CLEAN AIR TASK FORCE

Clean Air Task Force 2024 Impact Report

Catalyzing resilient solutions for a cleaner future

Contents

A NOTE FROM OUR EXECUTIVE DIRECTOR

Purpose built for a messy reality.

In 2024, things got real. Yes, the world deployed record amounts of wind, solar, and batteries. Europe enacted new policies to control methane emissions. Investment in solutions like carbon capture and nuclear energy increased substantially.

But all the while, reality began to bite.

Carbon emissions continued to climb to record levels. Coal plant additions outpaced coal plant retirements. Clean energy infrastructure faced permitting hurdles, with inflation slowing some infrastructure deployment to a crawl.

Zooming out, geopolitical conflict worsened, multilateralism showed signs of vulnerability, and protectionism once again gained ground — all of which made mobilizing global commercial and political cooperation to manage climate change harder.

To make things even more challenging, the year culminated with the election of a range of leaders around the world who explicitly ran on anti-climate positions. The U.S. elections were perhaps the clearest example, but in most corners of the world we saw sentiment shift rightward and voters throw out incumbents identified with aggressive climate action.

This political backlash has triggered a broader rethink within more serious climate circles. Is climate action in and of itself really a priority for most of the world? Does it stand on its own? Can it be the be-all-end-all?

The short answer is of course “no,” and CATF has long known that and been willing to say it out loud. We understand that climate action can only advance alongside efforts to increase energy security, boost competitiveness, improve health, and drive economic growth.

We also know that when we acknowledge those contexts and begin to work within them, we quickly realize we’re going to need more energy to power the global economy, not less. We’re going to need more low-carbon energy solutions at our disposal to do so, not fewer. We need regional flexibility, because one size and one speed will not fit all. And perhaps most salient today, we must design climate policy that is durable and resilient to shifting political winds.

These principles are only reinforced during times of uncertainty and obstacle. Now, more than ever, CATF’s pragmatic approach shines through. We are better positioned than any group to vigorously defend the gains we’ve made on clean energy policy and clean air regulations, while assessing an ever-changing landscape and continuing to find the through line with strategies designed to work in the real world. It’s one of the reasons we were recently named the very best climate change-focused organization to support for an astounding fifth year in a row.

In this 2024 Impact Report, you’ll learn about a range of CATF efforts to meet the world’s energy needs without damaging the atmosphere over the past year — from landmark legal advocacy wins to technical and commercial breakthroughs on next-generation clean energy technologies. This work continues despite sea changes, as our ship was designed for stormy days as well as calm ones.

We’re proud to share our journey with you, and we’re grateful for your partnership as we continue to chart a course toward a zero-emissions, high-energy planet at an affordable cost.

Thank you,

Armond Cohen
Executive Director
Clean Air Task Force

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Time and time again, reality has proven Clean Air Task Force’s theory of change correct. As political winds shift and push comes to shove, CATF’s pragmatic, inquisitive, and independent approach to the climate and energy challenge shines through. It is not just the best investment you can make right now to invest in a clean energy future, it’s a beacon for others to turn to when looking to better reckon with reality and drive real, lasting change within it.

BRUCE PHILLIPS, BOARD CHAIR

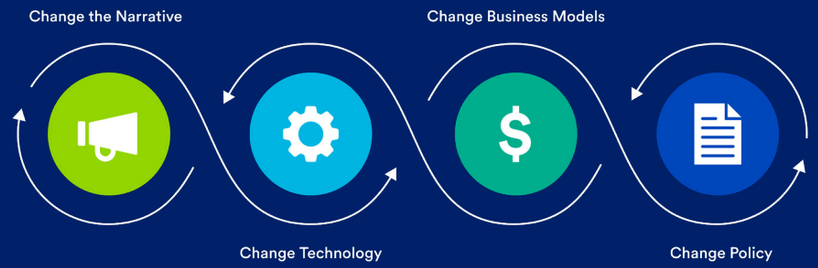
Who we are

We are not just environmental advocates. We're pragmatic problem solvers, strategic thinkers, and catalysts for a brighter future.

CATF is a non-traditional, research-based environmental advocacy organization that advances climate solutions based on scientific evidence, intellectual integrity, and pragmatism. **We understand that meeting the world's energy needs while managing climate change is too complex a challenge and that the stakes are far too high for us to limit the tools at our disposal or remain stuck in outdated ways of thinking.** For nearly 30 years, we have challenged conventional wisdom and explored every opportunity that offers promise to achieve a zero-emissions, high-energy planet at an affordable cost, advocating for innovative technologies to deliver a zero-carbon future and striving for a world where we meet rising energy demand in a way that is financially, socially, and environmentally sustainable.

This is an enormous challenge that requires innovation and change at every level, in all parts of the world.

What we do



1. **Change the narrative** to ensure the world understands and reckons with the full scope of the climate challenge, rallying around the need to advance a wide range of solutions while allowing for regional flexibility and pragmatism.
2. **Change technology** to make available and affordable the solutions we need to meet the climate challenge, including advanced renewable energy, zero-carbon fuels, advanced nuclear energy, superhot rock geothermal energy, and carbon capture and storage.
3. **Change business models** to develop modern, modular, manufacturable energy solutions that can be deployed quickly all over the world — improving markets while meeting energy demand and boosting energy security.
4. **Change policy** to cut harmful pollution and catalyze the development, demonstration, and scale-up of the systems and technologies required in a net-zero emissions, high-energy planet.
5. **Change politics** to increase support for clean energy and climate solutions, building movements that encourage leaders to advance pragmatic, fact-based, diverse, and implementable climate solutions.

Where we work

CATF is active in **46 countries** on **6 continents**, advancing climate solutions on a global scale.

CATF Active Areas

Impact highlights

Superhot Rock Geothermal Growth in the U.S. and Europe

Hosted the inaugural global Superhot Rock Energy Summit to bring together research groups, innovators, and companies leading efforts to make this innovative, carbon-free, always-available renewable energy source a reality.

Central and Eastern Europe (CEE) Expansion

CATF deepened its work in Central and Eastern Europe, conducting and releasing a studies outlining a vision for carbon neutrality in Poland.

Community Engagement in Clean Energy Infrastructure

Published a landmark study on the importance of enhanced community engagement around clean energy infrastructure projects to achieve New England's 2050 decarbonization goals.

COP29 in Baku

Strategically engaged world leaders at COP29 in Baku, Azerbaijan, advocating for more funding for nuclear energy projects and releasing a landmark technical report exploring the potentially symbiotic relationship between fusion energy and Artificial Intelligence (AI).

Legal Advocacy in the U.S.

CATF's nation-leading U.S. legal advocacy helped ensure EPA's finalization of strong carbon pollution standards for existing coal- and new gas-fired power plants, limits on methane and smog-forming volatile organic compound pollution from new and existing oil and gas sources, and stricter regulations for emissions of hazardous air pollutants, including mercury, from existing coal-fired power plants.

Mitigating Waste Methane Emissions in Latin America

Using our Waste Methane Assessment Platform (WasteMAP), CATF hosted workshops with governments and industry in Mexico and Colombia to build more climate friendly waste management systems and develop policy and regulations to support their efforts to abate methane from their respective waste sectors.

West Africa Utilities Roundtable

Convened the third West Africa Utilities Roundtable in Accra, Ghana, supporting power utilities in Ghana, Kenya, and The Gambia with technical analysis that has informed grid efficiency upgrades, new regulatory standards for demand-side electrification, and renewables integration planning across the three countries.

Durable climate action, built for the real world

As reality bit for many working to meet the climate challenge in 2024, CATF charted an effective course through increasingly turbulent waters. Guided by science and rooted in a realistic assessment of the task at hand, we stayed true to our mission and made significant strides to reduce emissions and catalyze the energy solutions needed to power a cleaner future — working within key contexts like increasing energy demand, energy security priorities, and affordability concerns.

Our reality-based approach allows us to carefully select our focus areas and design initiatives and programs capable of making a real impact in the real world. From reducing emissions from existing fossil infrastructure, to facilitating breakthroughs in technologies that could change the face of our global energy system, CATF stayed on the cutting edge, and helped lead the way toward a more effective and impactful approach to the climate challenge.

Superhot rock geothermal: An energy revolution in the making

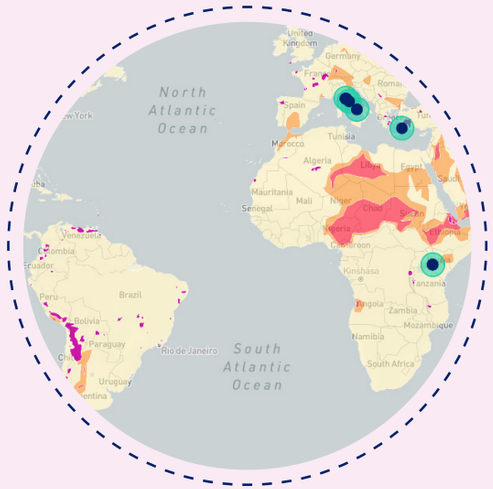
Meeting global energy needs while tackling climate goals requires clean, firm power solutions that can provide low-carbon power on demand. One such power source is superhot rock geothermal, which could deliver scalable, affordable, carbon-free energy around the clock, with a very low land footprint.

Thanks in part to CATF's work in this space, interest in and momentum around next-generation geothermal technologies have grown substantially, with policymakers, researchers, and industry leaders recognizing its potential. However, significant investment is still needed to advance superhot rock from demonstration to commercial deployment. CATF is helping shape national priorities on geothermal by driving targeted research, infrastructure development, and supportive policies that accelerate innovation and reduce costs. In 2024, CATF took major steps to build the knowledge base and policy framework needed to scale superhot rock geothermal. To address critical research gaps, we identified key technical advancements and remaining challenges for superhot rock deployment. These reports, informed by an extensive listening campaign with experts in the field, provided a foundation for public and private investment in the sector. Building on this work, we convened international geothermal leaders for dedicated workshops in Iceland and convened the inaugural global Superhot Rock Energy Summit. These discussions helped refine the technical roadmap for commercialization by identifying key barriers and charting pathways to overcome them.

Beyond research and convening, CATF has driven major policy advancements to support superhot rock geothermal. In the United States, we played a leading role in shaping the Supercritical Geothermal Research and Development Act, a bipartisan bill that would accelerate superhot rock research and development. CATF's Terra Rogers testified before the U.S. House Natural Resources Committee in support of the bill, underscoring the need for sustained investment in geothermal. This momentum was reinforced by the U.S. Department of Energy's (DOE) Advanced Research Projects Agency-Energy (ARPA-E), which announced a $30 million dedicated research and development program for superhot rock geothermal — an initiative informed by CATF's research on the sector's technical path forward.

Geothermal policy progress has also expanded beyond the United States. In Europe, the European Parliament passed a resolution promoting the development of geothermal energy, signaling growing political support for the sector. Meanwhile, CATF, in collaboration with the University of Twente, developed and launched a first-of-a-kind global modeling tool to estimate superhot rock geothermal's terawatt-scale potential, providing new insights into its role in the clean energy transition.

Through this combination of research, convening, and policy engagement, CATF is working to ensure superhot rock geothermal can reach commercial scale as quickly as possible. With the right investment and regulatory support, superhot rock has the potential to become a cornerstone of the global clean energy system, delivering firm, carbon-free power where and when it is needed most.



Creating an ecosystem in which nuclear energy can flourish

Momentum around nuclear energy is growing, with increasing investment, policy support, and public enthusiasm. However, cost barriers and regulatory hurdles still stand in the way of widespread deployment.

That's why CATF is building the tools, initiatives, and coalitions needed to advance nuclear energy at the pace and scale required. In 2024, we launched major new global initiatives, released key research, and engaged with policymakers around the world to accelerate nuclear energy development.

We did this by:

- Launching the Nuclear Scaling Initiative, a $10 million effort over two years to accelerate nuclear energy deployment in the United States and Central and Eastern Europe, with a long-term goal of scaling global nuclear capacity tenfold before the 2040s.
- Collaborating with the European Union (EU) Industrial Alliance for SMRs, a first-of-its-kind initiative focused on accelerating commercialization of Small Modular Reactors in Europe by the early 2030s to enhance energy security, industrial competitiveness, and decarbonization.
- Fostering global nuclear commitments at COP29, where six additional countries signed on to the global pledge to triple nuclear energy capacity by 2050, reinforcing international momentum for nuclear power as a climate solution.
- Advancing nuclear energy education and readiness in the United States and Central and Eastern Europe through a unique collaboration between CATF and the Massachusetts Institute of Technology (MIT). Together, we deliver unbiased, fact-based training programs to policymakers, financial leaders, and media professionals to support informed decision-making for a secure, low-carbon energy future.

By advancing nuclear energy deployment, policy, and research, CATF is working to ensure we can tap into the potential of these technologies to deliver firm, zero-carbon power where and when it's needed most.

Fusion energy: The potential for zero-carbon, abundant energy

Fusion energy, long considered a far-off dream, is now entering a new era of momentum. With new advances in High-Temperature Superconductors (HTS), AI, high-performance computing (HPC), and materials science, fusion is on its way toward making a tangible impact on the global energy system.

That's big news, as fusion power is:

- **Firm:** Fusion can provide continuous, reliable baseload power, essential for maintaining grid stability and replacing fossil fuels in a sustainable manner.
- **Safe:** Fusion energy does not create long-lived radioactive waste and poses fewer long-term environmental risks.
- **Abundant:** Fusion relies on deuterium and tritium, resources readily available from water and lithium.
- **Emissions-Free:** Fusion generates no greenhouse gas emissions during operation, avoiding harmful pollutants such as nitrogen oxides (NOx) and sulfur oxides (SOx).

In 2024, CATF released a groundbreaking report showing how AI and HPC are accelerating the development of fusion energy technologies.

> We see a unique opportunity for these technologies to progress hand-in-hand, with AI helping accelerate fusion's development while fusion provides the clean energy necessary to sustain AI energy demand.
>
> – *Sehila Gonzalez de Vicente, Global Director, Fusion Energy*

These tools are revolutionizing key areas like materials selection, HTS, inertial confinement fusion, tritium breeding, and advanced diagnostics. AI is helping researchers identify and test materials faster and more accurately, while HPC is allowing researchers to run complex simulations that once took months or years to complete.

These innovations are driving down development times and costs, bringing us closer than ever to the possibility of fusion energy as a zero-carbon, abundant energy source.

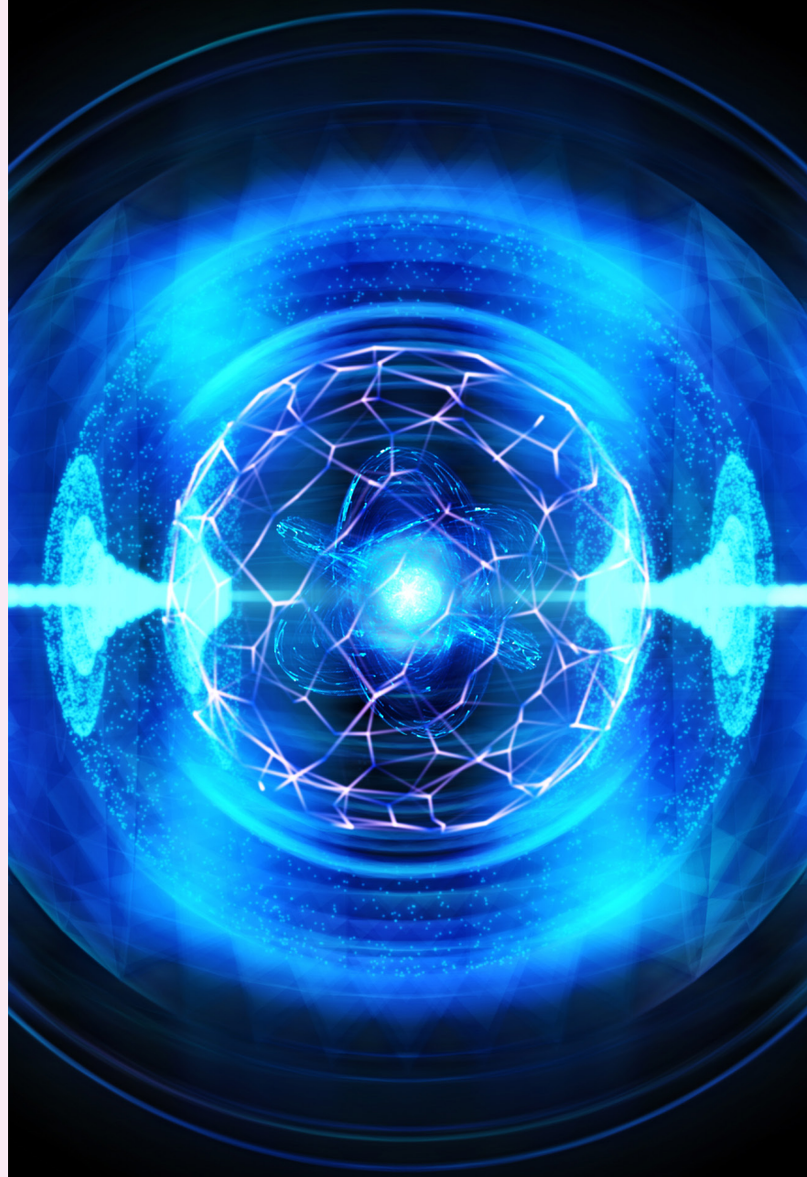
Fusion innovation in the United States

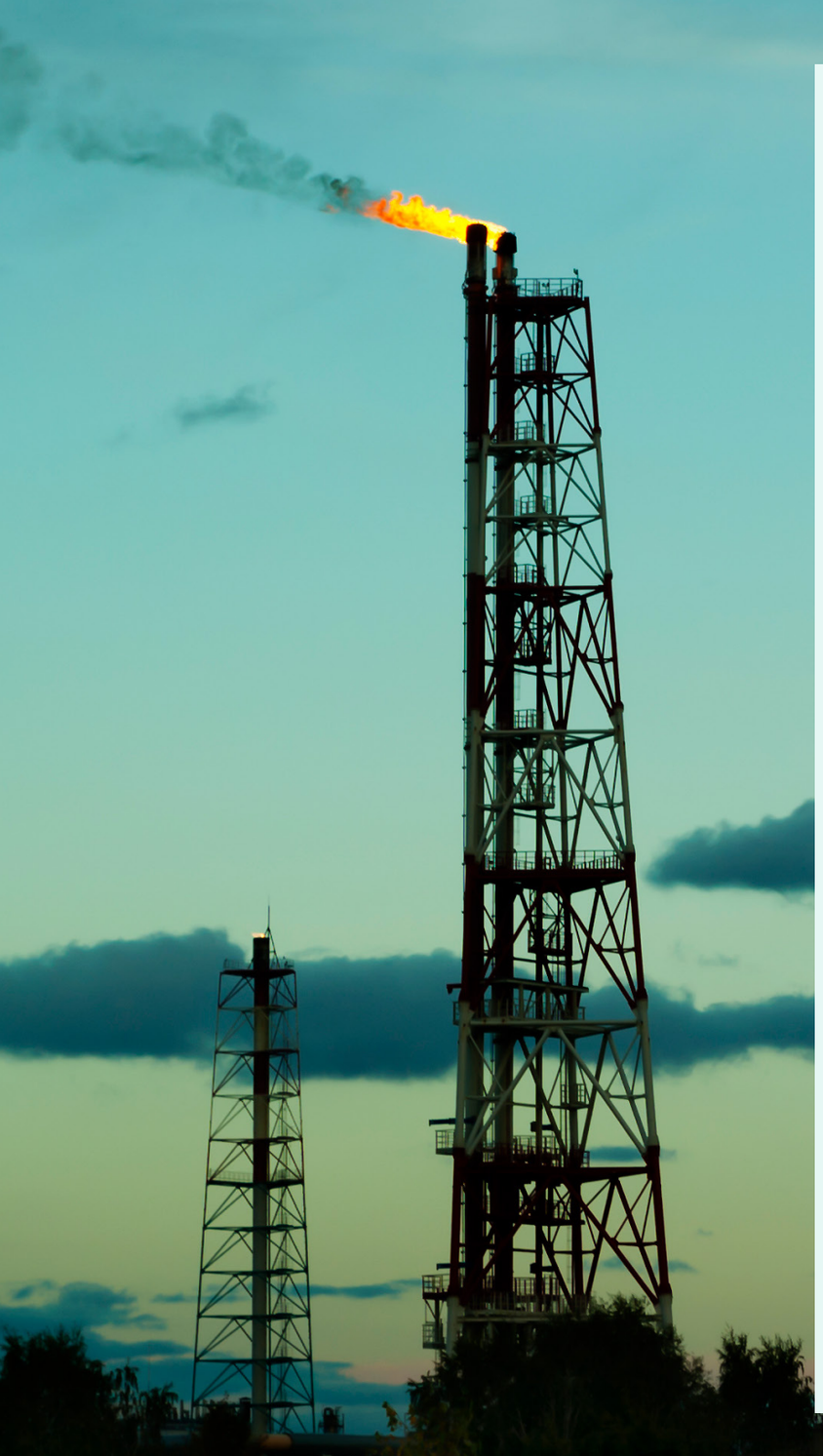
In a major milestone, Virginia was selected in 2024 as the site for the world's first commercial fusion power plant. As the world's leading data center market, Virginia hosts approximately 35% of all known hyperscaler data centers. As data center electricity consumption is projected to increase significantly over the next decade, fusion energy holds great promise for powering the growing computational demands of AI and HPC. CATF is engaging stakeholders at the federal and state levels to ensure this project becomes a model for safe and efficient fusion deployment.

Looking ahead

With more than 40 private fusion companies and several national programs now racing to commercialization, it's clear that fusion is no longer a futuristic dream. In the year ahead, CATF is working to expand international collaborations, deepen policy engagement, and develop the tools and data systems necessary to make fusion energy a reality.

A Survey of Artificial Intelligence and High Performance Computing Applications to Fusion Commercialization





Accelerating methane emissions reductions to slow global warming

Rising methane emissions from the fossil, agriculture, and waste sectors are accelerating climate change at an alarming rate — trapping more than 80 times more heat in the atmosphere than carbon dioxide over a 20-year period. Although global recognition of the methane problem has grown, meaningful progress requires strong policies and effective implementation to cut emissions across the board. CATF is actively working in the energy, waste, and agriculture sectors to drive reductions, ensuring policies translate into real-world emissions cuts.

In the energy sector, thanks in part to CATF's advocacy, the EU Methane Regulation is now in force, with the potential to reduce methane emissions from oil and gas by as much as 30% globally. EU regulators must now ensure its effective implementation. In the United States, following substantial CATF advocacy, the EPA's finalized methane standards for oil and gas are now in effect, but face potential threats from the new administration. Meanwhile, methane emissions from agriculture and waste continue to rise, requiring best practices and targeted policies to start driving reductions at scale.

To accelerate action, CATF is launching new initiatives and expanding global engagement. At COP29 in Baku, we launched the Fossil Fuel Regulatory Programme, a $9 million initiative organized by the United Nation's Climate and Clean Air Coalition and executed by CATF, which provides tailored support to up to 20 low- and middle-income countries to reduce methane emissions from oil, gas, and coal.

In the agriculture sector, we launched our dedicated agriculture methane program and are now working with governments and the livestock industry worldwide to prioritize policies and actions that meaningfully cut emissions.

CATF is also engaging directly with policymakers to improve methane management in the waste sector. Equipped with our WasteMAP, we hosted workshops in Mexico and Colombia to build more climate friendly waste management systems and develop policies that reduce methane emissions.

Meanwhile, in the oil and gas sector, CATF provided recommendations and collaborated with the European Commission and International Energy Agency to shape the implementation of the EU's "You Collect We Buy" initiative, ensuring it effectively reduces methane emissions from fossil fuel production.

Holding major polluters accountable remains central to CATF's work. This year, new CATF analysis exposed the true impact of flaring from 10 major international oil companies, revealing the extent to which this wasteful practice is driving up methane emissions globally. In the United States, CATF successfully defended the EPA's protective limits on methane and smog-forming volatile organic compounds (VOCs) from new and existing oil and gas sources. Following legal challenges in July, CATF continued its defense in October, and its efforts paid off when the Supreme Court rejected two requests to halt the oil and gas methane standards.

As methane policy advances worldwide, CATF remains at the forefront — driving regulatory progress, supporting government action, and ensuring real emissions reductions from energy, waste, and agriculture.

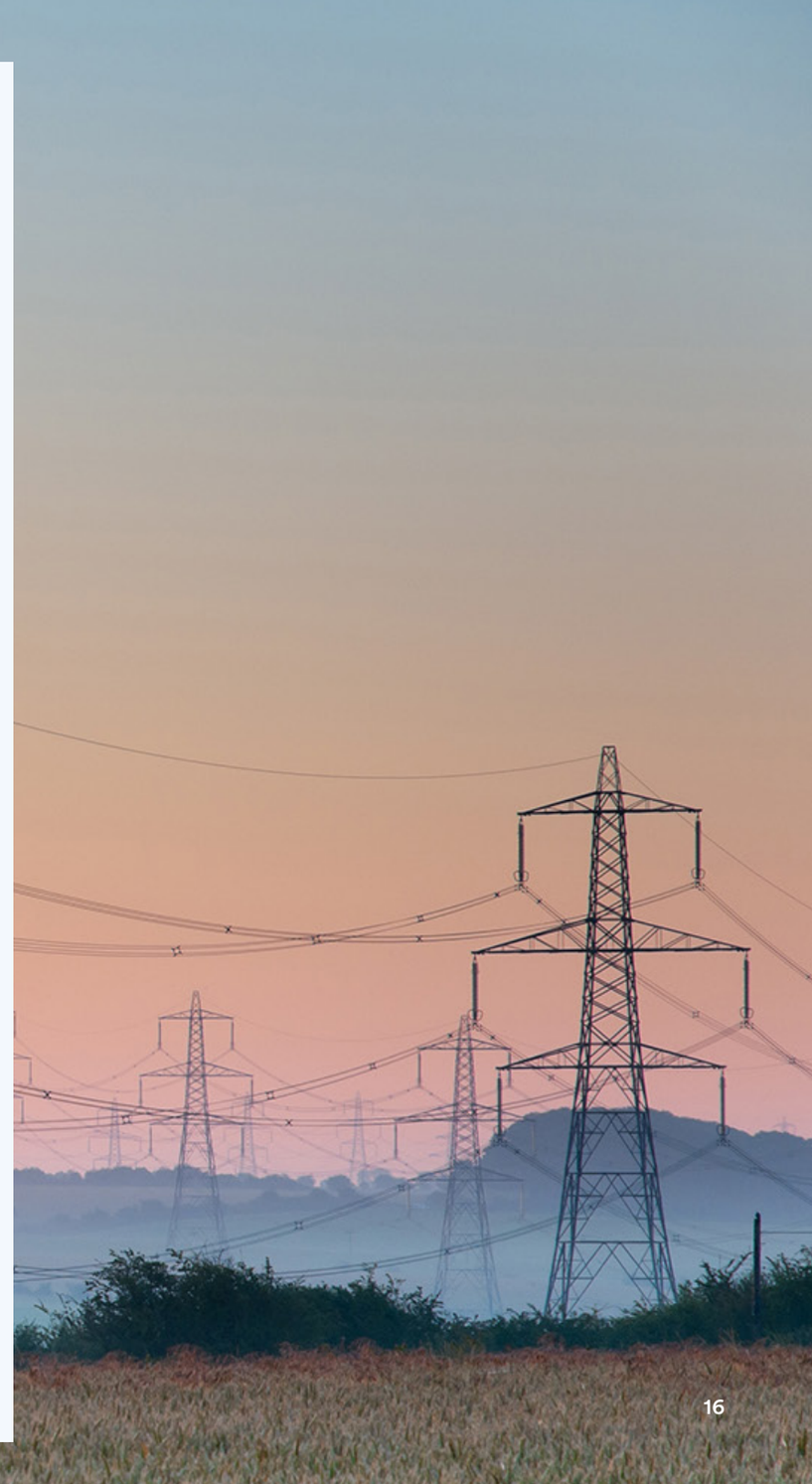
Navigating the complexities of clean energy infrastructure

Meeting global decarbonization goals will require a rapid and large-scale expansion of clean energy infrastructure. In the United States, this means building more renewable and zero-carbon energy, more battery storage, and more transmission lines, and deploying all this infrastructure at an unprecedented pace.

However, permitting and siting challenges, affordability concerns, and a lack of meaningful community engagement are slowing progress. Permitting and siting policies for many infrastructure projects in the United States are complex, varying from state to state. Some states have more centralized siting and permitting policies, whereas others leave more decisions to the local levels. Where a project requires federal review, multiple federal, Tribal, state, and local agencies can be involved. Navigating this patchwork of regulations while balancing environmental impacts, community concerns, and project and materials costs presents a significant challenge for developers, agencies, and policymakers alike. Without more streamlined and predictable processes, critical clean energy projects risk being delayed or abandoned altogether.

CATF is working to overcome these barriers by equipping policymakers, developers, and communities with the research and tools they need to navigate complex permitting and siting processes more effectively.

In 2024, we partnered with the DOE, Lawrence Berkeley National Laboratory, and other partners to develop a comprehensive inventory of state renewable energy siting policies and permitting authorities. This included an interactive tool profiling all 50 U.S. states and Puerto Rico, offering clear and accessible information on the specific regulations and processes governing clean energy infrastructure projects in multiple jurisdictions. Our tool is designed to help developers and policymakers identify potential roadblocks and opportunities early in the project planning process, streamlining decision-making and reducing delays. CATF, along with our partners at The Nature Conservancy and Natural Resources Defense Council, also commissioned an E3 report that evaluates the siting and permitting policies of eight states to identify recommendations to accelerate renewables deployment.



CATF has also partnered with the Niskanen Center to conduct an in-depth assessment of the barriers that electricity transmission specifically faces in federal permitting and environmental review processes. Through quantitative and qualitative analysis and interviews with developers, agency staff, and other transmission stakeholders, we developed a series of recommendations to improve the transmission permitting process to deploy long-distance, high-voltage lines we need. These recommendations fall into three buckets: improving federal agency capacity, coordination, and collaboration; streamlining interactions between the federal government, Tribes, and states, and between neighboring states; and making improvements to the environmental review process.

> More action and coordination is needed at all levels of government to site, permit, develop, and build transmission at scale, while positioning transmission as a national priority.
>
> – *Nicole Pavia, Director, Clean Energy Infrastructure*

Powering public-private financing for transmission in California

Nearly 70% of transmission lines in the United States are more than 25 years old, and underinvestment in the sector is projected to exceed $40 billion annually by 2031. At the same time, we likely need to triple our current transmission capacity to meet growing demand, interconnect sufficient generation resources, and ensure reliability and resiliency. Most transmission is developed by utilities, and so infrastructure costs typically fall to utility ratepayers. With lots of infrastructure builds anticipated quickly, lowering costs for consumers will be essential to successfully decarbonizing and updating the grid in the United States.

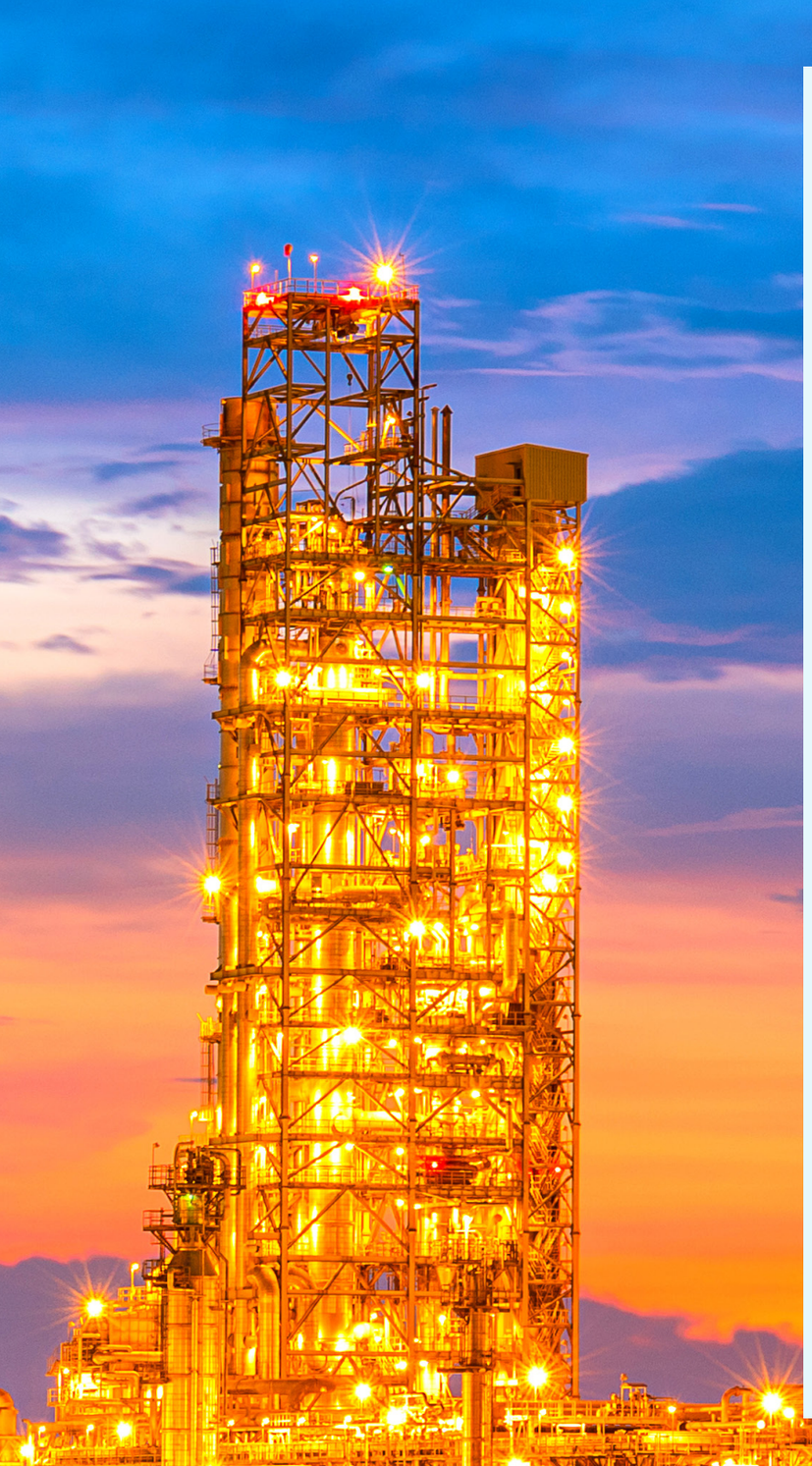
In California, expanding and modernizing the state's electricity transmission infrastructure and deploying high-voltage transmission lines is critical to meeting its ambitious clean energy goals — but relying solely on traditional investor-owned utility (IOU) financing could significantly burden ratepayers. In partnership with Net-Zero California, CATF analysis found that adopting public-private financing models could save Californians up to $3 billion annually, or roughly $123 billion over 40 years. This analysis identifies several strategies to cut costs while improving efficiency, including leveraging low-cost public debt, introducing competitive bidding for transmission projects, reducing tax burdens through public ownership, and enhancing operational efficiency with private sector involvement. A "lease-type" public-private partnership model cut costs by more than 50%, offering a scalable framework for other states.

A companion national level policy brief from CATF underscores the broader relevance of these findings. States across the United States face similar challenges with rising ratepayer costs and the need for grid expansion to meet growing energy demand. The brief offers recommendations for policymakers and developers to explore alternative financing models that reduce costs and accelerate grid modernization.

Strengthening community engagement for clean energy in New England

In New England, CATF is working with local stakeholders to accelerate the region's clean energy transition while addressing local concerns and better equipping communities to meaningfully participate in siting and approval processes. In a report with the Acadia Center, CATF found that improved community engagement will be crucial to ensuring the successful deployment of clean energy infrastructure and meeting New England's 2050 decarbonization goals.

Achieving New England's clean energy targets will require more than just expanding renewable energy and transmission capacity — it will require building trust and securing local buy-in. Drawing from key case studies across the region, including Vineyard Wind in Massachusetts, King Pine Wind and Aroostook Renewable Gateway in Maine, and the Twin States Clean Energy Link between New Hampshire and Vermont, the report identifies actionable strategies for improving project planning and engagement. These include enhancing transparency, streamlining permitting processes, and providing direct community benefits. Without these reforms, the region risks delays, legal challenges, and community opposition that could slow the pace of clean energy deployment.



Driving research and advocacy to advance carbon capture and storage

Despite all of our progress in advancing new low-carbon energy solutions, fossil fuels still provide 80% of the world's energy. Although clean energy alternatives are expanding, fossil sources will continue to play a role in the global energy mix for years to come — especially in hard-to-decarbonize industries like steel and cement, as well as the power sector. To reduce emissions from these sectors now, carbon capture and storage (CCS) technologies are essential.

Regulatory frameworks and expanded incentives in the United States and Europe have accelerated CCS deployment, but challenges remain to fully commercialize this critical technology. Ensuring effective policies, infrastructure development, and sustained investment will be key to scaling CCS at the pace required to meet the climate challenge.

That's why CATF is driving research and advocacy to advance CCS where it can deliver the greatest climate benefit. In 2024, we released impactful analysis, hosted critical forward-looking policy discussions, and engaged with governments to strengthen CCS deployment efforts worldwide, including:

- Releasing Carbon Capture and Storage: What Can We Learn from the Project Track Record, a report assessing global CCS project performance and identifying key lessons to improve deployment and maximize climate impact.
- Contributing to the development of the Carbon Capture Coalition's 2025 Federal Policy Blueprint, which included designing next-generation policies to accelerate CCS deployment in the United States.
- Shaping the DOE's carbon management priorities by helping to establish a $100 million fund for CO2 infrastructure planning and design under the Carbon Capture Demonstration Projects Program, which supports shared transport and storage networks that can lower costs and expand access. CATF's analysis also informed the department's Carbon Management Strategy, which focuses on enabling shared infrastructure.

- Publishing fact sheets and reports on CCS deployment in Louisiana, Pennsylvania, Colorado and the Midwestern United States as well as in Poland and Portugal, providing policymakers across the globe with insights on infrastructure, regulatory frameworks, and investment needs for the sector.
- Policy engagement, including bill design and expert testimony, in U.S. states and European countries resulting in tangible advancements for CCS, including but not limited to favorable CCS legislation passing in Pennsylvania in July 2024 and Germany's, France's and Austria's Carbon Management Strategies.
- Co-authored a groundbreaking report, The Balancing Act: Risks and Benefits of Integrating Permanent Carbon Removals into the EU ETS, with partner CONCITO, presenting it at a high-level event with EU policymakers, national government representatives, and industry and civil society experts to inform the 2026 EU Emissions Trading Scheme (ETS) review on the integration of permanent removals.
- Presenting research at the CCS Europe Roadshow in Warsaw and Poland's inaugural CCS conference in Poznań, advancing national discussions on CCS policy and investment in a region that will be vital to Europe's energy transition.
- Convening a multi-government transatlantic summit on CCS transportation that address barriers and policy solutions for scaling CO_2 pipeline infrastructure and storage development.

Through research, advocacy, and global engagement, CATF is working to position CCS as a critical tool for reducing emissions from the world's hardest-to-decarbonize sectors.

Guiding the effective deployment of climate-beneficial hydrogen

Governments worldwide are making major investments in low-carbon hydrogen, potentially providing a pathway toward lower-emission fuels. But hydrogen's use must be prioritized for "no-regrets" sectors — hard-to-decarbonize industries like steel, chemicals, and long-haul transport — where hydrogen is one of the only viable alternatives to fossil fuels. Without clear guardrails, hydrogen risks being diverted to sectors where electrification or other low-carbon solutions are more effective, leading to inefficiencies, wasted resources, and poor climate outcomes.

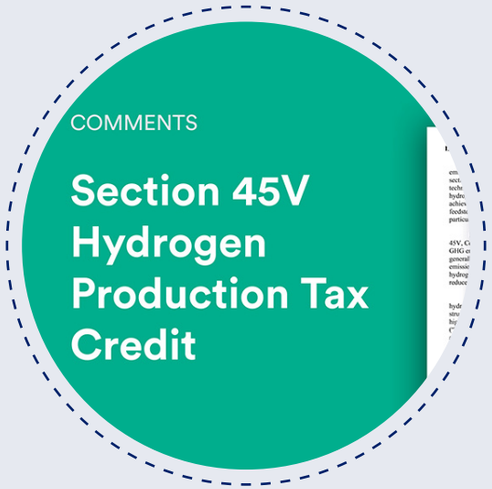
That's why CATF acts as an honest broker in the hydrogen conversation, providing a reality check on where and how hydrogen should be deployed for maximum climate impact. Through rigorous research and policy advocacy, we ensure hydrogen development is grounded in climate science, economic feasibility, and strategic prioritization, helping policymakers make informed decisions on low-carbon hydrogen production and end-uses that drive real emissions reductions.

To cut through the hype and guide effective hydrogen deployment, CATF released a series of flagship reports in 2024, analyzing where hydrogen can have the greatest climate impact, including:

- Hydrogen in the Power Sector, which finds that dedicated clean hydrogen production and use in the power sector is costly and inefficient in many cases. It makes the case for focusing precious, clean hydrogen supplies in the sectors where it makes the most sense — industry and transport.
- The Refinery of the Future study, the first of a series on industrial decarbonization, which examines the technical pathways that existing refineries could use to decarbonize their operations during a transition away from traditional transportation fuels while continuing to provide the necessary intermediate petrochemical products for modern life.
- A recommendations brief on the EU's hydrogen plans, calling for more realistic hydrogen production and deployment targets and a pragmatic roadmap forward to get clean hydrogen right for the EU.

Beyond research, CATF has been instrumental in shaping policies to ensure hydrogen deployment aligns with climate goals. In Europe, we provided input during the EU National Energy and Climate Plans (NECPs) process, participated in Member State-level consultations, and hosted events focused on responsible hydrogen deployment, including in Poland. The team also submitted recommendations on national hydrogen strategies and policies in countries such as Poland, Germany, and the UK, helping to guide the region toward more climate-aligned hydrogen use.

Our work has had a significant impact. Following substantial engagement from CATF and its partners, the U.S. Department of the Treasury released its long-awaited proposed regulations for the Section 45V Hydrogen Production Tax Credit (PTC) in late 2023 — a major step toward building a credible clean hydrogen market in the United States. We also played a key role in shaping the final guidance throughout 2024, advocating for policies that promote truly clean hydrogen while preventing loopholes that could increase emissions. Many of CATF's recommendations were incorporated in the final regulations that were released in December 2024, strengthening the framework for scaling hydrogen production responsibly. However, gaps remain, and effective implementation will be critical. CATF will continue working to ensure 45V is deployed in a way that allows the clean hydrogen market to grow while minimizing indirect emissions, reinforcing hydrogen's role as a climate solution rather than a contributor to additional pollution.



Laying the groundwork for a fully decarbonized transportation sector by midcentury

A fully decarbonized global transportation sector is essential to meeting midcentury climate goals. Although great progress has been made in electrifying passenger vehicles, battery-based solutions are impractical for many heavy-duty applications, including transoceanic shipping, aviation, and some long-haul trucking. Between one-quarter and one-half of the transportation sector's greenhouse gas emissions come from these hard-to-electrify vehicles, which require low- and zero-carbon fuels like hydrogen and ammonia to decarbonize.

CATF provides the research needed to inform effective policy solutions that support the transition to cleaner fuels in these sectors. By assessing emerging technologies, analyzing fuel pathways, and identifying policy mechanisms, CATF helps decision-makers implement strategies that can drive meaningful emissions reductions in transportation.

In 2024, we advanced this work through a series of reports that examine key decarbonization pathways for aviation, trucking, and shipping. Our work provided a detailed look at the technologies, policies, and infrastructure needed to transition these sectors away from fossil fuels:

- Decarbonizing Aviation: A report that analyzes leading energy carriers for aviation and models pathways to achieve net-zero emissions by 2050. The findings suggest that a mixed-fuel approach — using multiple low-carbon fuels — offers a scalable solution to mitigate aviation emissions as global air travel demand continues to rise.
- The Role of Hydrogen in the Medium- and Heavy-Duty Trucking Sectors: CATF and CEA Consulting examined hydrogen's potential for decarbonizing long-haul trucking, surveying fleet owners, manufacturers, and fuel providers. The report outlines key barriers, infrastructure needs, and policy interventions, providing ranked recommendations to accelerate deployment and cut heavy-duty transport emissions.

- Managing the Transition to Zero-Carbon Marine Fuels: This report evaluates ammonia-fueled ships, comparing costs and emissions for new and retrofitted vessels. The findings show that ammonia dual-fuel ships could be cost-competitive in carbon-regulated markets and highlight pathways for shipping's fuel transition.

By delivering targeted research and policy recommendations, CATF is working to ensure that the transportation sector moves beyond fossil fuels — supporting a global shift toward cleaner, more sustainable mobility.

> "It is possible to decarbonize aviation with a mix of technologies being developed today. If the entire sector rises to this challenge, then aviation decarbonization becomes an achievable goal by midcentury.
>
> – *Thomas Walker, Senior Manager, Transportation Technology*

A focus on land: Balancing competing demands

Land is the only sector that acts as both a carbon source and a carbon sink, making the use and management of land central to lowering global greenhouse gas emissions. The challenge lies in balancing competing demands for land — for food production, biodiversity, and energy infrastructure — all while making sure that land use strategies support both emissions reductions and carbon removal.

Effective land management has the potential to drive the energy transition and limit interim warming, but inadequate economic incentives, oversight of carbon markets, limited infrastructure for bioenergy and carbon removal, and complex siting requirements for clean energy infrastructure have slowed progress. Overcoming these barriers requires strategic interventions to facilitate responsible clean energy siting, raise the bar for carbon credits, and advance markets and rigorous standards for biomass carbon removal and use.

Responsible clean energy siting on public lands

CATF is working to align clean energy deployment with responsible land use, making sure infrastructure siting decisions balance climate goals with ecosystem health and community needs.

In the United States, CATF successfully advocated for the U.S. Bureau of Land Management (BLM) to expand the eligible land area for solar development from 22 to 31 million acres. Through targeted analysis and legal advocacy, CATF drove a policy shift that increases flexibility in clean energy siting, allowing solar development to adapt to landscape changes driven by a changing climate. CATF's analysis on technical potential for clean energy development on federal lands was cited in final BLM guidance, reinforcing the importance of strategic siting to accelerate solar deployment while minimizing conflicts with conservation priorities and local communities.

Raising the bar for carbon credits

In 2024, CATF played a leading role in raising the bar on carbon credits by advocating for more stringent protocols and greater transparency in carbon markets. CATF has had an outsized impact on improving voluntary carbon market governance. CATF submitted detailed public comments to U.S. federal agencies on climate disclosure, carbon market governance, and forest carbon management. These influenced the final Commodity Futures Trading Commission (CFTC) guidance on carbon contracts, which cited CATF more than 20 times.

On the global stage, the Land Systems team has been a key advocate for stronger carbon markets under Article 6 of the Paris Agreement, which establishes a framework for countries to trade carbon credits to meet their Nationally Determined Contributions (NDCs). At COP29, negotiators finalized the operationalization of Article 6, and CATF continues to push for a transparent, high-integrity global market with rigorous standards for emissions education and removal credits. Strengthening oversight and crediting standards will help restore trust in carbon markets and drive meaningful climate action.

In Europe, CATF played a central role in developing the EU's Carbon Removal and Carbon Farming Certification Framework (CRCF). As a formal member of the CRCF Expert Group, CATF successfully advocated for strict crediting standards and separate accounting for emissions reductions and removals — setting a precedent for how other regions might approach similar frameworks. As the UK explores how to integrate carbon removals into its emissions trading system, CATF has provided guidance on incorporating ecosystem carbon management into emerging frameworks, emphasizing the need for rigorous monitoring and verification standards.

Advancing rigorous standards for biomass use for carbon removal and biofuels

Biomass carbon removal and storage (BiCRS) is emerging as key pathways for large-scale carbon removal. In 2024, CATF launched a new project in California focused on defining and analyzing BiCRS pathways to help the state meet its carbon dioxide removal (CDR) targets. This research is designed to provide policymakers with a clean understanding of the costs, benefits, and trade-offs of different bioenergy with carbon capture and storage (BECCS) and BiCRS deployment scenarios.

CATF has also actively engaged U.S. policy discussions on sustainable biomass use in biofuels and bioenergy. In 2024, CATF submitted comments to the U.S. Treasury and the U.S. Department of Agriculture (USDA) on life-cycle accounting rules for agricultural practices in the Inflation Reduction Act (IRA) tax credits, advocating for conservative accounting principles to ensure that biomass use delivers net climate benefits while providing evidence-based incentives for beneficial agricultural practices. CATF also worked with congressional offices on Farm Bill reauthorization, proposing incentives for climate-smart agricultural practices, improved biomass tracking, and research into sustainable biomass removal rates.

> "We're paying close attention to the quality of carbon credits through an ongoing assessment of forest carbon and biomass-based carbon removal protocols. Ensuring that these protocols meet key criteria will be essential to maintaining the credibility of carbon credits tied to land-use and forest management.
>
> *– Kathy Fallon, Director, Land Systems Program*

Expanding energy access in Africa

High capital costs are stalling clean energy deployment across Sub-Saharan Africa, slowing progress to expand energy access and undermining efforts to meet climate goals. African nations face the dual challenge of balancing economic growth while transitioning to low-carbon energy systems — and the cost of financing remains a major obstacle. CATF is working to change that by providing policymakers, utilities, and financial institutions with the data and insights they need to unlock affordable financing and accelerate clean energy deployment on the continent.

The challenge of high capital costs

Clean energy projects in Sub-Saharan Africa face some of the highest financing costs in the world, significantly hampering progress to increase energy access and decarbonize power systems. In 2024, CATF published a comprehensive analysis of the weighted average cost of capital (WACC) for clean energy projects across 48 African countries in 2024, finding that the WACC in Africa is a staggering 15.6% — more than three times higher than in developed regions like Western Europe and the United States.

These high capital costs make it exceedingly difficult for African nations to attract the investment needed to scale renewable energy and modernize their power infrastructure. Without access to affordable financing, clean energy projects struggle to move from planning to implementation, slowing down efforts to meet growing energy demand. Reducing the cost of capital will be key to expanding energy access, building more resilient energy systems, and strengthening Africa's self-reliance.

CATF is tackling these financing challenges by equipping policymakers, bilateral organizations, and multilateral institutions with localized, accessible data that offer region-specific insights. At COP29, negotiators agreed on a new climate finance target of $300 billion annually — well below the $1.3 trillion figure that dominated discussions leading up to and during the conference. For Africa, the new goal represents an opportunity to unlock greater financing for clean energy projects, but success will depend on scaling private sector investments in the region's power sector and boosting domestic capital. CATF's analysis highlights the need to derisk markets and create conditions that attract private investment in African energy systems.

CATF is also working directly with power utilities to improve grid performance and operational efficiency — helping to create stable, reliable infrastructure needed to support increased renewable energy generation. Strengthening power systems remains a key part of reducing financings risks, as more efficient and financially sound power utilities are better positioned to secure funding for clean energy projects.

Third West Africa Utilities Roundtable in Accra, Ghana

With only 53% of West Africans currently having access to electricity — and the region's population of 440 million expected to double by 2050 — improving utility performance is essential for economic growth and energy security.

CATF, in partnership with Arthur Energy Advisors, recently hosted the West Africa Utilities Roundtable in Accra, Ghana, bringing together 24 power sector executives from six Sub-Saharan African countries to tackle common challenges and identify solutions for building resilient, low-carbon energy systems. CATF supported power utilities in Ghana, Kenya, and The Gambia with technical analysis that will help inform grid efficiency upgrades, new regulatory standards for demand-side electrification, and renewables integration planning across the three countries.

> CATF is committed to deepening its collaboration with key stakeholders in West Africa to accelerate access to reliable and affordable energy for communities across the region.
>
> *– Brian Mukhaya, Program Manager, Energy and Climate Innovation, Africa*

Driving forward durable policy and defending climate policy in the U.S.

The 2024 U.S. presidential election created uncertainty throughout the year, but CATF remained steadfast in our commitment to upholding climate and clean air regulations and driving effective implementation of climate policy. We provided detailed recommendations to federal agencies on new tax credit guidance to and created resources and guides for states to leverage federal funding for their own economic and clean energy goals — all while advocating for new federal and state policies to reduce emissions, improve air quality, and protect public health. CATF focused efforts on a no-regrets strategy of emphasizing the economic, jobs, and climate benefits of clean energy policies while advising policymakers, businesses, and stakeholders to further advance innovation and decarbonization through our technical expertise and advocacy. Our approach has allowed us to maximize the impact and durability of existing policies while preparing for new and shifting policy landscapes.

Where the rubber meets the road: Implementing federal policy that bolsters the clean energy economy

With more than two years of the IRA under our belt, attention shifted to states and federal agencies in 2024 as projects were proposed, programs stood up, and tax credit guidance was released. And CATF has been working to ensure federal investments are effectively used to support decarbonization while driving economic growth and creating quality jobs nationwide. As a result, more than $50 billion of IRA-related investments were announced.

CATF engaged with federal agencies and executive offices to share our expertise for effective program design, including more than 45 comment submissions to federal agencies. We also engaged with more than 12 agency offices to share

CATF research and expertise. We successfully influenced strategies within the DOE liftoff reports to bring technologies to commercialization, and informed new DOE strategies for deploying carbon management technologies. CATF also led development of transparency recommendations that DOE incorporated into its hydrogen hubs program, which served as a model for other programs.

We have also worked to maximize the effectiveness of IRA tax credits and ensure that funding is only directed to projects with significant and verifiable greenhouse gas reductions, providing recommendations to federal agencies on energy tax credits to ensure they truly support a clean energy economy. In total, we developed 14 issue briefs to influence how tax credit eligibility is determined, measured, and verified. Among these tax credits are recommendations for producing clean hydrogen, clean electricity, and clean fuels. We also created a capacity building resource that highlights federal programs and funding opportunities for local energy infrastructure planning, local health and environmental monitoring, and workforce development.

Our Implementation Resource Hub helped stakeholders take advantage of federal investments by providing technical research, tools, and community benefit guides, spanning a variety of technologies with a new implementation toolkit for developing projects. And because states are where projects and many programs will inevitably take place, the hub also tracks progress on the ground to show where benefits are moving into communities and provides status updates on developing projects in sectors like power, industry, and transportation.

Beyond engagement to implement existing federal investments, CATF continued to push to improve the speed and efficiency of federal funding and advance federal innovation and modernization. This work included recommendations to build upon lessons learned implementing demonstration programs and proposals for new deployment frameworks for clean energy infrastructure. As funding for climate and clean energy projects and programs continues to flow to states, we have positioned ourselves as a go-to resource for state and federal policymakers, nonprofits, and other stakeholders as they take advantage of unprecedented levels of federal funding and advance innovation.

Impacting federal legislation by working across the aisle for pragmatic policy

As work to implement important federal policies continued at full speed, CATF understood that those policies were not the end of the road. We continued to work across the aisle in Congress to engage on a variety of legislation in 2024.

This past year, CATF leveraged its technical and advocacy expertise to conduct strategic advocacy, which led to:

- The passage of the bipartisan Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act, which will address current barriers to deploying innovative nuclear energy technologies, help preserve existing nuclear capacity, and build capacity at the Nuclear Regulatory Commission.

- The introduction of the bipartisan Supercritical Geothermal Research and Development Act, which would address barriers that CATF identified in its "Bridging the Gaps" reports.
- The introduction of the bipartisan IMPACT Act 2.0 that aims to boost American innovation and manufacturing of low-emissions concrete, cement, and asphalt and support industrial decarbonization.

Preparing for a new administration and Congress: 2024 election results

As the results of the U.S. presidential election make our work more challenging, they also make our work to reduce emissions and advance climate solutions more important than ever. Our pragmatic, nonpartisan approach to advocacy positions CATF to find and seize opportunities for progress in a new and challenging environment.

> "The climate challenge is a century long one, and you don't hit pause when politicians push unpopular policies that would take us backwards.
>
> – *Armond Cohen, Executive Director*

At the same time, funding from clean energy policies is bolstering communities that voted red and blue alike, and the American clean energy boom is keeping the U.S. manufacturing economy growing at a brisk pace. There are clear signals from California to Texas to Pennsylvania to New York that climate action won't stall even if the U.S. executive branch cedes leadership on the global climate stage. CATF was uniquely built for moments like this — we advocate for durable climate policies that can withstand political winds.

Defending climate and clean air regulations

CATF's legal advocacy is critical to upholding regulations that reduce pollution, improve public health, and cut emissions from industry. These regulations, which are rooted in law, science, and economics, are vital for all — and our legal team has played a pivotal role in defending these rules:

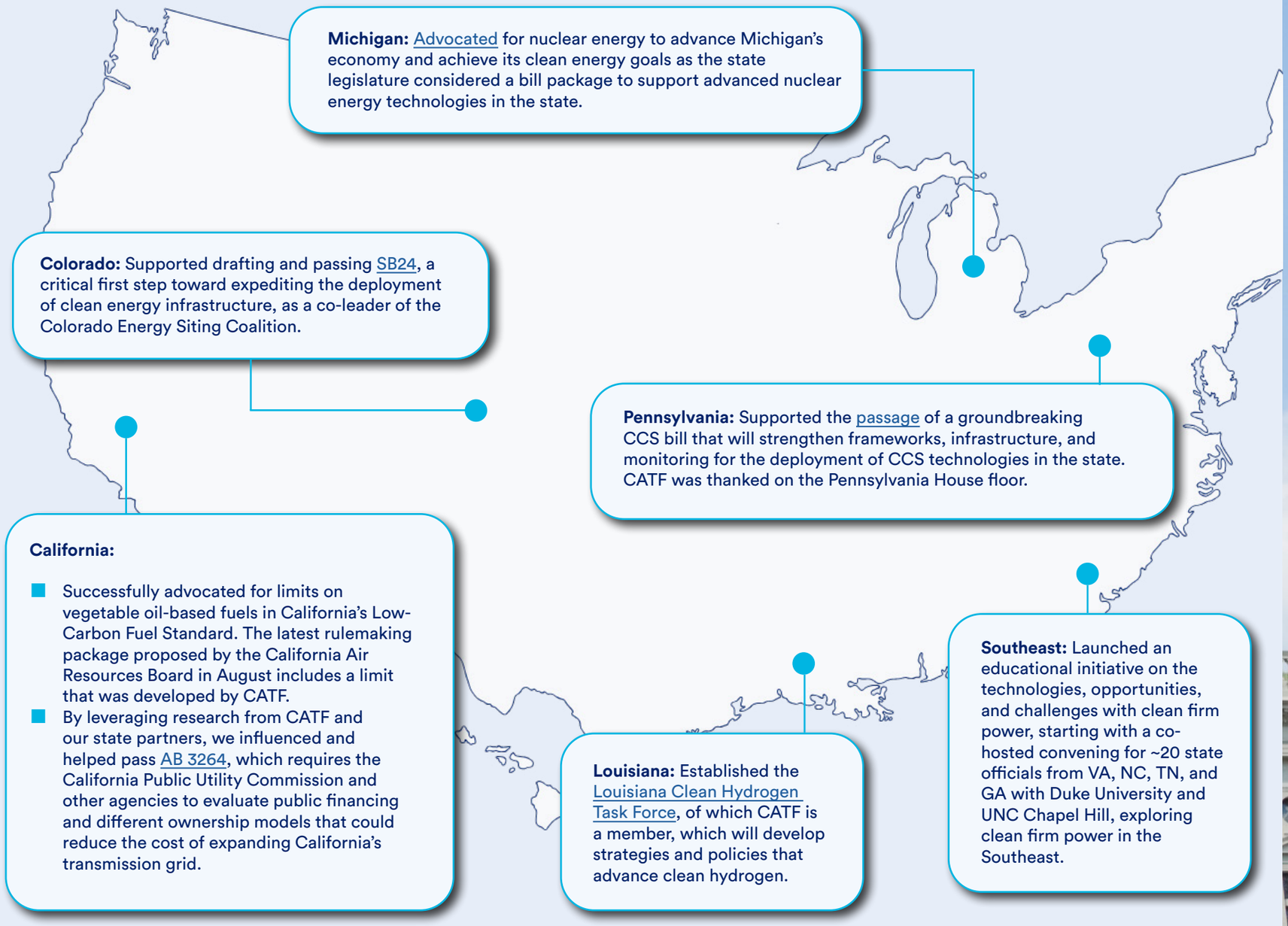
- Successfully blocked attempts to stay EPA's protective limits on methane and smog-forming volatile organic compound pollution from new and existing oil and gas sources in the U.S. Court of Appeals for the D.C. Circuit in July. In October, CATF continued its defense, and the Supreme Court rejected two requests to halt the oil and gas methane standards.
- After the EPA finalized strong carbon pollution standards for existing coal- and new gas-fired power plants that reflect CATF policy architecture, CATF opposed attempts to halt the rules in court. In July, the D.C. Circuit declined to stall the carbon pollution standards for power plants. In October, the Supreme Court also rejected an initial attempt to block them.
- CATF also successfully defended against attempts to delay the Mercury and Air Toxics Standards (MATS) Technology Review rule, which updates limits on hazardous air pollutants (also known as air toxics) emissions from power plants and requires more robust monitoring to ensure compliance — first in the D.C. Circuit in August, and in October in the Supreme Court.

> "CATF will continue to defend these carbon pollution limits and the significant benefits they will deliver for the climate and public health against legal attack.
>
> – *Frank Sturges, Attorney*

Driving climate action in statehouses across the country

States are hubs of innovation, with many taking action to support clean energy for a variety of reasons, whether to boost economies, reduce air pollution, achieve climate goals, or a mix of all of these. And clean energy and clean air remain broadly popular across the country. Regardless of who sits in the White House or halls of Congress, states continue to make progress — and because of CATF's and CATF Action's state advocacy, we saw a diverse range of states take climate action.

CATF and CATF Action continue to push for progress in states and provide support to policymakers, nonprofits, and other stakeholders to help leverage federal funding and pass and implement state climate and clean energy policies. As states began applying for federal funding for Climate Pollution Reduction Grants, for example, CATF developed a suite of resources to help state officials design competitive applications. After creating a framework for project application development and fact sheets on how the framework can be applied to the medium- and heavy-duty vehicle and industrial sectors, an impressive 46 states accepted $3 million each from the EPA.



Michigan: Advocated for nuclear energy to advance Michigan's economy and achieve its clean energy goals as the state legislature considered a bill package to support advanced nuclear energy technologies in the state.

Colorado: Supported drafting and passing SB24, a critical first step toward expediting the deployment of clean energy infrastructure, as a co-leader of the Colorado Energy Siting Coalition.

Pennsylvania: Supported the passage of a groundbreaking CCS bill that will strengthen frameworks, infrastructure, and monitoring for the deployment of CCS technologies in the state. CATF was thanked on the Pennsylvania House floor.

California:

- Successfully advocated for limits on vegetable oil-based fuels in California's Low-Carbon Fuel Standard. The latest rulemaking package proposed by the California Air Resources Board in August includes a limit that was developed by CATF.
- By leveraging research from CATF and our state partners, we influenced and helped pass AB 3264, which requires the California Public Utility Commission and other agencies to evaluate public financing and different ownership models that could reduce the cost of expanding California's transmission grid.

Louisiana: Established the Louisiana Clean Hydrogen Task Force, of which CATF is a member, which will develop strategies and policies that advance clean hydrogen.

Southeast: Launched an educational initiative on the technologies, opportunities, and challenges with clean firm power, starting with a co-hosted convening for ~20 state officials from VA, NC, TN, and GA with Duke University and UNC Chapel Hill, exploring clean firm power in the Southeast.

Advocating for a strong, energy secure, and climate-neutral Europe

With a strong history of global climate leadership made increasingly complicated by an evolving geopolitical context, Europe turned its focus in 2024 to achieving decarbonization while retaining European competitiveness, energy security, reliability, and affordability. EU policymakers announced major priorities that reflect what CATF has long called for — climate policy that is paired with considerations for economic prosperity and energy security.

With the EU coming to the end of the legislative term, much of the legislation and policy in the works for several years was adopted. EU elections held in May 2024 set up a new Parliament and a new Commission for the next legislative term, making 2024 a year to reset the debate and rethink long-term strategic goals. Ahead of the elections, we published an EU vision paper to outline policy recommendations for the new term ahead and priorities to add to the agenda for the EU institutions. We engaged with all EU political parties to ensure these recommendations were translated into priorities for the new EU agenda.

Our work paid dividends when the European Commission published its Industrial Carbon Management Strategy, which outlined next steps for deploying new, bold carbon management strategies across Europe and included a number of our core priorities. As the first NGO to call on the Commission to release such a strategy over two years ago with our flagship report, A Policy Framework for Carbon Capture and Storage in Europe, CATF has long been the leading voice in Brussels, building a coalition of NGOs across Europe to call for an EU CCS strategy. CATF was also tapped by the Commission to draft A Vision for Carbon Capture, Utilisation, and Storage in the EU based on input from hundreds of stakeholders across Europe. The Industrial Carbon Management Strategy caps the success of CATF's work over the past three years by pushing policymakers to now recognize the need for carbon management as part of the EU's pathway to a net-zero future and to develop a comprehensive vision to achieve it.

The EU also reached an agreement on its landmark Net Zero Industry Act (NZIA) — which will now legally require the bloc to reach an annual 50

Mt CO2 injection capacity by 2030, oil and gas producers to develop projects to deliver on this target, and a comprehensive effort to develop the CO2 transport infrastructure (including cross-border infrastructure) necessary to meet these goals. Each of these key pillars, among others, were called for by CATF and mark the culmination of a successful advocacy strategy.

The EU Parliament also approved the regulation on the Trans-European Transport Network (TEN-T), echoing calls from CATF and Bellona Europa to include a reference to the role of various modes of transporting captured carbon storage and expediting decarbonization measures for industry.

Finally, on the transportation front, the EU institutions reached a deal on CO2 emission standards for heavy-duty vehicles after two years of advocacy from our EU Advocacy and Transportation Decarbonization teams. These standards are world-leading, center zero-emission vehicles, and will act as a powerful incentive for this transportation segment to accelerate its decarbonization.

In addition, CATF provided detailed recommendations to Member States and to the Commission on EU Member States NECPs, providing detailed and tangible recommendations to EU countries on how to best address and integrate in their planning needed technologies such as CCS, hydrogen, SMRs, geothermal, or methane mitigation. Looking at the new legislative term ahead, the European Commission published its initial recommendations for the EU 2040 climate targets, which sets the stage for bold legislative action and a new legally binding climate target to be presented in 2025. These recommendations include core features CATF has advocated for, including in its submission to the public consultation, highlighting the roles CCS, hydrogen, nuclear energy, and geothermal will play in decarbonization. CATF has embarked on extensive engagement with the Commission and Member States to ensure that these recommendations are translated into concrete measures and implemented in practice, to ensure the EU can achieve this ambitious climate target.

As the new EU Commission ramps up, CATF provided recommendations for the new Commissioners (including Energy and Housing and Climate), as well as for the Executive Vice Presidents for the Clean, Just and Competitive Transition and Prosperity and Industrial Strategy. In 2025, CATF will continue its successful advocacy track record to push for multiple technology options within EU climate policy, to strengthen upcoming policies and legislation, and to efficiently implement key adopted legislation.

> The European Union needs to ensure the appropriate regulatory framework, infrastructure, and funding are available to decarbonise its industries and deliver on its climate ambition.
>
> – *Alessia Virone, Government Affairs Director, Europe*

CATF expands focus in Central and Eastern Europe

CEE has a critical role to play in securing Europe's climate-neutral future and the opportunity to become an innovation catalyst for the continent's energy transition. The region's strategic importance for Europe's energy security provides a clear opportunity to cultivate and leverage its leadership. That's why CATF expanded its work in the CEE region in 2024, working to advocate for climate solutions tailored to each country's resource endowments, foster cross-regional partnerships, and develop country-specific analysis to inform local decision-making.
As one of the most carbon-intensive economies and CEE's industrial powerhouse, Poland has been a key focus of CATF's engagement since 2023: a Vision for Poland's Energy Transition and its accompanying power system decarbonization work offers a comprehensive roadmap for achieving Poland's climate, energy security, and competitiveness targets. In 2024, we engaged with more than 50 stakeholders across the region to amplify the role of CCS, clean hydrogen, nuclear energy, and superhot rock geothermal energy as important aspects of CEE's energy transition journey. We also hosted several high-level events focusing on Central and Eastern Europe's energy security (GLOBSEC, Prague), the importance of a wide portfolio of clean technologies for CEE's economic growth (3Seas Summit, Vilnius), critical issues of nuclear financing in the Polish context at the U.S. Embassy in Warsaw, as well as several high-impact webinars.

CATF engaged on key policy initiatives in Poland, namely a comprehensive analysis of Poland's NECP providing a sector-specific set of actionable recommendations. We also analyzed and provided critical insights for Poland's Hydrogen and Carbon Management Strategies, which will further continue in 2025. In 2025, we will be further shaping the nuclear power program strategy update, the Energy Policy of Poland until 2040 (PEP 2040), as well as other legislation across the region.

To further support CATF's expansion in the region, we launched CATF's flagship webinar series, CEETalks that explores the potential of the region to become a key voice of the continent's energy transition, with deep dives into the opportunities for CEE countries. As we continue our work in this increasingly important region, we will be working toward further strengthening our policy positions, building cross-regional capacity, and bringing our analysis to the center of decision-making processes.

Re-igniting the UK's climate leadership

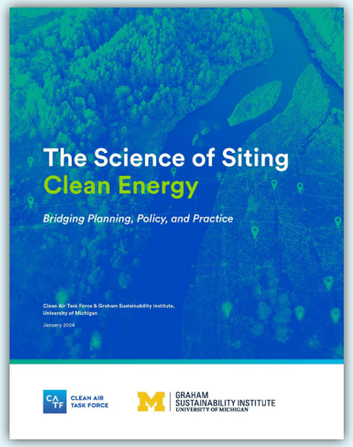
For the first time in 14 years, the UK formed a new government in 2024, providing an opportunity to re-establish the UK's domestic and international leadership in tackling climate change. With a long history of climate leadership and a strong presence on the global stage, the UK remains a key region for implementing climate and energy policy, as well as to facilitate collaboration with key international partners. As in Europe, the UK is grappling with geopolitical tensions, competitiveness, and security and affordability challenges that render CATF's approach advocating for a full suite of solutions that support energy security and economic growth even more relevant. Ahead of the UK election, CATF published key recommendations for a new government, building on our UK vision paper published earlier in 2024. With a new UK government

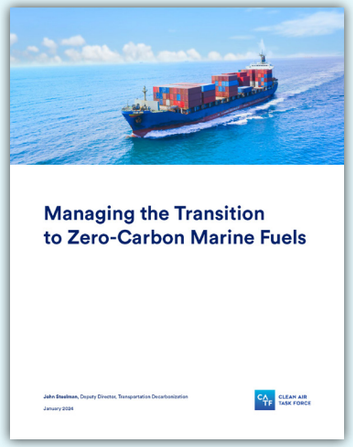
and European Commission, we also saw the opportunity for enhanced EU-UK collaboration on climate and energy, which is especially relevant in an increasingly complex global security and trade landscape.

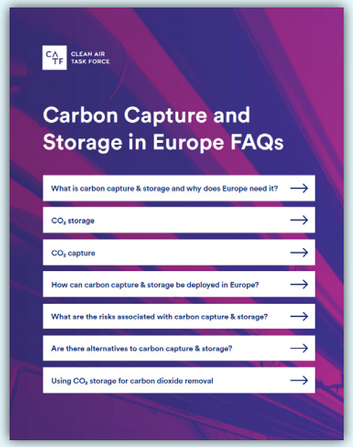
CATF has established itself as one of the leading NGOs on tackling methane emissions in the UK, providing direct support to the House of Lords Committee inquiry into methane, where CATF's Director of UK Policy gave oral testimony on methane emissions in the fossil fuel sector. The Committee's final report includes many of CATF's recommendations. CATF also convened a parliamentary roundtable in February 2025, bringing together government, civil society, and industry representatives to discuss how to advance methane policies in the energy and agriculture sectors in the UK, which was attended by Kerry McCarthy MP, Minister for Climate at the Department for Energy Security and Net-Zero, and Professor Piers Forster, Interim Chair of the UK's Climate Change Committee. CATF has also engaged across multiple other sectors, hosting a multi-government policy exchange on CCS, bringing together 29 attendees from across eight different governments, regulators, academia, and industry, and providing expert analysis to government on non-pipeline transport and cross-border CO2 networks for CCS, and the integration of greenhouse gas removals into the UK ETS.

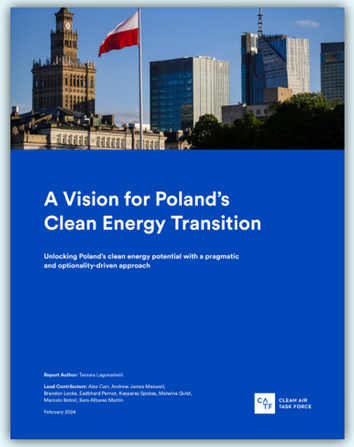
CATF Research and Analysis in 2024

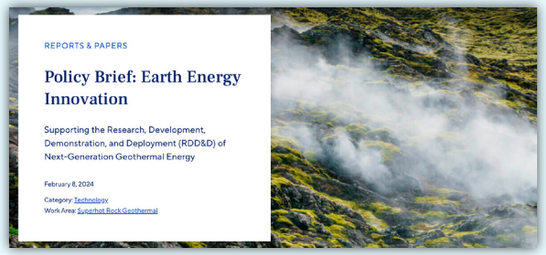
CATF reports in 2024 that asked hard questions, explored innovative solutions, and increased awareness around the complexity of the climate challenge and the actions we must take to meet it.







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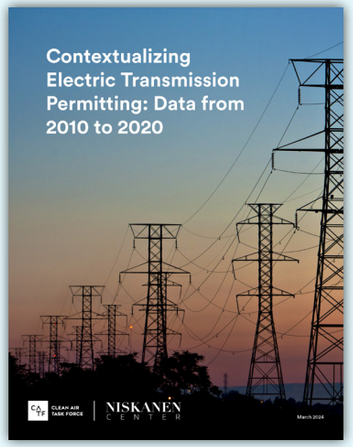
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Scaling up multiple technology pathways
Summary
Overview of the steel sector


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Transforming EU economy for climate neutrality - policy recommendations
Report Author: Alessia Virone
Contributors: Maja Porvek, Alejandra Muñoz Castañer, Toby Lockwood, Eadbhard Pernot, Cedric Rossi, Alex Carr, Brandon Locke, Jonathan Banks, Jonathan Lewis, Kasparas Spokas, Bruce Hill, Jonna Hill, Andrew Maxwell, Malwina Qvist, Sohila Gonzalez, Nicole Pavia, Rebecca Tremain, Lily Odarno, and Sonia Stoyanova.
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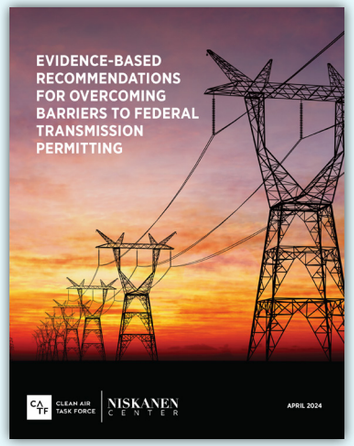
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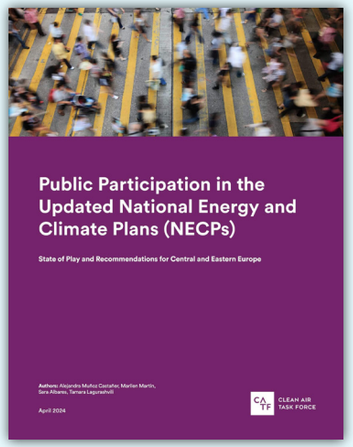
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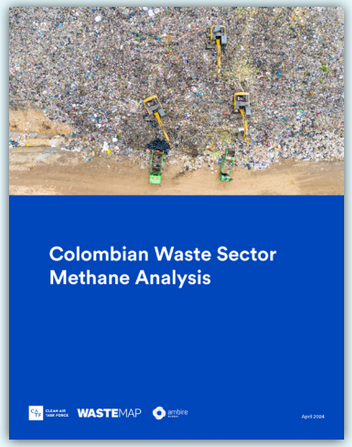
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Contributing Authors: Sam Bailey, Ben Grove, Angela Seligman
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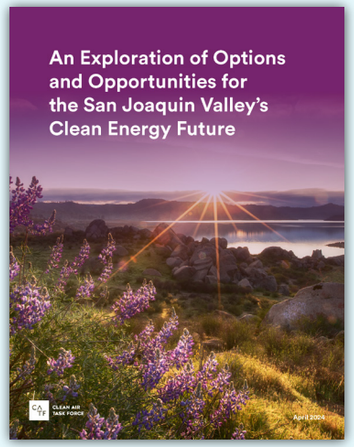
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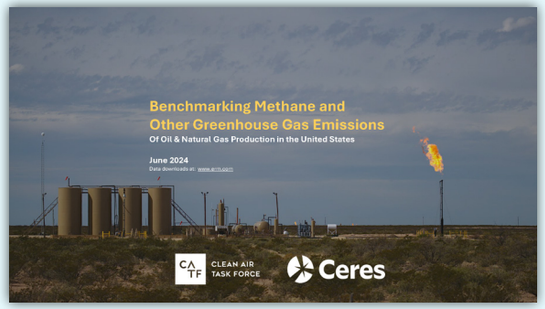
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April 2024
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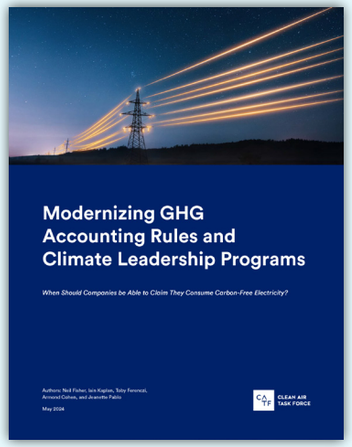
Modernizing GHG Accounting Rules and Climate Leadership Programs
When Should Companies be Able to Claim They Consume Carbon-Free Electricity?
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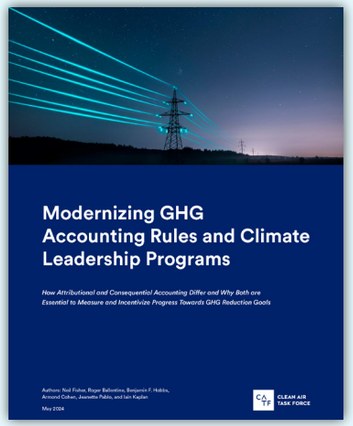
Modernizing GHG Accounting Rules and Climate Leadership Programs
How Attributional and Consequential Accounting Differ and Why Both are Essential to Measure and Incentivize Progress Towards GHG Reduction Goals
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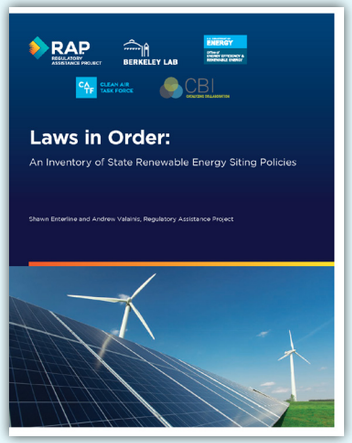
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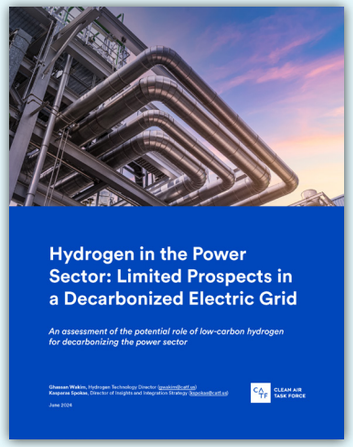
Laws in Order:
An Inventory of State Renewable Energy Siting Policies
Shawn Enterline and Andrew Valainis, Regulatory Assistance Project


Hydrogen in the Power Sector: Limited Prospects in a Decarbonized Electric Grid
An assessment of the potential role of low-carbon hydrogen for decarbonizing the power sector
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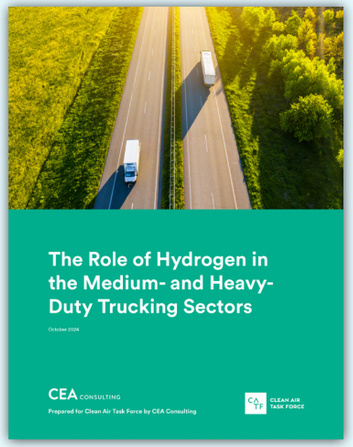
The Role of Hydrogen in the Medium- and Heavy-Duty Trucking Sectors
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Relationship Reset: EU-UK Collaboration on Climate and Energy
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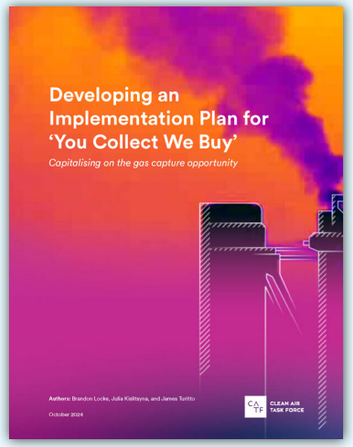
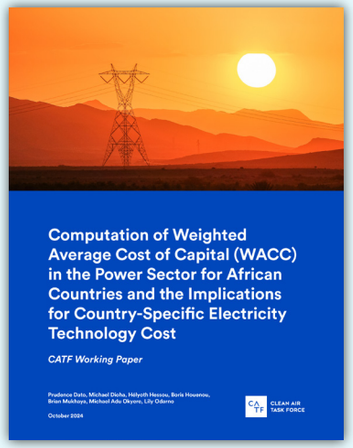
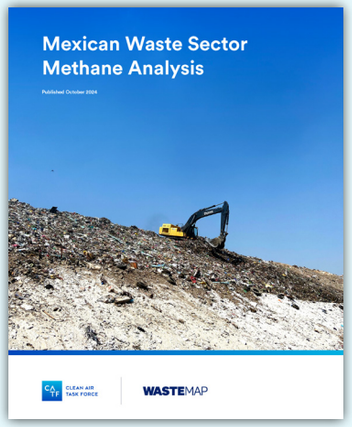
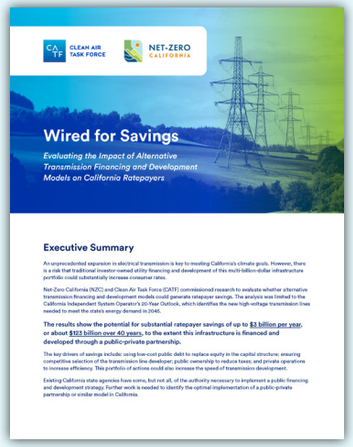
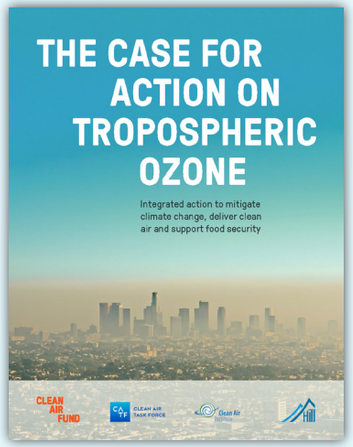
CATF Research and Analysis in 2024 (continued)

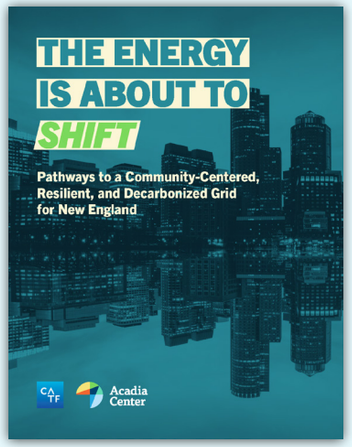


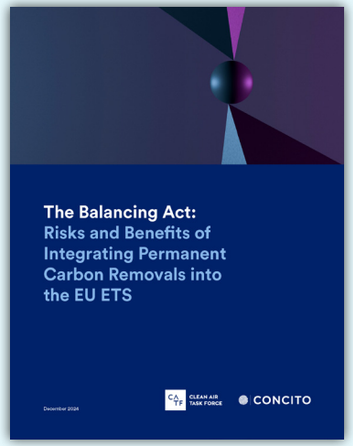


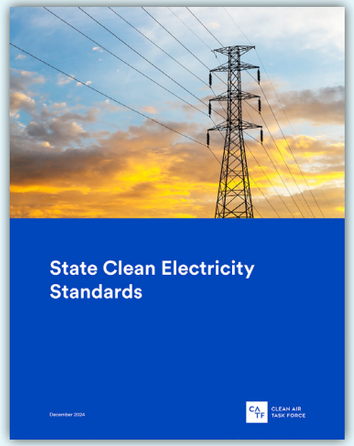












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Clean Air Task Force's board comprises executive-level leaders with diverse backgrounds in energy, policy, law, advocacy, organizational management, and technology innovation. Board members are selected based on their expertise and engagement in CATF's core work and help keep the organization on the forefront of climate and technology advocacy and innovation.

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Clean Air Task Force is dedicated to making the very most of these investments, driving lasting impact and charting the course to a brighter future.

We are grateful for the support of our philanthropic partners and thank them for their support of our work to advance bold, pragmatic, and resilient climate solutions worldwide.

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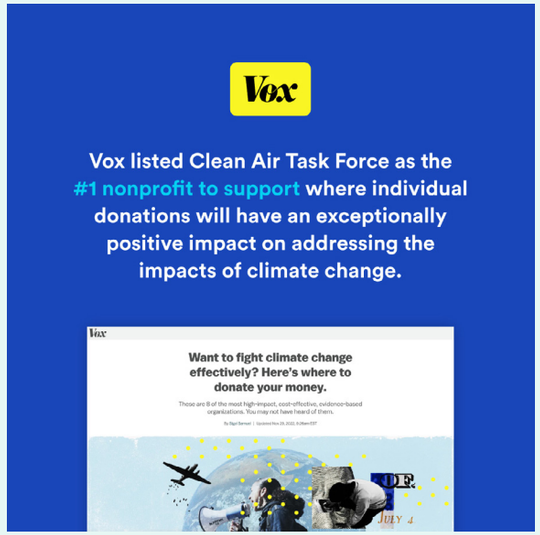

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