I'm Visiting Beijing, and That's What I'll Tell Them (*The Guardian*, March 14)
- Trump's Climate Change U-turn Is a Russian Victory (*Foreign Policy*, March 24)

Climate equity is emerging as a key concern across adaptation and communication strategies.

- Applying A Gender-sensitive Lens to Climate And Weather Information to Increase Equity And Reduce Business Risk (The London School of Economics and Political Science, March 6)
- Commentary: Inflation strikes insurance costs as climate guardrails disappear (*Orlando Sentinel*, March 7)

- For Millions Without Clean Water, Small-Scale Solutions Are Bringing Immediate Relief (*Earth.org*, March 22)

Global finance is steering climate action in critical new directions.

- Comment: Why 2025 Will Be A Pivotal Year for Climate Finance in the UK (*Reuters*, January 2)
- A Continent in Focus: COP29 Outcomes And Implications for Africa (Africa Policy Research Institute, January 13)
- If Trump Thinks We've Reached Peak Aid, It's Not Looking Good for Climate Finance (*Independent*, February 16)
- As COP16 Talks Resume, Governments Must Step Up Biodiversity Finance (*Earth.org*, February 27)
- Can ICJ Advisory Opinion on Climate Change Contribute to the SDG Discourse? (International Institute for Sustainable Development, March 5)
- Empowering the Transition: Key Institutions in India's Climate Finance Landscape in 2025 (The London School of Economics and Political Science, March 10)

Scientists and innovators are using nature-based solutions to reverse climate damage.

- From Nuts to Kelp: The 'Carbon-Negative' Foods that Help Reverse Climate Change (*BBC*, January 3)
- Seagrass Meadows As Natural Climate Protectors (*Eurasia Review*, January 26)
- AI and Blockchain Technologies Can Aid Companies in EUDR Compliance (*Earth.org*, February 13)
- Tony Juniper: We Can Build Homes And Protect Nature (*The Times*, February 16)
- Formulating the Ideal Mangrove Business Model in Indonesia (*Forests News*, February 20)

Climate-driven disasters are escalating costs and testing global resilience strategies.

- Climate Change Shows 'Caws' with Rising Costs for Disasters, Munich Re says (*Reuters*, January 9)
- 2024 Brought the World to a Dangerous Warming Threshold. Now What? (*The New York Times*, January 9)
- Disaster-hardened Japan Faces Enormous Costs from Climate Change (*The Japan Times*, January 12)
- What Mercenaries Can Teach Us About Climate-fuelled Disaster Responses (Australian Strategic Policy Institute, January 15)
- Are Wildfires Caused by Climate Change or Something Else? The Question is Flawed (*The Los Angeles Times*, January 24)
- After the L.A. Fires, a New Menace Lingers (*The New York Times*, January 30)
- Climate Disasters Endanger Maternal Health: Here's What We Must Do (*Earth.org*, January 30)
- That Giant Sucking Sound? It's Climate Change Devouring Your Home's Value. (*The New York Times*, February 3)
- Renewed Global Violence Puts Pressure on Climate Adaptation (*Climate Home News*, February 6)
- Extreme Weather is Our New Reality. We Must Accept It and Begin Planning (*The Guardian*, February 15)
- Seagrass Loss Leaves Thailand's Dugongs Struggling to Survive (*Dialogue Earth*, March 11)

Climate-Focused Conferences & Events

Multinational Conferences & Global Forums

Global Forum on the Environment and Climate Change

Organisation for Economic Co-operation and Development
March 18-19
Paris, France

- **From the Organizer**: How can countries track and accelerate progress on climate adaptation while enhancing transparency and ambition? As the world gears up for COP30, negotiators and experts gathered in Paris to reflect on lessons from the UAE-Belém work programme and biennial transparency reports. The goal: sharpen adaptation indicators, refine NDCs, and unlock finance for climate action.
- **Primary Themes**: The forum explored how adaptation indicators can be designed and integrated into global and national reporting systems. It also examined early insights from biennial transparency reports (BTRs) to inform more ambitious and actionable nationally determined contributions (NDCs), and discussed strategies to attract finance for implementation. Lessons from other global frameworks and efforts to align national monitoring and evaluation (MEL) systems with UNFCCC reporting were also central to the discussions.
- **Forum Outcome**: Over 200 climate experts, negotiators, and researchers from both developed and developing countries convened at the OECD headquarters in Paris and online to bridge technical insights with political ambition – laying the groundwork for more measurable, transparent, and finance-ready national climate commitments ahead of COP30.

Sustainable Energy for All Global Forum

Sustainable Energy for All
March 12-13
Bridgetown, Barbados

- **From the Organizer**: How can we accelerate the transition to sustainable energy while ensuring equity, security, and prosperity for all? The 2025 SEforALL Global Forum in Bridgetown, Barbados, convened global leaders to catalyze actions and investments necessary for countries to achieve their energy access, climate, and development goals.
- **Primary Themes**: The forum emphasized the need to ensure that no one is left behind in the energy transition, with a strong focus on equity and inclusive development. Discussions highlighted the importance of empowering youth and building skills for the future energy workforce. Financing was a central theme, with calls to modernize global financial systems to support clean energy investments. Participants stressed the urgency of reigniting international cooperation in fostering partnerships that prioritize energy security and regional progress. The forum also focused on driving higher ambition toward 2030 climate and energy targets, and leveraging innovation to scale up transformative technologies and sustainable solutions.
- **Forum Outcome**: Over 1,300 participants from more than 70 countries gathered in Bridgetown, Barbados, and online to advance the global sustainable energy movement. The forum resulted in groundbreaking commitments exceeding USD 500 million to scale energy access and drive the clean energy transition, including the launch of the USD 500 million DRE Nigeria Fund and other significant initiatives aimed at promoting sustainable development worldwide.

Public Events & Panel Discussions

-Upcoming Events-

Open Source in Energy Access Symposium 2025
Event by World Resources Institute | June 11-13

Webinar – Reforming Energy Efficiency Incentive Programs to Increase Heat Pump Adoption
Event by Rocky Mountain Institute | April 22

2025 Carnegie International Nuclear Policy Conference
Event by Carnegie Endowment for International Peace | April 21

Brazil's Critical Minerals and their Role in the Global Energy Transition
Event by Wilson Center | April 17

Stronger NDCs With Cities, States, and Regions
Event by World Resources Institute | April 15

Risks and Opportunities for Climate Mitigation and Adaptation in the MENA Region
Event by Carnegie Endowment for International Peace | April 9

Disentangling Climate & Development Impact to Mobilize Climate Finance
Event by Harvard Kennedy School | March 31

Frontiers Project Meeting: Baton Rouge, Louisiana
Event by Atlantic Council | March 28

From Shocks to Resilience: Lessons from UNICEF for Today & Tomorrow
Event by Columbia University SIPA | March 28

-Past Events-

TotalEnergies' Energy Outlook: Navigating the Future of Global Energy
Event by Center for Strategic and International Studies | March 26

Forecasting Disaster: How DOGE's Cuts to NOAA will Affect Weather Awareness and Well-Being
Event by Center for American Progress | March 24

Deepening U.S.-Japan Clean Energy Cooperation
Event by Center for Strategic and International Studies | March 12

The Future of U.S. Clean Energy
Event by Carnegie Endowment for International Peace | February 26

Nuclear Energy & American Leadership: A Blueprint for the Future
Event by Center for Strategic and International Studies | February 25

The Critical Role of Operational Energy in Military Readiness and Resilience
Event by Atlantic Council | February 27

What's Next for US-China Climate Relations
Event by Wilson Center | January 23

Setting the Global Energy Agenda for 2025
Event by Atlantic Council | February 20

Geothermal: Unlocking America's Untapped Energy Potential
Event by Atlantic Council | February 20

A New Era for Nuclear Energy with International Energy Agency's Fatih Birol
Event by Atlantic Council | February 6

Resilient Allied Energy Cooperation in the Indo-Pacific
Event by Center for Strategic and International Studies | February 5

Canadian Energy Minister Jonathan Wilkinson on US-Canada Energy Cooperation
Event by Atlantic Council | February 4

How to Prepare for Climate Migration in the US
Event by Brookings Institute | January 22

Canada and the US: Partnering for Prosperity in Energy and Beyond
Event by Wilson Center | January 15

US Assistant Secretary Geoffrey Pyatt on Russian Energy Influence in Europe
Event by Atlantic Council | January 15

Daniel Yergin on the Forces that are Shaping the World Energy Outlook
Event by Atlantic Council | January 13

US-China Climate Relations: Innovation, Competition, and Global Implications
Event by Brookings Institute | January 12 2025

IEEJ Energy Outlook 2025
Event by Center for Strategic and International Studies | January 11

ICAS BCCC Program Updates

Academic Engagement

Dr. Nong Hong spoke on China-Russia cooperation in the Arctic at China-Russia Dialogue

February 28 - March 1, 2025

On February 28 – March 1, 2025, Executive Director and Senior Fellow Dr. Nong Hong was invited to speak on China-Russia cooperation in the Arctic at the 2025 China-Russia Dialogue in Sanya, China. The dialogue was hosted by Beijing Club for International Dialogue, an ICAS strategic partner, Academy of Contemporary China and World Studies, and Russia International Affairs Council.

Inaugurated in 2024, the 2025 China-Russia Dialogue continued to focus on discussing bilateral China-Russia cooperation, global financial cooperation, cooperation and global challenges in the Arctic, cooperation among the BRICS countries, and multilateralism under the global south framework. This year's dialogue also discussed the U.S. policies under a second Trump administration and its implications for the rest of the world.

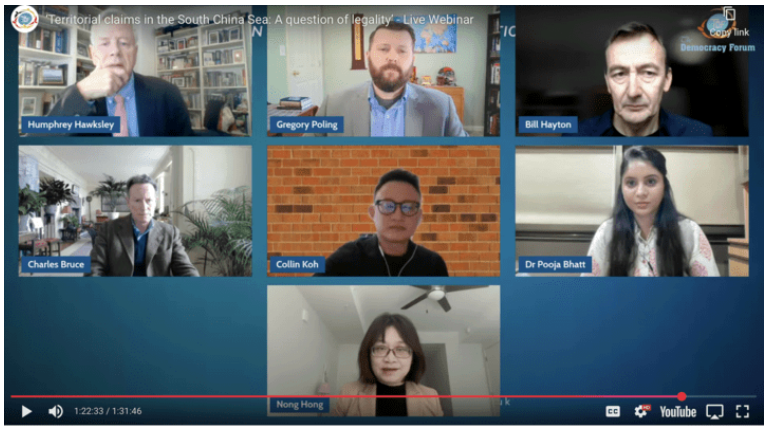
Continue Reading:
https://chinaus-icas.org/event/dr-nong-hong-spoke-on-china-russia-cooperation-in-the-arctic-at-china-russia-dialogue/

Academic Engagement

Dr. Nong Hong Spoke at the Democracy Forum 2025

February 17, 2025

On February 17, Dr. Nong Hong spoke at the webinar "Territorial claims in the South China Sea: A question of legality", hosted by the Democracy Forum.



ICAS Expert Voices Initiative (EVI)

EVI Arctic Series: Dr. Nong Hong Interviewing Experts from The Five Arctic Littoral States And Other Stakeholder Nations

The Institute for China-America Studies (ICAS) launched a new Expert Voices Initiative (EVI) series dedicated to exploring the Arctic. This series will bring together leading experts from the five Arctic littoral states and other stakeholder nations to share their research and perspectives on a wide range of Arctic-related topics. These include geopolitics, international law, shipping, environmental conservation, resource management, mining, the rights of Indigenous peoples, climate change, and multilateral cooperation.

Adam Lajeunesse on the Arctic: Canada

January 22, 2025

To inaugurate this Arctic-focused series, on January 22, 2025, Dr. Adam Lajeunesse, an Arctic expert from St. Francis Xavier University in Canada, met virtually with ICAS Executive Director and Senior Fellow Dr. Nong Hong to discuss significant developments in the Arctic in recent years. These include discussions about the role of the Arctic Council amid the Russia-Ukraine conflict and the subsequent sanctions on Russia, as well as U.S. President Trump's announcements in 2019 and again in 2025 about the possibility of purchasing Greenland. As one of the five Arctic Ocean littoral states and a key member of the Arctic Council, Canada plays a pivotal role in shaping the region's future.

[Watch The Full Interview](): https://www.youtube.com/watch?v=TfVBDOLrLJA

Zhao Long on the Arctic: China

February 21, 2025

Following the first interview on "Canada and the Arctic," Dr. Nong Hong conducted an in-depth discussion on February 21, 2025, with Dr. Zhao Long, Deputy Director of the Institute for International Strategic and Security Studies and Senior Research Fellow (Professor) at Shanghai Institutes for International Studies, a prominent Arctic expert from China.

As a key stakeholder in the Arctic, China has drawn significant attention for its evolving role in the region. This insightful interview explored several critical topics, including China's Arctic policy, its relationships with the five Arctic littoral states—particularly the United States and Canada—and its role in ocean governance, among other issues.

[Watch The Full Interview](): https://www.youtube.com/watch?v=G_WzChvqOXE
[Learn More About the ICAS Expert Voices Initiative](): https://chinaus-icas.org/media/expert-voices-initiatives/

BCCC Commentary

Moratoriums vs. Mining: How ISA's 30th Session Wrestled With Environmental Thresholds, Profit Sharing, and the Rush to Regulate

By Nong Hong
March 31, 2025

Part I of the 30th Session of the International Seabed Authority (ISA), was concluded on March 28 2025, marked significant developments in the ongoing effort to establish regulations for the exploitation of mineral resources in international seabed areas. As the governing body responsible for overseeing deep-sea mining under the United Nations Convention on the Law of the Sea (UNCLOS), the ISA is tasked with balancing resource extraction, environmental protection, and the equitable sharing of benefits among nations. This session, attended by all 36 Council Members, 24 non-Council Members, and 26 observer delegations, featured critical discussions and negotiations that are shaping the future of seabed mining. However, it also highlighted the complex challenges and divergent interests among member states and other stakeholders...

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https://chinaus-icas.org/research/moratoriums-vs-mining-how-isas-30th-session-wrestled-with-environmental-thresholds-profit-sharing-and-the-rush-to-regulate/

BCCC Commentary

Private Climate Action Needs Government Leadership to be Truly Successful

By Zhangchen Wang
February 12, 2025

The private sector's role in addressing climate change has attracted significant attention in recent years, particularly as an alternative force amidst the volatility of governmental climate policies in democracies. Frequent shifts in climate priorities between administrations have intensified the search for more consistent and long-term efforts, elevating private actions to a prominent position in combating climate change. Indeed, largely driven by profit incentives, the private sector often demonstrates a sustained commitment to climate change mitigation. However, this profit-driven nature also reveals the inherent limitations of private climate actions, which cannot replace the comprehensive leadership and regulatory capacity of governments. To achieve transformative and widespread climate goals, government intervention remains indispensable, pushing efforts beyond the upper limits of private sector initiatives and ensuring maximum effectiveness in addressing the climate crisis...

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BCCC Commentary

The Growing Wave of Climate Change Litigation: Trends and Impacts

By Nong Hong
January 10, 2025

Climate change litigation has emerged as a powerful tool in the global fight against the climate crisis. With its ability to hold states, corporations, and other stakeholders accountable, climate litigation is becoming a cornerstone of climate governance. Recent cases brought before international and regional legal institutions, such as the International Tribunal for the Law of the Sea (ITLOS) and the International Court of Justice (ICJ), underscore the transformative potential of legal actions in addressing climate-related challenges. The trends and impacts of climate litigation deserve careful examination, including how it reshapes legal principles, drives accountability, and influences policy...

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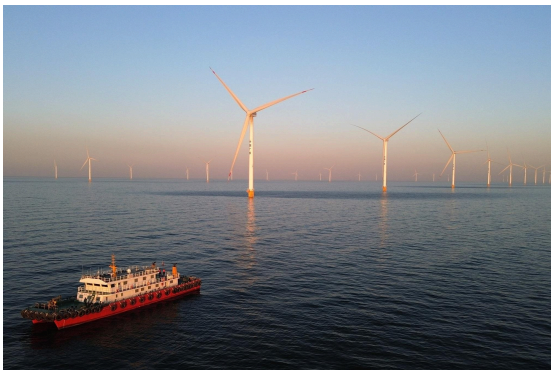
MAP Spotlight

MAP Spotlight: Offshore Wind Power

By Jessica Martin
January 28, 2025

Offshore wind power is a type of clean and renewable electrical energy that is captured and generated by the wind-driven rotation of wind turbines located offshore, which can then, through a series of electrical connections, be stably collected, transmitted and utilized. These turbines are collected into offshore wind farms that spread out across a wide expanse of open ocean so as to generate a collective and significant enough mass of offshore wind power. Because it takes advantage of more regularly-occurring and faster winds found offshore and does not create emissions, many parties around the world—especially those in Europe—regard offshore wind power as an attractive, cheap and scalable source of renewable energy with extensive potential...



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We aim to provide a window into the worldviews of both the United States and China, and thereby serve as a vehicle to promote greater understanding between these two countries and societies.

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