**The Age of Climate Pragmatism: A Strategy**

**for Resilient Clean Energy Geopolitics**

by Zeinah Abdelsalam

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Dr. Paul Miller

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## Introduction

Three decades after the United Nations Framework Convention on Climate Change (UNFCCC) was signed, and a decade after the landmark Paris Agreement, the world faces a harsh reckoning: emissions continue to rise, diverging from pathways to avoid catastrophic warming.[1] While the rhetoric of climate ambition persists, the practical mechanisms designed to deliver decarbonization – the Conference of the Parties (COP) frameworks and Paris Agreement commitments – are increasingly fragile and nearing irrelevance.[2] This paralysis stems from a fundamental pivot in global policy priorities, where urgent emissions reduction has been superseded by twin pressures: global energy demand and intensifying geopolitical competition.[3] As a result, the world is unlikely to mount effective, coordinated climate action in the coming decades, as states privilege energy security, affordability, and geopolitical advantage over collective decarbonization.

## The Age of Climate Pragmatism

What is currently unfolding globally is less an "energy transition" – the replacement of old energy sources with new ones – and more an "energy addition," where rising renewable capacity is simply added onto record-high production and consumption of fossil fuels.[4] Driving this continued demand is an exponential surge in global electricity needs, fueled by

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[1] Abrahams, Leslie, Jane Nakano, Noam Unger, et al. "Experts React: Progress and Setbacks at COP30." *Center for Strategic and International Studies*, November 25, 2025. https://www.csis.org/analysis/experts-react-progress-and-setbacks-cop30; Karniol-Tambour, Karen, Daniel Hochman, and Jeremy Ng. "Is the Green Energy Transition Dead?" *Bridgewater*, March 19, 2025. http://bridgewater.com/research-and-insights/is-the-green-energy-transition-dead; *World Energy Outlook 2025*. International Energy Agency, 2025. https://www.iea.org/reports/world-energy-outlook-2025.

[2] Green, Jessica. "Global Climate Policy Is Broken: Fixating on Emissions Won't Decarbonize the World's Economy." *Foreign Affairs*, November 7, 2025. https://www.foreignaffairs.com/world/global-climate-policy-broken.

[3] Karniol-Tambour, "Is the Green Energy Transition Dead;" *World Energy Outlook 2025*. International Energy Agency.

[4] Yergin, Daniel, Peter Orszag, and Atul Arya. "The Troubled Energy Transition: How to Find a Pragmatic Path Forward." *Foreign Affairs*, February 25, 2025. https://www.foreignaffairs.com/united-states/troubled-energy-transition-yergin-orszag-arya.

electrification, advanced manufacturing, and the insatiable appetite of new technologies like Artificial Intelligence (AI) requiring large data centers.[5] Against this backdrop of soaring demand, governments are forced to prioritize the energy trilemma: ensuring supply security and affordability ahead of environmental sustainability.[6] The imperative to control inflation and energy costs makes support for costly climate policies politically unsustainable, contributing to waning climate commitment worldwide.[7]

This pragmatic shift is unfolding in a geopolitical landscape fractured by great-power rivalry.[8] Geopolitical competition, particularly between the U.S. and China, has created a widening bifurcation in global energy investment flows.[9] China has established a commanding position as the world's clean energy manufacturing superpower, dominating global supply chains for essential technologies like batteries and solar panels.[10] Yet, China's industrial policies, while promoting renewables, simultaneously require ongoing domestic coal capacity to ensure short-term energy security.[11] This rivalry has motivated countries to deploy trade restrictions, tariffs, and industrial subsidies to protect or build domestic supply chains, actions that raise costs and impede global deployment of clean energy.[12]

Compounding this crisis of ambition is the dramatic retreat of the U.S. from its traditional role, alongside the European Union (EU), as a major climate leader.[13] The US, one of the world's

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[5] Cai, Ray. "Navigating a New Energy Investment Paradigm." *Center for Strategic and International Studies*, November 13, 2025. https://www.csis.org/analysis/navigating-new-energy-investment-paradigm.
[6] Gross, Samantha, and Constanze Stelzenmüller. "Europe's Messy Russian Gas Divorce." *Brookings*, June 18, 2024. https://www.brookings.edu/articles/europes-messy-russian-gas-divorce/.
[7] Bordoff, Jason, and Meghan O'Sullivan. "The Ukraine Crisis Offers a Rare Chance for Energy and Climate Cooperation." *Foreign Policy*, April 18, 2022. https://foreignpolicy.com/2022/04/18/ukraine-russia-war-oil-energy-climate-gas-prices/.
[8] Yergin, Daniel, et al. "The Troubled Energy Transition."
[9] Cai, Ray. "Navigating a New Energy Investment Paradigm."
[10] Ibid.; Sanderson, Henry. *Volt Rush: The Winners and Losers in the Race to Go Green*. Simon & Schuster, 2023.
[11] *World Energy Outlook 2025*. International Energy Agency. p. 17.
[12] Cai, Ray. "Navigating a New Energy Investment Paradigm;" O'Sullivan, Meghan, and Jason Bordoff. "Green Peace: How the Fight Against Climate Change Can Overcome Geopolitical Discord." *Foreign Affairs*, June 18, 2024. https://www.foreignaffairs.com/united-states/green-peace-climate-change-geopolitics.
[13] Weise, Zia, and Karl Mathiesen. "How the EU Banished Its Climate Demons and Salvaged a Weak COP30 Deal." *PoliticoPro*, November 23, 2025. https://www.politico.eu/article/how-eu-banished-climate-demons-salvaged-weak-cop30-deal/.

largest emitters, has executed a formal withdrawal from the Paris Agreement.[14] This reversal was crystallized by the passage of the One Big Beautiful Bill Act (OBBBA) in 2025, a legislative action that significantly rolled back core clean energy tax incentives from previous administrations and explicitly reinforced a strategy prioritizing domestic fossil fuel production and energy dominance.[15] The leadership void was evident at COP30 in Belém, which the U.S. skipped for the first time.[16] The absence of American diplomatic presence allowed a consolidated 'bloc of emerging economies and petrostates'[17] to dominate negotiations and deliver only marginal steps, postponing the hard decisions to transition from fossil fuels.[18] These collective dynamics illustrate that real-world economic and security priorities are currently holding the world captive, stalling meaningful, decisive climate action at a moment when speed and scale are paramount.

**Why Security Trumps Sustainability**

The defining characteristic of the global energy landscape today is the overwhelming pace of demand growth, a phenomenon that has profoundly challenged the political feasibility of rapid decarbonization. Despite record investment in clean energy technologies, the reality remains that the global energy system is embracing an "all of the above" strategy, as renewable capacity is layered onto persistently high fossil fuel production.[19] This divergence means that

[14] Gatopoulos, Derek, Theodora Tongas, and Mauricio Savarese. "Trump's Energy Secretary Slams UN Climate Conference in Brazil, Where US Absence Is Glaring." *AP News*, November 7, 2025. https://apnews.com/article/greece-climate-trump-energy-global-warming-cop30-e41a2a98a6b029fca7c69c5b48741b5c.
[15] "One Big Beautiful Bill: New Law Disrupts Clean Energy Investment." *Latham & Watkins*, July 8, 2025. https://www.lw.com/en/insights/one-big-beautiful-bill-new-law-disrupts-clean-energy-investment.
[16] Abrahams, Leslie, et al. "Experts React: Progress and Setbacks at COP30."
[17] Schonhardt, Sara, Karl Mathiesen, Zia Weise, and Zack Colman. "Deal or 'Meh' Deal? Climate Summit Ends on a Deflating Note." *Politico*, November 22, 2025. https://www.politico.com/news/2025/11/22/deal-or-meh-deal-climate-summit-ends-on-a-deflating-note-00665990.
[18] Ibid.; Noam Unger, et al. "Experts React: Progress and Setbacks at COP30."
[19] Karniol-Tambour, "Is the Green Energy Transition Dead;" Yergin, Daniel, et al. "The Troubled Energy Transition."

global greenhouse gas (GHG) emissions are reaching all-time highs, dangerously misaligned with the 1.5°C climate pathway.[20]

The massive surge in energy needs is driven by fundamental structural shifts in the global economy. Crucially, the world has entered the "Age of Electricity," where demand is outpacing overall energy use across virtually all scenarios.[21] This growth is accelerated by industrial expansion in emerging economies and soaring residential needs, particularly for air conditioning, as rising incomes and temperatures boost demand for cooling in regions like India, Southeast Asia, the Middle East, Latin America, and Africa.[22] Adding pressure is the proliferation of high-consumption technologies.[23]

Governments facing relentless demand prioritize stability through the trilemma, with immediate affordability and security outweighing long-term climate goals. This preference reflects core International Relations (IR) realism: states act to ensure survival and welfare in an anarchic system.

From a realist perspective, the state's fundamental duty is guaranteeing physical and economic security for its citizens.[24] When global crises – such as geopolitical conflicts or structural shifts impacting energy markets or sudden spikes in consumer prices – arise, the political imperative is clear and immediate: mitigate inflation and ensure the lights stay on.[25] Ignoring affordability risks immediate and severe political backlash, or "greenlash,"[26] which

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[20] Ibid.; *World Energy Outlook 2025*. International Energy Agency. p. 316.
[21] *World Energy Outlook 2025*. International Energy Agency. p. 19.
[22] Ibid. pp. 20, 47, 138, 384.
[23] Yergin, Daniel, et al. "The Troubled Energy Transition."
[24] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon: An Old Tool Creating New Dangers." *Foreign Affairs*, October 21, 2025. https://www.foreignaffairs.com/united-states/return-energy-weapon-bordoff-osullivan.
[25] "G7 Climate, Energy and Environment Ministers' Communiqué." G7 Germany, May 27, 2022. https://www.bundeswirtschaftsministerium.de/Redaktion/DE/Downloads/G/g7-konferenz-klima-energie-umweltminister-05-2022-abschlusskommunique.pdf?__blob=publicationFile&v=16&utm_source=SendGrid&utm_medium=Email&utm_campaign=IEA+newsletters; Bordoff, Jason, and Meghan O'Sullivan. "The Ukraine Crisis Offers a Rare Chance for Energy and Climate Cooperation."
[26] Yergin, Daniel, et al. "The Troubled Energy Transition."

falters support for ambitious but costly climate agendas. Therefore, abstract long-term climate goals, even those tied to physical risks, become secondary to the urgence of securing competitive and affordable energy supply.[27] The U.S. Democratic Party's shift toward affordability – reflected in electoral wins amid rising electricity bills and AI demand – shows political pressures push even pro-climate actors toward conventional energy.[28]

Energy security, traditionally defined as the uninterrupted availability of affordable energy sources, has been fundamentally re-evalued in light of recent shocks, becoming inseparable from economic and national security.[29] The war in Ukraine served as the most visceral reminder that reliance on imported fossil fuels is a strategic vulnerability, resurrecting the use of the energy weapon as a potent instrument of coercion.[30] Russia's aggression against Ukraine caused strong reverberations in international energy markets, leading to significant price increases for oil, gas, and coal, and posing grave risks to supply security across the G7 and beyond.[31] Now, the scope of energy security has broadened well beyond traditional oil and gas to encompass critical minerals and technology supply chains.[32] As the world moves toward high electrification, new dependencies are created by the materials necessary to build renewable infrastructure, such as batteries, electric vehicles (EVs), solar, etc.[33]

In this environment, the policy shift away from climate leadership toward bolstering domestic industrial competitiveness and achieving energy security becomes a rational and necessary calculus for political survival.[34] The result is that fossil fuels – including liquified

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[27] Bordoff, Jason, and Meghan O'Sullivan. "The Ukraine Crisis Offers a Rare Chance for Energy and Climate Cooperation."
[28] Tamborrino, Kelsey, and Josh Siegel. "Democrats Show Early Signs of Winning Energy Messaging War." *Politico*, n.d. https://www.politico.com/news/2025/11/05/democrats-show-early-signs-of-winning-energy-messaging-war-00638942.
[29] *World Energy Outlook 2025*. International Energy Agency; Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."
[30] Ibid.
[31] "G7 Climate, Energy and Environment Ministers' Communiqué." G7 Germany.
[32] *World Energy Outlook 2025*. International Energy Agency.
[33] Ibid. p. 62.
[34] Karniol-Tambour, "Is the Green Energy Transition Dead?"

natural gas (LNG), essential for the EU's divorce from Russian gas imports and increasingly on the rise – continue to dominate energy trade markets, not through ideological commitment, but as the pragmatic, reliable, and available recourse to meet surging national needs.[35]

**The Great-Power Gambit: Weaponizing the Clean Energy Supply Chain**

The structural shift away from climate leadership toward nationalistic industrial policies is most clearly embodied by the rise of China as the dominant clean energy superpower.[36] Over the last decade, Beijing leveraged generous government subsidies and strategic planning to capture a commanding industrial position across the entire low-carbon value chain.[37] China now controls over 80% of global solar manufacturing capacity at every stage,[38] accounts for at least 85% of capacity across the battery value chain (including over 95% of battery anodes),[39] and holds decisive dominance in the raw materials needed for electrification.[40] Critically, China is the leading refiner for 19 out of 20 energy-related strategic minerals, possessing an average market share of around 70% in processing key elements like lithium, cobalt, and graphite.[41]

The massive geographic concentration of the supply chain transforms the clean energy transition from an environmental project into a high-stakes geopolitical contest. For policymakers in Washington and Brussels, reliance on a strategic competitor for nearly all the inputs necessary to decarbonize represents an intolerable national security vulnerability.[42] Just as

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[35] *World Energy Outlook 2025*. International Energy Agency. p. 17.
[36] Colman, Zack, Karl Mathiesen, Zia Weise, and Sara Schonhardt. "The World Is Fractured. The Climate Talks Reflected That." *Politico*, November 22, 2025. https://www.politico.com/news/2025/11/22/the-world-is-fractured-the-climate-talks-reflected-that-00666118.
[37] Sanderson, Henry. *Volt Rush: The Winners and Losers in the Race to Go Green*. pp. 10, 41, 43.
[38] *World Energy Outlook 2025*. International Energy Agency. pp. 62, 251.
[39] Ibid. p. 63
[40] Karniol-Tambour, "Is the Green Energy Transition Dead?"
[41] *World Energy Outlook 2025*. International Energy Agency. pp. 18, 63.
[42] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."

the world feared dependence on OPEC for oil in the 1970s, Western nations now fear dependence on China for the "fuels" of the Age of Electricity.[43] China has already demonstrated the potential for coercion, having previously restricted the export of rare-earth elements (REEs) and critical minerals used in semiconductors, batteries, and defense systems.[44]

Consequently, U.S. and EU climate agendas have retreated into domestic industrial policy.[45] The U.S. responded to this rivalry with unprecedented initiatives and tariffs.[46] The expansion of OBBBA explicitly denied clean energy tax credits to projects connected to "foreign entities of concern" (FEOCs), which includes companies controlled by the Chinese government or its citizens, forcing manufacturers to navigate complex rules demanding non-Chinese sourcing.[47] Simultaneously, the EU has moderated its aggressive decarbonization goals to prioritize economic security and industrial competitiveness.[48] Brussels is deploying tools like the Critical Raw Materials Act (to reduce Chinese import reliance) and the Carbon Border Adjustment Mechanism (CBAM), which imposes tariffs on carbon-intensive imports but also aims to equalize competition for domestic industries.[49]

This shift shows great power competition undermines climate cooperation, as states prioritize survival and economic security. When a state dominates a crucial sector, like China in clean energy tech, competitors rationally respond by attempting to decouple and reshore production, viewing foreign dependence as a critical weakness.[50] This economic security

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[43] Jason Furman. *The Economics of Green Industrial Policy*. Columbia Energy Exchange. June 6, 2023. https://www.energypolicy.columbia.edu/the-economics-of-green-industrial-policy/.
[44] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."
[45] Ibid.
[46] Yergin, Daniel, et al. "The Troubled Energy Transition."
[47] "One Big Beautiful Bill: New Law Disrupts Clean Energy Investment." *Latham & Watkins*; One Big Beautiful Bill Act, H.R.1, 119th Congress (2025). https://www.congress.gov/119/plaws/publ21/PLAW-119publ21.pdf.
[48] Cai, Ray. "Navigating a New Energy Investment Paradigm."
[49] Karniol-Tambour, "Is the Green Energy Transition Dead;" Yergin, Daniel, et al. "The Troubled Energy Transition;" Boocker, Sam, and David Wessel. "What Is a Carbon Border Adjustment Mechanism?" *Brookings*, October 3, 3035. https://www.brookings.edu/articles/what-is-a-carbon-border-adjustment-mechanism/.
[50] Cai, Ray. "Navigating a New Energy Investment Paradigm."

dilemma raises the cost and complexity of the energy transition globally, slowing the pace of climate action and ensuring that abstract long-term goals remain secondary to the immediate imperative of national competitiveness and resilience.[51] The rivalry thus fractures the unified global action necessary to meet multilateral and theoretically liberal commitments, reducing the incentive to collaborate on a transnational problem when the technological solutions themselves have become strategic assets.[52]

**The Retreat from Ambition: U.S. Leadership and the Burden of Domestic Constraints**

The global climate architecture, heavily reliant on the diplomatic and financial engagement of the world's largest economies, has been destabilized by the dramatic decline of U.S. climate leadership, resulting in a political environment where affordability, manufacturing competitiveness, and energy security supersede long-term sustainability goals. This strategic pivot is most vividly reflected in several key policy shifts since Donald Trump's presidential inauguration in January, including the formal withdrawal from the Paris Agreement and the passage of the One Big Beautiful Bill Act of 2025.[53]

President Trump formally announced his intention to withdraw the U.S. from the Paris Agreement early in his second term,[54] joining only Iran, Libya, and Yemen as non-parties.[55] This withdrawal, a symbolic U-turn, signals that the U.S. will no longer adhere to its ambitious previous commitments, such as the goal to reduce net GHG emissions by 61%-66% below 2005

[51] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."
[52] O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[53] *World Energy Outlook 2025*. International Energy Agency. pp. 24, 99.
[54] Schonhardt, Sara, et al. "Deal or 'Meh' Deal?"
[55] Sivaram, Varun, Alice Hill, and David Hart. "What Congress' 'Big' Policy Bill Means for Global Climate Change." *Council on Foreign Relations*, June 30, 2025. https://www.cfr.org/article/what-congress-big-policy-bill-means-global-climate-change.

levels by 2035.[56] The U.S. also cut international climate funding, leaving poorer nations without $11 billion annually.[57] This absence at the table might cause others to waver on their climate ambition,[58] or create a climate leadership vacuum.

Domestically, the OBBBA solidified this retreat by significantly rolling back many of the core clean energy tax incentives established under the previous administration's Inflation Reduction Act (IRA).[59] The OBBBA accelerates the phase-out of tax credits for wind, solar photovoltaics (PV), and EVs.[60] Simultaneously, the bill prioritizes domestic energy production, specifically advancing oil, natural gas, coal, and nuclear energy.[61] This shift explicitly moves the U.S. away from climate leadership not just abroad, but at home too.

This policy direction illustrates the inconsistent diplomacy and low-level presence at COP30 in Belém, Brazil, which took place without U.S. delegates present for the first time in the conference's history.[62] The U.S. delegation, including Energy Secretary Chris Wright, deliberately snubbed the conference, with Secretary Wright condemning the summit as "misguided" and an organization "not honest."[63] A White House spokesperson stated the President would "not jeopardize our country's economic and national security to pursue vague climate goals."[64]

The leadership gap at COP30 opened the door for emerging economies and petrostates to assert influence and strip the final outcome of any clear commitment to accelerating a fossil fuel

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[56] "Trump Will Slow, But Not Stop, the Energy Transition." *Oxford Economics*, February 10, 2025. https://www.oxfordeconomics.com/resource/trump-will-slow-but-not-stop-the-energy-transition/.
[57] Ibid.
[58] Ibid.
[59] "One Big Beautiful Bill: New Law Disrupts Clean Energy Investment." *Latham & Watkins.*
[60] *World Energy Outlook 2025*. International Energy Agency. p. 363.
[61] Ibid.
[62] Schonhardt, Sara, et al. "Deal or 'Meh' Deal?"
[63] Gatopoulos, Derek, et al. "Trump's Energy Secretary Slams UN Climate Conference in Brazil."
[64] Ibid.

phase-down.[65] As a news analysis noted, "the key beneficiaries of the U.S. absence were a group of countries allied by their sense that the West is fading and the 21st century is theirs for the taking."[66] The U.S.-sized hole was seized by countries like China, India, and Saudi Arabia to assert their priorities.[67] Even absent, the U.S. cast a long shadow, with countries fearing Washington might impose tariffs.[68]

In the U.S. context, domestic constraints have proven decisive. Policymakers face intense domestic backlash stemming from economic anxiety, populist opposition to high energy costs, and the desire to protect American jobs.[69] By prioritizing affordable energy supplies derived from fossil fuel abundance and industrial policies like the OBBBA, the Trump administration caters to domestic political forces (i.e., fossil fuel industries and consumers concerned about high prices) that view aggressive climate action as costly and detrimental to economic growth.[70] This domestic pressure compels the administration to retreat from global leadership to secure political stability and energy priorities.[71] The political environment dictates that if climate policy is seen as undermining affordability, competitiveness, and/or security, political support shrinks.[72]

**The Limits of the Paris Architecture**

Despite the widespread reaffirmation of commitment to the Paris Agreement, the multilateral climate regime is arguably "teetering on the brink of irrelevance"[73] when measured

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[65] Weise, Zia, Sara Schonhardt, Zack Colman, and Karl Mathiesen. "EU Threatens to Block 'Weak' COP30 Deal." *PoliticoPro*, November 21, 2025. https://www.politico.com/news/2025/11/21/eu-threatens-to-block-weak-cop30-deal-00664413.
[66] Colman, Zack, et al. "The World Is Fractured. The Climate Talks Reflected That."
[67] Ibid.
[68] Ibid.
[69] Yergin, Daniel, et al. "The Troubled Energy Transition;" O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[70] Karniol-Tambour, "Is the Green Energy Transition Dead?"
[71] Cai, Ray. "Navigating a New Energy Investment Paradigm."
[72] O'Sullivan, Meghan, and Jason Bordoff. "Green Peace;" Yergin, Daniel, et al. "The Troubled Energy Transition."
[73] Green, Jessica. "Global Climate Policy Is Broken."

against the core metric of halting the climate crisis: achieving deep and rapid emissions reductions.[74] Although the Agreement shifted warming from over 4°C to roughly 2.3–2.5°C, it still falls short of 1.5°C.[75] The core flaw lies not in the ambition of the goal, but in the architecture of the Paris Agreement and the COP process itself.[76]

Drawing on the lens of liberal internationalism, the Paris Agreement operates primarily through voluntary, nationally determined contributions (NDCs) rather than binding, enforceable mandates.[77] This design choice aimed to ensure near-universal participation by respecting national sovereignty.[78] Under Article 4 of the Agreement, parties commit to communicating successive NDCs that represent a progression over time, reflecting their "highest possible ambition."[79] However, this framework lacks meaningful enforcement mechanisms; NDCs are explicitly non-binding.[80] The COP process is essentially a platform for transparency, data collection, and governance focused on monitoring progress rather than mandating action.[81]

Furthermore, the aggregate effect of current NDCs is broadly in line with existing stated policies and market trends, failing to imply the additional ambition beyond what is currently expected.[82] For instance, a UN report found that the world would certainly surpass 1.5°C of warming based on the lack of heft in the newly submitted national plans.[83] The failure to deliver

[74] "Statement by the Secretary-General on the Agreement at COP30." United Nations, November 22, 2025. https://www.un.org/sg/en/content/sg/statements/2025-11-22/statement-the-secretary-general-the-agreement-cop30.
[75] "Global Mutirão: Uniting Humanity in a Global Mobilization Against Climate Change." United Nations Framework Convention on Climate Change, November 22, 2025. https://unfccc.int/sites/default/files/resource/cma2025_L24_adv.pdf.
[76] Green, Jessica. "Global Climate Policy Is Broken."
[77] "Trump Will Slow, But Not Stop, the Energy Transition." *Oxford Economics*.
[78] "Paris Agreement." United Nations Framework Convention on Climate Change, November 4, 2016. Article 13(3), p. 18. https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf.
[79] Ibid. Article 4(3), p. 5.
[80] "Trump Will Slow, But Not Stop, the Energy Transition." *Oxford Economics*.
[81] Abrahams, Leslie, et al. "Experts React: Progress and Setbacks at COP30;" Green, Jessica. "Global Climate Policy Is Broken."
[82] *World Energy Outlook 2025*. International Energy Agency. p. 39.
[83] Colman, Zack, et al. "The World Is Fractured. The Climate Talks Reflected That."

real emissions cuts means that the world is increasingly speaking of limiting "overshoot" of the target, rather than achieving 1.5°C.[84]

A second fatal flaw is the persistence of distributional conflicts and the history of broken promises to developing countries.[85] The Paris framework, based on 'common but differentiated responsibilities,' intended to ensure equity,[86] has created deep divisions, especially over climate finance. Developed countries committed to providing $100 billion per year by 2020 but only reached this target two years late, often by repurposing existing development aid.[87] Even the enhanced commitment to mobilize $300 billion annually starting in 2035 was deemed "appallingly low"[88] by many developing countries. This breakdown in financial solidarity, especially on adaptation finance and loss-and-damage support, leads to watered-down compromises like the COP30 outcome, where negotiators again "dodge"[89] calls to speed the shift from fossil fuels.

The fundamental structure, where high-ambition goals are paired with low enforcement mechanisms and exacerbated by unresolved financial inequality, means that the COP process struggles to foster the necessary trustful environment[90] for global cooperation. The multilateral regime continues to pursue 'managing tons'[91] through carbon offsets and pricing, which have minimal effect due to structural problems and weak implementation.[92] The mechanism is struggling to produce meaningful accountability,[93] revealing both the institutional limits of a

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[84] Ibid.; *World Energy Outlook 2025*. International Energy Agency. pp. 23-24.
[85] Green, Jessica. "Global Climate Policy Is Broken;" O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[86] "Paris Agreement." United Nations Framework Convention on Climate Change. Articles 2(2), 4(3)(19).
[87] Green, Jessica. "Global Climate Policy Is Broken."
[88] Ibid.
[89] Schonhardt, Sara, et al. "Deal or 'Meh' Deal;" Mathiesen, Karl. "Climate Summit Proposal Dodges Call to Accelerate Move from Fossil Fuels." *Politico*, November 22, 2025. https://www.politico.com/news/2025/11/22/deal-or-meh-deal-climate-summit-ends-on-a-deflating-note-00664769.
[90] "Global Mutirão: Uniting Humanity in a Global Mobilization Against Climate Change."
[91] Green, Jessica. "Global Climate Policy Is Broken."
[92] Ibid.
[93] Ibid.

regime built on voluntary compliance and the incomplete diffusion of norms around shared climate responsibility. Without stronger monitoring and normative buy-in, the Agreement's mission of global decarbonization stalls.

## Policy Recommendations: Realigning National Security with Climate Action

The enduring challenge to meaningful climate action is rooted in the current political reality that energy security, industrial competitiveness, and affordability demonstrably trump sustainability goals.[94] States, acting under the realist imperative of securing welfare and survival, will only prioritize deep decarbonization when clean energy is delivered as the most abundant, reliable, and affordable option.[95] The transition must shift from a moral obligation and a long-term aspiration to an immediate, self-serving national security imperative.[96]

Policy must shift support toward technologies that guarantee dispatchable, around-the-clock power and reduce fossil fuel reliance. This requires a targeted and state-led investment strategy in next-generation technologies.

### I. Guaranteeing Clean Firm Power and Resilience

To underpin grid stability against intermittent wind and solar deployment, policymakers must expedite the commercial scale-up of clean firm power sources.[97]

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[94] *World Energy Outlook 2025*. International Energy Agency; Karniol-Tambour, "Is the Green Energy Transition Dead?"
[95] Cai, Ray. "Navigating a New Energy Investment Paradigm;" Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."
[96] Ibid.; O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[97] Cai, Ray. "Navigating a New Energy Investment Paradigm."

a. **Small Modular Reactors (SMRs) and Advanced Nuclear.** Countries using nuclear recognize its potential to provide low-carbon baseload energy and grid flexibility.[98] Internationally, nuclear capacity is positioned for revival; in the U.S., the OBBBA aims to streamline regulatory barriers, while China exemplifies this global trend with plans to construct over 150 new reactors by 2035.[99] This expansion is critical to meeting baseload power needs driven by new demand sources like data centers and AI.[100]
b. **Geothermal and Long-Duration Storage.** Geothermal energy, which is expanding (particularly in the U.S.), is supported by tax incentives and accelerated permitting.[101] Furthermore, long-duration electricity storage is vital for overcoming the operational challenges of integrating high shares of intermittent renewables.[102]
c. **Fusion Research.** For a lasting clean energy solution, governments must promote international collaboration to accelerate fusion research and demonstration. Fusion energy could provide safe, abundant, zero-carbon power and help address energy poverty.[103]

## II. Diversification, Industrial Policy, and Education

The clean energy transition risks replacing fossil fuel dependence with concentrated supply chains dominated by China.[104] To mitigate the risk of economic coercion and reduce costs, countries scaling up clean energy, including the U.S. and partners, must pursue diversification

[98] "G7 Climate, Energy and Environment Ministers' Communiqué." G7 Germany.
[99] *World Energy Outlook 2025*. International Energy Agency. p. 368; Karniol-Tambour, "Is the Green Energy Transition Dead?"
[100] Ibid.
[101] *World Energy Outlook 2025*. International Energy Agency. p. 368
[102] Cai, Ray. "Navigating a New Energy Investment Paradigm."
[103] "Fusion Energy." *U.S. Department of Energy*, n.d. https://www.energy.gov/topics/fusion-energy.
[104] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon."

and industrial resilience, while continuing to engage China diplomatically rather than severing ties entirely,[105] and pair these efforts with strengthened public and workforce energy education to ensure the transition is politically durable.

a. **Learn from China's Model.** The impulse to protect domestic industries through tariffs and restrictions is strong.[106] However, using the U.S. and Europe as key examples, nations should learn from China's industrial success – not through full decoupling, which is unrealistic, but by building a global ecosystem that streamlines regulation democratically, accelerates deployment, and drives down costs.[107] China's dominance stems from strategic planning and subsidies that achieved massive scale and drove down costs for technologies like solar PV and batteries.[108]
b. **Strategically Invest in Global Supply Chains.** Advanced economies must work with partners, particularly developing nations, to diversify critical mineral supply chains.[109] China's dominance in refining 19 out of 20 strategic energy-related minerals and the recent use of export controls on rare earths underscore this vulnerability.[110] Policy efforts must prioritize investment in projects adhering to high environmental, social, and governance (ESG) standards in mineral-rich countries in Africa, Latin America, and Southeast Asia to build secure, responsible, and integrated critical mineral supply chains.[111]

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[105] O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[106] Yergin, Daniel, et al. "The Troubled Energy Transition."
[107] O'Sullivan, Meghan, and Jason Bordoff. "Green Peace."
[108] Sanderson, Henry. *Volt Rush. Ch 4.*
[109] Bordoff, Jason, and Meghan O'Sullivan. "The Return of the Energy Weapon;" Kurtyka, Michał. "A New European Commission Faces Three Key Issues at the Heart of the Clean Energy Transition." *The Atlantic Council*, October 8, 2024. https://www.atlanticcouncil.org/blogs/energysource/a-new-european-commission-faces-three-key-issues-at-the-heart-of-the-clean-energy-transition/.
[110] Ibid.
[111] Ibid.; "Climate, Energy and Environment Ministers' Meeting Communiqué." G7 Italia, April 30, 2024. https://www.g7italy.it/wp-content/uploads/G7-Climate-Energy-Environment-Ministerial-Communique_Final.pdf.

c. **Prioritize Energy Education and Awareness; Keep Those Affected by Energy Poverty and Sustainability in the Loop.** The integration of energy education must be viewed as a strategic national asset, not merely an environmental desideratum, for any state navigating the complex geopolitics of the 21st century. For the realist policymaker, fostering widespread energy literacy directly underpins internal stability and economic security; a well-informed populace is crucial for accommodating the unavoidable price volatility associated with the energy transition without succumbing to the political fragmentation and popular backlash known as "greenlash." Prioritizing vocational and academic energy education addresses labor shortages and builds skills vital for securing supply chains and competitiveness.[112] In essence, domestic strength requires policymakers to invest in the basic comprehension of energy dynamics among citizens to safeguard the essential "social license"[113] necessary for timely infrastructure projects and to counteract the misinformation that delays urgent national action.[114]

Only by making clear to decisionmakers and the public – especially those most exposed to the shocks of an abrupt transition – that clean power is decisively superior to fossil fuels in both abundance and cost can states pursue the low-carbon path as a straightforward matter of self-interest.

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[112] "Energy Education: Understanding the Relationship Between Energy and Education for Effective Energy Use." *Digital Energy*, n.d. https://www.digitalenergyby5.com/blog/energy-education-understanding-energy-literacy-and-sustainable-use/; *World Energy Outlook 2025*. International Energy Agency. pp. 278-280.

[113] O'Sullivan, Meghan. *Windfall: How the New Energy Abundance Upends Global Politics and Strengthens America's Power*. Simon & Schuster, 2017.

[114] Hornsey, Matthew, and Kelly Fielding. "Understanding (and Reducing) Inaction on Climate Change." *Social Issues and Policy Review* 14, no. 1 (2020): 3–35. https://doi.org/10.1111/sipr.12058; Honghong Fan and Lijuan Fan. "Role of Education and Awareness Programs in Fostering Energy Conservation Behavior in Cities: Empowering Urban Sustainability Using Deep Learning Approach." *Sustainable Cities and Society*, October 1, 2024. https://doi.org/10.1016/j.scs.2024.105505.

**Conclusion**

The close of the recent climate summit in Belém reflected the fractured state of global affairs, showing how political reversals, institutional fatigue, and polarized domestic climates continue to compromise multilateral ambition.[115] The absence of the U.S., coupled with fossil fuel policy polarization, created a leadership vacuum that allowed emerging economies to avoid meaningful commitments to accelerate the transition from coal, oil, and gas.[116]

This setback must be viewed as part of the temporary churn of political cycles – especially democratic ones. The pendulum of U.S. climate politics swings, and the current administration will not define the long-term trajectory of global climate policy.[117] Debates over ambition, fossil fuel roadmaps, climate finance, and clean energy trade barriers will crystalize at COP31 in Antalya, Turkey. This venue, hosted by a major emerging economy and exporter, will serve as a crucial inflection point where the new industrial policy landscape and strategic alignments will shape the next era of climate governance.[118]

Despite volatility, there is guarded optimism rooted in structural drivers. The transition toward clean energy is fundamentally irreversible because of favorable economics and technological advancements, regardless of transient political support.[119] Furthermore, the imperative of energy security, demanding greater diversification and reduced reliance on volatile international fuel sources, is emerging as a powerful new non-ideological motivator for accelerated clean energy deployment, suggesting renewed momentum will surface.[120]

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[115] Colman, Zack, et al. “The World Is Fractured. The Climate Talks Reflected That.”
[116] Ibid.
[117] “Trump Will Slow, But Not Stop, the Energy Transition.” *Oxford Economics*.
[118] Mathiesen, Karl. “It’s Official: Turkey Will Be Boss of COP31 Climate Talks.” *Politico*, November 21, 2025. https://www.politico.com/news/2025/11/21/its-official-turkey-will-be-boss-of-cop31-climate-talks-00665865.
[119] Karniol-Tambour, “Is the Green Energy Transition Dead?”
[120] Bordoff, Jason, and Meghan O’Sullivan. “The Return of the Energy Weapon.”

The turbulence at Belém is not the end of climate cooperation – only a reminder of its fragility. As COP31 convenes in Turkey next year, the real test will be whether states recognize that energy security and climate action are no longer competing priorities but converging ones. The current political cycle will pass; what endures is the strategic logic that clean, abundant power is the foundation of national strength in the twenty-first century.

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