

**To:** California Air and Resources Board

**From:** [Roosevelt Network at Berkeley](#)

**Topic:** Voluntary Carbon Offset Market

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## **Restructuring the California Nature-Based Voluntary Carbon Offset Market**

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## I. ABSTRACT

The Intergovernmental Panel on Climate Change (IPCC) has outlined several pathways to stay below 1.5°C above pre-industrial levels by the end of the century through carefully constructed climate projection models. These international climate strategies heavily rely on carbon capture and sequestration technologies (CCS) to reduce greenhouse gas emissions; which aim to capture and store carbon dioxide before it enters the atmosphere. The size of carbon markets and the liquidity of carbon credits (1 credit = 1 ton of CO<sub>2</sub>e) within these markets have grown exponentially over the past 7 years following the Paris Climate Accords. Countries have developed domestic carbon markets which consist of heavy regulation, government oversight, and compliance-based credits that must be carefully vetted and reviewed.

In an attempt to align private sector operations with limiting the rise of global temperatures, the demand for voluntary carbon credits heavily increased, with the goal of reducing emissions elsewhere in order to compensate for company emissions. These voluntary carbon credits are regulated by for-profit, third-party verification companies. Despite seemingly positive results, the purchase of carbon credits exposes the poor quality of these offset credits and the damage they have caused to local communities.<sup>1</sup>

There are three actions that the California Air Resources Board (CARB) should take in order to diminish harm to marginalized communities and further reduce carbon emissions: (1) standardizing carbon credit reports to review fraudulent or faulty offset procedures, (2) promoting non-profit and academic collaboration with third-party verifiers, (3) implementing a governmental entity that sets standards and regulates the carbon market in California. These actions will ensure the efficacy, accountability, and equity of offset credits in California voluntary carbon markets.

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<sup>1</sup> Cushing et al., “Carbon Trading, Co-Pollutants, and Environmental Equity: Evidence from California’s Cap-and-Trade Program”.

## II. FRAMING THE PROBLEM

The California Global Warming Solutions Act AB-32 requires verification of all greenhouse gas (GHG) removal and enhancement projects used for compliance in the state Cap-and-Trade Program; however, this same verification for voluntary projects is not required.<sup>2</sup> Independent verification bodies and offset programs must be accredited by the CARB to conduct regulatory verification to register these offset projects. Within the state, there are several approved programs such as The Climate Action Reserve, launched in 2008. It is a national offset program that establishes standards for quantifying and verifying GHG emissions reduction projects, provides oversight to independent third party verification bodies and issues carbon credits.<sup>3</sup> The state has approved other verification programs such as Verra and the American Carbon Registry, each of which partakes in voluntary and regulated carbon market projects that oftentimes overlap. Voluntary credits may be considered ‘early-action credits’<sup>4</sup> and converted into CARB verified credits overtime, creating a regulatory loophole.

The private and public partnership streamlines carbon credits and incentivizes cheap, low-quality credits that use largely unproven scientific methods to certify projects are removing carbon from our atmosphere. The quantitative verification methods for proving a one ton removal of carbon dioxide through an offset credit have come under scrutiny from the scientific community and oftentimes lack multi-stakeholder participation (i.e. community involvement, NGO supervision). Berkeley’s Carbon Trading Project estimates that these verifiers have led to systematic over-crediting of 30.0 million tCO<sub>2</sub>e, or 29.4% of the land-based credits they analyzed.<sup>5</sup> These excess credits are worth an estimated \$410 million and ***reveal both the inability of third-party verifiers to accurately estimate the effectiveness of carbon offset projects and benefit communities that endure the brunt of air pollution.*** Companies seeking to declare “Net-Zero”

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<sup>2</sup> “Offset Verification | California Air Resources Board”.

<sup>3</sup> Kollmuss et al., “Handbook of Carbon Offset Programs: Trading Systems, Funds, Protocols and Standards”.

<sup>4</sup> “Early Action Projects | California Air Resources Board”.

<sup>5</sup> Badgley et al., “Systematic Over-Crediting in California’s Forest Carbon Offsets Program”.

or “carbon-free” may purchase low-quality voluntary credits that are poorly verified and perpetuate emissions in toxic air hotspots across the country such as Cancer Alley.<sup>6</sup>

### **International and National Carbon Markets Frame**

Internationally, the European Union’s Emission Trading Scheme (EU ETS) is one of the largest and longest operating cap-and-trade schemes in the world. The EU is aiming for a 55% reduction in greenhouse gas emissions by 2030, part of which will be achieved through international carbon credits. Under the Kyoto Protocol, countries may purchase carbon credits at a lower cost in developing countries to account for a share of their emissions as part of the Clean Development Mechanism (CDM), or by paying for projects that reduce emissions in other industrialized countries through Joint Implementation (JI). The EU market is currently the largest international carbon offset market.<sup>7</sup> As a primary contributor to clean energy investment in the developing world and a regulator for many of the biggest polluters in the industrialized world, the EU’s market restrictions have a high impact on the overall quality of carbon offsets.

On the national level, the Regional Greenhouse Gas Initiative (RGGI) is made up of several Eastern states of the US with the shared goal of reducing power plant emissions. The RGGI sets a regional cap on emissions for power plants within the region, and each plant is responsible for purchasing an allowance for every ton of CO<sub>2</sub> emitted.<sup>8</sup> Carbon allowances are primarily distributed at auctions, which are regulated by an independent market monitor. Potomac Economics serves as this monitor, whose responsibilities include evaluating the marginal cost of emissions reductions in the long run to determine the efficiency of the carbon offset market.<sup>9</sup>

### **Environmental Justice Implications**

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<sup>6</sup> Kofman., “The EPA Administrator Visited Cancer-Causing Air Pollution Hot Spots Highlighted by ProPublica and Promised Reforms”.

<sup>7</sup> “Use of International Credits | European Commission”.

<sup>8</sup> “The Regional Greenhouse Gas Initiative”.

<sup>9</sup> “Market Monitor Reports | RGGI, Inc”.

Climate change disproportionately effects low-income and minority communities, making it essential that climate mitigation and adaptation strategies prioritize protecting these communities and their environment. The environmental and health consequences of climate change pose a threat to human rights and social justice, as climate change impacts the ability of disadvantaged communities to access clean water, air, and other natural resources.<sup>10</sup> California's cap and trade program, along with its carbon offset program, are intended to reduce greenhouse gas emissions to protect the environment and air quality. Despite these goals, cap and trade and carbon offset programs allow for pollution to continue and increase in low-income and minority neighborhoods and communities while reducing emissions elsewhere. The majority of regulated facilities covered by California's cap and trade program are located in disadvantaged neighborhoods and communities, creating hotspots of carbon emissions. While the overall GHG emissions in California have continued to decrease since 2001 on average, since 2013 when cap and trade went into effect, there have been increases in local, instate GHG emissions.<sup>11</sup> These environmental justice implications have led to a significant opposition from EJ activists and Environmental Justice members of CARB's task force on carbon offsets who resigned in early 2021 due to concerns of equity.<sup>12</sup> It is vital to address these equity concerns in order to ensure the carbon offset market is serving everyone in California, not just powerful companies.

### **CARB vs. Third Party Verifiers**

Monitoring, reporting, and verification are the cornerstone processes that validate the authenticity of the carbon markets and the reliability of carbon credits equaling 1 ton of CO<sub>2</sub>e removed or reduced. Nature-based carbon offsets generated through livestock, rice cultivation, forests, and urban forest projects, all represent a reduction in CO<sub>2</sub>e and when transformed into individual carbon offset units should precisely and scientifically represent this amount of emissions removed from the atmosphere.

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<sup>10</sup> Levy et al., "Climate Change, Human Rights, and Social Justice".

<sup>11</sup> Cushing et al., "Carbon Trading, Co-Pollutants, and Environmental Equity: Evidence from California's Cap-and-Trade Program".

<sup>12</sup> Curry., "Environmental Justice Members Resign from CARB Task Force on Carbon Offsets".

In the California cap-and-trade compliance market, CARB mandates that any “Offset Project Operator (OPO) must list their compliance offset project to a CARB approved Offset Project Registry (OPR).<sup>13</sup> Once approved, the OPO must complete specific monitoring, reporting and verification regulation to request that these credits be published. This initiates the “CARB review of full documentation,” and finally the offset credits are published to a site that firms can purchase them from, if all steps have been properly completed.<sup>14</sup> This rigorous process performed by CARB substantiates the scientific backing of carbon offsets in the CA carbon markets and attempts to make the regulatory barriers high enough to where only legitimate offsets are allowed.

Conversely, in the voluntary carbon markets, which currently are void of any concrete standards, CA companies are at the liberty to purchase offsets from any offset project operator (OPO), domestically or internationally, without constraints on legitimacy or accountability. This has led to the emergence of third party offset verification companies that work with OPO’s, like the Gold Standard and the Verified Carbon Standard (VCS). These companies, which uniquely add their own offset requirements, provide private industry with more legitimacy and transparency when making a purchase.<sup>15</sup> <sup>16</sup> Despite verification companies attempts to certify that a real measurable, unique, and permanent reduction or removal has occurred, academic studies have proven mass carbon leakage and fraudulent activity associated with offset projects.<sup>17</sup>

The CARB, by nature, is a governing body that should act in the best interests of the public and is at a very low risk of regulatory capture by offset project operators that register with their market. In contrast, third party verification companies are for-profit, which can result in a natural decline in quality with an increase in the number of projects allowed. There is obviously much greater detail in the regulatory structure of CARB’s offset framework and the 3rd party

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<sup>13</sup> “ARB Offset Credit Issuance | California Air Resources Board”.

<sup>14</sup> *ibid.*

<sup>15</sup> “Gold Standard for the Global Goals | The Gold Standard”.

<sup>16</sup> “Verified Carbon Standard Methodologies | NDC Partnership”.

<sup>17</sup> “What Are VCS and the Gold Standard? | Carbon Co.”.

verification companies, but the outcomes and studied effectiveness of offsets flowing from both have demonstrated massive discrepancies in quality.

### **III. Quantifying the Problem**

#### **Quantifying Emissions: Physical science**

Nature-based offset credits that are approved under voluntary registries include US Forest Projects, Rice Cultivation Projects, and Urban Forest Projects. These projects produce credits that either reduce GHG emissions, increase carbon sinks, or enhance GHG removal from the atmosphere. To calculate whether a project is accomplishing its stated goals, verification programs use a varying set of quantification methods to evaluate credits. These controversial methods use statistics, ecological data and other techniques to estimate a projects' potential impact on GHG emissions. If a project performs better than a "business-as-usual" (BAU) scenario, it can receive credits.<sup>18</sup> These verified credits are more desirable and sought-after for voluntary emission reductions.

In 2015, CARB required all projects operating under approved voluntary quantification methodologies to transition to their compliance offset protocols. These credits are verified by CARB approved organizations like Climate Action Reserve and are growing in-demand by large corporations such as NASCAR or Disney despite reports of over-crediting.<sup>19</sup> More specifically, the quantification methods used to certify these credits have not been accurate or transparent. Forest carbon accounting has led to a systemic over-crediting of projects totaling 30 million tCO<sub>2</sub>, worth approximately \$410 million according to researchers at 'Carbon Plan'.<sup>20</sup> This is partly due to the averaging of tree populations near borderline geographic regions, allowing verification programs to overestimate species that sequester more carbon. Areas that are closer to these high sequestration zones can be combined into supersections because their "ecosections are

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<sup>18</sup> "The Greenhouse Gas Protocol | World Resources Institute".

<sup>19</sup> "Voluntary Offset Program | Climate Action Reserve".

<sup>20</sup> Badgley et al., "Systematic Over-Crediting in California's Forest Carbon Offsets Program".

adjacent” or share similar properties.<sup>21</sup> These supersection zones may underestimate the potential GHG mitigation and gain an advantage because the credits cost cheaper. Companies looking to claim net-zero may pursue these carbon credits and endanger old-growth forests that have already existed for generations.

## **Cap and Trade**

On a global scale, countries with a cap-and-trade system have greatly lowered emissions using this mechanism. In the European Union’s Emission Trading System, emission caps were 29% lower in 2018 than when the program started in 2005.<sup>22</sup>

California’s cap-and-trade program currently is the fourth largest in the world, behind China, the European Union, and Korea. The program is a part of a state-wide initiative aiming to reduce greenhouse gas emissions incrementally to become carbon-free by 2045. In California, about 450 businesses are responsible for 85% of greenhouse gas emissions, with the largest emitters in the transportation sector, comprising 40% of emissions, and the industrial sector, comprising 21% of emissions.<sup>23</sup> Under the California Cap and Trade program, companies emitting more than 25,000 metric tons of Co2 may meet up to 4% of their offset requirements by purchasing carbon credits.<sup>24</sup> The California Air Resources Board (CARB) implements and oversees quarterly auctions, which has generated \$1.3 billion in the last year (2021), and \$12.5 billion since the start of the program. The funds are deposited to the Greenhouse Gas Reduction Fund (GGRF), and are allocated to different climate-related programs. Furthermore, 35% of revenues are required by law to be directed to environmentally disadvantaged and low-income communities.<sup>5</sup>

As new technologies assist the shift towards lower emissions, the incentive to reduce emissions becomes greater. Golden California Carbon Offsets, which cannot be invalidated by

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<sup>21</sup> Montzka,. “Forest Assessment Areas”.

<sup>22</sup> “How Cap and Trade Works | Environmental Defense Fund”.

<sup>23</sup> “California Cap and Trade | Center for Climate and Energy Solutions”.

<sup>24</sup> Burtraw et al., “2021 Annual Report of the Independent Emissions Market Advisory Committee”.

CARB, have increased in price by ~\$3.17/mt of Co2 since 2016.<sup>25</sup> The cap-and-trade system has been the primary driving force in cumulative reductions from 2021 to 2030 — 38% of the needed economy-wide abatement.<sup>12</sup>

### **Quantifying the failure of carbon offsets**

Starting in 2013, the California Air Resources Board (CARB) had approved four main offset protocols in (1) forestry, (2) urban forestry, (3) livestock waste management, and (4) destruction of ozone-depleting substances. From all registered offsets, 40% are represented in the forestry category in 2021.<sup>26</sup> This includes issued projects, or offsets that are available on the market, and retired projects, which are offsets that have already been purchased. Additionally, significant U.S. registries such as the Climate Action Reserve hold a majority of forestry offsets. In fact, the Climate Action Reserve holding 80% of their offsets in forestry in 2019.<sup>27</sup> California's forest offset program is limited to 8% of emissions allowances; however, the actual volume of offsets in the market in forestry is 2%.<sup>28</sup> This means that forestry offsets are likely being applied at a low level very selectively and are not making actual changes in emissions. Up to 80% of forestry offset credits in California failed an additionality test<sup>29</sup> since most of the 'additional' carbon being stored was already planned to be stored, with or without the use of offsets.

Estimating the impact of offsets is inherently challenging since emissions reductions are compared against an unknown counterfactual scenario (i.e. what would emissions look like without the offset program).

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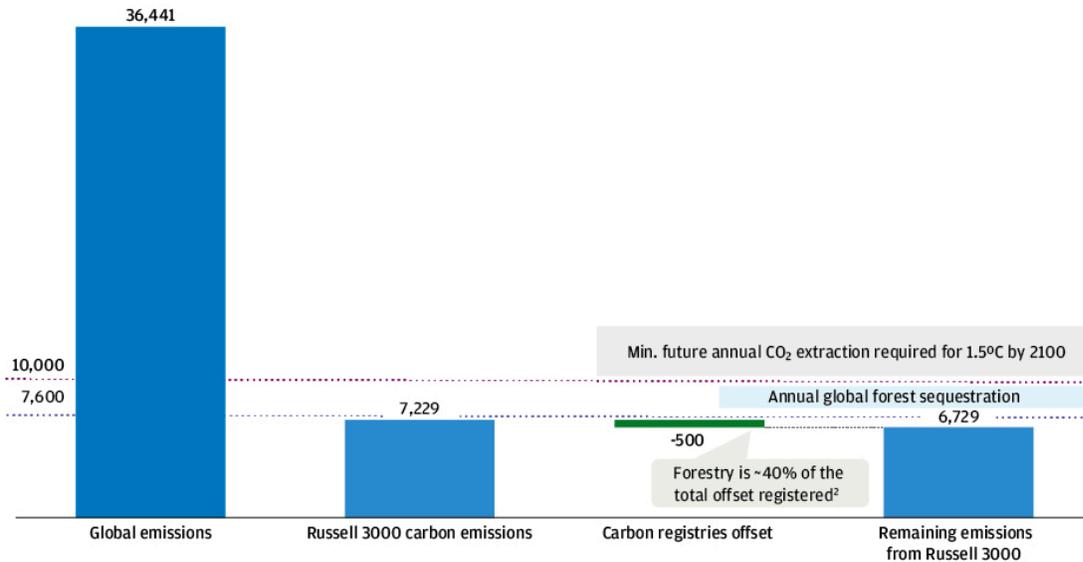
<sup>25</sup> Team, OPIS Carbon.. "REDD+, CORSIA and California Carbon Offsets - Understanding the Differences".

<sup>26</sup> Zelikova et al., "A buyer's guide to soil carbon offsets".

<sup>27</sup> Kapnick "The Global Carbon Market".

<sup>28</sup> Anderson et al., "Forest Offsets Partner Climate-Change Mitigation with Conservation".

<sup>29</sup> Haya "The California Air Resources Board's US Forest Offset Protocol Underestimates Leakage".



Source: Global Carbon Atlas, Russell 3000, MSCI, carbon registries; data as of December 31, 2019. Offsets are those registered on Climate Action Reserve, American Carbon Registry, Carbon Plan, Gold Standard, Verra and Clean Development Mechanism.

### III. POLICY OBJECTIVE

As policymakers, our goal is to promote more transparency and increase measurement consistency of these voluntary carbon offset projects by ensuring both the quantitative and qualitative methods of analysis of third-party verifiers are accurate and equitable. This means that the California Air Resources Board (CARB) must consider better oversight of the voluntary carbon credit system in order to lower transaction costs, improve justice concerns, and verify high-quality, nature-based offset credits that are purchased by firms in the state.

### IV. POLICY RECOMMENDATIONS

#### (1) Policy Alternative — Implementing Equity Standards for Carbon Offset Verification

*The California Air and Resources Board will add an equity-based expectation from private carbon offset verification companies such as The Climate Reserve through a mandatory partnership with at least one local NGO or community organization for any new offset project.*

### Context

High transaction costs may occur if the government solely regulates and verifies every voluntary offset project in California. The state agency, CARB, does not have the informational capacity to monitor these projects as third parties are needed to bridge this gap. These third-parties include a number of private-companies that let consumers offset their emissions through carbon credit projects. To verify credits, these private entities use varying standards including the Gold Standard, Verified Carbon Standard, the Climate Action Reserve, and the American Carbon Registry. Each of these quantification protocols vary and may actually overestimate the GHG removal of a project. These standards offer a perfect opportunity to enhance equity and ensure historically underrepresented groups are involved with the verification process.

### Policy Alternative #1 Statement

In order to promote equity within the offset verification protocols, CARB should mandate equity-based requirements for the voluntary carbon market, including an incentive for urban carbon credit projects. These requirements are flexible but meant to ensure historically underrepresented and frontline communities benefit from voluntary offsets through a ‘bottom-up’ policy approach. Local non-profits and community leaders should be consulted when developing these additional verification standards, ensuring that the communities most affected by greenhouse gas emissions are a part of the decision making process.<sup>30</sup> We further recommend that CARB mandate at least 50 percent of voluntary offsets are invested in frontline communities within the state, identified by CalEnviroScreen.

### Further Nuance within the Policy Proposal

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<sup>30</sup> Shepard et al., “Advancing Environmental Justice through Community-Based Participatory Research”.

The most influential verification entities oversee thousands of projects across the globe. However, the lack of standardization in the carbon market makes it difficult to evaluate the efficacy of these projects. By mandating that California-based corporations participating in the voluntary carbon market make purposeful investments within the state, CARB can promote environmental justice issues to the communities most directly impacted. Given that the carbon market is unregulated at an international scale, we recommend CARB implements standardization measures at the state-level. California is at the forefront of environmental policy in the United States, and it is necessary for state agencies to create policies that promote a sustainable and just future.

### Implementation Summary

- ❖ CARB sets this equity expectation for all private carbon offset verification companies verifying new projects domestically and abroad.
- ❖ CARB reviews eligible environmental non-profits and community-based organizations that the verification companies should include in any of their new projects.
- ❖ CARB provides additional incentives to projects that directly benefit frontline communities such as urban reforestation.
- ❖ CARB establishes a committee of both public officials and EJ community leaders to evaluate the efficacy of in-state carbon sequestration projects.

### Criteria Analysis

This policy alternative offers CARB the opportunity to establish equity as a cornerstone of the California carbon market. On an international scale, voluntary carbon market investments have raised concerns of equity and autonomy, as there is no wide-scale standardization on where and how carbon sequestration investments are made. This obscures the significance of place and technology, resulting in knowledge gaps that can lead to social inequality. The projects that polluters invest in may also “recast heavy fossil fuel polluters as protagonists of the climate battle while concealing the contributions of ordinary communities and progressive social

movements.”<sup>31</sup> In taking a bottom-up approach, CARB can protect California’s most vulnerable communities.

This initiative believes that CARB has the potential to be at the forefront of voluntary carbon market standardization. CARB possesses the necessary partnerships and authority to effectively create standardization within the carbon market for California based businesses. It maintains the efficiency of privatized verification services, while also moving the voluntary carbon market towards standardization.

We believe that, given the urgency of the climate crisis, CARB can and must find the political will to regulate this emerging market. The carbon market will continue to play an important role in sustainable development across the globe, so it is important that government entities begin to regulate and standardize the mechanisms of verification.

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## **(2) Policy Alternative — Standardization of Carbon Offset Reporting**

*Mandating CA companies using carbon offsets report the offsets purchased in a standardized, uniform and auditable format, that can be reviewed for the presence of faulty offsets or fraudulent activity that violates CA carbon offset standards.*

### Context

Regulators, government leaders, and academics have encouraged the standardization of reporting for carbon offsets and other Environmental, Social, Governance (ESG) metrics for the past decade. In 2021, in anticipation of COP26 at Glasgow thousands of companies committed to Net Zero goals, through the reduction of greenhouse gas emissions within their operations and through the purchase of carbon offsets largely from the international voluntary carbon markets.<sup>32</sup>

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<sup>31</sup> Lohmann., “Carbon Trading, Climate Justice and the Production of Ignorance: Ten Examples”.

<sup>32</sup> “OECD instruments on responsible business conduct: supporting implementation and accountability of business’ net-zero commitments’

Many sources and research reports as indicated in the *Quantifying the Problem* section have shown that carbon offsets are not consistently representative of a 1 ton reduction in CO<sub>2</sub> and have many other negative impacts associated with, like environmental justice concerns.

### Policy Alternative #3 Statement

Due to the underproduction of quality offsets and the lack of synchronous reporting by companies about the offsets they are acquiring, there is vast suspicion among the public that there is fraudulent activity occurring behind the scenes in companies sustainability divisions. In order to verify true carbon reduction through the purchase of carbon offsets and reinforce the integrity of California corporations and their net zero pledges, it is the state government's responsibility to mandate CA companies report the carbon offsets they have historically purchased and are currently purchasing in order to satisfy their emissions reduction goals. By following the carbon offset verification framework already used by the California Air and Resources Board (CARB) for firms in the compliance markets, the CA state government can limit carbon leakage and fraudulent activity in the private carbon markets space.

### Further Nuance within the Policy Proposal

Understanding that this will require the additional regulation of many more companies and their related offset purchases, our policy team is suggesting that only companies with a specific market capitalization are forced to report their carbon offset acquisition, and we encourage the CARB to conduct a random auditing process among these private corporations, outside of the cap-and-trade scheme, to ensure reliability among offset purchasing. This way CARB will not have to vett every company's carbon offsets and it will be a more flexible and more feasible implementation pathway for this policy.

### Implementation Summary

- ❖ Release an in-depth detailed reporting framework for regulated companies in California to follow and fill out annually. Will basically mirror CARB's compliance protocols already used in the mandatory CA cap-and-trade program.

- ❖ <sup>33</sup>Only require companies over a specific market capitalization to report their carbon offset purchases on an annual basis (top 25% of the largest companies in CA using credits from the voluntary carbon markets).
- ❖ Randomly select 15-25% of companies within this pool on a semi-annual basis to sanction a complete audit of their voluntary carbon offset reporting paperwork.
- ❖ Fine companies for any transgressions and release all audits as public data that can be used by Non-Governmental Organizations.

### Criteria Analysis for Alternative #3

Mandating that the top 25% largest private companies in California sourcing carbon offsets from the voluntary carbon market report their annual carbon credit acquisition information in a uniform manner will provide the public and the CARB with the ability to investigate fraudulent activity or the presence of faulty offsets. By making these reports public and exposing this information NGO's, companies will be forced both compliance-wise and by consumers to purchase offsets that are in-line with the CARBs offset verification standards.

Although CARB will not be verifying every carbon offset purchased at every CA-based company, the standardized reporting framework by the largest companies will place pressure on these firms to purchase offsets that are reliable and align with the CARB compliance framework. Whatever monetary fine CARB wants to set combined with PR pressure from NGOs and academics who have access to these reports should increase the validity of carbon offsets sourced from the voluntary markets by companies in CA.

In terms of equity considerations, there will not be any explicit language about where companies must source their offsets or if they have to work with local communities on these projects, but our team assumes that by making this whole market and purchasing process more transparent, companies will gravitate towards offsets that have environmental justice concerns embedded within them.

In order to make this policy feasible on an implementation basis and politically in the state of CA, our team purposefully designed the policy so only the largest companies had to

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<sup>33</sup> "Compliance Offset Protocols | California Air Resources Board".

report their carbon offset portfolio, only a percentage of these companies would actually be audited by CARB. The growing distrust of voluntary carbon offsets, especially those purchased by massive corporations, will make this policy much more feasible in the political arena and our team believes that large corporations will not have much room to push back against this policy because of it being rooted in transparency and accountability rather than some additional requirements.

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### **(3) Policy Alternative- CAOTF: California Offset Task Force**

*Implementing a California governmental entity that sets standards and regulates the carbon offset market*

#### Context

The California voluntary carbon offset market has the potential to significantly contribute to California's emission reduction goals and in mitigating climate change, but faces challenges such as carbon-credit inconsistency, and a lack of mobilization and liquidity have resulted in a plethora of low quality credits that do not achieve real climate or emission reduction benefits. The quality of carbon credits is relatively low due to over-crediting and a lack of credit standardization. High quality credits require better accounting and verification methods to not only ensure that they are truly high quality but to also mitigate transaction inefficiencies<sup>34</sup>. Carbon credit standardization is necessary in order to effectively and efficiently match buyers to carbon offset projects that fit their needs.

There are difficulties in meeting the demand for adequate carbon-offsets due to the complexities in scaling up high-quality offsets. For instance, factors such as geographic location of possible offset opportunities, problems in attracting financing, data collection, and verification methods make long lead times for this industry. Oftentimes, criteria in making offsets, such as biodiversity protection, are neglected because they are not well-defined, and therefore not well

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<sup>34</sup> Blaufelder et al., "A Blueprint for Scaling Voluntary Carbon Markets"

executed. Thus, these mobilization challenges impede potential supply of high-quality carbon offsets, and these challenges create a lack of liquidity that hinder supplying the growing demand. There is a lack of a marketplace to effectively match supply to demand, which makes it critical to address how the carbon offset market can effectively coordinate the supply and demand of offsets while maintaining the integrity of operations and stabilizing the prices of offsets. It is essential that these issues be identified and addressed to ensure that the voluntary carbon offset market is efficient, effective, and transparent.

### Policy Alternative Statement

The current state of the carbon-offset market includes challenges that impede stable transactions between suppliers and buyers. Mobilization challenges, carbon-credit inconsistency, and lack of liquidity creates unreliability for the constituents involved in the market. Thus, to address these issues, we propose to pass legislation that would create the California Offset Task Force (CAOTF), a government entity that oversees and regulates the voluntary carbon offset market. This task force aims to ensure that the voluntary carbon offset market is efficient, effective, and transparent by setting standards for accounting and verification, issuing regular reports, and overseeing trade.

### Further Nuance within the Policy Proposal

The current problems within the current Compliance Offset Protocol Task Force under the California Air Resources Board includes conflicts of interests, and lack of collaboration between the subgroups of the task force, like the environmental justice department and carbon market experts. In 2021, there was the resignation of two environmental justice advocates, Neil Tangri and Brian Nowicku, due to feelings of contradictory aims of individuals in the regulating body, such as involvement with industries that would directly benefit from actions of the Compliance Offset Protocol Task Force. Some individuals stand to gain profit from the recommendations and regulations implemented, which creates conflicts of interests.

Furthermore, there are state-open meeting laws that restrict members from commenting on a section developed by another sub-group, impeding collaboration and countering the interests of different sub-groups, and the integrity of the mission as well. We could work to solve this through more transparency and collaboration, by getting rid of state-open meeting laws that prevent communication between sub-groups.

### Implementation Summary

- ❖ Create task force through carefully vetting and hiring experts in the field to oversee and regulate the voluntary carbon offset market
- ❖ Set standardized carbon credits through field work and review. By measuring and comparing various carbon offset projects and the carbon credits they produce, this task force will produce evaluation reports that model the EPA's report on the efficacy of the Clean Air Act.<sup>35</sup>
- ❖ Streamline the verification process by utilizing the standardization of carbon credits as well as implementing a committee that sets standards for accounting and verification to ensure high-quality credits.

### Criteria Analysis

Updating the Compliance Offset Protocol Task Force effectively addresses the issues of carbon-credit inconsistency, and a lack of mobilization and liquidity in the current CA carbon offset market. By intently targeting these current issues, the COPTF will combat the influx of low-quality carbon credits that have resulted in a lack of real climate or emission reduction benefits. Through reconstructing this market by standardizing carbon credits, requiring regular reports, and streamlining the verification process, COPTF can effectively promote more transparency and increase measurement consistency in these voluntary carbon offset projects and markets. However, a contention against implementing a task force is that it may prolong addressing regulation of carbon credits. It is another step towards state-wide regulation, with many sub-groups to evaluate regulation before it is implemented.

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<sup>35</sup> Holladay., "Valuing the Clean Air Act: How Do We Know How Much Clean Air Is Worth?".

The implementation of this policy would face feasibility issues due to the time that the meticulous vetting of members and creation of standardization protocols would take. Additionally, this policy may face backlash from corporations and politicians that benefit from the inconsistencies in the carbon market.

By creating a task force that regulates the voluntary carbon offset market, more high-quality carbon credits will be issued, resulting in an increase in carbon emission reductions. Even though this increase of high-quality carbon credits will have a positive impact on emission reduction benefits, not all Californians will benefit equitably. As discussed previously, major emitters disproportionately pollute in low-income and minority communities as a result of unregulated carbon credits, producing inequitable environmental harm. We can address this concern with this Task Force through creating a sub-committee that focuses on narrowing and closing the gap between the pollution emitted in low-income communities versus higher-income communities.

## **V. CONCLUSION**

Considering the in-depth analysis and context of the current voluntary carbon markets in California, the Roosevelt Network at Berkeley Environmental Policy team suggests the implementation of standardized carbon offset reporting in California through the offsets branch of the California Air and Resources Board (CARB). This will involve the top 25% of corporations systematically reporting their voluntary carbon offset activity, to be randomly audited by the CARB.

Instituting the standardized carbon offset reporting policy will enhance the transparency of carbon offset purchasing by California companies and the validity of the offsets they choose to acquire. By formalizing a clear, straight-forward reporting framework for large companies to follow, the CARB can regulate with ease and NGOs, academics, and other organizations may access this data to study further effectiveness and add pressure. It is unacceptable that CA companies are able to purchase carbon offsets from wherever they wish and count these towards their net-zero standards without making this data public and auditable by a government body.

Despite the standardization of carbon offset reporting's ability to minimize fraudulent activity and prevent carbon leakage, the lack of equity considerations may persist. While holding companies accountable for Net Zero claims is essential, frontline communities who bear the largest effects of GHG emissions and environmental pollution should be prioritized. Large companies acquiring carbon credits may perpetuate environmental justice concerns by purchasing credits elsewhere. These companies and offset verifiers should be mandated to consider greater equity principles established by CARB.

As the consequences of anthropogenic climate change become more dangerous, the voluntary carbon market has become a source of concern due to the lack of regulation and standardization across multiple scales. Despite their rising popularity, research has revealed both the inability of third-party verifiers to accurately estimate the effectiveness of carbon offset projects and benefit communities that endure the brunt of air pollution. Both international and national carbon markets offer examples of effective regulation for the California carbon market. To ensure that California's most vulnerable communities benefit from the state's carbon market, it is essential that equity is at the center of all new regulatory policies implemented. Furthermore, CARB's role as a state agency provides an ideal opportunity to implement meaningful change in the California carbon market, unlike private, third-party verifiers. Despite the challenges in quantifying emissions, changes in CARB's equity standards for carbon offset programs may offer relief to California's frontline EJ communities.

CARB must consider better oversight of the voluntary carbon credit system to lower transaction costs, improve justice concerns, and verify high-quality, nature-based offset credits that are purchased by firms in the state. Our team has outlined four policy alternatives for CARB's consideration, each of which is linked to our policy objectives. When fully implemented, these policies have the potential to create beneficial synergies of justice, an improved environment, and better public health.

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