

THE ATHENS DECLARATION & Policy Framework

On Global Cooperation to Remove Carbon Dioxide



A Letter of Gratitude and Hope

May 30, 2025

To my fellow members of the Global Carbon Dioxide Removal Action Network (CDRANet), and to all climate advocates around the world,

I want to extend my deepest gratitude for your contributions to the development of the Athens Declaration and its companion policy framework. Together, these documents offer a shared vision and a common platform for action to help steer the world toward long-term climate stability and restoration through carbon dioxide removal (CDR) at scale.

The science is clear: Reducing carbon dioxide emissions and removing the excess carbon dioxide from our planet’s atmosphere are both essential for stabilizing our climate and eventually restoring it to safer conditions. But this won’t happen on its own. CDR must first be supported by clear policy signals, durable institutions, and sound public governance, or it risks being too slow, too fragmented, or misused.

The Athens Declaration and policy framework are early contributions to this vital work. They are not the final answers, but a beginning, meant to help guide global cooperation, and support the hard work of implementation that still lies ahead. In the months and years to come, success will depend on our sustained engagement, and our global commitment to this challenge we must face together.

As we carry forward the momentum and optimism that have brought us to this point, let us work together to begin transforming this shared vision into tangible progress for the benefit of our planet and future generations.

With sincere appreciation and hope,



Glenn Hampson
Program Director, CDRANet
Executive Director, Science Communication Institute (SCI)

© 2025 Science Communication Institute (SCI)

This work, The Athens Declaration & Policy Framework (1st ed., published May 30, 2025), is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0). To view a copy of this license, visit creativecommons.org/licenses/by-nc/4.0.

You are free to share and adapt this material — copy, redistribute, remix, transform, and build upon the text — under the following terms:

- Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made.
- NonCommercial — You may not use the material for commercial purposes.
- No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.

This document was originally developed by the Carbon Dioxide Removal Action Network (CDRANet), a global initiative coordinated by the Science Communication Institute (SCI), with contributions from members representing over 200 institutions in 35 countries.

For inquiries, permissions, or attribution details, please contact:

Science Communication Institute
sci.institute
info@sci.institute

DEFINITIONS & ABBREVIATIONS

Expanded definitions for selected terms are included in Annex 1.

Term	Definition	Abbreviation
Additionality	The principle that carbon removal or reduction projects must result in climate benefits that would not have occurred without the specific intervention; a safeguard to ensure that investments lead to real, incremental gains.	
Advance market commitments (AMCs)	Binding commitments by governments or institutions to purchase products or services (such as carbon removals) once they are developed to specified standards, creating strong early market demand.	AMCs
Annual removal target	The estimated amount of carbon dioxide that must be removed from the atmosphere each year to achieve our climate goals. See the Annex for context and assumptions.	
Avoidance	The prevention of greenhouse gas emissions that would otherwise occur under a projected baseline scenario (e.g., avoided deforestation). Avoidance relies on counterfactual assumptions, making verification and additionality more complex.	
Carbon dioxide removal (CDR)	The process of capturing carbon dioxide from the atmosphere and storing it durably in geological, terrestrial, oceanic, or engineered reservoirs.	CDR
Climate repair	The broader process of redressing the consequences of climate change, encompassing both temperature stabilization and climate restoration. Although climate repair may also involve other measures, this framework focuses specifically on carbon dioxide reduction and removal as the primary means of repair.	
Climate restoration	The long-term goal of reducing atmospheric greenhouse gas levels and global temperatures to conditions that support a more stable climate, continued planetary habitability, and resilient ecosystems.	
Durability	The length of time that carbon dioxide remains sequestered once removed from the atmosphere, ranging from decades to millennia depending on the method used.	
First-of-a-kind (FOAK) projects	Initial demonstration or deployment projects that test the feasibility and performance of new technologies or systems at commercial scale.	FOAK
Government	Governments and quasi-government agencies at all levels have an important role to play in CDR. Therefore, the term “government” in this declaration refers to a broad ecosystem of actors—from national and local authorities to multilateral institutions, regulators, and regional alliances—each with a critical role in scaling CDR.	
Greenhouse gases (GHGs)	Gases that trap heat in the atmosphere, contributing to global warming. Key examples include carbon dioxide, methane, and nitrous oxide.	GHGs
Monitoring, reporting, and verification (MRV)	The systems and protocols used to ensure that carbon removal activities achieve their intended climate outcomes in a transparent, measurable, and verifiable manner.	MRV
Net zero	A state in which greenhouse gas emissions released into the atmosphere are balanced by equivalent amounts of emissions removed or offset.	
Offsets	Activities intended to compensate for emissions produced elsewhere, typically through emissions reduction or carbon capture projects; offsets differ from durable removals and must be distinguished to maintain integrity in climate accounting.	
Public-private partnerships (PPPs)	Collaborative agreements between public sector entities and private companies to finance, develop, and implement projects and initiatives.	PPP
Research, development & deployment (RD&D)	The process of moving technologies from early research through development and pilot-scale testing to demonstrate their effectiveness, safety, and readiness for deployment.	RD&D
Safe temperature	A planetary surface temperature compatible with the long-term survival and flourishing of human societies and natural ecosystems, generally understood to be pre-industrial levels. See the Annex for expanded definitions and thresholds.	
Soft-law agreements	Non-binding agreements—such as codes of practice, joint declarations, and voluntary standards—that guide cooperation without requiring formal treaty ratification.	
Temperature stabilization	The near-term goal of halting further increases in global average temperature. This process begins by reaching net zero emissions and continues through the removal of excess carbon dioxide already in the atmosphere. Temperature stabilization alone does not result in climate stabilization, as climate instability will persist until temperatures are restored to safe levels.	

TABLE OF CONTENTS

A Letter of Gratitude and Hope

Definitions & Abbreviations

Scope, Purpose & Origins

The Athens Declaration

The Athens Delcaration Policy Framework: Priorities

The Athens Delcaration Policy Framework

Chapter 1: The Challenge

Section 1: Need

Section 2: Goals

Chapter 2: Operational Foundations

Section 1: Science, Technology, and Innovation

Section 2: Finance and Markets

Section 3: Governance and Accountability

Section 4: Risk and Responsibility

Chapter 3: Mobilizing Action

Section 1: Collaboration and Alignment

Section 2: Communication, Education, and Public Trust

Section 3: Implementation

Annexes

Annex 1: Expanded Definitions

Annex 2: Key CDR-Related Policies

Annex 3: Selected References

Annex 4: Athens Declaration Transition Process

i

ii

iv

1

3

5

5

6

10

13

SCOPE, PURPOSE & ORIGINS

About the Athens Declaration

The Athens Declaration is a nonbinding agreement in principle—a shared statement of intent to work together in common cause to rapidly scale our global carbon dioxide removal (CDR) capabilities. Although CDR has been referenced in several international agreements in recent years, it has not yet been the central focus of a dedicated global agreement. The Athens Declaration brings sustained attention to this challenge, serving as the first international declaration dedicated entirely to carbon dioxide removal. Informed by expertise from across regions, institutions, and sectors, it offers a common foundation for aligning our global efforts, guiding policy dialogue, and fostering cooperation on this essential pillar of climate action.

The Athens Declaration also responds to the limitations of formal international treaty processes, which are important but often take years to ratify and implement. In contrast, this declaration is more akin to a soft-law agreement—a voluntary mechanism for fostering immediate cooperation without requiring formal treaty ratification. This declaration invites broad cooperation between national and subnational governments, industry sectors, and civil society partners, and encourages policy alignment, joint investment and innovation, and shared learning.

Finally, this declaration responds to a growing imperative. Climate policy has long focused—rightly so—on reducing emissions. While reducing future emissions remains urgent, the consequences of past emissions are now pressing and accelerating. The need to act is no longer abstract or distant, but concrete and immediate as the toll from global warming increases. This declaration gives us an instrument through which coordinated and carefully planned immediate action is possible.

About the Policy Framework

The policy framework companion to the Athens Declaration is the first draft of a more detailed plan to help realize the aspirations of this declaration. Like the declaration itself, the policy framework’s specific recommendations are nonbinding, serving as a mechanism to help governments, industries, and institutions align around and act on a shared vision of CDR as an urgent and essential pillar of the 2030 Agenda for Sustainable Development Goal 13—climate action.

This policy framework is a living document, designed to evolve through continued engagement, dialogue, and iteration. Additional sections will be added over time to include more detailed provisions, descriptions of key initiatives, and other elements. It marks the beginning of a process, not an end. We invite governments, researchers, businesses, and communities to engage actively: to adapt, annotate, translate, test, improve, and expand on these recommendations.

Each chapter of this framework serves a distinct purpose. Chapter 1 outlines the urgency of the climate crisis and articulates our shared goals. Chapter 2 maps the financial, scientific, technical, and governance structures needed to scale carbon dioxide removal responsibly. And Chapter 3 describes the path forward, detailing how stakeholders can engage, coordinate, and adapt the framework over time.

Finally, readers will note that the specific operational details of this policy framework are yet to be determined. These details will be developed through the multi-stakeholder processes described in Chapter 3 and in the annex section, and included in future editions of this document.

Understanding Key Terms

The Athens Declaration and Policy Framework articulate four distinct but interrelated concepts: emissions reductions, carbon removals, temperature stabilization, and climate restoration. Each of these concepts describes a specific climate objective that involves different tools, risks, policy mechanisms, and time horizons.

The first two concepts—reductions and removals—refer to lowering the levels of carbon dioxide in our planet’s atmosphere. Emissions reductions occur by limiting the ongoing release of greenhouse gases into our atmosphere, especially carbon dioxide. Removals occur by removing existing carbon dioxide and storing it securely to prevent re-release.

The second two concepts—temperature stabilization and climate restoration—refer to different stages of planetary repair. Temperature stabilization is the process of slowing and eventually halting further warming, beginning with reaching a state of net-zero emissions. However, while net zero is an important milestone in this process, additional action—including large-scale carbon removal—is needed to prevent continued temperature rise. Climate restoration goes further still, aiming to reduce atmospheric carbon dioxide concentrations, and in doing so, not just halt warming but reverse it so our planet can cool back to safe levels.

These differences and their interrelatedness are key to understanding this declaration and policy framework. While we need emissions reductions to stabilize global temperatures, reductions alone cannot stop further warming, or restore climate stability. To reach these goals, removals are necessary. Removals can also accelerate our progress toward temperature stabilization.

In addition to these four concepts, we use the term “climate repair” to describe the twin goals of carbon dioxide removal—stabilization and restoration—achieved through reductions and removals. As noted in the expanded definitions section of the annex, climate repair might also include other mechanisms such as solar radiation modification, but for the purposes of this declaration and policy framework, climate repair refers specifically to the goals of stabilization and restoration through carbon dioxide removal.

About the Carbon Dioxide Removal Action Network (CDRANet)

This declaration and its companion policy framework were developed through the efforts of the Carbon Dioxide Removal Action Network (CDRANet)—a global coalition of scientists, policy experts, legal scholars, industry leaders, civil society representatives, and other key stakeholders working together to advance responsible carbon dioxide removal. Convened in 2024 and composed of 250 climate and CDR experts from 200 institutions, 20 stakeholder groups and 35 countries, the goal of CDRANet was to provide an inclusive, science-grounded forum to explore the policies, ethics, economics, and governance mechanisms required to scale carbon removal equitably and effectively.

The Athens Declaration and Policy Framework represent the public output of this collaboration. These documents are not a final product, but a starting point—as described previously in the “About the Policy Framework” paragraph, a foundation for continued dialogue with the broader global community, shared learning, and iterative refinement. CDRANet’s successor management structure, as described in Chapter 3 of the policy framework, will continue to coordinate the development of future versions of this framework through ongoing consultation, open feedback, and engagement with governments, institutions, and communities around the world.



THE ATHENS DECLARATION

On Global Cooperation to Remove Carbon Dioxide

Our planet’s climate is changing rapidly. Rising temperatures are altering the natural systems that support life, human society, and our global economy.

To confront these changes with the urgency and effectiveness they demand, we must complement our carbon dioxide reduction efforts with carbon dioxide removal as soon as possible.

The best available science behind this course of action is clear:

- The past decade has been the warmest in recorded history. In 2024, our planet’s average surface temperature measured 1.55 °C above pre-industrial levels, likely the first full year above the 1.5 °C threshold set by the Paris Agreement. Without immediate and sustained intervention, temperatures will continue to rise.
- The social, economic and environmental impacts of rising temperatures are already severe and will only intensify in coming years.
- Greenhouse gases—especially carbon dioxide—are the main drivers of global warming. Excessive amounts of carbon dioxide have accumulated in our atmosphere over the past two centuries and will continue to trap heat for generations.
- Reducing emissions remains an essential part of our long-term climate strategy, but emissions reduction alone is not enough. The United Nations’ Intergovernmental Panel on Climate Change (IPCC) has advised for decades that carbon dioxide removal (CDR) must also play a critical role.

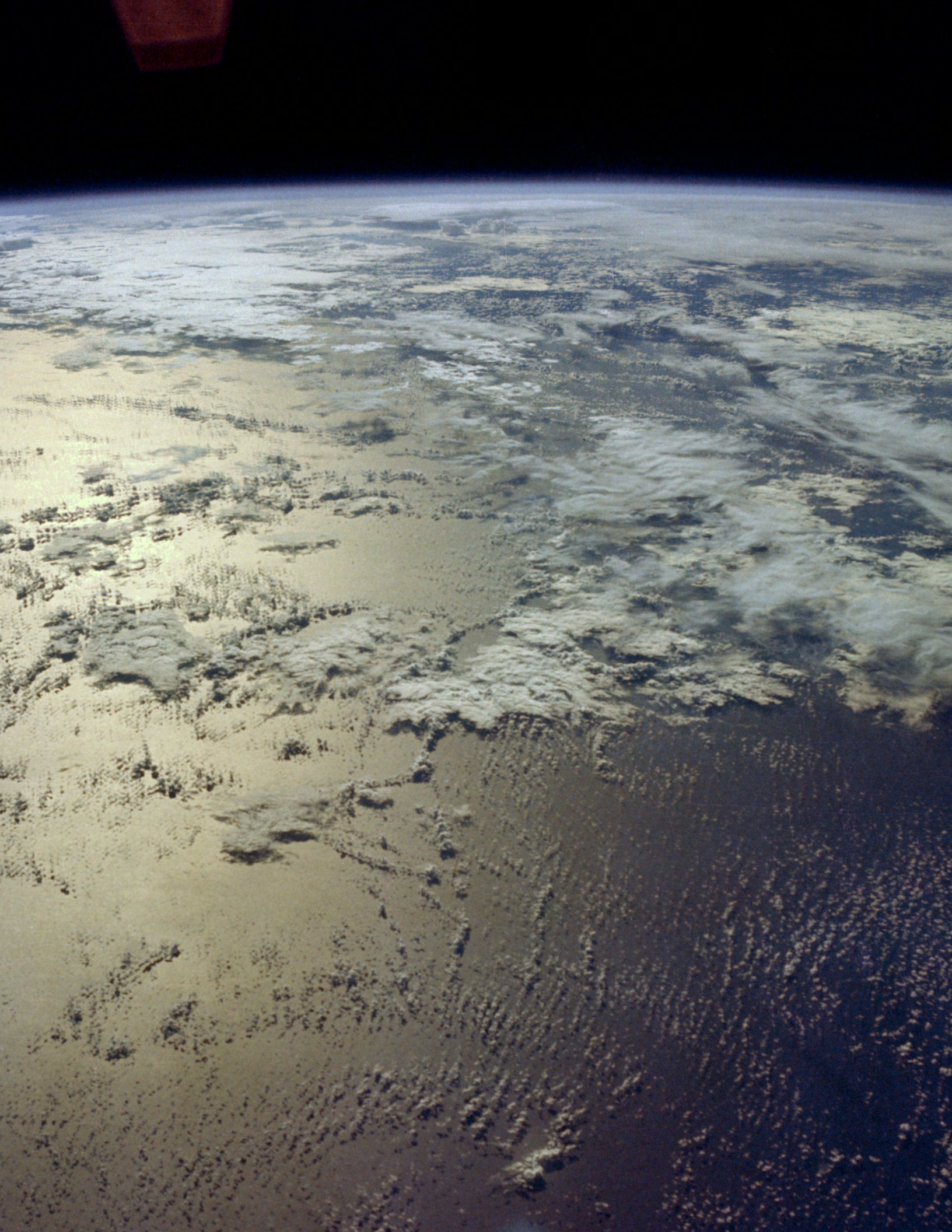
CDR is essential, and will help us achieve net zero emissions more rapidly, while also helping us restore long-term balance to our planet’s altered natural systems. But CDR technologies and systems are still emerging. Refining and scaling our CDR capabilities will require significant time, investment, and international cooperation.

By this declaration, and on behalf of all people everywhere, we pledge to engage in this global challenge together, across borders and in common cause, to develop CDR as a critical complement to emissions reduction. We will support ongoing climate action while advancing research, accelerating innovation, and building the infrastructure, institutions, and governance mechanisms needed for the urgent, responsible, and equitable removal of excess carbon dioxide from our planet’s atmosphere.

We further pledge to help develop a flexible, sustainable global plan for this carbon dioxide removal effort. The companion to this declaration—the Athens Declaration Policy Framework—offers a first draft of this plan, outlining key areas for coordination across research, finance, industry, government, and civil society. The Athens Declaration Policy Framework is a starting point, and will evolve over time through our ongoing global dialogue and lessons of experience.

We have reached a pivotal point in human history—one that calls for trust in science, global solidarity, shared responsibility, and bold, united action, without which the human experience on our planet will become uniquely challenging. By this declaration, we choose to act now so we can protect our present, and preserve a livable future for generations yet to come.

Signed this day _____ in Athens, Greece.



THE ATHENS DECLARATION POLICY FRAMEWORK: PRIORITIES

The Athens Declaration calls for a bold, united response to our warming climate by advancing carbon dioxide removal (CDR) as an essential complement to emissions reduction and avoidance. This summary of the framework's key priorities presents ten foundational actions to scale CDR with integrity, effectiveness, equity, and urgency.

1. Position CDR as a core pillar of climate action.

CDR must be fully integrated into the global climate agenda—reflected in Nationally Determined Contributions (NDCs), national strategies, and international agreements—as an essential complement to emissions reduction, both to stabilize global temperatures and eventually restore our climate to safe conditions. See also Ch. 2, Sec. 3, Art. 1 and Ch. 3, Sec. 1, Art. 1.

2. Strengthen government leadership in early action, infrastructure, investment, and reform.

Governments at all levels—including through public-private partnerships—must play a central role in scaling CDR. This includes de-risking early deployment, investing in first-of-a-kind (FOAK) projects, supporting enabling infrastructure, streamlining permitting, addressing legal and regulatory barriers, and embedding CDR in policy frameworks. See also Ch. 2, Sec. 2, Art. 1-2; also Ch. 2, Sec. 3, Art. 4 and Ch. 3, Sec. 1, Art. 2 and 5.

3. Create a globally coordinated CDR system.

We need a coherent international framework to align standards, facilitate data sharing, enable oversight, and avoid fragmentation. Global coordination is critical for the efficiency, equity, and legitimacy of CDR. Built-in mechanisms for accountability and progress review must be core to this effort. See also Ch. 2, Sec. 1, Art. 3 and Ch. 3, Sec. 1, Art. 2-3.

4. Advance next-generation market and financial tools.

Carbon removal markets must evolve from fragmented voluntary initiatives to robust, high-integrity systems—including regulated and, where feasible, mandatory mechanisms. These should prioritize real removals aligned with climate goals. Broader financial reforms (e.g., insurance, credit, public finance) must also adapt to support CDR. See also Ch. 2, Sec. 2, Art. 1-6.

5. Establish credible global MRV standards.

A harmonized system for monitoring, reporting, and verification (MRV) is essential for transparency, trust, and enforcement. MRV frameworks should cover full carbon lifecycles, operate across jurisdictions, ensure data accessibility, and distinguish between emissions reductions, removals and avoidance. See also Ch. 2, Sec. 1, Art. 1 and 3; Ch. 2, Sec. 2, Art. 3; and Ch. 2, Sec. 4, Art. 3-4.

6. Harness the economic benefits of CDR.

Scaling CDR can drive job creation, industrial innovation, community resilience, and sustainable development. Public and private investment should be aligned to maximize these benefits and support just economic transitions. See also Ch. 2, Sec. 2, Art. 6 and Ch. 3, Sec. 2, Art. 4.

7. Apply a balanced, risk-informed policy lens.

CDR governance must weigh the risks of various approaches against the escalating risks of climate inaction. Adaptive, opportunity-aware policies are needed to safeguard against harm without slowing critical progress. See also Ch. 2, Sec. 4, Art. 1–4.

8. Center equity, public engagement, and legitimacy.

Equity must guide decisions about financing, access, and benefit-sharing. Transparent engagement with communities—especially those historically marginalized—is essential to earn public trust and ensure legitimacy in CDR development. See also Ch. 2, Sec. 4, Art. 6 and Ch. 3, Sec. 2, Art. 1 and 5.

9. Support innovation with integrity safeguards.

All scientifically credible CDR methods should be eligible for support under clear, accountable rules. Policy frameworks should preserve technology neutrality while enforcing rigorous environmental and social safeguards. See also Ch. 2, Sec. 1, Art. 2–3.

10. Ensure CDR reinforces—not replaces—emissions reduction.

CDR must supplement, not undermine, urgent efforts to cut emissions. Policies must guard against moral hazard, and prevent misleading claims about climate impact, or excessive reliance on removals or avoidance. See also Ch. 1, Sec. 2, Art. 1; Ch. 2, Sec. 2, Art. 3; and Ch. 2, Sec. 3, Art. 2.

These ten actions represent a shared starting point for global coordination on CDR. They are designed to evolve through continued dialogue, but the direction is clear: we must act together, and we must act now.

THE ATHENS DECLARATION POLICY FRAMEWORK

CHAPTER 1: THE CHALLENGE

The strategic case for carbon dioxide removal

SECTION 1: NEED

The world has crossed a critical threshold. We must act now, together.

The Earth’s average surface temperature is currently more than 1.5°C above pre-industrial levels, a limit once seen as a warning, now a reality. While emissions reductions and avoidance remain essential for controlling global warming, these measures alone have never been sufficient. The best available science has consistently demonstrated that meeting the goals of the 2016 Paris Agreement require not only reducing and avoiding emissions, but removing the excess carbon dioxide that has accumulated in our atmosphere over centuries of human activity.

As our global temperatures continue to rise, we must now accelerate our progress toward addressing this need. Without large-scale carbon dioxide removal (CDR), our global temperatures will continue to increase along with risks to human and ecological systems. Most models that limit warming to 1.5°C rely on removing 400 to 1400 gigatons (Gt) of carbon dioxide by 2100, often requiring annual removals of 10 Gt or more by 2050. See the Annex section for more detail.

CDR is a viable path forward for removing our historical carbon dioxide emissions, and in doing so, stabilizing global temperatures and laying the foundation for longer-term climate restoration.

SECTION 2: GOALS

Stabilize our planet’s temperature. Support adaptation. Lay the foundation for long-term climate restoration.

We affirm these three goals as essential to a successful global CDR strategy:

Article 1: Stabilize our temperature.

CDR must work alongside existing climate strategies to help stabilize our planet’s temperature. This is a process that begins with reaching net zero but will require carbon dioxide removal to prevent continued temperature increase. Toward this goal, CDR must never be used as an excuse to delay emissions reductions. The integrity of our climate response depends on reducing emissions as quickly and deeply as possible, with CDR serving as a vital complement—not a substitute—for this effort.

Article 2: Support near-term adaptation and resilience.

Even under the most optimistic emissions scenarios which capitalize on the deployment of a range of emissions reduction and avoidance mechanisms, global warming will continue for decades. CDR must therefore complement investments in adaptation and scaling up of emissions reduction technologies to reduce the impacts on communities and ecosystems by strengthening their climate resilience and ability to adjust to near-term climate impacts.

Article 3: Lay the groundwork for long-term climate restoration.

As our CDR capacity scales and technology matures, we must also aim to restore safe temperatures and climate conditions to our planet, gradually drawing atmospheric carbon back down toward levels consistent with long-term planetary habitability. Climate restoration will be a generational effort, but one that must begin now.

CHAPTER 2: OPERATIONAL FOUNDATIONS

Building the systems needed to scale carbon dioxide removal

SECTION 1: SCIENCE AND INNOVATION

We must accelerate the science that makes climate repair possible.

Scaling CDR requires an unprecedented global effort to advance research, development, and deployment (RD&D). New ideas must be tested openly, proven approaches rapidly scaled, and inclusive innovation prioritized across all regions and sectors. Governance systems must support experimentation and learning while ensuring that science remains central to both climate policy and public trust.

Article 1: Greatly expand support for CDR research and demonstration.

Public and private investment in RD&D must increase dramatically to meet the scale of the challenge. In particular, this includes more support for FOAK demonstrations, carbon dioxide storage systems, field trials under open MRV conditions, carbon reuse innovation, and community-based initiatives.

Article 2: Maintain technology diversity and scientific neutrality.

Policies should encourage exploration across a wide range of CDR pathways—including engineered, biological, ocean-based, and hybrid approaches. Diversity reduces systemic risk and enables context-specific deployment.

Article 3: Acknowledge method-specific readiness.

Not all carbon removal methods are equally mature, scalable, or durable. Policy frameworks should recognize these differences and design support mechanisms accordingly, ensuring that risk, readiness, and permanence are considered in planning, funding, and oversight.

Article 4: Coordinate international research and data sharing.

Global progress depends on open standards, aligned research priorities, and interoperable data platforms. International coordination can speed development and deployment, avoid duplication, accelerate learning, and ensure equitable access to knowledge. Research and data funded by public investment should be made openly accessible to maximize global learning, support transparency, and enable equitable participation.

Article 5: Broaden the scientific agenda beyond carbon dioxide.

Climate repair requires addressing methane, nitrous oxide, and other greenhouse gases, as well as interdisciplinary research on ecological resilience—including how land and ocean systems respond to stress, recover from disturbance, and interact with large-scale removal interventions—alongside ethical risk governance, long-term monitoring of carbon storage systems, and emergency measures to cool our planet should the need arise. It is vital to be prepared for all climate scenarios that may develop in the coming decades.

SECTION 2: FINANCE AND MARKETS

Scaling CDR will require strong public investment and well-regulated markets.

Carbon removal must be treated as a public good and a global economic priority. This means mobilizing capital at scale, building enabling infrastructure, and structuring carbon markets that are transparent, reliable, and fair. Urgent government action is needed to steer investment and build confidence in early-stage deployment.

Article 1: Treat early CDR development as an investment priority.

Public investment (including public-private partnerships) should focus on FOAK projects, critical infrastructure, and market guarantees such as advance market commitments. These actions will reduce risk and unlock private capital. Additional tools—such as early purchase agreements, offtake contracts, and transitional crediting—can also help stabilize demand, lower investment risk, and support learning during market formation.

Article 2: Build the infrastructure backbone for removals.

Governments must lead in constructing carbon dioxide transport systems plus advanced storage and monitoring systems that support a safe, durable, investable carbon removal ecosystem.

Article 3: Design carbon markets that reward integrity.

High-integrity carbon markets require clear standards, transparent rules, and pricing structures that support durable climate outcomes. This framework encourages convergence around such benchmarks without prescribing a single global model. Diverse national and regional systems will coexist; the goal is alignment and interoperability based on shared principles. As part of this, markets should clearly distinguish between removals, reductions, and avoidance, recognizing that each entails different policies and levels of permanence. Markets must also guard against the misclassification of offset credits as removals, ensuring that credited activities are additional, verifiable, and durable.

Article 4: Guarantee equitable access to finance.

All countries must have fair access to CDR investment. This includes concessional finance, debt swaps, technical assistance, and participation in credit markets.

Article 5: Align CDR with broader financial reform.

Financial regulators, banks, and insurers should embed CDR into net-zero planning, risk disclosures, and climate-aligned investment portfolios. They should also explore safeguards such as liability insurance, long-term monitoring funds, and decommissioning escrows to ensure that carbon removal is not only financed, but responsibly managed across its full lifecycle.

Article 6: Create sustainable economic opportunity.

CDR at scale will also mean new jobs, preserving traditional livelihoods, spurring industrial innovation, and revitalizing communities. Governments and markets must work together to ensure that our CDR policies and investments are properly aligned with these projections.

SECTION 3: GOVERNANCE AND ACCOUNTABILITY

CDR must be governed transparently and inclusively from the start.

As carbon removal scales, so too must the systems that govern it. Public trust, environmental integrity, and long-term legitimacy depend on clear laws and governance, consistent standards, and meaningful community participation.

Article 1: Set national and international CDR standards and targets.

CDR should be integrated into national climate strategies (including setting and meeting national and global removal targets aligned with safe climate thresholds and Nationally Determined Contributions) and supported through multilateral cooperation, regulatory alignment, and legal clarity.

Article 2: Adopt a three-track strategy for CDR standards and MRV development.

Standards organizations and governments should adopt a three-track approach: (1) ensure that reliable, durable, and substantial carbon dioxide removal is occurring; (2) encourage the development of science-based, interoperable standards over time (capable of tracking carbon over time and across jurisdictions) to improve efficiency and integrity; and (3) invest in innovative approaches that hold promise for greater CDR speed, scale, and permanence.

Article 3: Evaluate improved mechanisms for net-zero accounting.

New accounting mechanisms should be evaluated to ensure carbon dioxide is physically removed rather than offset. To facilitate this, governments and industries should establish separate targets for reductions, avoidance and removals so each receives the appropriate policy attention and support.

Article 4: Ensure long-term storage safety, responsibility and oversight.

MRV systems should cover the full lifecycle of carbon removal—from capture to storage—to ensure transparency, accountability, and long-term integrity. Operators must also be accountable for monitoring, liability, and safe decommissioning. Maintaining robust oversight

and grievance pathways is essential toward these goals. Legal reforms may also be needed to support accountability, ensuring that permitting, enforcement, and redress systems are equipped to manage long-term storage risks—including potential reversal—and uphold public trust across jurisdictions.

Article 5: Embed transparency and public access throughout.

All CDR activities—financial and technical—should be publicly disclosed under reporting rules that are transparent, aligned, and interoperable across systems. This framework does not prescribe a single global standard but encourages consistent approaches that enable comparability, accountability, and trust.

Article 6: Protect environmental and human rights.

CDR deployment must be aligned with biodiversity protection, human rights (in particular Indigenous sovereignty), and procedural justice. Legal safeguards are required for long-term safety and to build legitimacy and prevent exploitation.

SECTION 4: RISK AND RESPONSIBILITY

Climate repair is a risk-management challenge.

A responsible carbon removal strategy and governance framework must be fair, balance precaution with urgency, recognize and equitably manage uncertainty, and evolve as science and experience grow.

Article 1: View CDR as a risk mitigation tool.

Governance frameworks must balance the risks of deploying CDR with the broader systemic risks of climate change. While every reasonable precaution should be taken to prevent environmental and social harm, overly rigid standards could delay needed action. Safeguards should be proportionate—designed to build trust, ensure accountability, and support responsible deployment at the speed and scale required.

Article 2: Learn by doing, while addressing emerging risks.

Given the need to scale CDR solutions rapidly, a large amount of learning by doing will be required, which will necessarily involve more risk than might otherwise be acceptable. Every effort should be made to accommodate this need within reason. Governance frameworks should enable responsible experimentation while identifying and managing risks through oversight and adaptive policy.

Article 3: Diversify pathways to reduce systemic failure.

A diversified portfolio of carbon removal methods improves resilience, hedges against failure, and enables adaptation across geographies and timeframes. Each CDR solution should be tailored for local success, assessed for tradeoffs (including land use, cost, and permanence), and supported by enabling policies that ensure no single point of failure jeopardizes our broader global goals.

Article 4: Institutionalize adaptive management and learning.

All CDR efforts must incorporate mechanisms for adjusting course as our knowledge evolves. Governments and institutions should promote international cooperation, collaborative research and learning, open sharing of information, stakeholder feedback, public access to results, and the continual refinement of standards and safeguards.

Article 5: Embed shared ethics and accountability.

While carbon dioxide removal will follow its own government and business logic, it must also be guided by ethical principles such as intergenerational equity, respect for Indigenous rights, and a shared sense of responsibility for our future. These principles must be upheld through high-integrity transparency, governance, and oversight mechanisms, accessible grievance pathways, and a culture of mutual learning supported by effective communication and collaboration.

Article 6: Acknowledge equity, responsibility, and financing considerations without delaying urgent action.

Equity, responsibility, and financing considerations—including questions of who pays for climate repair, and the loss and damage from climate change—are central to the global climate dialogue. These concerns are important, but their resolution lies in other venues. Within this framework, our singular focus is to work together to advance climate repair.

CHAPTER 3: MOBILIZING ACTION

Turning shared principles into coordinated progress

SECTION 1: COLLABORATION AND ALIGNMENT

No nation or sector can do this alone.

Achieving the scale and speed of carbon removal required demands deep cooperation—across borders, sectors, and communities. Governments, industries, and civil society must work together to align strategies, share resources, and coordinate action at every level. Global collaboration is not only a supplement to national action; it is a precondition for our success.

Article 1: Embed CDR in the heart of global climate cooperation.

Carbon removal must be recognized and prioritized within international climate processes, regional alliances, and bilateral agreements.

Article 2: Establish cross-sector partnerships and regional compacts.

Public-private partnerships (PPPs), subnational coordination, and transboundary infrastructure planning are all essential to implementation. These efforts should be supported by legal cooperation among jurisdictions, including shared standards for permitting, liability, and long-term oversight of cross-border removal systems.

Article 3: Ensure participation by low-income and climate-vulnerable countries.

Collaboration frameworks must include financing, capacity-building, and inclusive governance mechanisms that enable full participation regardless of access to resources and capital.

Article 4: Promote transparency, knowledge-sharing, and technical assistance.

Open data, joint research, and peer learning across jurisdictions should be supported to accelerate trust and uptake.

Article 5: Align legal frameworks to support coordination.

Governments must address legal barriers to action and align permitting processes across jurisdictions. Regional compacts, shared infrastructure planning, and joint environmental reviews can reduce delays, streamline coordination, and support responsible deployment.

SECTION 2: COMMUNICATION, EDUCATION, AND PUBLIC TRUST

Public trust is a foundation, not a byproduct, of effective climate action.

CDR policy must be built in the open, with communities—not just experts—involved from the start. Clear communication, education, and inclusive engagement are required to earn legitimacy and ensure that our carbon removal efforts incorporate the concerns of affected communities and equitably distribute costs, risks, and benefits.

Article 1: Center public understanding, transparency, and civic dialogue.

Governments and institutions must proactively explain carbon removal, clarify its role, and engage communities in decision-making.

Article 2: Address misinformation and disinformation directly.

Coordinated efforts are needed to counter organized denialism and deliberate distortion of climate and carbon removal science.

Article 3: Integrate climate repair into formal education systems.

Educational institutions at all levels should incorporate climate repair and carbon removal into relevant curricula to help normalize public understanding, foster innovation, and prepare future leaders in science, policy, and practice.

Article 4: Invest in workforce development and institutional capacity.

Preparing a new generation of climate professionals will require training programs, retraining support, and expanded public-sector expertise.

Article 5: Promote ethical framing, justice, and inclusive narratives.

Public communication must highlight climate justice, intergenerational equity, risks, and local benefits—not just technology.

SECTION 3: IMPLEMENTATION

Declarations mean nothing without action to follow.

The Athens Declaration is a call to organized, near-term action. Detailed action plans and recommendations will be developed by the Athens Declaration Transition Process as described in Article 1 and Annex 4.

Article 1: The Athens Declaration Transition Process

To help transform this declaration into meaningful and measurable outcomes, the Athens Declaration will be supported by a phased, collaborative implementation process grounded in institutional learning and coalition-building. This process will bring together a core group of countries and institutions who will begin discussing how to align carbon removal policy and finance tools in advance of a formal global launch of the Athens Declaration in 2026. See Annex 4 for details.

ANNEXES

ANNEX 1: EXPANDED DEFINITIONS

- How we reference 1.5°C:** According to the World Meteorological Organization, global average temperatures in 2024 reached approximately 1.55°C above pre-industrial levels. However, the IPCC’s official warming levels are defined using 20-year averages, and it is therefore premature to declare that temperatures crossed the 1.5°C threshold in 2024. This said, the IPCC’s methodology is intended to smooth short-term variability, not delay recognition of sustained long-term change, and the sustained long-term trendline is clear: temperatures are rising quickly and will not return to safer levels without deliberate, large-scale intervention. The 1.5°C threshold itself was adopted by signatories to the 2016 Paris Agreement as a compromise between scientific caution and political feasibility. Since then, research has increasingly confirmed that 1.5°C is not just symbolic, but a likely inflection point beyond which the risk of irreversible climate changes escalates sharply. Therefore, our framing in this declaration does not conflict with the IPCC’s more cautious framing. Rather, it accurately reflects the urgency of responding to what the data already make clear.
- Annual removal target:** There is broad scientific consensus regarding the need to remove large amounts of carbon dioxide from the Earth’s atmosphere as soon as possible. Estimates vary, however, regarding precisely how much carbon dioxide to remove and by what date, considering assumptions such as how successful our emission reduction efforts will be, how much warming we are willing to accept, and how quickly various approaches like direct air capture can or should scale. On the lower end, some scientists predict the need to remove only a few billion tons of carbon dioxide per year by 2050, continuing this level of removal through at least the year 2100 to draw down legacy emissions. On the higher end, other scientists predict the need to remove around 10 gigatons per year (Gt/yr) of carbon dioxide from the Earth’s atmosphere by the year 2050 and as much as 20 Gt/yr by 2100. The annual State of CDR report (2nd Edition) provides the most detailed methodological analysis of annual removal targets and concludes that given our current state of emissions, we should expect to remove 7-9 Gt/yr by 2050 through a combination of “conventional” CDR efforts such as forestry, and “novel” methods such as direct air capture. This figure is in the 25th-75th percentile across a set of 34 published Integrated Assessment Model runs that a) keep to 1.5C with at least a 50% probability and with minimal overshoot, and b) meet additional sustainability criteria regarding protecting biodiversity, limiting land and water needs for biomass use, enhancing energy access and alleviating hunger.
- Carbon dioxide removal (CDR):** For the purposes of this report, CDR refers to the process of removing carbon dioxide from the environment (or enhancing natural processes that do so) and storing the gas in a way that prevents its release back into the environment for a reasonably long period of time—typically 100 years or more. This definition is consistent with scientific consensus on the essential features of CDR: removal from the biosphere and atmosphere, and long-term storage. It differs slightly from the IPCC’s formal definition, which focuses specifically on anthropogenic removals from the atmosphere, and emphasizes durable storage in reservoirs. We adopt a slightly broader framing here to avoid ambiguity around system boundaries (e.g., air vs. ocean vs. land), the origin of carbon flows (natural vs. anthropogenic), and the precise threshold for what constitutes “durability.” Our

goal is to maintain scientific rigor while offering clarity and usability for policymakers, who must often work across sectors and methods. We also recognize that other institutions and reports—including national governments, scientific bodies, and policy assessments—may define CDR differently depending on their context and purpose. Where differences exist, they are typically matters of emphasis or scope, not disagreement about the fundamental concept.

- **Avoidance, offsets and additionality:** Avoidance refers to climate actions that prevent greenhouse gas emissions from being released, relative to a projected business-as-usual scenario. Common examples include forest conservation, landfill methane capture, or halting planned infrastructure development. While avoidance can play an important role in national mitigation strategies—especially in regions facing development pressure—it presents unique challenges in market-based accounting. These challenges include uncertainty in projecting baseline scenarios, risks of double-counting, and weaker permanence compared to direct emissions reductions or carbon removals. A related concept is the carbon offset, which is a credit representing a reduction or removal of greenhouse gas emissions that is used to compensate for emissions occurring elsewhere. Offsets may be generated from a range of activities, including avoidance, reduction, and removal, but are only effective if they represent real, measurable, and verifiable climate benefits. In both avoidance and offsetting, the concept of additionality is critical: credited activities must go beyond what would have occurred in the absence of the incentive provided by the credit. If an activity was already planned, required by law, or likely to happen anyway, it is considered non-additional and does not result in real climate benefit. Ensuring additionality is essential for the credibility and effectiveness of any crediting system.
- **“Safe” temperature:** The IPCC has long recommended that our climate should not warm more than 1.5C (or worst case, “well below 2°C”) above pre-industrial levels because exceeding this mark is likely to have significant environmental and socioeconomic consequences for our planet, as well as lead to cascade failures in our climate system that could push temperatures even higher (through feedback mechanisms like increased methane emissions from permafrost currently hidden under melting polar regions). The average surface temperature of our planet has fluctuated slightly above and below pre-industrial levels throughout human history (the 12,000-year-long Holocene Period), until very recently, as global average temperatures have now started to spike outside this range. Restoring our planet’s temperatures to “safe” levels means restoring them to any levels closer to the average temperatures experienced throughout human history—certainly “well below 2°C” above pre-industrial levels, but with no specific figure in mind.
- **What we mean by “climate repair”:** Climate repair refers to a broad set of strategies aimed at restoring the Earth’s climate system to safer, more stable conditions after decades of accumulated greenhouse gas emissions. It encompasses both temperature stabilization (slowing and eventually halting the rise in global temperatures, beginning with the achievement of net-zero emissions) and climate restoration (actively removing excess carbon dioxide to lower atmospheric concentrations and reduce long-term warming). While temperature stabilization is often framed as the primary goal of climate policy, climate damage will continue for as long as excess carbon dioxide remains in our planet’s atmosphere. In this sense, real stabilization doesn’t begin until these levels are reduced. Climate repair therefore goes beyond temperature stabilization and necessitates carbon dioxide removal to begin restoring balance to our planet’s natural systems. Within a broader scientific and policy perspective, other potential climate interventions beyond those described in this

document might also be required for climate stabilization and restoration, such as solar radiation modification, cryosphere refreezing, methane removal, and related geoengineering approaches. The Athens Declaration and policy framework aren’t agnostic on this possibility, acknowledging the need to better understand our possible climate futures and prepare appropriate responses. However, beyond our recommendation to be prepared, our focus in this declaration and policy framework is on carbon dioxide removal as the most immediate and actionable vehicle for climate restoration and repair.

ANNEX 2: KEY CDR-RELATED POLICIES

European Commission. 2023. Proposal for a Regulation Establishing a Union Certification Framework for Carbon Removals. Brussels: European Commission. <https://climate.ec.europa.eu/eu-action/carbon-removals/carbon-removal-certification>.

European Union. 2021. European Climate Law (Regulation (EU) 2021/1119). <https://eur-lex.europa.eu/eli/reg/2021/1119/oj>.

United Nations. 1998. Kyoto Protocol to the United Nations Framework Convention on Climate Change. https://unfccc.int/kyoto_protocol.

United Nations. 2015. Paris Agreement. Article 6.4. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

United States Congress. 2008. Internal Revenue Code Section 45Q: Credit for Carbon Sequestration. <https://www.irs.gov/pub/irs-drop/n-09-83.pdf> (as amended by subsequent legislation).

ANNEX 3: SELECTED REFERENCES

Boston Consulting Group. 2025. “The Economic Case for Climate Investment Is Clear, but Not Broadly Understood.” March 12, 2025. <https://www.bcg.com/press/12march2025-economic-case-climate-investment>.

Boyd, J., A. Krupnick, E. Joiner, and M. A. Toman. 2024. Policies for Scaling Up Carbon Dioxide Removal in the United States. Resources for the Future. <https://www.rff.org/publications/issue-briefs/policies-for-scaling-up-carbon-dioxide-removal-united-states/>.

CarbonPlan. 2023. “Rethinking Removals.” <https://carbonplan.org/research/rethinking-removals>.

CFA Institute. 2025. Enhancing the Voluntary Carbon Market: Gaps and Solutions. February 2025. <https://rpc.cfainstitute.org/research/reports/2025/enhancing-the-voluntary-carbon-market>.

Climate Action Tracker. 2024. “Climate Insights: November 2024.” <https://climateactiontracker.org/publications/climate-insights-november-2024/>.

Grant Thornton. 2023. “Mandatory Climate Reporting Is Here: Are You Ready?” <https://www.grant-thornton.com/insights/articles/esg/2023/mandatory-climate-reporting-is-here-are-you-ready>.

Intergovernmental Panel on Climate Change (IPCC). 2023. AR6 Synthesis Report: Climate Change 2023. Geneva: IPCC. <https://www.ipcc.ch/report/ar6/syr/>.

International Monetary Fund. 2021. "Climate Risks and Financial Stability." April 29, 2021. <https://www.imf.org/en/Blogs/Articles/2021/04/29/blog-climate-risks-and-financial-stability>.

Liu, Z., et al. 2023. "Global Carbon Budget 2023." Nature Reviews Earth & Environment 4 (1): 1–12. <https://doi.org/10.1038/s43247-023-01077-4>.

Livermore Lab Foundation. 2025. "Roads to Removal." <https://roads2removal.org/>.

McKinsey & Company. 2023. "Carbon Removals: How to Scale a New Gigaton Industry." December 4, 2023. <https://www.mckinsey.com/capabilities/sustainability/our-insights/carbon-removals-how-to-scale-a-new-gigaton-industry>.

National Academies of Sciences, Engineering, and Medicine. 2019. Negative Emissions Technologies and Reliable Sequestration: A Research Agenda. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25259>.

National Academies of Sciences, Engineering, and Medicine. 2024. A Research Agenda Toward Atmospheric Methane Removal. Washington, DC: The National Academies Press. <https://doi.org/10.17226/27157>.

OECD, The World Bank, and UN Environment. 2018. Financing Climate Futures: Rethinking Infrastructure. Paris: OECD Publishing. <https://doi.org/10.1787/9789264308114-en>.

Rhodium Group. 2024. "The Landscape of Carbon Dioxide Removal and U.S. Policies to Scale Solutions." <https://rhg.com/research/the-landscape-of-carbon-dioxide-removal-and-us-policies-to-scale-solutions/>.

RMI. 2025. Scaling Technological Greenhouse Gas Removal: A Global Roadmap to 2050. <https://rmi.org/insight/scaling-technological-greenhouse-gas-removal-a-global-roadmap-to-2050/>.

Schmidt, A. M., et al. 2022. "The Role of Carbon Dioxide Removal in Climate Policy." EMBO Reports 23 (1): e55786. <https://doi.org/10.15252/embr.202255786>.

Smith, P., et al. 2021. "The Role of Nature-Based Solutions in Mitigating Climate Change." Conservation Science and Practice 3 (9): e1287. <https://doi.org/10.1111/csp2.1287>.

Stoddard, I., et al. 2021. "Three Decades of Climate Mitigation: Why Haven't We Bent the Global Emissions Curve?" Climate Policy 21 (6): 1–17. <https://doi.org/10.1080/14693062.2021.1992010>.

Sustainability Directory. 2024. "What Are the Key Considerations for Public-Private Partnerships in Carbon Dioxide Removal?" <https://sustainabilitydirectory.org/articles/what-are-the-key-considerations-for-public-private-partnerships-in-cdr/>.

U.S. Department of Energy. 2025. Carbon Dioxide Removal: Purpose, Approaches, and Recommendations. Washington, DC: DOE. <https://www.energy.gov/sites/default/files/2025-01/CDR%20Purpose%2C%20Approaches%2C%20and%20Recommendations%20Report.pdf>.

U.S. Environmental Protection Agency. 2023. Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances. December 2023. <https://www.epa.gov/environmental-economics/report-social-cost-greenhouse-gases-estimates-incorporating-recent-scientific>.

Wilcox, J., et al. 2023. The State of Carbon Dioxide Removal: Second Edition. CDR Primer. <https://cdrprimer.org/state-of-cdr-2nd-edition.html>.

World Bank. 2025. "What Is Carbon Pricing?" <https://carbonpricingdashboard.worldbank.org/what-carbon-pricing>.

World Meteorological Organization. 2025. "2024 Warmest Year on Record." <https://public.wmo.int/en/media/press-release/2024-warmest-year-record>.

ANNEX 4: THE ATHENS DECLARATION TRANSITION PROCESS

Transitioning the Athens Declaration and Policy Framework from concept to action will take place in three stages between June 2025 and November 2026.

Phase 1 (Aug-Dec 2025): The Athens Transition Coalition (ATC)

The ATC is a group of 5-8 governments who will work alongside 3-4 anchor institutions to begin exploring how to transition the Athens Declaration into functioning international policy. Recruitment for the ATC begins in June 2025.

Expectations	Key Goals	Additional Activities
<ul style="list-style-type: none">• Make clear and steady progress on developing workable plans for implementing the declaration• Support the administrative structure needed to make the Athens transition process effective and sustainable	<ul style="list-style-type: none">• Edit the declaration and policy framework as needed• Explore realistic global pathways for large-scale CDR financing, RD&D collaboration, and infrastructure development• Discuss adaptable legal and governance templates (e.g., permitting frameworks, MRV pilots, public procurement contracts)• Investigate opportunities for small-scale demonstration projects with public and private co-financing• Identify joint CDR opportunities across existing budgets and capacities• Assess where CDRANet can provide centralized support (e.g., communication, education, data sharing, convenings)• Broaden engagement by encouraging additional countries and institutions to join• Share progress transparently via a coordination platform	Internally (conducted by CDRANet, not ATC members), this stage will also involve ramping up CDR outreach, education, engagement, capacity-building and conference planning efforts.

Phase 2 (Jan–Nov 2026): Expand Engagement and Lay Foundations

Beginning in early 2026, engagement in the ATC-led transition process will begin expanding to include more countries and institutions.

Expectations	Key Goals	Additional Activities
<ul style="list-style-type: none">Strengthen this group’s organiza- tion and operation- al capabilitiesBuild more trust and familiarity between coalition members as man- agement systems get built out, better lines of communi- cation are estab- lished, and lessons of experience are solidified	<ul style="list-style-type: none">Solidify clear and credible financing pathways for large-scale CDR: Iden- tify sources of public and private capital; design scalable financing instruments (e.g., green bonds, trust funds, performance guaran- tees); and align investments with just transition and sustainable development principlesSolidify governance coordination pathways for international coher- ence: Explore interagency align- ment and cooperative oversight frameworks; and establish path- ways for standard harmonization	Internally (conducted by CDRANet, not ATC members), this stage will also involve con- tinuing CDR outreach, education, engage- ment, capacity-build- ing and conference planning efforts.

Phase 3 (Nov 2026–): Global Launch and Signing

In late 2026, CDRANet will convene a capstone conference to formally launch the Athens Declaration as a global policy platform. This event will mark the transition from momen- tum-building to full-scale mobilization. Signatories may choose to formally endorse the declaration at this event as a public gesture of support.

Expectations	Key Goals	Additional Activities
<ul style="list-style-type: none">Slingshot out of this event with good visibility and momentum	<ul style="list-style-type: none">Showcase CDR technology develop- ments for policymakers, the public, and investorsAnnounce policy innovations and pilot results from the AACAnnounce new member commit- ments and financial contributionsPresent draft technical standards and regulatory frameworks for discussionPropose long-term governance structures for oversight and coor- dination	Internally (conducted by CDRANet, not ATC members, CDRANet will build on the addi- tional opportunities from this event for CDR outreach, educa- tion, engagement, and capacity-building.



CDRANet

GLOBAL CDR ACTION NETWORK