

DISTRACT, DELAY, DECEIVE: FOSSIL FUELS, BIG TECH AND CALIFORNIA'S EMERGING CARBON REMOVAL ECONOMY

California spent two decades building carbon markets to reduce emissions. When those markets failed to deliver, the state doubled down on the market approach, expanding emissions trading into carbon capture, carbon dioxide removal, biofuels, nature-based strategies, and digital carbon accounting. Together, climate change policies are being expanded through legislation including SB 905 and the Manufacturing Decarbonization Incentive (MDI), to build a geoengineering-based carbon removal economy benefiting fossil fuel corporations, large technology firms and investors. **This *ex post facto* approach shifts climate policy from preventing emissions at the source toward accounting and monetizing emissions after release. Ultimately, this is more business-as-usual, raising urgent questions about who benefits and what climate solutions are being prioritized.**

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KEY TAKEAWAYS

1. California is expanding carbon markets into a new carbon removal economy: California has spent two decades building carbon markets around the promise that trading and carbon accounting would reduce emissions. Instead of abandoning that approach when its limitations became clear, the state is expanding it into carbon capture, carbon dioxide removal (CDR), biological carbon storage, and new forms of carbon accounting. [Senate Bill \(SB\) 905](#) and the 2026 expansion of the [Cap-and-Invest](#) program represent the next stage of this trajectory. The policy shift moves California beyond trading emissions towards creating a carbon removal economy benefiting fossil fuel corporations and Big Tech. California will continue to expand carbon markets when the priority should be reducing emissions at their source.

2. SB 905 is building the infrastructure for a carbon removal economy: SB 905 establishes the regulatory infrastructure needed to make Carbon Capture and Storage (CCS) and engineered CDR deployable at scale. This creates the institutional foundation for carbon removal to become measurable, certified, and potentially tradable. Although SB 905 originally focused primarily on engineered approaches, the California Air Resources Board (CARB) is now exploring how biological approaches and “nature-based strategies” could fit into the broader CDR framework. The result is a convergence of previously separate policies under the increasingly powerful category of carbon dioxide removals.

3. MDI turns California’s carbon market into an industrial subsidy: The [Manufacturing Decarbonization Incentive \(MDI\)](#) represents a major change in what California’s emissions trading system does. Rather than simply making pollution allowances increasingly scarce, MDI creates a large reserve of allowances that can provide financial value to industrial facilities investing in approved technologies, including CCS. CARB increased the allocation and expanded eligibility to fossil fuel refining and other manufacturing sectors, while projected revenues for California’s Greenhouse Gas Reduction Fund are estimated to decline by 2030. Legislators, environmental justice organizations, and

frontline communities challenged the program, including glaring concerns that it never went through the Legislature.

4. Big Tech is influencing the carbon removal market and shaping the rules that govern it: Big Tech is creating demand that makes the market possible. Major technology corporations and their climate investment arms are financing carbon removal startups, purchasing future removal credits, and in some cases creating or backing companies whose business models depend on the expansion of CDR. Those startups are then becoming political actors in their own right, submitting public comments to CARB and participating in Sacramento policy debates to shape the regulations and markets on which their future businesses depend. This creates a feedback loop: technology companies finance the carbon removal companies, the companies advocate for policies that expand CDR, and those policies create markets in which the companies can sell their technologies and credits. In addition, a growing revolving door between government, industry, investors, and climate-tech organizations further blurs the boundary between policymaking and the industries positioned to profit from it. The result is an emerging political economy in which Big Tech has a direct stake in constructing the regulatory and market infrastructure for carbon removal.

5. Nature-based strategies can make the expansion of CDR more politically acceptable, while continuing a deeply contested history: California’s move toward “nature-based strategies” is politically significant because forests, restoration, and ecosystem protection are far more publicly appealing than pipelines, geological storage, or direct air capture. Yet market-based approaches have a long and deeply contested history, including REDD+, forest carbon offsets and marine CDR that have generated serious concerns over land rights, additionality, permanence, and inflated climate claims. Multiple investigations have found widespread fraud with forest-based carbon credits, including fake credits. As biological and engineered approaches are increasingly grouped together under the CDR umbrella, the public legitimacy of nature-

based approaches can normalize both controversial biological approaches and engineered CDR. The danger is that the debate becomes about choosing the “right” kind of removals and distracts the public from questioning whether carbon removal markets should substitute for reducing fossil fuel emissions at source.

6. Accountability in California’s Carbon Removals Economy: Who decides, who benefits, and who bears the risk? The expansion of CCS and CDR is being accompanied by unresolved questions about long-term liability, financial assurances, monitoring, data access, permanence, and the consequences of CO₂ leakage and corporate bankruptcy. These are more than merely technical questions. They determine who carries the

environmental and financial risks of carbon storage for decades or potentially centuries. Environmental justice and community organizations have also questioned whether safeguards developed through CARB rulemaking will actually protect frontline communities, particularly given CARB’s failure to follow through on reporting commitments made when it approved the California Tropical Forest Standard. Meanwhile, major policy changes such as MDI have raised questions about the extent to which CARB is implementing legislative policy versus creating new policy through regulation. In the end, CARB is making it clear who gets to construct the rules, who profits from them, and who is left with the risks when they fail.



1. INTRODUCTION

California's development of a Carbon Capture and Storage (CCS) and Carbon Dioxide Removal (CDR) framework under [Senate Bill \(SB\) 905](#) represents the latest phase in more than two decades of climate policy. Throughout this period, California has increasingly expanded CCS and carbon markets instead of directly regulating fossil fuel emissions at source. The underlying logic of California's climate policy has remained remarkably consistent over the years by bolstering the fossil fuel industry and continual support for carbon markets. Current rulemaking for SB 905 being developed by the California Air Resources Board (CARB) aims to expand the use of CCS, and CDR in the state, including in the [Cap-and-Invest emissions trading market](#).¹ However, community opposition and murky decision-making raise questions on the overall intent behind some of the most recent developments in California.

California's current climate policy trajectory has unfolded largely due to the development emerging from [international carbon market instruments](#). California's climate policies have historically been driven by developments occurring at the [United Nations Framework Convention on Climate Change \(UNFCCC\)](#). As carbon markets evolved from the Kyoto

Protocol era in the 1990s and 2010s, toward the carbon trading architecture currently being implemented under Article 6 of the Paris Agreement, the [international planned expansion](#) of carbon markets is a signal to national and subnational Parties to ready and align their carbon market systems. Rulemaking for SB 905 should therefore be understood as a new carbon market expansion strategy, through which California aims to position itself within the next generation of international carbon markets, centered on CDR or "removals".

Rather than viewing these policies as independent initiatives, they can be understood as successive layers in California's rapidly expanding carbon removal economy. SB 905 builds on the [UNFCCC Article 6 institutional foundation](#). The legislation expands California's regulatory framework to encompass CCS and CDR, including pipelines, transport, and long-term geologic storage. In addition, a controversial move by the California Air Resources Board (CARB) to push through the [Manufacturing Decarbonization Initiative Fund \(MDI\)](#) as central to recent amendments to California's carbon market without going through legislative channels brought scrutiny from elected officials. Taken together, SB 905 and MDI shift the

¹ For the purposes of this briefing, we use CCS and CDR throughout the writing. Please see the explanatory box below.





state's already murky climate policies toward merging CCS and CDR with expanding carbon markets, while offering up new markets to **Big Tech**, a sector aggressively **searching for pathways to justify their spiking pollution footprint**.

The expansion of California's carbon markets into CCS and CDR also reflects an important shift in the political economy of carbon markets. While earlier market mechanisms primarily created opportunities for fossil fuel corporations and industrial emitters, the emerging carbon removal economy increasingly aligns with the interests of the large technology corporations. Tech companies are seizing this moment to include extensive systems for measuring, monitoring and verifying carbon claims and to drive the use of artificial intelligence, satellite imagery, remote sensing, digital monitoring platforms, blockchain-enabled registries, cloud computing, and large-scale data management in the next wave of emerging global carbon markets and expanding CDR. Further, tech companies are creating demand by funding their own start-ups that are also influencing policy-making.

Seen in this broader context, SB 905 is more than a state regulatory initiative. It represents California's effort to construct the institutional infrastructure necessary to participate in emerging global carbon markets. The legislation establishes the governance (measurement, reporting, verification, certification, liability, and oversight) that transforms CDR from a fossil fuel-based system into linking it to global carbon markets with experimental technology, and ultimately,

fabricating a new engineered class of tradable climate commodities.

What began as legislation focused on engineered CCS and geologic sequestration is now expanding into a broader CDR framework incorporating biological CDR through so-called nature-based strategies (NBS). As subsequent sections argue, this institutional expansion creates the conditions for engineered and biological CDR to be consolidated under the global CDR framework that has emerged through the UNFCCC climate process. In doing so, California is building the regulatory architecture through which various types of CDR could enter domestic compliance markets and, ultimately, connect with expanding international carbon trading systems.

The briefing begins with a brief overview of California's decades-long evolution of market-based climate policy, and then examines the state's implementation of SB 905 and the emerging framework for carbon capture and CDR, before providing analysis of the controversy surrounding the MDI and its implications for California's carbon market. The next section examines Big Tech's growing role in shaping global carbon markets and the expanding carbon removal economy. The final section explores how biological CDR is increasingly being incorporated into California's broader CDR framework, despite not being part of SB 905's original legislative intent, providing an invaluable public relations and narrative tool in equating heavy industrial activity with trees and nature.

WHAT IS THE DIFFERENCE BETWEEN CCS AND CDR?

CCS and CDR are terms that describe distinct fields of carbon 'removal,' but in many instances there is crossover and blending of the proposed technologies. CDR is an umbrella term that includes various methods for removing CO₂ from the atmosphere, both engineered and biological, including technologies like CCS. In a simple sense CCS is meant to describe efforts to capture carbon dioxide at the point source of emissions (i.e. the smokestack). Without providing an exhaustive review of possible technologies, nor delving into discussion of the unimaginable scale that would be required for these technologies to have any measurable impact on the global climate, we offer here a quick exploration of some of the better known CCS and CDR methods.

Carbon Capture and Storage (CCS): Captured CO₂ has mostly been used for enhanced oil recovery (EOR), an older technology used by the oil and gas industry to inject compressed CO₂ into oil and gas wells to pull out remaining fossil fuels. EOR is common in the United States and California, but CO₂ injection for EOR is ostensibly prohibited under SB 905.

Hydrogen projects: Hydrogen is mostly derived from the steam reformation of fossil gas. Such hydrogen can be referred to as 'gray hydrogen'. Hydrogen projects can theoretically include carbon capture and there are many projects in development in the US in pursuit of federal CCS tax credits. Combining fossil gas hydrogen production with CCS is marketed as 'blue hydrogen'.

BioEnergy with Carbon Capture and Storage (BECCS): Burning biomass for energy and adding CCS to capture the emissions is a prime example of the merging of CDR and CCS technology. This hypothetical 'negative emissions' technology is built into many decarbonization models, but there are limited examples of successful pilot projects and there is no BECCS project anywhere in the world that has yet been operationalized at commercial scale for any relevant amount of time.

Carbon Capture Use and Storage (CCUS): The use of captured CO₂ in manufactured materials like cement products or in carbonated drinks.

Direct Air Capture (DAC): Another blending of CDR and CCS technologies, DAC ostensibly requires capturing carbon dioxide from the air and then managing the captured CO₂ for transport and storage, **which has not been commercially viable**. DAC was once the geoengineering crown jewel of fossil fuel industry climate disinformation campaigns; now DAC is embraced wholeheartedly by elected officials from across the political spectrum, regardless of the **body of evidence demonstrating the infeasibility of the technology**.



2. BACKGROUND

From Emissions Trading to Carbon Dioxide Removals: California's Expanding Carbon Market Economy

California's carbon market trajectory emerged from a broader shift toward market-based climate change policy in the 1980s and 1990s. Programs such as the Regional Clean Air Incentives Market (RECLAIM) in Southern California replaced traditional command-and-control approaches with emissions trading, setting the stage for later carbon markets. During the 1990s, former Senator and Vice President Al Gore became a leading U.S. advocate for incorporating emissions trading into the United Nations Framework Convention on Climate Change (UNFCCC), and shaped the inclusion of market mechanisms in the Kyoto Protocol. These approaches were contested from the outset, with many countries and civil society organizations warning that carbon markets would allow industrialized nations and corporations to delay direct emissions reductions and allow them to profit from the system. Although the U.S.

ultimately withdrew from the Kyoto Protocol process under the Bush administration, the market-based framework continued to expand and became foundational to subsequent climate policies, including California's carbon trading system.

California's carbon market trajectory developed through this broader global context and became one of the first experiments in subnational carbon trading. With the U.S. federal government unwilling to create a national emissions trading program, the passage of California's Global Warming Solutions Act, [AB 32](#), in 2006, and the launch of California's Cap-and-Trade program in 2013 positioned the state to link subnational market-based climate policies to other subnational regions in the world. Rather than requiring fossil fuel producers and major industrial emitters to



rapidly reduce emissions at the source, the program created a system in which companies could comply through purchasing allowances and offset credits. Over time, California expanded the scope of carbon markets and offsets beyond emissions through initiatives such as the [Low Carbon Fuel Standard \(LCFS\)](#), initiated in 2007. Later amendments were created to align with AB 32 climate targets, opening carbon credits for fuels and new pathways for CCS and engineered CDR.

In 2018, the [California Tropical Forest Standard \(CTFS\)](#) was released as one of the higher profile announcements of the [Global Climate Action Summit](#) promoted by Jerry Brown in San Francisco. The CTFS established a framework for jurisdictional tropical forest offsets outside of California. Although presented as a safeguard-oriented approach intended to improve upon earlier forest carbon offset credits, the CTFS process [raised opposition](#) among environmental justice organizations, Indigenous Peoples' Organizations, and [climate advocates](#).

The groups pointed out that CARB was moving forward with a controversial international offset mechanism without sufficient public debate, transparency, or accountability. They warned that the standard [risked repeating](#) problems associated with [Reducing Emissions from Deforestation and forest Degradation \(REDD+\)](#) projects and other forest carbon markets, including [violations to land and human rights](#), additionality, and the difficulty of guaranteeing permanent carbon storage to name a few.

The CTFS represented California's first serious attempt to institutionalize jurisdictional nature-based solutions (NBS) for carbon offset methodologies in tropical ecosystems, all of which lie beyond the state's borders. Although the CTFS was never adopted into the compliance market, the endorsement of the standard in 2019 foreshadowed California's growing interest in expanding the scope of carbon accounting beyond emissions reductions toward the management of biological carbon 'sinks' as NBS, or what is now also referred to as biological "removals." SB 905 represents the next stage in this trajectory by extending California's carbon markets beyond emissions trading and forest offsets into the governance of CDR.

The LCFS and the CTFS represented two distinct expansions of California's carbon market. The LCFS

gradually broadened the state's carbon accounting framework to include carbon capture within the fuels sector, while the CTFS sought to extend carbon accounting beyond California's borders through jurisdictional tropical forest offsets. Although these initiatives developed independently and were not originally connected under a common policy framework, the emergence of the language of "removals" and CDR does connect these concepts.

Between 2021 and 2024, CARB advanced implementation of the 2022 Scoping Plan while beginning pre-rulemaking work on SB 905 and expanding discussions around CDR. Although proponents of the Cap-and-Trade Program repeatedly proclaimed it a success, evidence demonstrates that the program was [not reducing emissions](#) in all sectors. A [recent report from Biofuelwatch](#) claims that, "...California is relying on illusory emissions reductions to claim progress on climate: at least 45% of 2023 emissions reductions claimed in the latest CARB GHG Emissions Inventory only exist on paper." Despite evidence about the failures of the carbon market to reduce real world emissions, the California State Legislature adopted [AB 1207](#) in 2025, extending California's [Cap-and-Trade Program](#) through 2045, renaming it the Cap-and-Invest Program, and directing CARB to redesign key elements of the market while introducing new reporting and oversight provisions.

In May 2026, CARB approved major amendments to Cap-and-Invest, including the controversial MDI (see below), a multi-billion-dollar mechanism that uses carbon allowances to support industrial technologies such as CCS. At the same time, CARB advanced implementation of Senate Bill 905, establishing a framework for carbon capture, CDR, monitoring, verification, permitting, and long-term geologic storage. Together, these developments expand California's carbon market architecture beyond emissions trading toward the regulatory and financial infrastructure needed to scale CCS and CDR. As Article 6 of the Paris Agreement consolidates engineered and biological CDR under a single CDR framework, California's evolving policies increasingly seek to align fragmented carbon accounting systems with emerging international carbon markets.

3. CALIFORNIA'S NEW CLIMATE POLICIES: MAKING ROOM FOR REMOVALS

Senate Bill 905: California's Carbon Capture, Removal, Utilization, and Storage Program

Senate Bill (SB) 905, authored by Senator Anna Caballero (D–Merced), was signed into law by Governor Gavin Newsom in September 2022. The legislation directs the California Air Resources Board (CARB) to establish a statewide Carbon Capture, Removal, Utilization, and Storage (CCUS) Program to evaluate, regulate, and facilitate carbon capture, carbon dioxide removal (CDR), utilization, transport, and long-term geologic sequestration projects in California.

SB 905 was enacted paralleling recommendations approved in [California's 2022 Scoping Plan](#), which identified CDR and geologic carbon sequestration as necessary components of the state's strategy for achieving economy-wide carbon neutrality by 2045. Rather than authorizing individual projects, the legislation established the institutional and regulatory framework through which CARB would oversee the deployment of a wide gamut of carbon capture and CDR technologies.

SB 905 throws a huge net of carbon management approaches, including industrial carbon capture, direct air capture, biomass-based CCS, natural gas hydrogen with CCS and other engineered carbon dioxide removal technologies, with transportation of compressed CO₂ in

trucks and highly pressurized pipelines, and storage underground in geologic formations.

The law requires CARB to develop regulations governing the evaluation, permitting, monitoring, reporting, verification and long-term updating of CCS and CDR projects. It also directs CARB to coordinate with several other state agencies to develop a unified permitting process intended to streamline approval of projects while creating a Geologic Carbon Sequestration Group to advise on serious risks related to underground storage in earthquake country.

Since 2024, CARB has been engaged in a series of public workshops and pre-rulemaking activities to develop the complex regulations required under the statute, including proposed standards for project eligibility, monitoring, measurement, reporting and verification (MRV), community engagement, environmental safeguards, and long-term storage liability. However, the engagement with impacted communities, non-profit organizations and watchdog groups has been very top down.

The most recent open public comment period regarding SB 905 closed in early June 2026, with



comments from industry and non-profit groups. The comments reveal fundamentally different visions of California's climate future. On one side, the fossil fuel industry, commercial CDR project developers, and other carbon removal advocates viewed SB 905 as the necessary regulatory foundation for a growing carbon capture and “carbon management” economic sector – the ‘carbon removal economy.’ Industry was mostly concerned with creating rules, establishing investment certainty, pushing limits on which types of CDR would be included, and scaling markets.

However, environmental justice organizations, frontline communities, and non-profits questioned the premise itself. Rather than debating the technical details of monitoring or permitting, they challenged whether California should be institutionalizing carbon capture and carbon removal instead of pursuing policies that directly reduce fossil fuel production and combustion. Concerns regarding CCS and CDR were especially apparent for communities living in the central valley where CCS activities will be concentrated.

Numerous comments raised concerns about long-term liability, asking who would be responsible if and when stored CO₂ begins to leak back into the atmosphere; how long companies should remain liable; what financial assurances would be required; and what happens if project developers dissolve or declare bankruptcy. Questions also remain about how long removals will be monitored, who controls the resulting

data, and whether geological storage can truly be considered permanent, particularly in an earthquake-prone state like California. Although some environmental justice organizations called for robust safeguards, CARB's record inspires little confidence. In approving the California Tropical Forest Standard (CTFS) in September 2019, CARB board members committed agency staff to annual reporting on the adequacy of promised safeguards and of developments with implementation of the CTFS. Yet, many years later CARB staff have failed to produce a single report, raising serious questions about the willingness of the CARB board and staff to follow through on safeguard commitments.

These unresolved governance failures raise serious doubts whether safeguards approved under rule making for SB 905 will adequately protect frontline communities. The experience with tropical forest offsets at CARB demonstrates that the state is unwilling to follow through on promises to prioritize community health and safety. With such a history of abandoning communities to wrestle with the negative outcomes of mechanisms and technologies marketed as climate solutions, there is reason to suspect that the SB 905 carbon removal rule making process will push frontline communities into assuming long-term environmental and financial risks while exacerbating the multi-faceted biodiversity, climate and toxic pollution crises – all while lining the pockets of the Big Tech and fossil fuel interests looking to profit from these schemes.

FOR OIL AND GAS COMPANIES, CARBON CAPTURE AND STORAGE (CCS) AND CARBON DIOXIDE REMOVALS (CDR) OFFER PATHWAYS TO:

- Continue extraction while claiming net-zero alignment;
- Generate new revenue streams through carbon credits;
- Preserve and expand existing infrastructure;
- Expand enhanced oil recovery and related activities;
- Earn more money through tax credits called 45Q at the federal level;
- Hide behind the maze of institutions unwilling to enforce accountability when CCS goes wrong;
- Delay regulatory pressure for managed fossil fuel decline;
- Maintain an iron clad grip on transportation/mobility by extending dependence/addiction to fossil fuels;
- Justify the expansion with clever marketing terms like ‘abated fossil fuels’, ‘decarbonized fossil energy’, or ‘harder to abate emissions’, in order to maintain business-as-usual.

California's Manufacturing Decarbonization Incentive (MDI): A Missing Carbon Market Link and a Missing Bill

Rather than directly reducing fossil fuel production or consumption, SB 905 creates the institutional infrastructure through which CCS and CDR can be evaluated and permitted. The expansion is reinforced through the **Manufacturing Decarbonization Incentive Fund (MDI)**, created during CARB's implementation of the extended cap-and-trade program rebranded as the Cap-and-Invest program. Although presented as an industrial decarbonization initiative, MDI effectively embeds financial incentives for so-called carbon management technologies, including CCS and CDR, within California's existing carbon market framework.

MDI has raised many red flags because it did not originate as a legislative proposal. MDI emerged during CARB's rulemaking process after the Legislature in 2025 reauthorized and extended California's cap-and-trade program through 2045 and rebranded it Cap-and-Invest (AB 1207). MDI is a bit confusing because it is presented as an industrial policy. Its stated purpose is to help manufacturers pay for expensive technologies that reduce greenhouse gas emissions while encouraging industry to remain in California rather than relocating elsewhere. Instead of requiring companies to pay for their own costs, California has created a pool of additional carbon allowances that companies can receive if they invest in approved so-called "decarbonization projects". This is where AB 32, AB 1207, SB 905 and MDI converge.

The proposed solution is to build a new group of carbon allowances valued at **\$4 billion** to be folded into the Cap-and-Invest California carbon market. Companies will receive these allowances (or carbon permits) if they **invest in approved decarbonization projects**, including CCS, low-carbon hydrogen,

electrification, renewable energy, methane reductions, biofuels, and other qualifying technologies. In effect, CARB created a new reserve of carbon allowances dedicated to MDI. Companies then apply for these allowances to pay for investments in qualifying projects.

On the surface, MDI looks like an industrial grant or fund program. However, it is not a fund, and institutionally it does something much bigger. It expands California's carbon market into actively financing CDR and related technologies by shifting the program toward financing CCS and subsidizing major industrial emitters. MDI links carbon capture and storage to a closely connected broader build-out of CCS and CDR envisioned under SB 905 and builds it into the Cap-and-Invest Program.



ALTHOUGH PRESENTED AS AN INDUSTRIAL DECARBONIZATION INITIATIVE, MDI EFFECTIVELY EMBEDS FINANCIAL INCENTIVES FOR SO-CALLED CARBON MANAGEMENT TECHNOLOGIES, INCLUDING CCS AND CDR, WITHIN CALIFORNIA'S EXISTING CARBON MARKET FRAMEWORK.

In this way, MDI is more significant than CARB lets on. It is confusing to the public and somewhat lazy to describe it as "funding decarbonization". While SB 905 builds the regulatory architecture, MDI begins building the financial architecture. One tells companies how CCS and engineered CDR will be regulated. The other begins creating economic incentives for companies to invest in those technologies with

taxpayers' money, whether the taxpayers like it or not. Allowances are money in the end. Together these initiatives move California one step closer to integrating CDR into the state's Cap-and-Invest compliance market and potentially, over time, into broader regional and international carbon markets of the UN's Article 6 of the Paris Agreement. In this way, MDI lowers the financial barriers for deploying CCS and other CDR technologies that SB 905 is designed to regulate.

² Because the MDI is not an official legislative bill, there is not a direct text to cite. The FAQ document on the CARB website is provided in the link above.

In addition, these extra allowances completely bust the cap on the Cap-and-Invest emissions trading market. Emissions trading, in theory, is intended to reduce pollution by making pollution allowances progressively scarcer, forcing emissions reductions over time. MDI moves in the opposite direction. By conjuring a substantial new pool of allowances out of thin air for industrial facilities, it expands the supply of compliance instruments, weakens the cap, and provides additional value to some of California's major polluters. Financial resources are also redirected away from environmental justice communities, housing initiatives, public transit, and a whole host of necessary climate change and climate justice programs. CARB has created a whole new treasure trove of allowances for polluting industries, essentially paying the major polluters to pollute more.

CARB offered several justifications during the build out of MDI by arguing that manufacturers were facing increasing costs and uncertainty following changes in federal climate policy. They also pointed to competition from manufacturers in jurisdictions with weaker climate regulations and the need to make large capital investments in new technologies. The strongest advocates were [CARB staff](#), who designed and defended the proposal; [Governor Newsom's administration](#), who emphasized affordability, industrial competitiveness, and maintaining California manufacturing while extending Cap-and-Invest; and industrial stakeholders, who had long argued that California industries needed greater assistance with compliance costs and investment certainty. Notably, many commercial CDR interests funded by Silicon Valley billionaires also provided testimony to CARB in favor of approval of the MDI.

MDI emerged through CARB's rulemaking process, prompting criticism from several legislators who argued that CARB had exceeded legislative intent by creating a multi-billion-dollar industrial incentive

program through regulation rather than statute. Several California legislators objected forcefully, arguing that the Legislature never asked CARB to create MDI.

[One joint letter](#) from Senator Eloise Gómez Reyes and Senator Catherine Blakespear states unequivocally, "MDI was in no way proposed or intended by the Legislature in passing or reauthorizing Cap-and-Invest." The letter goes on to criticize CARB for creating a major new subsidy program unauthorized by the legislature.

In a [letter signed by 28 Legislators](#), the language is clear:

We urge the California Air Resources Board to amend their Cap-and-Invest proposal to push back on pressure from an oil industry that is making hundreds of billions in wartime profits.... In addition to diluting the market signal of the cap—increasing emissions and reducing demand for allowances—the proposed Manufacturing Decarbonization Incentive (MDI) under the newly created Build Up California Reserve lacks any enforceable mechanism to demonstrate real, permanent, quantifiable, and verifiable emissions reductions. The MDI resembles CARB's existing offsets program, but without any of the accountability measures required by law.



IT EXPANDS CALIFORNIA'S CARBON MARKET INTO ACTIVELY FINANCING CDR AND RELATED TECHNOLOGIES BY SHIFTING THE PROGRAM TOWARD FINANCING CCS AND SUBSIDIZING MAJOR INDUSTRIAL EMITTERS.

In the [joint letter](#) led by the [California Environmental Justice Alliance \(CEJA\)](#), [Communities for a Better Environment](#) and other groups including the [Central California Environmental Justice Network \(CCEJN\)](#), the organizations strictly implored CARB to abandon its proposal and completely eliminate the MDI. The environmental justice organizations criticized CARB's move by arguing that MDI diverts resources from existing climate and environmental justice priorities while effectively providing additional incentives for industrial polluters.



Despite criticism from elected officials, environmental justice and non-profit organizations, a majority of the CARB board members arbitrarily approved MDI at the May 2026 CARB hearing, increasing the proposed allowance allocation to 118 million, and spiking its estimated economic value to \$4 billion. Eligibility was also expanded to include fossil fuel refining and other manufacturing sectors. Meanwhile, **projected revenues** to the Greenhouse Gas Reduction Fund (GGRF), which supports programs including clean transportation, wildfire support, affordable housing, clean water, community air quality improvements, and other climate investments, are **estimated to decline by 40% between 2027 and 2030**.

In July 2026, the non-profit organization Communities for a Better Environment (CBE) **filed a lawsuit** in Los

Angeles County Superior Court alleging that CARB violated the California Environmental Quality Act (CEQA) by rushing the last-minute MDI addition without adequate environmental review. CARB is mandated to implement climate policy decided by the California State Legislature. The lawsuit challenges CARB's process for creating a major new component of the Cap-and-Invest program, arguing that the agency failed to adequately assess the environmental consequences of the allowance allocation and industrial incentives created through MDI. The case raises broader questions about whether CARB exceeded its regulatory authority by establishing a significant new policy mechanism without following the rules of democracy.

WHY CARBON DIOXIDE REMOVAL IS GEOENGINEERING

One of the more remarkable public relations dynamics observed in Sacramento during legislative and regulatory discussions of Carbon Dioxide Removal (CDR) has been the refusal by elected officials and agency representatives to outwardly recognize the simple fact that CDR is by definition **geoengineering**.

This refusal to say the word 'geoengineering' has been a deliberate messaging tactic by CDR proponents to avoid the controversy that would erupt if there were broader public awareness that the State of California has turned to prioritizing speculative geoengineering technologies to respond to climate change. In the embrace of geoengineering, California has essentially moved away from reducing emissions at source and instead has fully committed to addressing climate pollution after it has occurred.

To avoid public scrutiny of what is actually being proposed when promoting CDR, agencies like the California Air Resources Board (CARB) have preferred euphemisms like 'engineered carbon removal' or 'artificial sequestration,' despite the recognition in leading climate policy development spaces of the fact that CDR is one of two main fields of geoengineering, the other being 'Solar Radiation Modification' (SRM).

As an example, the **Carnegie Climate Governance Initiative (C2G)**, which operated for many years as a conservative and pro-geoengineering international climate policy think tank, had the overt objective of being the default source for vocabulary on the governance of these emerging technological approaches to supposedly tackle climate change. In its rudimentary **climate governance glossary** C2G fully qualifies 'Carbon Dioxide Removal' (CDR) as one of two main fields of climate altering technologies that can be defined as geoengineering.

The United States Environmental Protection Agency (US EPA) also **clearly describes** how "geoengineering includes the removal of carbon dioxide from the atmosphere (also called Carbon Dioxide Removal – CDR)." The US EPA definition reads:

"Geoengineering includes a range of deliberate and large-scale interventions in Earth's natural systems aimed at countering climate change impacts. This includes, but is not limited to, solar radiation management, carbon dioxide removal, and other technologies designed to alter atmospheric, oceanic, or terrestrial processes. These interventions often prioritize symptomatic solutions over addressing the root causes of climate change, raising significant ethical and environmental concerns."

For CARB to refuse to publicly describe CDR as geoengineering is a failure of the state government to be upfront and transparent with its residents regarding what is at stake. Nevertheless, CARB continues to refrain from informing residents exactly what it is that the agency and many lobby interests are promoting as a response to climate change. A salient fact is that many of the commercial 'climate tech start ups' lobbying CARB for lenient regulations for CDR technologies as part of rule making for SB 905 are also funded by the same Silicon Valley billionaires that are currently aggressively funding SRM research and development. Any effort to look under the hood of CDR will quickly find SRM embedded in the engine. The ethical implications are enormous.

Never doubt that the refusal to publicly describe CDR as geoengineering is a communications risk management tactic from economic interests aspiring to profit from these speculative climate technologies. Their goal is to avoid public scrutiny and dodge the scandals that would arise if it became more widely understood that California is embarking upon a clandestine expansion of geoengineering.

We find it of great concern that state legislators and agency officials responsible for developing regulation of CDR have not adequately defined this rapidly evolving field, which carries with it tremendous threats to public health and the environment, while promising to waste critical resources and time on pursuing technologies that **will likely never achieve their vaunted climate objectives**. This is more than just a question of semantics. We insist that decision makers in California take full responsibility for the promotion of dangerous speculative technologies as a response to climate change and call these mechanisms for what they are: **geoengineering**.

4. CARBON MARKETS, DIGITAL INFRASTRUCTURE, AND THE ALLIANCE BETWEEN FOSSIL FUELS AND BIG TECH

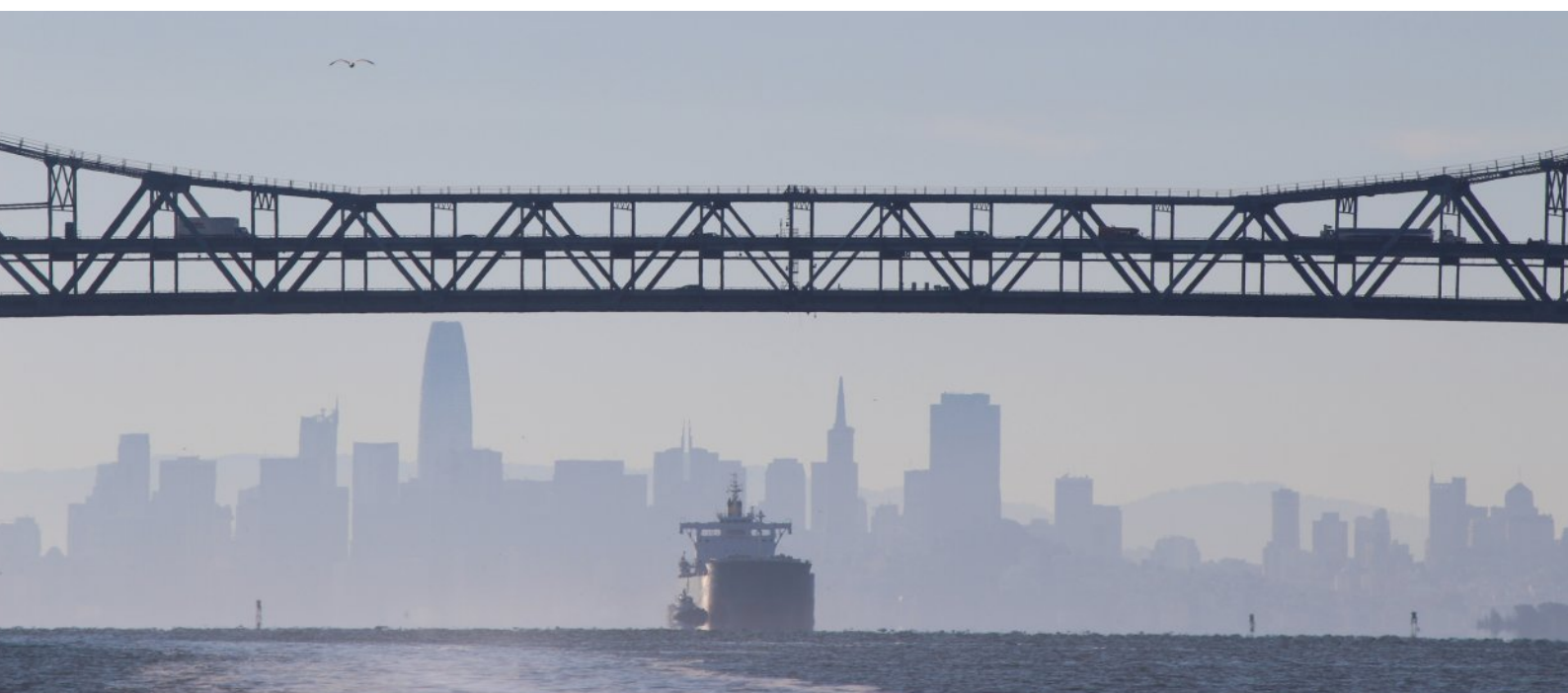
The expansion of CCS and CDR in California is part of a broader process of market creation involving fossil fuel companies, Big Tech, investors, carbon removal developers, and regulatory institutions. Like previous carbon markets, carbon removals are not naturally occurring markets responding to a pre-existing commodity. They are institutionally constructed through legislation, accounting standards, certification systems, and corporate purchasing commitments that transform the concept of atmospheric pollution into a measurable and tradable commodity. SB 905, MDI, and the expansion of Cap-and-Invest are therefore creating the regulatory and financial conditions for a new carbon removal economy. It is important to note that all of this time and energy could have been used to build out a more meaningful, justice-based economy.

For fossil fuel companies, carbon removal approaches provide a pathway to extend existing business models by allowing continued production to be framed as compatible with climate goals through capturing, storing, offsetting, or removing emissions after they occur. This ex post facto approach shifts climate policy from preventing emissions at the source toward accounting and monetizing emissions after release. Ultimately, this is more business-as-usual.

At the same time, Big Tech is entering these markets not only as a purchaser of carbon credits but as a developer of the digital infrastructure required to make carbon tradable by seeking to boost sales for artificial

intelligence, satellite monitoring, blockchain-based registries, cloud computing, data centers, and data-driven measurement, reporting, and verification systems. As carbon removal markets expand, the billionaires that own these tech firms are positioning themselves to shape both the economic value and the technological architecture of the emerging carbon removal economy. But technology corporations are also actively creating companies to purchase future carbon removals and develop speculative CDR technologies, thus creating market demand to commercialize the very CDR technologies in which they are investing.

The creation of **Frontier** demonstrates how technology companies are actively constructing demand for carbon removal markets. Launched in 2022 by Stripe, Alphabet (Google), Meta, Shopify, and McKinsey Sustainability, Frontier was established as an advance market commitment to purchase over \$1 billion in permanent carbon dioxide removal (CDR) credits by 2040. The initiative was created in response to a central challenge facing the carbon removal industry: without a guaranteed market, emerging CDR technologies would struggle to attract investment, scale, and commercial development. In doing so, Frontier functions as a market-making corporation, transforming carbon removal from an emerging technological field into a potential global commodity. The goal is to accelerate the supply and assure companies and investors that there will be buyers for future removal technologies.



Frontier was created to accelerate a portfolio of controversial carbon removal technologies, including biomass carbon removal and storage (BiCRS), direct air capture (DAC), enhanced rock weathering/field weathering, mineralization, and marine carbon dioxide removal (mCDR). Although Frontier did not submit public comments on SB 905 rulemaking to CARB directly, CDR developers within its portfolio did. [Charm Industrial](#), for example, [submitted comments](#) urging CARB to establish broader CDR policies. Charm develops biomass carbon removal and storage (BiCRS) and has a Frontier agreement valued at \$52.9 million.

Similarly, [280 Earth](#), a direct air capture (DAC) company and subsidiary of Alphabet, Google's parent company, has a Frontier agreement valued at \$39.5 million. In the case of 280 Earth, the parent company is both creator (Frontier) and receiver (280 Earth) of investments. There are many more examples of how the tech industry is forming, creating and influencing the new carbon removal economy. These examples demonstrate how the emerging carbon removal economy is being constructed through interconnected networks of technology corporations, investors, and CDR developers which, importantly, influence policy-makers.

Carbon markets are increasingly being built through a combination of corporate procurement and public policy with Big Oil and Big Tech who both recognize a business opportunity. Technology companies create demand through advance purchasing agreements; venture capital finances carbon removal startups (some are their own subsidiaries); the same investors in CDR companies then develop MRV and verification platforms; and governments and legislators (and sometimes unelected boards) establish regulatory frameworks and legal pathways that determine how removals will be measured and credited. Frontier's portfolio of CDR companies demonstrates this emerging ecosystem.

What is presented as climate innovation may also represent a broader strategy of market expansion, one

that transforms the climate crisis into a new economic frontier while distracting from the underlying drivers of pollution and climate change.

The rulemaking for SB 905 is revealing that a historic transition has taken place in the development of California climate policy, reflecting dynamics at the UN and the European Union (EU). The development of the carbon removal economy is clearly being supported by traditional supporters of markets and technological based responses to climate change like the fossil fuel industry. The truly new dynamic is the influence and power being exhibited by Silicon Valley interests, namely the new class of Big Tech billionaires who are now reinforcing the fossil fuel industry interest in carbon markets and geoengineering, but with a new 'tech bro' twist.

Another example to help illuminate this new dynamic of tech impacting the SB 905 rule making theater is found in exploring two global players in carbon removal

policy development, namely the International Emissions Trading Association (IETA) and Lowercarbon Capital. With decades of advocacy promoting carbon trading under its belt, IETA [describes itself](#) as "a non-profit organization representing businesses committed to smart, well-designed and effective carbon markets to help achieve the goals of the Paris Agreement and reach net-zero emissions by 2050."

Though the organization does not publicly disclose a consolidated global operating budget, IETA is indeed a Swiss-based not-for-profit organization that has also registered as a 501(c)(3) in the United States. Despite the innocent sounding 'non-profit' framing, the [membership of IETA](#) includes many of the biggest transnational energy, mining and finance corporations on the planet, including Chevron, BHP Billiton, Rio Tinto, BP, Phillips 66, Bank of America, and many more. Numerous carbon trading start ups and platforms are also members of IETA. The tentacles of IETA run throughout the institutional architecture of many entities involved in building the global carbon removal economy. For instance, a review of [the available tax](#)

 **CARBON MARKETS ARE INCREASINGLY BEING BUILT THROUGH A COMBINATION OF CORPORATE PROCUREMENT AND PUBLIC POLICY WITH BIG OIL AND BIG TECH WHO BOTH RECOGNIZE A BUSINESS OPPORTUNITY.**

forms of the IETA in the United States reveals a modest 2025 budget of less than \$500,000 — of which almost all is dedicated to the salary of their US-based CEO Dirk Forrister. The tax forms also reveal that the only board member of the IETA in the US other than their CEO is Richard Saines, a lawyer and long-standing carbon market advocate who helped establish the contractual framework for trading carbon allowances and offsets in California.

Richard Saines is also on the board of The Climate Registry, a California-based non-profit organization that “empowers organizations to be climate leaders by providing best-in-class programs and services for measuring, verifying, disclosing, and reducing carbon emissions.” Also on the board of The Climate Registry is former CARB Chair Mary Nichols, one of the primary forces behind the pursuit of tropical forest-based offsets at CARB, and who laid the political groundwork for centering carbon removal in California’s climate agenda. Rajinder Sahota, who is a current Deputy Executive Director of CARB with responsibility over SB 905 rulemaking, has a role as a jurisdictional representative at The Climate Registry.

The Climate Registry was born of the now defunct California Climate Action Registry. The other organization that came out of the California Climate Action Registry is the Climate Action Reserve, a registry of offset projects and an intimate collaborator with CARB that has also weighed in during SB 905 rule making in broad support of scaling up CDR technologies. The board of the Climate Action Reserve includes Katie Sullivan, a managing director of IETA.

Also of note is the impact of Lowercarbon Capital. Though much newer to the climate policy arena, its influence is already reaching far and wide. Lowercarbon Capital is the climate tech venture capital firm of Silicon

Valley billionaire Chris Sacca. Though Lowercarbon Capital itself has not commented directly on the SB 905 rulemaking process, many of the CDR start ups that have received seed capital from Lowercarbon Capital, such as Heirloom Carbon, Charm Industrial and Vaulted Deep, have provided comment, as did the firm Isometric, which certifies carbon removal credits and has direct ties to Lowercarbon Capital. Research by Simon Counsell and the European-based organization FERN, investigating these same commercial interests lobbying on carbon removal rules before the EU, exposed that Lowercarbon Capital has a partner who is on the boards of both Vaulted Deep and Isometric, meaning that “Lowercarbon has a financial interest in both credit producers Vaulted Deep and Charm Industrial and the scheme (Isometric) under which they were certified, and in the case of Vaulted Deep is also on the Boards of both.” These exact same dynamics around conflicts of interest are at play in California as the SB 905 rulemaking progresses, as are other noteworthy links such as the presence of a partner from Lowercarbon Capital on the board of directors of California Environmental Voters. Lowercarbon Capital also recently made a \$60 million investment in the Israeli for-profit solar geoengineering start-up Stardust Solutions, driving an unprecedented spike in investment in SRM research and development over the last few years and adding to crescendoing concerns about the risks of markets-based climate governance.

Lowercarbon Capital and IETA continue to pursue opportunities to network together and develop collective strategy for the expansion of carbon removal markets, as they are listed, along with numerous members of IETA and many of the start-ups funded by Lowercarbon Capital, as speakers for the upcoming ‘Carbon Unbound’ conference that will be held in Vancouver, BC in March 2027.

5. DEBUNKING THE NATURE-BASED 'STRATEGIES' NARRATIVE OF FORESTS, FARMS AND OCEANS AS CLIMATE PANACEA

A key distinction in California's carbon removal discussions is that SB 905 itself does not establish a framework for biological CDR or NBS. The statute is focused on engineered approaches for carbon removal, specifically carbon capture, CDR, and CO₂ utilization, transport, and geologic sequestration. In fact, the statutory definition of CDR emphasizes "technologies or engineered strategies" designed to remove carbon dioxide from the atmosphere and place it into long-term storage. Forests, soils, wetlands, and oceans that encompass NBS are not the focus of the legislation, nor are they explicitly included within the regulatory framework proposed by SB 905.

However, CARB has been pressured to increase SB 905 within a broader CDR agenda encompassing both engineered CDR and biological approaches. For example, at a virtual public meeting on June 23, 2026, a [slide show](#) organized by CARB stated, "The Concepts invited feedback on pathways and technologies that should be considered for protocol development, including nature-based climate solutions, as well as key elements that should be included in such protocols." The slide went on to state, "CARB will continue to pursue opportunities to expand nature-based actions, both as part of SB 905 implementation but also as part of other regulations and programs."

At the same time, CARB's draft SB 905 regulatory concepts note that the initial phase of the program does not include nature-based actions that rely solely on NBS and storage. This distinction suggests that nature-based approaches are not excluded from the broader CDR conversation, but rather sit outside the initial scope of SB 905 while remaining part of California's larger carbon neutrality agenda through

other policies, including the [Natural and Working Lands Carbon Inventory Program](#).

California's Natural and Working Lands Carbon Inventory Program is supposed to be the accounting infrastructure for measuring carbon stored in ecosystems and managed landscapes. Located within CARB's [Nature Based Strategies portfolio](#), the program creates the foundation for future policies that could integrate biological CDR into carbon markets. Unlike SB 905, which was enacted to regulate engineered CDR, the Natural and Working Lands narrative framework emerged through a multitude of parallel policy pathways focused on estimating the carbon sequestered and held by forests, agriculture, and ecosystems, but downplaying and obfuscating the

sources of emissions, such as logging and other extractive activities. The convergence of these pathways, and the biased carbon accounting embedded in their implementation, reflects the broader shift toward treating both engineered and biological CDR as measurable climate assets within an expanding carbon removal framework.

Politically, this distinction reveals how categories of CDR are being assembled across

multiple policy arenas rather than through a single legislative mandate, and how these policies are being linked through SB 905 and MDI. By framing engineered carbon capture, geologic storage, forest carbon sequestration, and biological approaches as components of a broader CDR strategy, previously distinct climate policies can be brought together under a common conceptual umbrella. This convergence did not originate with CARB or SB 905. Rather, it reflects broader developments in international climate policy at the UNFCCC in Article 6 of the Paris Agreement, where

THIS CONVERGENCE DID NOT ORIGINATE WITH CARB OR SB 905. RATHER, IT REFLECTS BROADER DEVELOPMENTS IN INTERNATIONAL CLIMATE POLICY AT THE UNFCCC IN ARTICLE 6 OF THE PARIS AGREEMENT, WHERE ENGINEERED AND BIOLOGICAL CDR ARE DISCUSSED WITHIN A COMMON FRAMEWORK AS CARBON DIOXIDE REMOVALS, OR OFTEN SIMPLISTICALLY REFERRED TO AS "REMOVALS".

engineered and biological CDR are discussed within a common framework as carbon dioxide removals, or often simplistically referred to as “removals”.

Over the last decade, the inclusion of carbon dioxide removals within the Paris Agreement’s Article 6 carbon market architecture was **one of the most contentious issues in international climate negotiations**. Discussions repeatedly extended into late-night and early-morning sessions as Parties debated whether “removals” should be eligible in the new Article 6 system and under what conditions. Civil society groups **warned that allowing removals into carbon markets** could expand opportunities for disproven technologies and human rights violations with biological CDR, rather than accelerate direct emissions reductions. Despite fierce civil society opposition, removals were incorporated into the Article 6.2 ITMO-based trading registry and the Article 6.4 Paris Agreement Crediting Mechanism (PACM), expanding the definition of eligible mitigation activities beyond emissions reductions.

This shift is politically significant because California’s label of “nature-based strategies” can legitimize a much wider suite of CDR activities. Even by seasoned climate activists and researchers, forest restoration, conservation, and ecosystem restoration often enjoy broad public support and are generally perceived as less controversial than CCS, DAC, marine CDR, or other geoengineered experiments. By placing these approaches within the same overarching CDR framework, the positive public associations attached to biological removals can normalize and build acceptance for more technologically intensive forms of carbon removal.

In this sense, the growing convergence of biological and engineered removals under the banner of CDR is a political strategy that expands the scope and legitimacy of CDR policies while potentially obscuring important differences in risk, scale, permanence, and social impacts. **NBS have acted as a ‘trojan horse’ for geoengineering**. A key aspect of the ‘nature-based solutions’ narrative is the messaging strategy of CDR proponents to **soften the public up** with images of trees, forests and nature for securing acceptance of technology-based (speculative, engineered and polluting) approaches.

However, ‘nature-based solutions’ has a notoriously bad track record and a deeply contested history. The

experience of **Reducing Emissions from Deforestation and Forest Degradation (REDD+)** demonstrates many of the problems associated with commodifying forests as carbon assets. Indigenous Peoples and frontline communities have **challenged REDD+ projects for decades**, arguing that forest carbon markets have undermined land rights, **weakened territorial sovereignty**, and allowed corporations and governments to claim climate action while avoiding deeper emissions reductions. In the worst cases, Indigenous Peoples and **frontline communities** have been **forcefully evicted from their lands**. In many cases, the promised climate benefits of forest offsets never materialize.

Investigations into forest carbon markets have repeatedly exposed these concerns. Investigations in 2023 by both *The Guardian* and *Die Zeit* found that many rainforest carbon credits certified by Verra were likely fake, with some projects failing to demonstrate that they prevented additional deforestation. Similarly, **investigations into Brazilian forest carbon** prompted Brazilian prosecutors to probe an alleged US\$8.6 billion scheme of fraudulent carbon credits in the Amazon region. Brazil’s carbon credit boom raises concerns over Indigenous Peoples’ rights and forest protection. These examples illustrate how once ecosystems are transformed into tradable carbon assets, **financial incentives can prioritize credit generation over human rights and ecological integrity**.

Despite this history, accentuated in Sacramento by the previously described failure of CARB to follow through on agreed reporting requirements after the approval of the California Tropical Forest Standard, biological CDR is increasingly being promoted as a pathway for expanding carbon removal markets. The political risk of grouping forests, ecosystems, nature-based strategies, engineered removals, and emerging technologies under the broad language of “carbon removals” or CDR with fundamentally different risks and incorporating it all into a single market framework has huge implications for the future of the climate. The result continues to be a fragmented climate debate in which attention shifts toward optimizing carbon accounting systems rather than confronting the underlying drivers of the climate crisis, continued fossil fuel extraction and industrial emissions. The experience of REDD+ demonstrates why civil society organizations and Indigenous Peoples’ movements **have repeatedly warned** that market-based approaches that use nature as their selling point become a mechanism for delaying structural emissions reductions.

MARINE GEOENGINEERING IS OF INTERNATIONAL CONCERN

At a February 2025 virtual workshop on SB 905 implementation, CARB stunned observers by granting the commercial Marine Carbon Dioxide Removal (mCDR) startup [Ebb Carbon](#) a [prominent spot on a panel](#) discussing carbon removal technologies. Despite the SB 905 legislation making no mention whatsoever of oceans or of marine geoengineering, CARB made the arbitrary decision to bring mCDR under the umbrella of rulemaking for SB 905.

The emergence of mCDR as central to CARB's approach to carbon removal under SB 905 is nothing less than a red-flag warning.

Increasingly, our oceans are at threat from the impacts of over-exploitation and the climate crisis, but also from misguided attempts to manipulate earth systems. The oceans' vastness, vulnerability and comparatively pristine nature are still poorly understood, but they sustain life on earth and are a key in the fight against climate change. To misuse marine systems in this way [presents incalculable uncertainty and risk](#), and the [effects of marine geoengineering on oceans are unpredictable](#).

It is also important to note the potential for extreme social, cultural and economic impacts, especially on coastal communities that depend on healthy oceans for their livelihoods. Coastal and Indigenous Peoples face unintended consequences from disruptions resulting from marine geoengineering experiments. Nevertheless, Indigenous Peoples' territories continue to be targeted by marine geoengineering researchers.

Notably, the November 2024 Conference of Parties of the United Nations Convention on Biological Diversity (UNCBD) closed with a reaffirmation of an historic decision on precautions on geoengineering and reaffirming a call to a **global moratorium on geoengineering**.

The [specific reference](#) reads:

Decision [CBD COP 16/22](#) on Biodiversity and Climate Change re geoengineering

6. *Reaffirms* decision [IX/16 C](#) on ocean fertilization, paragraph 8 (w) of decision [X/33](#) on biodiversity and climate change and decisions [XI/20](#) and [XIII/14](#) of 9 December 2016 on climate-related geoengineering, and urges Parties, and encourages other Governments, to ensure their implementation.

These are serious geopolitical dynamics that CARB and California legislative leadership have, to this juncture, refused to take into consideration. It is relevant to note that the State of California is an official observer to the UNCBD, a fact that has been [repeatedly celebrated as an example of California's global environmental leadership](#).

To emphasize, Parties and subnational governments to the UNCBD are urged to ensure the implementation of decisions made at the UN-level, not defy it.

In an age where international relations have been damaged by authoritarian trends and unilateral action this is a moment where CARB, other state regulatory agencies, and the Governor's Office must stand up for the protection of the integrity of international environmental deliberations.

Considering the above, it would simply be irresponsible for CARB and the agencies of the state of California to continue promoting marine geoengineering under the auspices of rulemaking for SB 905.

6. CONCLUSION

This prompts us to conclude with a word of caution as a recommendation for climate change organizations. It is understandable that many groups distinguish nature-based approaches from engineered carbon removal, seeing forest management and ecosystem restoration as preferable alternatives to CCS and engineered CDR. There is no questioning the imperative of protecting natural ecosystems and the communities that depend on them as part of a multi-faceted response to the global climate change and biodiversity loss polycrisis. However, this elevation of the concept of 'nature' as a primary means to respond to the climate crisis can have unintended political consequences.

Climate advocates risk reinforcing the messaging narratives that extractive industries use to make their polluting activities appear to be climate and environmentally friendly. In doing so, frontline communities, activists, researchers, communications coordinators, policy advisors and academics inadvertently strengthen the institutional and political foundations of the very carbon removal economy they seek to challenge.

The other dynamic elevates a recommendation to advocates: safeguards have proven to be ineffective at protecting communities and the environment from the harms of climate and technology-based climate policy.

On various scales safeguards have been used as a policy tool to silence opposition. Regulators do not have the ability or willingness to implement safeguards that meet the needs of communities to protect them from the negative impacts of the industries profiting from these systems. Circumstances may require demanding more safeguards, the dilemma is clear, our communities are under dire threat; but the pursuit of safeguards is often a response to politics of acquiescence and surrender. Safeguards have, in no uncertain terms, failed us. Advocates must demand more.

Further, there is a dire need for media platforms to cover carbon removals and carbon markets. The role of the media in the normalization of harmful climate false solutions cannot be ignored. Too many media outlets parrot the talking points of the carbon removal industry lobbyists that are highlighted in coverage of climate change politics in places like Sacramento, while ignoring and erasing the experience, knowledge and insights of those civil society organizations, mobilized communities and dedicated individuals who have been on the frontlines demanding climate justice for decades. We hope that this report provides a useful tool for journalists who want to offer more substantive coverage of carbon removal politics and who desire to get beyond the narcotic language of the promises of climate tech silver bullets that lurk just around the



corner. We also hope that this report provides analysis that advocates and the public can have in mind when deciphering media coverage that fails to identify the real risks and threats embodied in the growing reliance of policy makers on speculative technologies to respond to the climate crisis.

To that effect, we demand that elected officials, decision makers, and agency staff immediately stop selling the illusion that climate pollution can be effectively cleaned up after the fact. **The science is clear** that even in a best case scenario carbon dioxide removal is futile if emissions are not dramatically and immediately reduced at the source. The metaphor is that if CDR is supposed to represent the mop and emissions represent

the faucet, cleaning up the floor from the overflowing bathtub and gushing faucet with a fancy tech mop is irrelevant if you do not and will not turn off the faucet.

Ultimately, as international and California climate policy increasingly group biological and engineered removals

under the single umbrella of carbon dioxide removal (CDR), defending one form of removals while opposing another risks reinforcing the broader premise that carbon removals are placed as a central pillar of climate policy. While Big Tech **climate pollution spikes to unprecedented levels** due to data center infrastructure build out there is little question that the fossil fuel

industry is embracing the opportunity to be celebrated as an indispensable partner in this grossly energy and resource consumptive industrial artificial intelligence reality. The narratives of carbon removal are a new version of tried and true fossil fuel industry climate delay tactics that **Big Tech has been more than happy to adopt**. This **unholy alliance** between Big Tech and the fossil fuel industry is a recipe for disaster, and we must call it for what it is. If our

elected officials and agency representatives continue to provide service to the polluters and their profits instead of serving the public interest by protecting our communities and the environment the results will be deadly.



ULTIMATELY, AS INTERNATIONAL AND CALIFORNIA CLIMATE POLICY INCREASINGLY GROUP BIOLOGICAL AND ENGINEERED REMOVALS UNDER THE SINGLE UMBRELLA OF CARBON DIOXIDE REMOVAL (CDR), DEFENDING ONE FORM OF REMOVALS WHILE OPPOSING ANOTHER RISKS REINFORCING THE BROADER PREMISE THAT CARBON REMOVALS ARE PLACED AS A CENTRAL PILLAR OF CLIMATE POLICY.

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Note about the title: The title of this report samples directly from the groundbreaking 2021 report **The Big Con: How big polluters are advancing a “net zero” climate agenda to delay, deceive and deny.**

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