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Climate Policy & Environmental Justice Recommendations for Colorado: Environmental Justice and the Climate Action Plan to **Reduce Pollution**

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Climate Policy & Environmental Justice Recommendations for Colorado: Environmental Justice and the Climate Action Plan to Reduce Pollution

Publication Statement

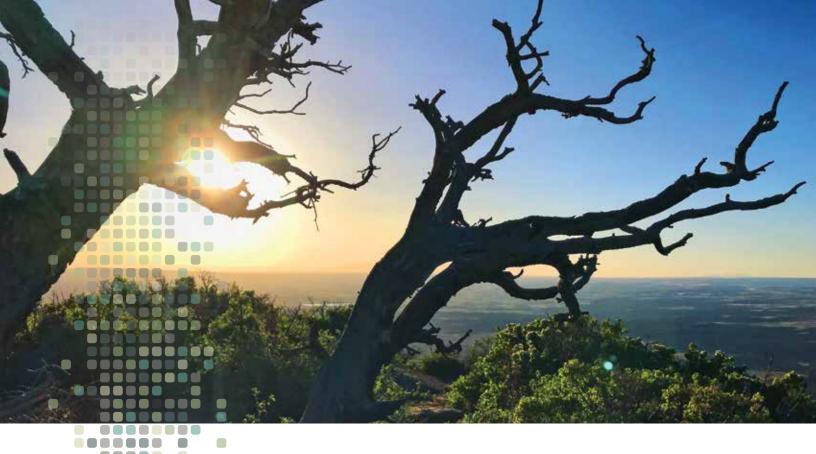
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Climate Policy & Environmental Justice

RECOMMENDATIONS FOR COLORADO

Environmental Justice and the Climate Action Plan to Reduce Pollution



Acknowledgments



Authors

We are grateful for the contributions of many friends and colleagues. Edwin LaMair, Evan Healey, and Kevin Lynch are the lead authors of this report. Amelia Myers provided significant feedback. This report was generated at the request of Conservation Colorado, but the findings and recommendations only reflect the views of the authors of the report.

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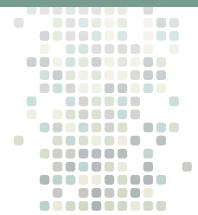
Table of Contents

w ations
do
CE Colorado
POLICIES
THORITIES duce Pollution ission
IONS on & Adaptive Management Public Health nomic Opportunity
ORITY Control Act ission - Procedural Rules
THORITIES duce Pollution ission IONS on & Adaptive Manageme Public Health nomic Opportunity ORITY Control Act

10 11

39 40

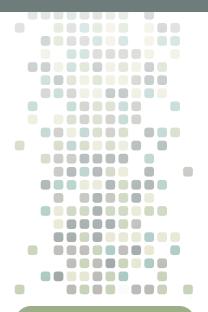
Preface



This report was primarily drafted in the Spring of 2019, as the Colorado Legislature considered, and ultimately enacted, HB 19-1261. Since that time, developments have only highlighted the critical importance of considering the justice impacts of any public health and environmental responses to the threat of climate change. In particular, the COVID-19 pandemic has highlighted the stark racial and class disparities that environmental conditions have on the health of a community. The same facilities and mobile sources that emit climate pollution also typically emit particulate matter and smogforming pollution that cause respiratory illness in many communities. These underlying conditions are additional risk factors for complications from coronavirus infections. The same pollution is concentrated in lower-income areas and communities of color. Unsurprisingly, but sadly, the pandemic has had a disproportionate impact on those same communities. Many others have noted that the pandemic has led to increases in racism and stigmatization of communities of color, particularly towards Asian and Asian American populations. And the pollution has seemingly gotten worse during the pandemic, as an early study indicates that relaxation of environmental rules has led to not only an increase of pollution in many frontline communities, but also a corresponding increase in disease and death related to the coronavirus.

Thus, getting climate policy "right" is critical not only to address the climate crisis, but also to redress existing injustices while preventing the creation of new ones. Recent times have underscored the fact that this is a life and death question for many communities. Our hope is that this report is timely and can help ensure that Colorado continues making progress on justice issues even as it rises to the challenge posed by climate change.

Executive Summary



A carefully designed policy has the potential to create vast economic opportunity and alleviate health disparities while combatting rising global temperatures and preserving the earth for future generations.



Introduction

This report gives specific recommendations and policy proposals to ensure the equitable distribution of environmental burdens and benefits under the Colorado Climate Action Plan to Reduce Pollution. To combat climate change, protect our environment, and ensure economic stability, Colorado must successfully reduce greenhouse gas emissions and transition to renewable energy. The policies chosen to achieve this goal provide a unique opportunity to alleviate existing environmental and societal inequities. But, emissions reduction policies undertaken without specific and deliberate consideration of environmental justice can exacerbate existing problems.

A carefully designed policy has the potential to create vast economic opportunity and alleviate health disparities while combatting rising global temperatures and preserving the earth for future generations. The intentional inclusion of economically depressed and environmentally vulnerable communities in policy decisions and transition efforts adds benefits beyond greenhouse gas reductions. By ensuring equity, emissions reduction measures can garner widespread public support for a coherent long-term vision. This level of planning and backing is necessary to achieve the midcentury emissions reductions mandated by the best available science.

For Colorado to achieve the goals of the Climate Action Plan to Reduce Pollution while ensuring environmental justice, these categories of policy recommendations must be considered:

- 1. Reduction of co-pollutants;
- 2. Community participation;
- 3. Local air-monitoring and public health data;
- 4. Carbon pricing;
- 5. Permitting practices;
- 6. Just transition efforts; and
- 7. Transportation.

This report first identifies the environmental justice issues presented by each category and the ultimate goal for overcoming those concerns. It follows with recommended strategies and corresponding actions for the Air Quality Control Commission and Colorado.

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Colorado Climate Overview

Climate change poses a serious threat to Colorado, and its effects are already being experienced across the state. Recent scientific reports predict increasing, wildfire, smog, air pollution, drought, water shortages, ecosystem collapse, and economic instability. If greenhouse gas emissions continue unabated, parts of our state will be drastically transformed by the latter half of this century. Failure to undertake deep emissions cuts now, and decarbonization of the economy by midcentury, will lead to catastrophic and irreversible changes beyond human control. To protect Colorado and our citizens from the threats posed by climate change, we must do our part to reduce emissions consistent with scientific consensus and international agreement.

Many communities in Colorado are already negatively impacted by environmental burdens that will be exacerbated by climate change. Low-income, communities of color, and rural communities face problems associated with exposure to pollution, rising energy costs, access to transportation, lack of healthy foods, and economic vulnerability. These communities must be aided in economic transitions. Policy decisions made to reduce greenhouse gases present the chance to ensure an equitable distribution of environmental benefits and burdens.

In order to reduce statewide emissions in a manner consistent with limiting global temperature rise to 1.5°C, Colorado has adopted greenhouse gas emissions reduction targets in the Climate Action Plan to Reduce Pollution, HB 19-1261. The Climate Action Plan to Reduce Pollution sets reduction targets of 26% by 2025, 50% by 2030, and 90% by 2050, relative to a 2005 baseline level. The Air Quality Control Commission is the agency with primary responsibility for implementing rules and regulations to meet these goals.

The Climate Action Plan to Reduce Pollution requires the consideration and maximization of benefits to frontline communities. It requires reductions of co-pollutants, input from impacted groups, adaptive management, and the equitable distribution of costs and benefits. Provisions also require inter-agency collaboration, authorize the adoption of other jurisdiction's policies, and encourage deeper reductions where possible. The Climate Action Plan to Reduce Pollution puts Colorado on track to becoming a national leader in climate policy, and positions our state to reap the benefits of the coming economic transition.

Policies to achieve the deep emissions cuts necessary to avert catastrophic climate change fall into two broad categories. The first are market-based mechanisms that put a price on greenhouse gas pollution, thereby incentivizing reductions. The second are prescriptive policies under which government mandates certain technologies or standards that reduce emissions. Both have benefits, and a multifaceted approach is likely to achieve the most reliable, long-term reductions. Government should take primary responsibility for ensuring mandated emissions reductions, using market mechanisms to complement prescribed measures.



Summary of Recommendations

This report is designed to assist the Air Quality Control Commission, policymakers, and affected parties in realizing environmental justice objectives while accomplishing the mandates of the Colorado Climate Action Plan to Reduce Pollution. It identifies seven major categories of policies to reduce greenhouse gas emissions and recommends actions to maximize environmental justice under each. Potential issues are identified and specific recommendations to overcome those problems are given subsequently.

1. Co-pollutant Reductions

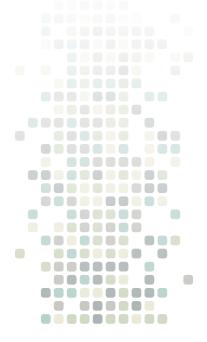
Climate policies have significant potential to reduce locally harmful air pollutants alongside greenhouse gases, adding health benefits. However, if undertaken without the specific goal of reducing copollutants, greenhouse gas reduction measures can have the unintended consequence of worsening pollution in some areas, producing "hotspots." To prevent this and maximize the potential benefits, policymakers must:

- 1.1 Identify areas already burdened by air pollution and cumulative environmental stressors.
- 1.2 Mark these communities for targeted reductions, facility retirements, and permitting restrictions.
- 1.3 Prevent trading, banking, and offsetting for facilities in these areas, or at least oversee such practices carefully under a market-based system.
- 1.4 Implement measures to reduce short-lived climate pollutants like methane and black carbon.

2. Community Participation & Adaptive Management

Current environmental decision-making is far removed from some of the most heavily impacted communities. In order to effectively shape policy and ensure long-term success, community-level participation must be maximized and meaningful. To achieve this policymakers should:

- 2.1 Establish an environmental justice advisory committee to provide input on all major rulemaking and permitting decisions.
- 2.2 Expand procedures to require proactive outreach and greater public participation.
- 2.3 Pursue an adaptive management plan that requires ongoing feedback and evaluation of progress to ensure effectiveness and the achievement of long-term goals.



3. Local Air Monitoring & Public Health Data

Greater efforts to monitor and abate pollution are needed because low-income and communities of color suffer from poor air quality and the associated health concerns. Existing monitoring does not typically capture localized air pollution. Additionally, local air monitoring can foster greater community participation and accountability of industry and regulatory bodies. Policymakers should:

- 3.1 Implement a community-level air monitoring network throughout the state, but especially in vulnerable areas.
- 3.2 Establish accurate public health metrics to ensure that policies are improving conditions in local communities.
- 3.3 Require an accurate greenhouse gas inventory to account for all sources of carbon pollution, prevent leakage, and ensure goals are met.

4. Carbon Pricing

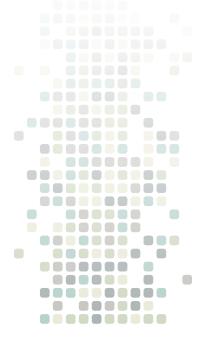
Carbon pricing poses risks for environmental justice communities by removing decision-making power from accountable officials and delegating it to the regulated industry. To ensure carbon pricing does not negatively impact vulnerable communities, policymakers should:

- 4.1 Implement a fee-and-dividend system to reduce emissions at all facilities, while generating significant revenue.
- 4.2 Use market-based mechanisms to supplement prescriptive measures and generate additional reductions. Under a trading system, policymakers should not allow facilities in already polluted areas to purchase additional credits or offsets. If offsetting is permitted, it should come from verified sources that produce added benefits, like job creation.
- 4.3 Earmark revenue from a market-based system for sustainable investments and job training efforts in underserved communities.

5. Permitting

Polluting facilities are disproportionately located in low-income and communities of color, causing serious health problems. When regulating greenhouse gas emissions, agencies must ensure permitting choices do not continue to disproportionately impact these vulnerable groups. To do this policymakers should:

- 5.1 Prevent additional permits in overburdened areas, bar permit modifications that would increase pollution, and place stringent conditions on new permits. Permits in vulnerable communities should be subject to prioritized enforcement, ongoing monitoring, and public scrutiny.
- 5.2 Identify high-impact permits and set procedures to require community outreach and input before applications are approved.



6. Just Transition & Economic Opportunity

An emissions reduction policy creates many economic opportunities, particularly in the renewable energy sector. These benefits should be distributed equitably to all members of society. Economically vulnerable communities, including those currently relying on fossil fuel revenue, must be aided in the transition to a new green economy. To do this, policymakers should:

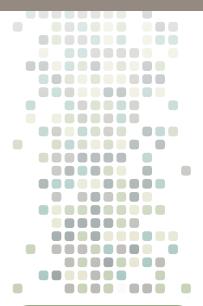
- 6.1 Use earmarked revenue from a carbon pricing system to provide job training, renewable energy developments, energy efficiency upgrades, and other investments in underserved communities.
- 6.2 Direct benefits like jobs and renewable energy projects to economically depressed communities, with careful consideration given to the displacement of any existing revenue sources.
- 6.3 Allow emissions offsetting credits only from sectors that are creating new, sustainable jobs, like carbon farming.

7. Transportation Emissions

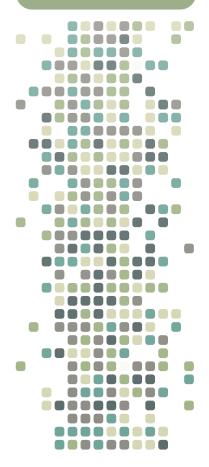
Transportation emissions and lack of access to reliable transit negatively affect communities of color and low-income populations. To combat this, policymakers should:

- 7.1 Focus on increasing clean public transit to these neighborhoods while reducing nearby vehicle miles travelled.
- 7.2 Target investments like tax credits and funds to low-income groups for purchasing low- or zero-emissions vehicles and place charging stations in frontline communities.
- 7.3 Implement a low-carbon fuel standard with careful oversight to prevent unsustainable investments.

Climate Change



Warming must be limited to 1.5° to avoid catastrophic consequences



Overview

The best available science requires that global warming is limited to 1.5°C (2.7°F) above preindustrial levels in order to avert the most catastrophic consequences of climate change. Worldwide temperatures have already warmed 1°C (1.8°F) above preindustrial levels because of anthropogenic activity, primarily burning fossil fuels. A certain amount of continued warming is

preindustrial levels because of anthropogenic activity, primarily burning fossil fuels. A certain amount of continued warming is inevitable due to carbon already emitted, but it is unlikely that current atmospheric carbon alone would cause temperatures to exceed the 1.5°C threshold.

The "carbon budget" refers to the total remaining amount of greenhouse gases that can be emitted worldwide without exceeding the maximum temperature threshold. To have a 66% chance of limiting warming to 1.5°C, the remaining carbon budget was 420 GTCO2 at the end of 2017. Current emissions are depleting the carbon budget at a rate of 42 GTCO2 per year, and increasing by 3% annually. At current rates, the total carbon budget will be depleted in less than ten years.

The difference between 1.5°C and 2°C of warming is significant.

The Intergovernmental Panel on Climate Change predicts that at 2°C (3.6°F), tens of millions more people will be displaced from sea level rise, greater than ninety-nine percent of coral reefs will be lost, entire ecosystems will disappear, and several hundred million more people will be exposed to climate-related risks and susceptible to poverty by 2050. Warming greater than 2°C could trigger climate responses that would cause catastrophic changes beyond the capabilities of human adaptation.

Emissions trajectories between now and 2050 determine the amount of warming that will occur. To attain the Paris Agreement goal of limiting warming to 2°C or less, worldwide emissions need to decline to 80% below 2005 levels by 2050, and netzero shortly thereafter. To limit warming to 1.5°C, worldwide emissions must reach net-zero by 2050. Temperature overshoots and exceedances of the carbon budget would require extremely expensive and currently unavailable methods of atmospheric carbon extraction to avoid catastrophic effects in the latter half of the century.

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Climate Change in Colorado

Colorado is already experiencing the effects of rising temperatures and climate change in the form of worsening forest fires, the pine beetle epidemic, declining snowpack, prolonged droughts, and 100-year extreme weather events. In 2018, Colorado experienced the warmest annual temperatures since record keeping began 124 years ago. That year, precipitation levels statewide dropped to the second driest on record. Colorado has already warmed by 2.5°F above preindustrial levels and is projected to warm another 2.5°F to 5.4°F by 2050. The warmest days of our past will become the new average, with projections showing summers on the Front Range warming by 5°F as early as 2035. In Denver, an increase of 5°F would result in twenty-seven more days above 100°F during June and July. Even conservative projections estimate that Denver's future climate will be similar to Pueblo's, while Pueblo's climate will become similar to West Texas.

Since the 1960s, average annual area burned by wildfires in Colorado has increased over ten times. Another 1°C of global temperature rise is projected to cause an added 656% increase in annual area burned in the Colorado Rockies—an area roughly twice the size of Delaware. In 2018 alone, wildfires caused \$130 million in damage across the state. The costs of 2013 floods, resulting from an extreme precipitation event, are rising toward \$3 billion. And, during the 2012 drought, the state lost \$409 million in agricultural revenue and an additional \$317 million in secondary spending in local communities.

Many of Colorado's thriving sectors are threatened by the effects of climate change. Some of **our highly productive industries are closely tied to climatic stability, and very susceptible to rising temperatures.** Over a billion dollars per year of tourism-generated tax revenue could leave the state due to earlier snowmelt, rising stream temperatures, and widespread summer wildfires. The \$40 billion agriculture industry will face increasing stresses and decreasing yields as water becomes scarcer and dry arid conditions prevail.

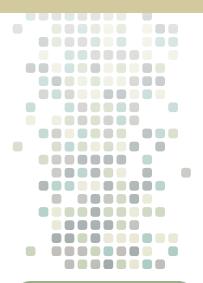
Public health in Colorado is also threatened by increasing temperatures, air pollution, and the potential spread of vector-borne diseases. Statewide projections show a growing number of hospitalizations from heat-related illnesses, increasing concentrations of ground-level ozone and particulate matter, and the increase of diseases like West Nile virus and Hantavirus. Between 2013 and 2015, smog pollution contributed to an estimated seventy-three excess deaths and one hundred fifty-three excess illnesses in Colorado. Climate-induced natural disasters also pose a serious threat to public health and safety.



Colorado will continue to be affected by climate change, including earlier snowmelt and runoff, warmer and hazier summers, spreading pine beetle, decreasing agricultural productivity, larger and more intense forest fires, and water shortages. While many of the impacts will continue inevitably for some period, long-term and catastrophic impacts are avoidable contingent on deep emissions cuts. There is still a chance to preserve the climate that Coloradans know and depend on, but it requires immediate concerted action.



Environmental Justice



Environmental justice policies fairly distribute benefits and burdens, ensuring equity across all demographics.



Overview

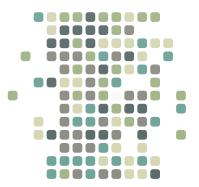
Environmental justice requires that all groups, regardless of income, race, or ethnicity, are treated fairly and equitably with respect to the distribution of environmental burdens and benefits. Across the country, communities of color and low-income populations are disproportionately exposed to pollution, lack recreational opportunities, cannot access healthy foods, have unreliable transportation, and work jobs that entail a high degree of risk exposure. In the 1970s and 80s, academics and government agencies began researching the distribution of environmental burdens. Overwhelmingly, the results showed that communities of color and low-income groups were most exposed to pollution and toxics. These environmental justice, or frontline, communities suffer from cumulative exposures and are highly vulnerable to economic and climactic instabilities.

Environmental justice can be viewed as a problem of distributive. participatory, corrective, or social justice. Distributive justice advocates point to the unequal distribution of polluting facilities and environmental burdens. Viewed in this way, policies should seek to redistribute existing environmental burdens and ensure the distribution under new policies is just. Backers also point to the lack of participation and procedural biases in environmental policy and decision-making. Through this lens, policies should seek greater involvement from impacted communities and ensure decision-making processes are accessible to all. A corrective justice view of environmental problems acknowledges the vast inequalities and requires that policies include remedial measures. Lastly, environmental justice can be viewed as a result of historical inequities and social problems. Under this view, the environmental burdens experienced by low-income and communities of color are seen as the result of institutionalized discrimination and inequality. To combat this, policies should pursue alleviation of environmental burdens, but also address the root of the inequalities.

The environmental justice movement seeks to remedy unequal and unjust distributions by first acknowledging them and then pursuing abatement policies. The United States Environmental Protection Agency defines environmental justice as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Environmental justice requires not only consideration of the distribution of



The Elyria-Swansea neighborhood sits in one of the most polluted industrial areas in the country.



burdens like pollution, but also the distribution of benefits. Environmentally just policies fairly distribute both benefits and burdens, ensuring equity across all demographics.

Climate Justice

Climate justice recognizes that the effects of climate change are borne disproportionately by low-income, indigenous, and communities of color. The groups bearing the least amount of fault stand to suffer the most. Policies must remedy this injustice by holding the largest contributors proportionately accountable for the effects of climate change. Climate justice requires that mitigation and adaptation policies target frontline communities first and foremost. It also requires that the burdens and costs fall primarily on the parties who have benefitted the most from fossil fuel extraction and caused the greatest portion of the problem. Due to social, institutional, and geographic conditions, communities of color and low-income groups will be first hit and least able to adapt to climate disruptions.

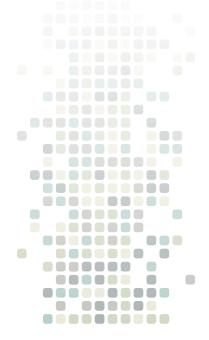
Environmental Justice in Colorado

Many Colorado communities suffer from environmental injustices and are highly vulnerable to the effects of climate change. In urban and rural areas of the state, communities are exposed to high levels of pollution, lack access to food and transportation, and are economically vulnerable. These exposures will be exacerbated by the effects of climate change, like prolonged drought, wildfire, extreme weather events, and rising temperatures. Many areas of our semi-arid state exist on the cusp of habitability and economic productivity. Others rely heavily on the fossil fuel industry for economic prosperity. In the face of existential threats from climate change, we must be proactive to help these communities adapt and transition to sustainable practices. Below are a few illustrations of the environmental and climactic challenges facing communities across Colorado.

Elyria-Swansea

Located on the north side of downtown Denver, the Elyria-Swansea neighborhood sits in one of the most polluted industrial areas in the country. Its population of 6,920 is 84% Hispanic, consisting of 55% families with children. The average household income is well below the rest of the metro area. The community is also burdened by noise pollution, major traffic arteries, superfund sites, brownfields, poor air quality, and a high number of emitting facilities. Residents have higher rates of asthma and obesity, visiting the emergency room much more than the state average.

Not only do residents of Elyria-Swansea suffer from cumulative environmental stressors, but they lack access to the environmental benefits that Colorado is known for. The neighborhood has the



least amount of tree canopy anywhere in the metro area and is cutoff from bike paths and parks. As temperatures warm on the Front Range, residents will be increasingly vulnerable to heat-related illnesses due to sun exposure, lack of air conditioning, and unreliable modes of transportation to escape the heat or reach medical care.

Existing environmental injustices need to be addressed while preparing Elyria-Swansea for rising temperatures and worsening air quality. Solutions include: more air-pollution monitoring sites; vehicle rerouting; sidewalk improvements, bike lanes and lighting; reducing noise pollution; and connecting cutoff streets to the road grid. Under a greenhouse gas emissions reduction scheme, community-level air monitoring, targeted co-pollutant reductions, outreach and involvement, energy efficiency upgrades, and infrastructure investments are among the possible strategies.

Alamosa County

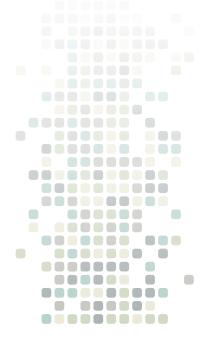
Located in the heart of the San Luis Valley, Alamosa County is home to 16,551 residents, 45.7% Hispanic and 48.7% White. The average household income is \$36,315 and 21.3% live below the poverty line. Alamosa County has a high rate of linguistic isolation, with 29.3% of residents speaking languages other than English in the home. Its economy is largely dependent on agriculture and the lifeblood of the Rio Grande. Recently, the area has seen an increase in tourism and the arts.

Alamosa's reliance on the Rio Grande makes it highly vulnerable to the effects of drought, especially in recent years. As flows drop, groundwater supplies are increasingly depleted to maintain agricultural productivity. The San Luis Valley faces serious threats to its economic stability, with projections showing growing water scarcity, especially in the southern part of our state. Rising temperatures, drought, and wildfire also threaten the burgeoning tourism economy.

But, with over 285 days of sunshine a year, **the Valley has huge solar potential.** Targeted investments can help diversify the economy, providing a steady source of jobs in the future. The region is one of the most beautiful in the state, with fourteen thousand foot mountains rising on both sides, and the Great Sand Dunes at their base. By ensuring that global temperatures do not rise to levels that would scorch the Valley, an emissions reduction policy will help to protect the tourism and agriculture industries.

Craig

Located in northwestern Colorado, Craig is home to 8,922 residents, 77% White and 18.8% Latino. The median household income is \$49,831, with an economy dependent on energy production, agriculture and ranching, and tourism. Home to coal

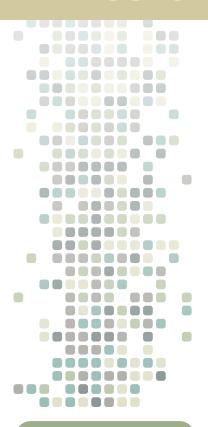


reserves, bountiful ranchland, and the Yampa River, the area is rich in natural resources.

Craig faces serious threats from climate change and the energy transition. Last summer, temperatures were so warm that the Yampa River was subject to a rare fishing closure. The region also contains some of the most extensive beetle killed forests in the state. And, one of the major coal generating facilities is set to close, with the others likely following soon.

To protect this region, Colorado needs to pursue just transition efforts to help coal dependent workers move to other fields, including renewable energy. Additionally, we must protect the valuable tourism and ranching economy, by reducing statewide emissions. By finding innovative methods to utilize beetle killed wood, and sequestering carbon in agricultural lands, we can help communities like Craig transition to sustainable, clean economies.

Emissions Reductions Policies



Colorado should pursue multiple strategies, with prescriptive mandates as the central tenant and market-based mechanisms to complement.



A variety of policies and approaches exist for achieving the deep emissions cuts necessary to limit warming to safe levels. Options range from prescriptive government mandates to market-based mechanisms. In the most successful jurisdictions, a mix of different approaches has proven most effective. Colorado should pursue multiple strategies, with prescriptive mandates as the central tenant and market-based mechanisms to complement.

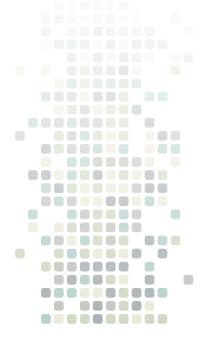
Market-based Approaches

Market-based climate policies fall into two main categories: capand-trade and carbon fees or taxes. Both are pricing measures that value carbon pollution per ton emitted, requiring polluters to internalize the cost of their activities. Each has potential to generate significant revenue.

Cap-and-trade policies set emissions caps for polluting facilities, and then either auction or give credits to each facility to emit up to its capped level. Facilities that are able to adopt emissions reducing technologies can sell or trade extra credits to those where compliance is more costly. The cap declines over time, ensuring jurisdiction-wide reductions. Cap-and-trade policies may also allow polluting facilities to purchase credits from verified carbon sequestration entities. Some approaches allow banking of emissions credits for use in the future or at new facilities. Cap-and-trade is praised for its economic efficiency because it encourages immediate reductions at facilities that can cheaply comply, while allowing those where technology is costly or not available to avoid immediate, expensive reductions.

Carbon tax or fee policies do not involve trading or offsetting, but instead place a price on all extracted fossil fuels based on carbon dioxide equivalent. A carbon fee is typically placed upstream, at the source of fossil fuel production or extraction, and increases over time. The fee can also be placed midstream or downstream—at the refinery or the gas pump. This makes firms to pay for the cost of their activities, correcting the market-failure that allowed externalization of pollution costs. In contrast to cap-and-trade, carbon fees are extremely simple and require little government intervention or oversight. Carbon taxes are the leading policy preference of almost all top economists. Prices vary, but most economists recommend of price between \$40 and \$80 per ton of carbon pollution starting in 2020, increasing to between \$50 and \$100 by 2050.

Policies can be structured as revenue neutral, allowing for reductions in other taxes, or revenue can be invested in further emissions reduction measures, renewables, or adaptation efforts.



Some have also proposed returning the revenue directly to households in the form of a monthly dividend check to offset the potential increased energy costs. Revenue from a carbon fee or a cap-and-trade system should be used for adaptation measures, increased emission reductions, and investments benefitting low-income communities. A revenue neutral approach, that places a fee or tax on carbon emissions, while reducing other taxes, may be particularly useful in Colorado.

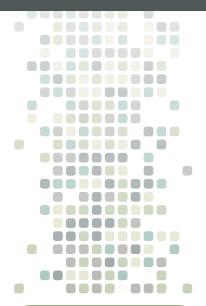
Sole reliance on market-based mechanisms presents serious environmental justice risks. Market-based mechanisms fail to account for the distributional concerns associated with emissions reductions and increases. Such measures also delegate decision-making power to the private entities responsible for polluting. If market-based mechanisms are implemented, they require close monitoring by government and cannot be solely relied upon to achieve environmental justice benefits or required emissions reductions.

Prescriptive Mandates

Prescriptive strategies require certain standards or technologies to ensure targeted emissions reductions. These government centered approaches are lauded for achieving long-term reduction goals and avoiding perilous reliance on market forces. Examples include: renewable portfolio standards, clean car standards, energy efficiency standards, low-carbon fuel standards, and technology requirements or retirements of facilities. Government agencies have the primary responsibility for administration and compliance assurance. Prescriptive measures may also be complemented by market-based mechanisms, like in California.

Given the importance and urgency of emissions reductions, prescriptive measures are essential to ensure both immediate and long-term reductions. Sole reliance on market mechanisms could allow for short sighted investments in unsustainable technologies like natural gas. While there may be a place in the energy transition for such measures, it is essential that long-term, large infrastructure investments are compatible with midcentury emissions reduction goals. Government has the capacity to engage in complex decision-making, weighing environmental and socioeconomic tradeoffs in a way that is beyond the capacity of the free market.

Summary of Legal Authorities



The Climate Action
Plan to Reduce
Pollution requires
Colorado to reduce
emissions:

26% by 2026

50% by 2030

90% by 2050



Climate Action Plan to Reduce Pollution

The Colorado Climate Action Plan to Reduce Pollution, HB 19-1261, aims to combat climate change while maximizing societal benefits by amending the Air Pollution Prevention and Control Act. The Plan adds statements of the current and projected effects of climate change in Colorado to the legislative declaration. It also recognizes the environmental justice implications of climate change and specifically seeks to redress disproportionate impacts.

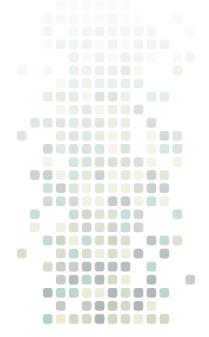
The Climate Action Plan to Reduce Pollution sets greenhouse gas emissions reduction goals of 26% by 2025, 50% by 2030, and 90% by 2050, relative to 2005 baseline levels. It seeks to attain netzero emissions by midcentury, consistent with the goal of limiting worldwide temperature rise to 1.5°C. The Plan provides some contours for reaching this goal, mandating certain considerations by the Air Quality Control Commission. It requires the Commission to track progress, reduce co-pollutants, and solicit input from frontline communities. The Commission is allowed to coordinate with other jurisdictions and adopt their strategies.

Section 3 sets out the considerations the Air Quality Control Commission must account for when promulgating rules to achieve the goals. Beyond just economic costs, it must consider the benefits of compliance, including those related to health, environment, and air quality. It also requires the Commission to consider the equitable distribution of benefits, incentives, the clean energy transition, and pollution abatement in communities identified as vulnerable.

Part VIII sets a more ambitious goal for electricity sector emissions and limits some of the policy mechanisms that the Air Quality Control Commission may adopt. For retail electricity providers, it bars the Commission from imposing fees beyond those associated with administration, and also prevents mandated portfolio requirements.

Air Quality Control Commission

Legal authority to undertake these recommendations is found in the Air Pollution Prevention and Control Act. The Act requires the Air Quality Control Commission to promulgate rules and regulations to achieve the best possible air quality using all methods that are available, technologically feasible, and economically reasonable.



Regulation 3 provides guidance on stationary source permitting and the notice requirements for emissions of airborne pollutants. Similarly, **Regulation 6** sets forth performance standards for new stationary sources. **Regulation 7** governs control of hydrocarbon emissions associated with oil and gas activity, among other things. Finally, **Regulation 20** controls Colorado's low emission automobile program.

The Air Quality Control Commission's procedural rules also provide means to further environmental justice. These rules control the Commission's hearings, meetings, adjudications, and rulemakings. The procedural rules seek to maximize community involvement and transparency.

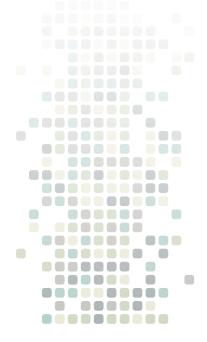
Other Agencies

Several other state agencies and programs may play a role in furthering environmental justice. Within the Colorado Department of Public Health and Environment, the Office of Health Equity administers the **Health Disparities Grant Program.** This program is intended to provide prevention, early detection, and treatment of cancer, cardiovascular, and pulmonary diseases to underrepresented populations. It could provide financial support for environmental justice programs, especially those relating to public health.

The Office of Health Equity also provides support to divisions of the Colorado Department of Public Health and Environment. Its role is currently limited by budget and staff, but the Office of Health Equity has the capacity and legal authority to play an advisory and capacity building role. It currently advises divisions seeking assistance on public health and community engagement.

The Department of Local Affairs coordinates between state agencies and local governments, which play a critical role in ensuring environmental justice. In addition, the Department of Local Affairs directs the mineral severance tax, which provides significant funding for development projects and could be utilized when implementing these recommendations.

The Office of Economic Development and International Trade provides coordination, support, and funding for programs designed to increase economic development in Colorado. This office advises the governor and general assembly on issues affecting the business community in Colorado. The Office of Economic Development and International Trade can support just transition recommendations by providing job training to spur economic development.



Related Legislation

The Clean Air Clean Jobs Act of 2010 required utilities operating coal-fired power plants to submit reduction plans to the Public Utilities Commission in order to meet anticipated requirements of the Clean Air Act. The Public Utilities Commission oversaw and approved the plans submitted, and the Air Quality Control Commission incorporated anticipated reductions into the Regional Haze Plan.

The Protect Public Welfare Oil and Gas Operations Bill, SB 19-181, directs the Air Quality Control Commission to revisit and expand regulations that govern monitoring and leakage of airborne pollutants like methane, volatile organic compounds, and oxides of nitrogen.

The Collect Long-term Climate Change Data Bill, SB 19-096, modifies the current requirement for greenhouse gas reporting and requires an inventory of Colorado's greenhouse gas emissions to be compiled every year rather than every five years.

The Just Transition From Coal-based Electrical Energy Economy Bill, HB 19-1314, helps to ease the transition to a decarbonized economy for Coloradans who are dependent on the coal industry. It accomplishes this by creating an office in the Division of Labor and Employment that will administer job training, grants, and additional benefits to coal-dependent laborers and communities.

Executive Orders

Executive Order D 004-08, issued by Governor Ritter in 2008, set a target for greenhouse gas emissions reductions to 20% below 2005 levels by 2020. It also directed the Colorado Department of Public Health and Environment to compile and publish an inventory of greenhouse gas emissions every 5 years.

Executive Order D 2017-015, issued by former Governor Hickenlooper in 2017, set forth several climate-related goals and directives. It included an updated greenhouse gas emissions reduction target to 26% below 2005 levels by 2025, with specific electricity sector emissions targets. The order also directed the Colorado Department of Public Health and Environment to develop a statewide electric vehicle program and expand on inter-agency efforts to assist in a just transition to a decarbonized economy and energy system.

Executive Order B 2019-002, issued by Governor Polis in 2019, expands on the efforts to increase low-emission and zero-emission vehicle usage in Colorado. It also directs the Colorado Department of Public Health and Environment to channel funds from the Volkswagen settlement toward zero-emission vehicle infrastructure expansion, and creates a workgroup to develop, coordinate, and implement related programs.

Policy Recommendations



1. Co-pollutant Reductions

The same combustion processes that generate greenhouse gas emissions also produce significant amounts of locally harmful air pollutants. Often occurring in concentrated geographic areas, these processes cause pollution "hotspots," giving rise to significant public health problems, which tend to disproportionately burden low-income and communities of color. Exposure to locally harmful air pollutants, like particulate matter and ozone, can lead to asthma or cancer. Policies to reduce greenhouse gas emissions do not necessarily reduce co-pollutants, and in some situations, may exacerbate existing pollution problems.

Under a purely market-based policy, the specific geographic locations of reductions are not considered. Rather, market forces dictate reductions based on where they are most cost-effective. This can allow emissions increases in some areas and decreases in others. Increases often occur in communities that are already burdened by air pollution, causing new or worsening hotspots. This has occurred under existing cap-and-trade systems.

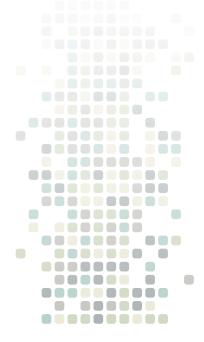
To maximize
environmental
justice and health
benefits, a multipollutant reduction
approach is the
best strategy.

A multi-pollutant reduction approach is the best strategy to ensure that environmental burdens are minimized and the benefits of emissions reductions are directed to environmental justice communities. By reducing co-pollutants alongside greenhouse gases, especially in vulnerable communities, a multi-pollutant approach maximizes health benefits. Climate policy provides the opportunity to make necessary reductions and benefit burdened communities, while assisting the state in meeting its Clean Air Act obligations.

Strategies & Actions

- 1.1.S Policymakers need to identify vulnerable communities to target for overall air pollution reductions using data and existing tools. Once identified, community-level air pollution reduction goals should be set and pursued. To reduce air pollution in specific communities, regulators must subject certain facilities to hard caps, and prevent those facilities from offsetting or trading emissions credits.
- 1.1.A The Climate Action Plan to Reduce Pollution requires the Air Quality Control Commission to promulgate rules that include strategies to reduce co-pollutants. The Commission should fulfill this mandate by setting community level reduction goals, preventing trading or offsetting in burdened communities, and regulating super-pollutants.
- 1.2.S Policies should focus on reducing overall emissions in geographic regions that are burdened by existing air quality problems, while maintaining consistency with mandated reduction goals. By ensuring





the primary, and most significant, reductions occur in areas burdened by cumulative environmental stressors, policies will achieve the greatest overall environmental and health benefits. Through geographic restrictions on permitting and trading, targeted reductions at specific facilities, and technological investments in burdened communities, copollutant benefits can be maximized.

- 1.2.A The Climate Action Plan to Reduce Pollution requires the Air Quality Control Commission to promulgate rules that "reduce other harmful air pollutants which will, in turn, improve public health, reduce health care costs, improve air quality, and help sustain the environment" It also requires that "the implementing rules . . . include strategies designed to achieve reductions in harmful air pollution affecting [disproportionately impacted] communities." To accomplish this, new regulations should include targeted reductions in burdened areas and geographic restrictions on trading or offsetting.
- 1.3.S Trading, banking, and offsetting of emissions credits should be avoided because such practices undermine the co-pollutant benefits of reductions in specific geographic locations. Moreover, use of credits or banking could actually allow increased emissions in certain areas, worsening local air pollution problems. If a trading scheme is pursued, careful consideration to these practices is necessary to avoid co-pollutant increases or hotspots. Trading, banking, or offsetting may be useful in the overall scheme, but at a minimum, should be prevented in areas that already suffer from poor air quality and other environmental stressors.
- 1.3.A To achieve maximum co-pollutant reduction benefits under a greenhouse gas emissions reduction scheme, the Air Quality Control Commission should amend Part A, Section V.E. of Regulation 3 to prevent emissions credit transactions for non-manufacturing sources. At a minimum, the Commission should prevent transactions in areas with existing pollution problems and those identified as environmental justice communities. Additionally, any regulations promulgated under the Climate Action Plan to Reduce Pollution should specifically seek to reduce co-pollutants alongside greenhouse gases.
- 1.4.S To achieve maximum climate and health benefits, policies should also reduce short-lived climate pollutants, or "super-pollutants," like methane and black carbon. These super pollutants are extremely potent drivers of global warming, and contribute to health problems. Respiratory illnesses and urban heat island effects can be reduced and combatted through regulation of super pollutants.
- 1.4.A The Air Quality Control Commission should also consider strengthening Regulation 7 and controls on methane in order to reduce short-lived super-pollutants and maximize environmental benefits. Under the Protect Public Welfare Oil and Gas Operations bill, the Air Quality Control Commission will be required to undertake more stringent methane regulations, and such an effort can complement overall greenhouse gas emissions reduction goals.

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ENVIRONMENTAL JUSTICE ADVISORY COMMITTEE

The Air Quality
Control Commission
should seek input
from a committee
made up of leaders
from frontline
communities
around the state
during all major
rulemakings
and high-impact
permitting decisions.



2. Community Participation & Adaptive Management

Environmental justice communities are often excluded from decision-making processes for a number of reasons including: language barriers, access to transportation, lack of awareness, technicality of proceedings, and scheduling conflicts. These communities are heavily impacted by decision-making that takes place without their input. Deficient community involvement undermines procedural objectives, democratic values, and decreases public support for policy goals.

To overcome these concerns, community partnerships must be formed by seeking public involvement, reaching out to environmental justice leaders, increasing transparency, and making resources easily accessible. Rulemaking and permitting decisions must be reflective of community values and made with community input. In doing so, decisions can garner broad public support and trust, building a long-term vision for climate plans.

An adaptive management strategy that includes ongoing evaluation and feedback is necessary to ensure a just and equitable distribution of costs and benefits. Addressing concerns of environmental justice communities in an ongoing fashion can add support, trust, and the effectiveness of policies. Continuing evaluations and contingency plans are also needed to bring about reductions consistent with midcentury goals.

Strategies & Actions

2.1.S To achieve community participation and ensure ongoing adaptive management, an environmental justice advisory committee should be established. It should provide input on all major environmental agency rulemakings and also review permitting decisions that impact vulnerable communities. The committee should be comprised of local leaders and experts, and must be representative of their values and interests.

2.1.A The Climate Action Plan to Reduce Pollution requires the Air Quality Control Commission to solicit public input, especially from those most impacted by climate change and workers from communities dependent on fossil fuels. To undertake this, the Commission should amend its procedural rules to establish an environmental justice advisory committee. The rules should require input from the committee on all major rulemakings and high-impact permitting decisions. Like the California Air Resources Board's Environmental Justice Advisory Committee, the committee should be comprised of leaders from frontline communities around the state. It should provide written reports and recommendations, as well as oral presentations and input. Its members should be convened throughout the year during all major decision-making processes, and paid for their time.

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The Legislature or Governor should establish an environmental justice advisory **committee** by statute or executive order.



Beyond any actions taken by the Air Quality Control Commission, the Legislature or Governor should establish an environmental justice advisory committee by statute or executive order. The committee should advise all relevant state agencies on major rulemakings and permitting that may affect environmental justice communities. Similarly, the Legislature should consider codifying procedures that require agency outreach and input from environmental justice communities during decision-making processes.

2.2. Second, frontline communities across the state should be identified based on socioeconomic status, race, public health indicators, and environmental hazard criteria. Regulators should reach out to potentially affected communities early and actively seek input on rulemakings and permitting decisions. To achieve meaningful participation from these groups, resources must be made readily available through plain-language webinars, handouts, and online reporting tools. Additionally, policymakers should collaborate with nonprofits, faith-based organizations, schools, labor groups, and others, to achieve greater input and make decisions that are reflective of community values.

2.2.A The Air Quality Control Commission should amend its procedural rules to require outreach efforts during rulemaking and permitting. Consistent with the purpose laid out in the procedural rules, the Commission should seek "public participation to its fullest extent" by engaging with communities that will be impacted by decisions. While regulatory proceedings are open to the public, they are often not accessible due to timing and their technical nature. To achieve the desired level of participation, Air Pollution Control Division and Office of Health Equity staff and resources should be leveraged to proactively seek input from communities. Staff should provide technical assistance to citizens in the form of simplified, plain-language explanations, brochures, or webinars. Community members must be able to easily access and understand the factual basis and reasoning relied upon in Air Quality Control Commission decision-making.

If an environmental justice advisory committee is not established, the Air Quality Control Commission should amend its procedural rules to require consultation with the Office of Health Equity before undertaking major rulemakings or high-impact permitting decisions. Office of Health Equity staff have expertise and capacity building skills that can be utilized to identify environmental justice concerns resulting from Air Quality Control Commission activities.

2.3. Rulemaking and implementation processes must be designed to require consistent and ongoing evaluation of air quality and public health data. Procedures must also require ongoing feedback and discussion with environmental justice communities. Local leaders, environmental justice advisory committee members, and other stakeholders should all have regular opportunities to voice their concerns regarding the design, implementation, and operation of policies. By continuously seeking feedback, evaluating metrics,

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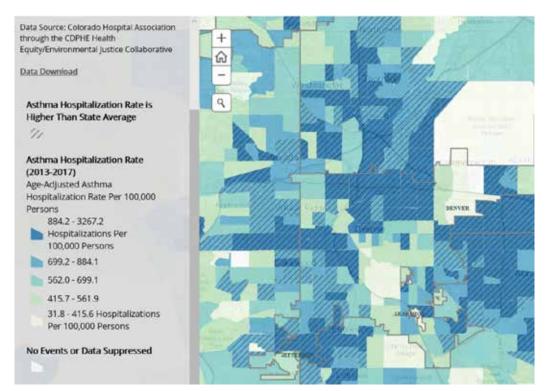
The Air Quality
Control Commission
should implement
a **statewide**, **community-based**air monitoring
network



and updating management plans, policies can achieve maximum effectiveness and support.

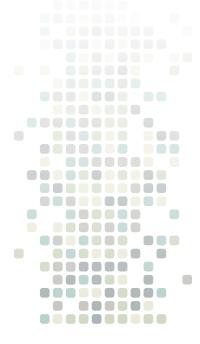
2.3.A In any new regulations, the Air Quality Control Commission should include provisions requiring ongoing evaluation of public health and environmental criteria. The provisions should specifically require meetings and evaluations with affected communities at least once per year. They should similarly require at least yearly evaluations of the public health and emissions data, to ensure reductions and improvements are actually occurring. Regulations must allow for easy modification and contingency measures in case goals and timelines are not achieved.

3. Local Air Monitoring & Public Health



Low-income communities and communities of color tend to experience disproportionate impacts of airborne pollutants such as ozone and particulate matter, which are associated with a host of environmental and public health concerns. Localized air quality monitoring and public health data is essential to mitigate this inequality. Without ongoing evaluations, communities will not know if improvements are actually occurring.

Accurate greenhouse gas emissions accounting is essential to attain needed reductions. Under current practices, greenhouse gas emissions inventories rely heavily on estimated or averaged values for the carbon content of fuels, and are therefore likely inaccurate. Furthermore, there are significant gaps in current federal and state greenhouse gas reporting requirements. Under federal law, only sources with annual greenhouse gas emissions over 25,000 metric tons are required to



report to EPA. Currently in Colorado, a greenhouse gas inventory only has to be prepared every 5 years.

Strategies & Actions

- 3.1.S Policymakers should establish a statewide community-based air monitoring network, with monitors in disadvantaged neighborhoods and near facilities. At a minimum, baseline values must be set for air quality levels in low-income communities and communities of color to ensure that any regulatory changes have positive effects. Existing air monitoring should be supplemented by more granular data. Precise knowledge of the locations of air quality issues will further empower decision-makers and communities to take appropriate corrective measures.
- 3.1.A To achieve the mandates of the Climate Action Plan to Reduce Pollution, the Air Quality Control Commissions should promulgate new regulations which condition trading, permits, or credit transactions on installation of local air monitors. The Commission and the Air Pollution Control Division should provide more neighborhood-level air monitors in environmental justice communities and any areas deemed at risk of heightened levels of pollution. Additionally, an accessible online reporting tool should be created to allow concerned citizens to identify potential problem areas or noncompliant facilities.

The Colorado Department of Public Health and Environment should expand the public health mapping tool to include overlays for environmental criteria, similar to EJSCREEN and CalEnviroScreen.

The tool should include environmental indicators such as proximity to pollution sources and air pollution levels. It should also allow for side-by-side comparison of environmental, health, and demographic indicators.

- 3.2.S Once metrics are set, policymakers and community leaders can collaborate to efficiently prioritize public health and air quality concerns. Regulators should use baseline data to identify communities subject to cumulative stressors. Data should inform decisions that minimize burdens to vulnerable communities.
- 3.2.A The Air Quality Control Commission and the Air Pollution Control Division should work with the Office of Health Equity and the Office of Environmental and Health Data to identify communities that are subject to cumulative stressors. In any new rulemaking, the Commission should use this information to ensure emissions reduction efforts do not worsen existing burdens. The Commission should design new rules, trading mechanisms, and permitting practices around this data to minimize harms and maximize benefits for frontline communities.
- 3.3.S Existing greenhouse gas reporting requirements should be expanded as well. Significant amounts of unintentional emissions and methane leakage are excluded under current inventorying practices. Mandated reporting of unintentional emissions can help regulators



Policymakers should consider placing a fee or tax on greenhouse gas emissions per ton to achieve the greatest reductions and generate revenue.



locate and correct problem areas. It would be useful to align with federal requirements in anticipation of legislation or EPA regulations.

3.3.A Greenhouse gas inventory reports should be required annually or in conformity with federal requirements. Lowering the minimum threshold for emissions reporting would provide greater data on emissions sources and require compliance from more facilities. The Collect Long-term Climate Change Data bill requires greenhouse gas reporting on an annual basis.

4. Carbon Pricing

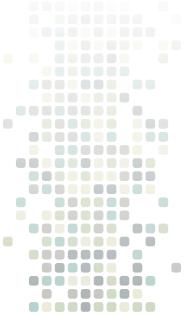
Pursuing a market-based carbon pricing mechanism can be a cost-effective way to reduce emissions, but also poses environmental justice risks. Carbon pricing measures sacrifice democratic accountability by delegating decisions about emissions reductions to the market rather than publicly accountable officials. In doing so, policies further remove decision-making power from the immediately affected communities. However, if deliberately undertaken to minimize these concerns, carbon pricing can be an extremely effective tool for reducing emissions and promoting equity.

Environmental justice communities tend to be most negatively impacted when trading systems and offset credits are used. Market-based systems do not solve, and may worsen, existing pollution problems. In fact, trading mechanisms can allow industry to consolidate pollution in concentrated geographic areas, creating or exacerbating hot-spots. Similarly, the use of offset credits or banking can undercut actual emissions reductions in specific locations, thereby eviscerating potential co-pollutant benefits.

To resolve these concerns, a carbon pricing system must be designed in a way that maximizes benefits and minimizes costs for environmental justice communities. By carefully considering the impacts of a trading or market-based mechanism, policies can avoid perpetuating existing inequalities. Policies should not rely solely on market-based mechanisms for needed reductions, but must plan for long-term, deep emissions cuts.

Strategies & Actions

- 4.1.S Policymakers should consider setting a fee per ton of greenhouse gas emissions on all facilities to drive overall reductions and create a clear signal to industry. The fee must be set at a high enough level to drive innovation and verifiable reductions. Regulators must monitor developments and adjust if market forces are driving investments and innovation in short-term unsustainable technologies.
- 4.1.A In promulgating rules to reduce greenhouse gas emissions, the Air Quality Control Commission should consider a carbon pricing measure. The Commission has authority to set fees up to "twenty-eight dollars and sixty three cents per ton of regulated pollutant reported...". The Commission should place a fee on all greenhouse gas emissions





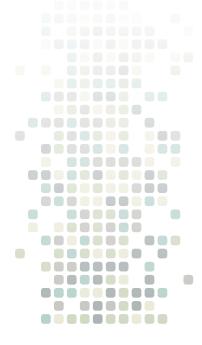
outside of the electricity and manufacturing sectors and use the revenue for additional reduction measures, renewables investments, and job training programs. Additionally, a statutory amendment should be considered that would allow for a higher price per ton, equivalent to the projected social cost of carbon.

4.2.S Policies must be designed so market-based mechanisms or trading schemes are secondary to prescriptive measures, serving as a backstop, and not centrally relied upon for needed reductions. If a trading system is pursued rather than a fee, it should not utilize a free allowance system, offset credits, or trading outside of the state. Trading and offsets can create leaks and undermine true emissions cuts. Moreover, facilities located in or near vulnerable communities should be subject to facility-level caps and prevented from increasing emissions. Regulators must closely monitor and verify the sources of offsets to ensure actual reductions are occurring.

4.2.A The Colorado Climate Action Plan to Reduce Pollution encourages the Air Quality Control Commission to adopt regulatory strategies deployed in other jurisdictions. It also encourages costeffective mechanisms and linking with other programs. In order to achieve this, the Commission should consider adopting a cap-and-trade system, but carefully avoid environmental justice problems. Regulation 3 should be amended to prevent trading, offsetting, and banking of emissions credits in vulnerable and burdened communities. At a minimum, Part A, Section V.E. and Section V.H.1 should be amended to prevent entities in areas with existing air pollution problems from attaining eligibility for emissions credit transactions.

4.3.S If a revenue-generating carbon pricing system is employed, policymakers should earmark revenue for investments that will benefit frontline communities. Revenue can be used to offset increased energy costs for low-income consumers, invest in green-tech job training programs, and pay for energy efficiency and renewable developments in frontline communities. To generate political support, revenue could be returned to households in the form of a monthly or yearly dividend check. But, funds should not be directed towards regulated entities.

4.3.A Importantly, the Air Quality Control Commission must remove or amend Part A, Section VI.D.3, which exempts greenhouse gases from the requirement to pay annual emissions fees. Similarly, a statutory amendment is needed to allow for greater uses of the Stationary Sources Control Fund. The Fund can further some participatory goals, but to achieve additional uses, legislative action is required. Alternatively, a greenhouse gas reduction fund could be implemented to allocate revenue from a fee on greenhouse gases to specific governmental entities or programs.



5. Permitting

High-emitting and polluting facilities tend to be located disproportionately in low-income communities and communities of color due to a combination of factors including: real estate prices, zoning, lack of community participation, and inadequate consideration of cumulative impacts. Decisions made without meaningful community involvement or participation often directly impact those who were excluded from the process. The result is large numbers of permits for polluting facilities in underprivileged areas.

To reduce burdens on vulnerable communities, policies must ensure that permitting processes do not result in additional facilities in these areas. Moreover, new policies must prevent modifications to existing permits in environmental justice communities where such modifications would allow an increase in emissions. Case-by-case permitting decisions are not the best method for ensuring environmental justice because local residents may not adequately participate or voice their concerns. If permitting does occur in environmental justice areas, significant involvement from the community must be sought to prevent adverse impacts.

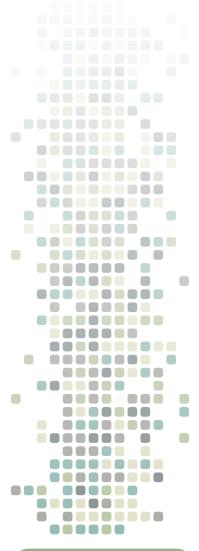
Strategies & Actions

5.1.S Policies should include provisions that prevent the approval of new permits or modification of existing permits in burdened areas. Regulators must identify burdened geographic regions and prevent issuing permits in these areas. Cumulative impacts resulting from economic conditions, environmental stressors, and health disparities must be considered in all permitting decisions. Permits in vulnerable communities should be subject to strict conditions and reliable enforcement.

5.1.A Any new regulations promulgated by the Air Quality Control Commission to achieve the mandates of the Climate Action Plan to Reduce Pollution should incorporate these recommendations in the permitting provisions. New permitting practices should prevent new source construction in communities subject to cumulative stressors, or at a minimum, subject them to strict conditions and enforcement.

The Air Quality Control Commission should amend Regulation 3 to expressly prohibit additional permitting in areas with existing air quality problems or cumulative environmental exposures. Similarly, permit modifications in these areas should not allow increased emissions or hours of operation. The Commission should implement a procedure for prioritizing enforcement in low-income communities and communities of color. The Air Pollution Control Division should condition new permits on installation of local air monitors or other measures to ensure compliance.

5.2.S Built-in procedures are needed to ensure that cumulative impacts are addressed and restrictions are imposed. Furthermore, policies



All communities
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should require the identification of permits that are likely to have a significant impact, and require outreach to communities that will be affected. When considering high-impact permits, regulators should hold public forums, schedule outreach meetings in the affected community, and set up a hotline or online system for citizens to report concerns. Regulatory agencies should make facility compliance and performance records available to the public to increase awareness and accountability. Citizens must have easy and free access to these records as well as technical assistance to understand the implications.

5.2.A The Air Quality Control Commission should change its procedural rules, or add procedural provisions under a new regulation, to require community outreach and feedback in the case of high-impact permitting. The Air Pollution Control Division should make all permits and compliance records publicly available, free of charge. Permits should be accessible online, and staff from the Air Pollution Control Division or the Office of Health Equity should help residents understand and read permits and performance records.

6. Just Transition and Economic Opportunity

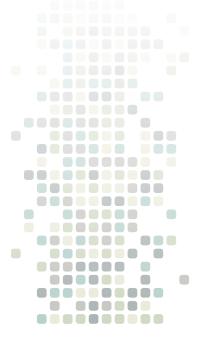
Transitioning to a decarbonized energy system and economy may cause disproportionate costs to fall on low-income communities and communities of color. These groups spend a higher percentage of their total income on energy, so any increased costs will be regressive. Communities that rely heavily on the fossil fuel industry for jobs and tax revenue are likely to be impacted as well.

All communities should benefit from the transition to a decarbonized economy, and no socioeconomic group should be disproportionately burdened. Ensuring that both costs and benefits of decarbonization are spread equitably across socioeconomic groups will require careful planning, implementation, and evaluation of social and environmental programs.

Retiring facilities can also cause serious economic problems in communities that rely heavily on jobs and income from fossil fuel extraction. Policies that explicitly seek to retire high-emitting facilities must plan for a just and equitable transition for the facility's workers and dependents. Well-planned retirements, new project siting, and job training programs can aid in this effort.

Strategies & Actions

6.1.S Revenue-generating carbon pricing policies can significantly aid in just transition efforts. Policymakers should earmark revenue from cap-and-trade or carbon tax policies for use in job training, renewable energy developments, energy efficiency upgrades, or other investments in burdened communities.



6.1.A To fund the just transition efforts mandated by the Climate Action Plan to Reduce Pollution, the Air Quality Control Commission should consider placing a fee on greenhouse gas pollution in non-exempt sectors and working with other government bodies to earmark all revenue for investments in renewable energy projects and job training programs. A fee would provide significant revenue that could be used to offset increased energy prices and other economic burdens to low-income groups.

6.2.S Job training efforts in renewable energy and sustainable development projects should be focused on frontline communities. Fast-tracking permits for sustainable developments and renewable energy projects could further increase the benefits to disadvantaged communities. However, approval of clean energy projects must take into consideration potential impacts to existing sources of revenue. Siting decisions should safeguard existing jobs and avoid displacing

productive agricultural land.

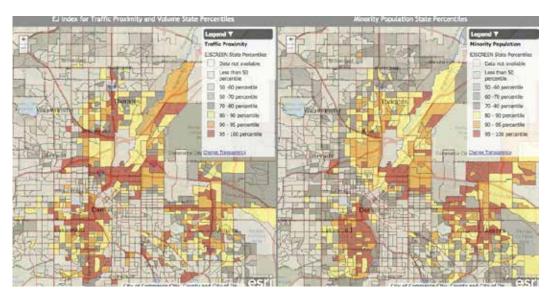
- 6.2.A The Air Quality Control Commission should aim to retire polluting facilities, but must carefully consider the economic effects on dependent communities. If facilities are retired, the same communities should be prioritized for renewable energy developments. Renewables projects should not be sited in areas where they will displace existing productive jobs or destroy otherwise productive lands.
- 6.3.S Job training programs in rural communities should use practices that create new jobs while sequestering carbon or reducing emissions, like carbon farming. Using agricultural techniques or other innovative practices to sequester carbon could become a source offset credits and employment opportunities. This would drive job training efforts in rural communities, resulting in climate benefits and additional economic opportunity all at once.
- 6.3.A If the Air Quality Control Commission decides to pursue a trading scheme, it should ensure that offset credits produce added benefits like sustainable jobs and technological investments. Through innovative practices like carbon farming, jobs are created while adding carbon sequestration benefits. The Air Quality Control Commission should also work with other agencies like the Public Utilities Commission and the Department of Transportation to ensure emissions reductions strategies are designed in ways that facilitate green job growth.

The Just Transition From Coal-based Electrical Energy Economy bill, HB 19-1314, would aid in these efforts by providing job training and other benefits to coal-dependent communities in Colorado. Although only coal-dependent communities are currently included, the program could eventually be expanded to include oil and gas dependent communities as well.

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7. Transportation

Transportation is an important issue for rural, low-income, and communities of color for several reasons. Rural citizens are subject to longer commutes and economically disadvantaged communities frequently lack access to reliable transportation. Low-income communities and communities of color also tend to be located in close proximity to major transportation routes.



Modifying existing infrastructure can promote low- or zero-emissions modes of transportation and allow accessibility for all communities. Low- and zero-emission transportation should be as affordable as possible. Lastly, transportation emissions in and around low-income communities and communities of color should be tracked to ensure they do not increase.

Strategies & Actions

- 7.1.S Reductions in vehicle miles traveled should be prioritized in communities subject to cumulative stressors or located near major traffic arteries. Targeted investments in clean public transit should also be made in these areas to ensure access to economic opportunities and health care. Promoting mixed-use development over urban sprawl helps to minimize transportation-related emissions while providing public health benefits when people walk or bike more, and drive less.
- 7.1.A The Air Quality Control Commission should identify areas along major transportation arteries that experience high levels of emissions and prioritize reductions in vehicle miles traveled in these areas. Similarly, the Air Quality Control Commission should work with the Colorado Department of Transportation and the Public Utilities Commission to ensure that new clean transit projects are first pursued in burdened areas and those that lack clean and reliable transportation.
- 7.2. S Agencies should pursue construction of additional charging stations along major transportation routes and in rural or environmental

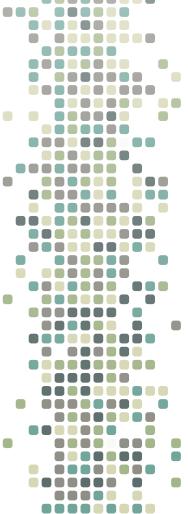


justice communities to make electric vehicle use widely accessible. Tax credits can also provide incentives to allow for a wider portion of the population to have access to low- and zero-emission vehicles.

- 7.2.A The Air Quality Control Commission should ensure access to new clean cars and the associated infrastructure is available to low-income communities and communities of color. Agencies can facilitate access to all consumers by locating necessary infrastructure in burdened communities and ensuring tax credits are accessible to low-income buyers.
- 7.3.S Implementing a low-carbon fuel standard is another important step to reducing greenhouse gas emissions and co-pollutants. Policymakers must ensure that low-carbon fuel standards do not have regressive impacts on low-income commuters or drive investments in unsustainable technologies.
- 7.3.A Colorado should follow in California's footsteps and adopt a low-carbon fuel standard to supplement existing low- and zero-emission vehicle programs. Low-carbon fuel standards promote use of fuel sources with lower carbon intensities than gasoline and diesel, but careful attention must be given to the potential regressive effects and sustainability of large investments.

Conclusion





Implementing the Climate Action Plan to Reduce Pollution presents the unique opportunity to ensure a just and equitable transition for all Coloradans, while alleviating historical injustices and combatting climate change. Low-income communities and communities of color typically bear the brunt of environmental burdens and health disparities. Minimizing air pollution not only makes Colorado a cleaner and more beautiful place to live, but alleviates health disparities in frontline communities.

Transitioning from our current fossil-fuel based economy to a carbon-free, renewable infrastructure is essential to avoid the worst effects of climate change in Colorado and worldwide. Experts anticipate that Colorado will be heavily affected by climate change, with wildfires, drought, and ecosystem collapse topping the list of potential concerns. The transition to a decarbonized economy must be carefully strategized and implemented to avoid an unjust distribution of costs and benefits.

It is critical to ensure that low-income, rural, and communities of color are not left behind or disproportionately impacted by the effects of emissions reductions and economic transition. These recommendations will help to ensure that disadvantaged communities are afforded the environmental and benefits of a just transition.

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Appendix: Legal Authority

Air Pollution Prevention & Control Act

Actions	Section	Text
1.1, 1.2, 1.4	Legislative Declaration: CRS § 25-7-102	"maximum practical degree of air purity" "all available practical methods which are technologically feasible and economically reasonable so as to reduce, prevent, and control air pollution."
1.1, 1.2, 1.4, 3.1, 7.1	Definitions: CRS § 25-7-103	"(11) 'Emissions control regulation' means and includes any standard promulgated by regulation which is applicable to all air pollution sources within a specified area and which prohibits or establishes permissible limits for specific types of emissions in such area "
1.1, 1.2, 1.4, 3.1	Duties of the Commission: CRS § 25-7-105 (3)	"the commission shall promulgate such rules and regulation as are consistent with the legislative declaration set forth in section 25-7-102 and necessary for the proper implementation and administration of this article "
4.2, 5.1, 5.2	Commission – Additional Authority: CRS § 25-7-106 (1)(c)	"Emission control regulations that are applicable to the entire state, that are applicable only within specified areas or zones of the states, or that are applicable only when a specified class of pollution is present; "
3.1, 3.2, 5.1, 5.2	Commission – Additional Authority: CRS § 25-7-106(6)	"The commission may require the owner or operator, or both, of any air pollution source to: (a) establish and maintain reports as prescribed by the commission; (b) install, use, and maintain monitoring equipment or methods as prescribed by the commission; (c) Record, monitor, and sample emissions in accordance with such methods, at such locations, at such intervals, and in such manners as the commission shall prescribe; (d) provide such other information as the commission may require."
	Commission to promulgate emission control regulations: CRS § 25-7-109(1)(a)	"Except as provided in sections 25-7-130 and 25-7-131, as promptly as possible, the commission shall adopt, promulgate, and from time to time modify or repeal emission control regulations which requires the use of effective practical air pollution controls: (I) for each significant source or category of significant sources of air pollutants; (II) For each type of facility, process, or activity which produces or might produce significant emissions of air pollutants."
4.1, 4.3	Emissions Fees - Funds: CRS § 25-7-114.7(2)(a) (I)(A)	"For fiscal years 2018-19 and thereafter, the maximum fee is twenty-eight dollars and sixty three cents per ton of regulated pollutant reported The commission shall set the actual fee by rule."

4.1, 4.2, 4.3, 6.1	Emissions Fees - Funds: CRS § 25-7-114.7(2)(b)	"The moneys collected pursuant to this section shall be remitted to the state treasurer, who shall credit the same to the stationary sources control fund, which fund is hereby created."
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Air Quality Control Commission – Procedural Rules

Actions	Section	Text
2.1, 2.2	Procedural Rules Preamble	"The Commission encourages public participation to its fullest extent. The Commission's Procedural Rules are designed to promote open, fair, and effective proceedings with the input and participation of the general public."
2.1, 2.2	Procedural Rules Preamble	"Colorado has chosen the citizen board approach to develop and oversee implementation of its air quality management program to ensure that the air quality program is responsive to the public."
2.2, 5.1, 5.2	Procedural Rules VII.D.14.	"The Division must grant, deny or modify the permit within 30 days of the conclusion of the public comment period. The Division will make its responses to the public comments available to any interested person at the time of permit issuance or denial."
5.1, 5.2	Procedural Rules VIII	"The Office of the Air Quality Control Commission shall maintain a mailing list. Any person may request to be added to the mailing list. The mailing list maintained electronically. However, if an email address is not available, the Office of the Air Quality Control Commission will accept a physical address to which mailings will be sent."

Regulation 3

Actions	Section	Text
3.2, 5.1	Part A, Section IV	"Stationary Source Permitting and Air Pollution Emission Notice Requirements"
1.3, 4.2	Part A, Section V.E.	"An emissions reduction shall be certified for use in an emission credit transaction, provided it meets the following criteria: V.E.1. The emissions reduction shall be surplus. Surplus reductions are those below the baseline emissions. The baseline emissions shall be determined as follows: "
1.3, 4.2	Part A, Section V.E.	"V.E.7. Reductions down to compliance levels may not qualify for emission reduction credit."

Regulation 3 (continued)

1.3, 4.2	Part A, Section V.E. Certification And Trading Of Emission Reduction Credits Offset And Netting Transactions	"An emissions reduction shall be certified for use in an emission credit transaction, provided it meets the following criteria: V.E.1. The emissions reduction shall be surplus. Surplus reductions are those below the baseline emissions. The baseline emissions shall be determined as follows: "
1.3, 4.2	Part A, Section V.H.1 Offset transactions	"V.H.1 May apply for approval of an offset transaction"
4.1, 4.3, 6.1	Part A, Section VI.D Fee Schedule	"VI.D.3 GHG is exempt from the requirement to pay annual emission fees." "Banking"

Regulation 6

Actions	Section	Text
5.1	Part A Standards of Performance for New Stationary Sources	"Specific authority is found at 25-7-109, which provides authority to adopt emission control regulations. Section 25-7-106(6) provides the Commission authority to require testing, monitoring and recordkeeping. In addition, Section 25-7-102 requires the Commission to use all available practical methods that are technically feasible and economically reasonable to adopt federal regulations by reference."

Regulation 20

Actions	Section	Text
7.1, 7.2, 7.3	Part II - Applicability	"Low Emissions Vehicle Sales - It is unlawful for any person to sell or register, offer for sale or lease, import, deliver, purchase, lease, acquire or receive a 2022 or subsequent model year new Passenger Car, or a Light Duty Truck, Medium Duty Passenger Vehicle, or a Medium Duty Vehicle; new light- or medium-duty motor vehicle engine or motor vehicle with a New Motor Vehicle engine in the State of Colorado which is not certified to California Code of Regulations, Title 13, Sections 1961.2 ("LEV III Criteria emissions") and 1961.3 ("GHG emissions") and meets all other applicable requirements of California Code of Regulations, Title 13, Sections 1900, 1956.8(h), 1965, 1968.2, 1976, 1978, 2035, 2037 through 2041, 2046, 2062, 2109, 2111 through 2121, 2122 through 2135, 2139, 2141 through 2149, and 2222(h) and (i)."

Office of Health Equity

Actions	Section	Text
2.2, 3.2	Health Disparities Grant Program - Rules CRS § 25-4-2203(1)	"There is hereby created the health disparities grant program To provide financial support for statewide initiatives that address prevention, early detection, and treatment of cancer and cardiovascular and pulmonary diseases in underrepresented populations. The office shall administer the grant program. The state board shall award grants to selected entities from moneys transferred to the health disparities grant program fund created in section 24-22-117(2)(f)."
2.2, 3.2	Powers and duties of the office of health equity CRS § 25-4-2205(1)	"The purpose of the office is to serve in a coordinating, educating, and capacity-building role for state and local public health programs and community-based organizations promoting health equity in Colorado by implementing strategies tailored to address the varying complex causes of health disparities, including the economic, physical, and social environment. The office shall work collaboratively within the department and with affected stakeholders to set priorities, collect and disseminate data, and align resources within the department and across other state agencies."
2.2, 3.2	Powers and duties of the office of health equity CRS § 25-4-2205(1)	"The office has the following powers, duties, and functions: (b) Leading and coordinating the departments health equity efforts; (c) Publishing data reports documenting health disparities; (d) Providing education to the public on health equity, health disparities, and the social determinants of health; (e) Coordinating the interpretation and translation services within the department and offering technical assistance to other state and local agencies; (f) Building capacity within communities to offer or expand public health programs to better meet the needs of a diverse population; (g) Conducting state-level strategic planning on minority health improvement; (h) Providing technical assistance to the department in carrying out its programs and to county, district, and municipal public health agencies, community-based organizations, and communities in the state; (l) Building collaborative partnerships with communities to identify and promote health equity strategies; and (m) Developing communications strategies regarding health equity."

Executive Orders

Actions	Order	Text
3.3	Gov. Hickenlooper Exec. Order: D 2017- 015	"OEDIT, DOLA, & DLE shall formalize and expand upon crossagency efforts to provide economic development strategies and other supportive services to communities impacted by our nation's changing energy landscape."
7.1, 7.2, 7.3	Gov. Polis Exec. Order: B 2019- 002	"I am creating a transportation electrification workgroup to develop, coordinate, and implement state programs and strategies to support widespread vehicle electrification across the state."
7.1, 7.2, 7.3	Gov. Polis Exec. Order: B 2019- 002	"CDPHE, in coordination with other members of the workgroup, shall revise the beneficiary mitigation plan, the revised plan will focus all remaining eligible investments on supporting electrification of transportation, including transit buses, school buses, and trucks."
7.1, 7.2, 7.3	Gov. Polis Exec. Order: B 2019- 002	"CDOT, in coordination with other members of the workgroup and consistent with its goals, shall develop a department zero emission vehicle and clean transportation plan designed to align transportation investments and programs with strategies that support widespread deployment of ZEVs and expand mobility options in ways that save energy, reduce congestion, and improve the safety of CO's transportation network."

