



LEADING THE CHARGE

WORKING TOGETHER TO BUILD
AN EQUITABLE, CLEAN, AND PROSPEROUS FUTURE



UNITED STATES CLIMATE ALLIANCE

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Tillamook State Forest, Oregon by Eric Muhr, Unsplash.

A construction crew installs 16 EV charging stations in Boulder, Colorado by Dennis Schroeder,
National Renewable Energy Laboratory (NREL).

Wildfires in California discolor the skies in San Francisco by Patrick Perkins, Unsplash.

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MESSAGE FROM THE CO-CHAIRS

When our three states launched the U.S. Climate Alliance three years ago, we committed to working together to fill the void of federal leadership in addressing climate change. Since then, the Alliance has grown to a coalition of 25 governors that has advanced a full suite of bipartisan, multi-sector climate solutions across the country.

Alliance States continue to work together to implement new and innovative policies and programs that focus on reducing emissions to mitigate the worsening climate crisis, while also prioritizing health, equity, and resilience in responding to today's immediate climate impacts. We are leading the charge to get cleaner and more affordable cars and trucks on the road, generate more of our electricity from renewable energy sources, and increase the efficiency of our appliances and buildings. We are collaborating on effective strategies that create jobs, support impacted workers and strengthen communities through a clean energy transition. We are protecting natural and working lands—critical carbon sinks that also increase the resilience of our communities. We are implementing strong air and water regulations to reduce the immediate impacts on under-served communities from carbon-intensive industries. And our work has paid off. Compared to the rest of the country, Alliance states have cleaner air, save more energy, and emit less carbon pollution—all accomplished while we continue to grow our economies.

However, 2020 has challenged all our states and the entire country. The COVID-19 pandemic, and the resulting economic crisis, has taken a staggering toll on states across this nation, with an outsized impact on minority communities. These structural injustices are compounded by high-profile police shootings, which has led to a national outcry against the racial inequities that have plagued our country since its founding. Through this all, there has been a continued profound lack of federal climate leadership as many of our states are experiencing and responding to climate-driven disasters and extreme weather events like wildfires, tropical storms, and massive heatwaves.

The need for economic recovery presents our country with a unique opportunity to make strategic investments that strengthen our economy, and build it back in a way that is more sustainable, resilient, and equitable. We cannot have a strong recovery without also ensuring a climate-smart recovery—one that prioritizes low-carbon and climate-resilient infrastructure and investments across every region of this country. The Alliance has already built a framework, based on science, innovation, and cooperation. We stand ready to help propel the U.S. through these crises and serve as a world leader on climate action—as partners with the federal government or as a coalition equal to the third largest economy in the world. Together, we will ensure our communities are safer, cleaner, and more equitable for future generations.



Andrew M. Cuomo
Governor, New York



Gavin Newsom
Governor, California



Jay Inslee
Governor, Washington

U.S. Climate Alliance Principles

States are continuing to lead on climate change: Alliance states recognize that climate change presents a serious threat to the environment and our residents, communities, and economy.

State-level climate action is benefitting our economies and strengthening our communities: Alliance members are growing our clean energy economies and creating new jobs while reducing air pollution, improving public health, and building more resilient communities.

States are showing the nation and the world that ambitious climate action is achievable: Despite the U.S. federal government's decision to withdraw from the Paris Agreement, Alliance members are committed to supporting the international agreement and are pursuing aggressive climate action to make progress toward its goals.

Each member state commits to:

- ▶ **Implement** policies that advance the goals of the Paris Agreement to reduce greenhouse gas emissions by at least 26–28 percent below 2005 levels by 2025;
- ▶ **Track** and report progress to the global community in appropriate settings, including when the world convenes to take stock of the Paris Agreement; and
- ▶ **Accelerate** new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.

EXECUTIVE SUMMARY

The U.S. Climate Alliance (Alliance) is a bipartisan coalition of governors committed to transitioning to a clean energy economy and advancing the goals of the Paris Agreementⁱ—“to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.” Representing the majority of the U.S. population and gross domestic product (GDP), the 25 Alliance states and territories (ES-Map 1) are working together to adopt and implement ambitious climate policies that decrease emissions, deploy clean power

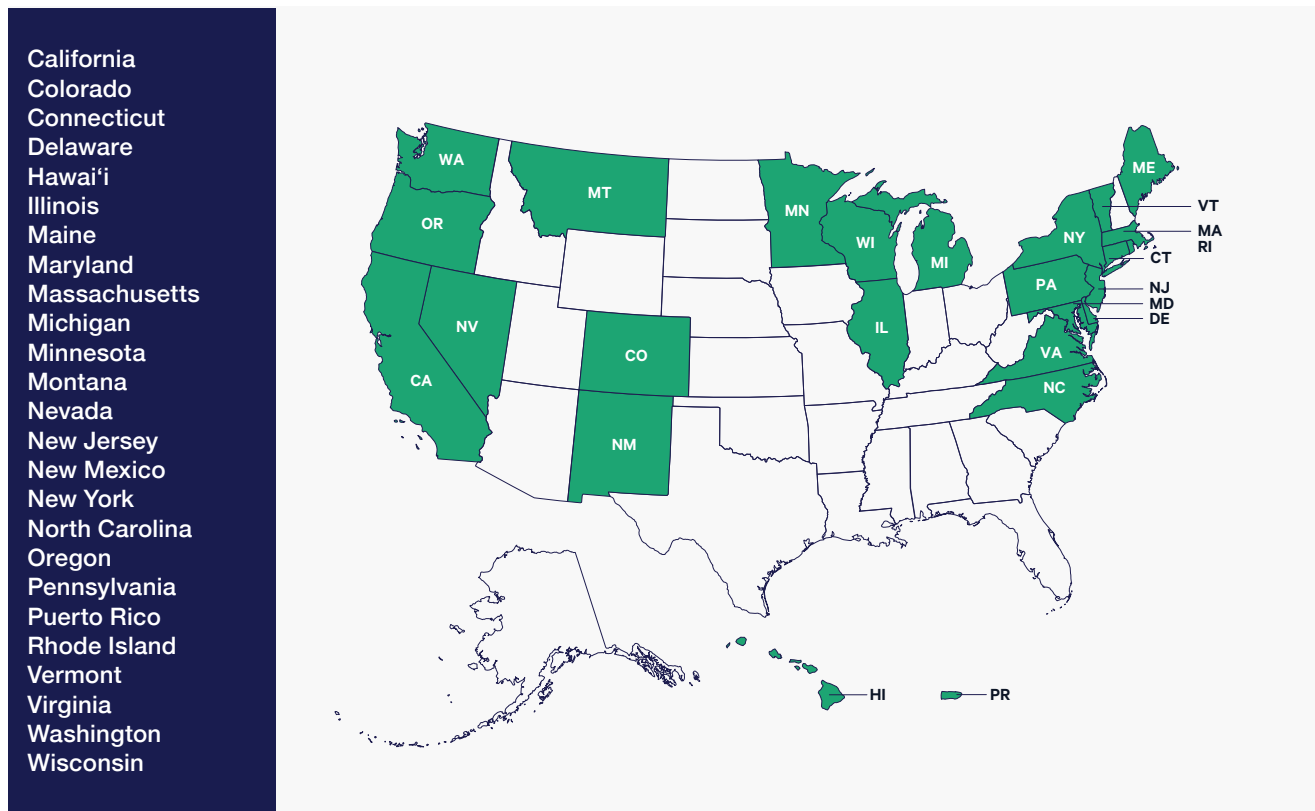
and fuels, enhance natural carbon sequestration, increase resilience to climate impacts, and improve our communities’ economic and health outcomes.

REFLECTING ON 2020

2020 has been one of the most challenging years in history. The COVID-19 pandemic and the resulting economic crisis have taken a staggering toll on this nation, with an outsized impact on minority communities. High-profile police shootings have compounded these structural injustices, leading to a national outcry against the racial inequities that have long plagued our country.

ⁱ In June 2017, the governors of California, New York, and Washington created the U.S. Climate Alliance when the federal government announced its intention to withdraw the United States from the Paris Agreement.

ES-MAP 1 U.S. Climate Alliance Members



Through this all, there has been a continued and profound lack of federal leadership. Just as the federal government has been slow to address the virus that has taken over 195,000 lives in this nation alone (as of September 15, 2020), it has also rolled back critical environmental protections that would have reduced health-damaging pollutants. At the same time, many of our members are responding to climate-driven disasters and extreme weather events, including wildfires, hurricanes, and massive heatwaves.

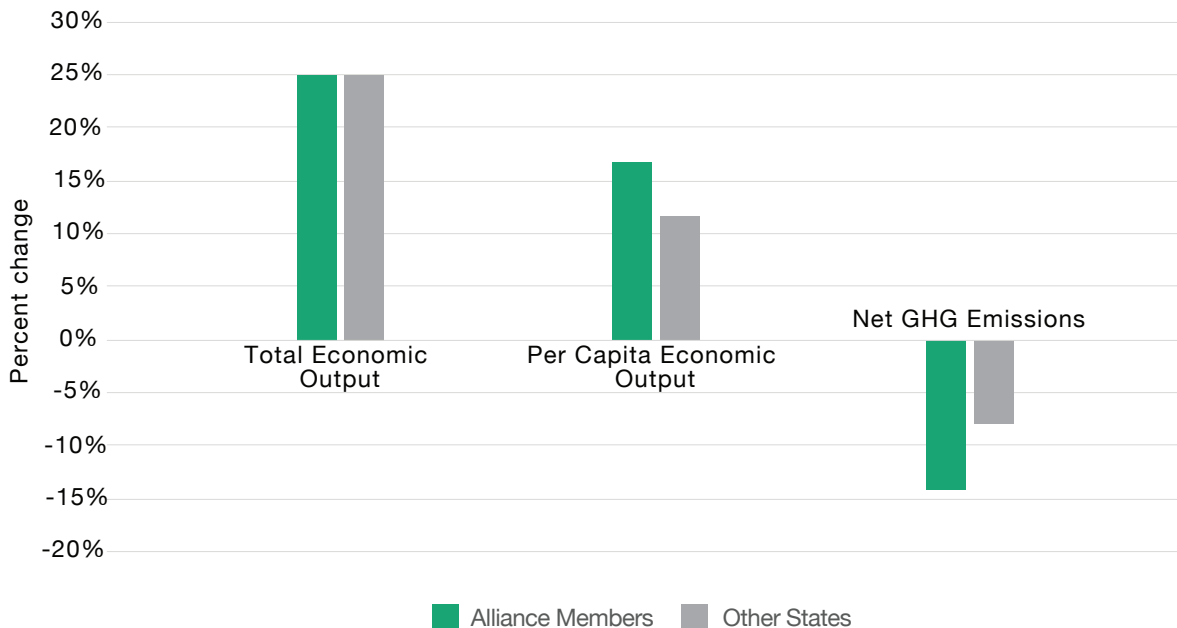
OUR PROGRESS

Now more than ever, Alliance members hold firm in our commitment to provide the climate leadership our country needs. Over the past year, members have pushed back against the deregulation of federal

environmental safeguards and adopted innovative climate policies across all sectors. These policies and programs provide a strong foundation to make all of our communities cleaner and more resilient.

Prior to COVID-19’s extreme economic impact across all regions and sectors, Alliance members spent years proving that emissions reductions and adapting to a changing climate can be achieved while growing our economies. Between 2005 and 2018, Alliance members collectively outpaced the rest of the country in both emissions reductions and economic output, with an estimated 14 percent decrease in emissions and a 16 percent increase in per-capita economic output (ES-Fig 1). Preliminary estimates show further declines in emissions in 2019. Additionally, it is important to note that these numbers do not take into account the significant cost of inaction in addressing climate change.

ES-FIG 1 Change in Net GHG Emissions and Economic Output, 2005–2018



SOURCE: Emissions data – Rhodium Group Climate Service; GDP data - U.S. Bureau of Economic Analysis; Population data - U.S. Census Bureau

The COVID-19 pandemic has had far-reaching negative economic impacts and exacerbated public health and equity disparities. Despite these challenges, Alliance members have continued to make progress on our climate commitments. Looking across the Alliance, members are:

1. **Increasing ambition:** Setting ambitious near-term greenhouse gas (GHG) emissions-reduction targets and advancing climate governance within each of our states;
2. **Addressing equity and inclusion:** Incorporating principles of a just and equitable transition to a clean energy economy into the foundation of our climate actions;
3. **Expanding energy efficiency:** Increasing building energy efficiency through codes, performance standards, and appliance efficiency standards;
4. **Decarbonizing power generation and distribution:** Cleaning and modernizing our power grids;
5. **Advancing clean transportation:** Deploying more-efficient and zero-emissions vehicles and developing markets for cleaner fuels;
6. **Adopting market-based solutions:** Joining, developing, and operating carbon markets such as the Regional Greenhouse Gas Initiative (RGGI) and the Transportation & Climate Initiative (TCI);
7. **Reducing short-lived climate pollutants:** Adopting regulations to address potent GHGs like methane and hydrofluorocarbons (HFCs);
8. **Strengthening resilience:** Preparing for the effects of climate change and increasing communities' ability to confront these effects, especially among vulnerable communities;
9. **Enhancing natural and working lands:** Protecting and improving our farmlands,

forests, wetlands, grasslands, and other land types' ability to sequester carbon and become more resilient to a changing climate; and

10. **Fostering innovation:** Developing cutting-edge policies and programs to combat the climate crisis, including catalyzing private investment to support state climate goals.

Underpinning many of these actions has been the drive to protect community health, promote workforce development, and expand opportunities for education, job training, and employment for disenfranchised communities.

A ROBUST AND RESILIENT RECOVERY

Alliance members are committed to rebuilding our economies in ways that prioritize addressing climate change, health, equity, and resilience. However, our members have had to move forward without federal leadership. We therefore have provided recommendations to Congressional leadership to help us with these efforts, including the need for immediate, flexible federal aid for states and territories to enable our governors to preserve core government services. As we look toward a strong recovery, Alliance members will also need resources to strengthen and modernize our infrastructure in ways that build resilience and reduce GHG emissions. Nature-based solutions should be utilized where possible and designed to reduce physical risk from extreme events while maximizing carbon removal and storage potential. Public funds and incentives should be used to mobilize private investment and create public-private partnerships, such as green banks, tax credits, and government bond offerings.

RECOMMENDATIONS FOR NATIONAL CLIMATE ACTION

Recovery from the economic impacts of COVID-19 presents the United States with a unique opportunity to tackle climate change in a way that catalyzes an equitable, clean, and prosperous economy. Pulling from our experience developing and implementing climate policy, the Alliance offers five recommendations that Congress and the federal government should integrate when developing future climate and recovery policy:

1. Ensure climate and energy policy goals are aligned with science;
2. Include equity, environmental justice, and family-sustaining jobs at the core of climate and recovery policy;
3. Utilize members' experience and knowledge to collaborate in developing national policy frameworks;
4. Support state- and territory-level climate change leadership as they respond to and recover from the COVID-19 crisis; and
5. Protect members' ambition to go beyond federal standards and formulate and implement policy within their own borders and in coordination with other states and territories.

LEADING THE CHARGE

With or without federal support, Alliance members will continue to demonstrate bold climate action.

Over the past three years we have built our capacity, both within our own states and territories as well as across this bipartisan coalition, to aggressively address the climate crisis despite federal rollbacks. We worked together to develop consistent and nation-leading policy frameworks across our members, while increasing our engagement with Congress and international leaders.

The COVID-19 pandemic has resulted in job losses across the economy, including clean energy and transportation jobs. A renewed effort is needed to put unemployed people back to work while continuing to meet our energy, environmental, and societal goals. This entails increasing access to quality, family-sustaining jobs, government services, and education and training as we look to transition to a low-carbon future. Moving forward, we welcome the opportunity to partner with the federal government to support our efforts to create a future with clean and affordable energy, a low-carbon transportation system, family-sustaining jobs, and a healthy planet.

Alliance members are committed to leveraging our experiences, working with our communities, and partnering with the federal government to help our states and territories rebound in a stronger, more resilient, and more equitable way—all while tackling the ever-growing climate crisis.

A photograph of a person holding a white sign with the words 'BLACK LIVES MATTER' written on it. The sign is held high above a crowd of people. The background is a blurred crowd of people, some wearing face masks. The person holding the sign has their arms raised and is wearing a colorful beaded bracelet on their left wrist and a black hair tie on their right wrist. The sign is the central focus of the image.

BLACK
LIVES
MATTER

REFLECTING ON 2020

Since the Alliance formed three years ago, the need for state- and territory-driven climate action has grown even stronger. We have taken up the mantle of American climate leadership amidst a backdrop of intensive federal environmental deregulation,¹ the increasingly evident costs and impacts of climate change on our states and territories,² and the federal administration's imminent withdrawal from the Paris Agreement.

However, 2020 has brought a new set of challenges. The COVID-19 pandemic—and the resulting economic crisis—are stretching resources, threatening our ability to continue investing in strong actions that address climate change. This has also been a historic year for racial justice, with social

movements driving mainstream awareness of the disproportionate impacts of police violence, pollution, unemployment, health inequities, lack of economic opportunity, and climate change on BIPOC communities (Black, Indigenous, and people of color).

To face these challenges and prepare for those to come, the Alliance is more energized and focused than ever on working across and within our states and territories to implement bipartisan climate solutions that reduce GHG emissions, grow and sustain our economies, build healthier and more-resilient communities, and address systemic injustices.

OUR PROGRESS

In June 2017, the governors of California, New York, and Washington created the U.S. Climate Alliance (Alliance) when the federal government announced its intention to withdraw the United States from the Paris Agreement. The Alliance has since grown to a bipartisan coalition of 25 governors committed to advancing the goals of the Paris Agreement.³ We represent 55 percent of the U.S. population and 60 percent of the U.S. gross domestic product (GDP), and are working together to adopt and implement ambitious climate policies that decrease emissions, deploy clean power and fuels, enhance natural carbon sequestration, increase resilience to climate impacts, and improve our communities' economic and health outcomes.

According to the latest data, Alliance members reduced our collective emissions by an estimated 14 percent between 2005 and 2018, with preliminary estimates showing further declines in 2019 (17 percent below 2005 levels).⁴ We expect deeper (but likely, temporary) emissions cuts in 2020 as the response to COVID-19 resulted in travel restrictions and an economic downturn; forecasts estimate a 12 percent drop nationally between 2019 and 2020 alone.⁵

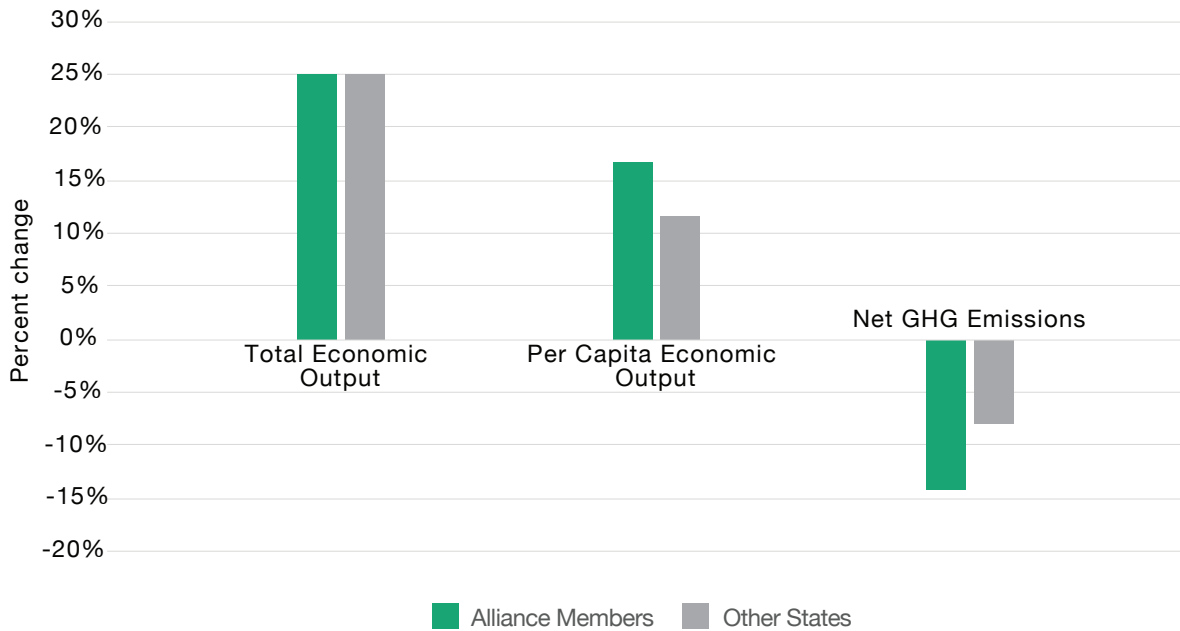
Our experience prior to this current crisis demonstrates that we can achieve climate goals while growing our economy. Between 2005 and 2018, we achieved far greater emissions reductions than the rest of the country while continuing to grow our collective economy (Figure 1).^{6,7,8,9} For essentially equal total economic output, Alliance members achieved double the GHG emissions reductions. Additionally, forthcoming analysis suggests that Alliance members' clean energy policies promoted the creation of more than 133,000 jobs between 2016 and 2019, many of which pay higher-than-average wages for similar job types and create stable pathways to employment for people with varying academic backgrounds.¹⁰

Over the past several years, our members' leadership has paved the way for cities and businesses to push forward their own ambitious clean energy and climate actions. For example, in 2015 Hawaii became the first state to commit to a 100 percent clean energy future.¹¹ As of early September, 15 other Alliance members, 166 cities and towns, 13 counties,¹² 9 large utilities,¹³ and 73 companies¹⁴ have made similar commitments to 100 percent carbon-free electricity. As a result, nearly one in three Americans now lives in a community that will be served by clean electricity by or before 2050, and this number continues to grow.¹⁵

The actions we have taken to address climate change and move toward a clean energy economy have also helped create healthier and more-prosperous communities—even more critical as we respond to COVID-19. For example, compared to the rest of the country, Alliance members have significantly lower levels of harmful air pollutants (Figure 2).¹⁶ This is due in large part to policies we have put in place, such as cleaner and more-efficient electricity and transportation systems that avoid harmful air pollutants such as particulate matter and nitrogen oxides. The same can be said for enhanced

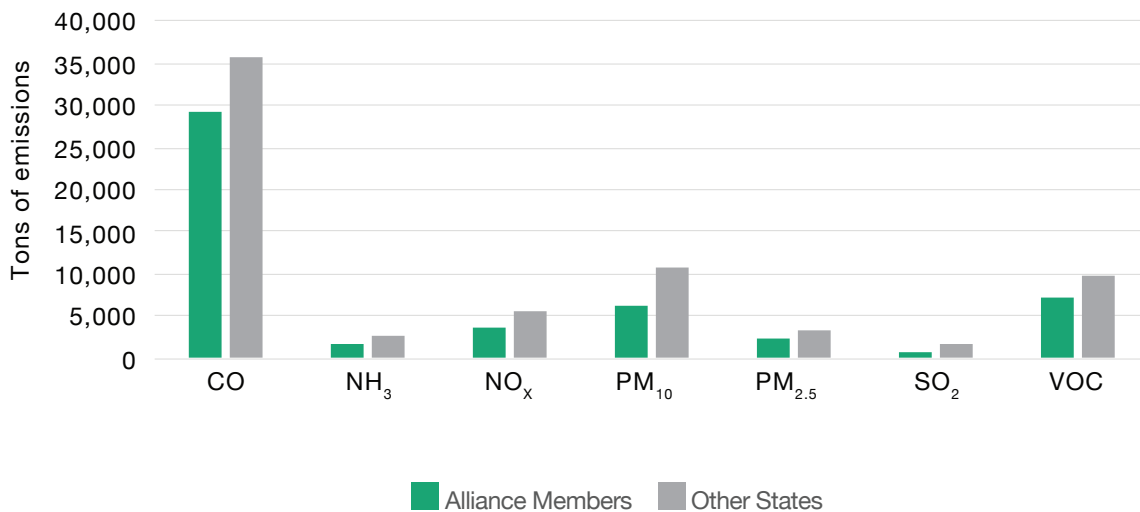
FIGURE 1 Alliance States and Territories Lead the Country in GHG Emissions Reductions and Economic Growth

Change in Net Greenhouse Gas Emissions and Economic Output, 2005-2018



Source: Emissions data – Rhodium Group Climate Service; GDP data - U.S. Bureau of Economic Analysis; Population data - U.S. Census Bureau

FIGURE 2 Alliance States Have Lower Levels of Harmful Air Pollutants Than the Rest of the Country (2018)



Source: U.S. Environmental Protection Agency Note: Data excludes Puerto Rico and other territories

health, safety, and environmental protections for oil and gas extraction that several Alliance members have put into place. At-risk populations exposed to air pollutants are more susceptible to chronic illness and respiratory diseases like asthma and heart disease, and preliminary evidence suggests that long-term exposure to air pollution has led to higher death rates from COVID-19.¹⁷

BIPOC communities have historically faced a disproportionate burden of climate impacts and fossil fuel pollution.^{18,19,20} While we know transitioning to a low-carbon economy with thoughtful policy can help to alleviate some of these injustices, this shift can also impact the economic vitality of communities across the country that are dependent on jobs and tax revenue from fossil fuel industries. Understanding the significant work that is needed to overcome these tensions, we launched our Just Transition Working Group in January 2020 to collaborate on effective strategies that advance a clean energy transition while supporting impacted workers and communities (Box 1).

RECENT ACTION

Even with an unprecedented level of uncertainty due to the COVID-19 pandemic, we are confident the policies and programs Alliance members have put into place over the past year will reduce emissions while growing our economies, giving us a strong foundation for a robust and more resilient recovery across all of our communities.

Adopting Strengthened GHG Targets and Advancing Climate Governance

Alliance members commit to reducing their GHG emissions to at least 26 percent below 2005 levels by 2025—consistent with the U.S. commitment under the Paris Agreement. Several members have recently revised and strengthened their goals in line with and in response to the latest climate science. Earlier this year, both Oregon and Washington

updated their state GHG targets, with Governor Brown issuing an executive order²¹ and Governor Inslee passing legislation²² to set more ambitious targets, respectively. On Earth Day, the Baker-Polito administration issued a formal determination letter²³ that establishes net-zero GHGs by 2050 as the legal emissions limit for Massachusetts. Eight Alliance members now have carbon-neutrality goals in place. ★

Other members continued to advance their comprehensive climate goals:

- In November 2019, Nevada Governor Sisolak signed Executive Order 2019-22 directing state agencies to collaborate to develop a climate strategy by December 1, 2020 to meet Nevada’s carbon-reduction goals.²⁴
- New York established a Climate Action Council and initiated the public process to develop a scoping plan to achieve the nation-leading climate targets established in 2019’s *Climate Leadership and Community Protection Act (CLCPA)*.²⁵
- In December 2019, Wisconsin kicked off member meetings of Governor Evers’ Task Force on Climate Change, aiming to deliver a set of recommendations to the governor by October 31, 2020.²⁶
- In New Jersey, Governor Murphy unveiled the 2019 *New Jersey Energy Master Plan: Pathway to 2050*, outlining seven strategies to not only meet the state’s 100 percent clean electricity goals but also support clean transportation, invest in underserved communities, and create thousands of jobs within “clean energy industry clusters.” In support of these strategies, Governor Murphy also issued an executive order directing the Department of Environmental Protection to adopt regulatory reforms that cut GHG emissions (including short-lived climate pollutants)

★ More information on specific policy adoption across the Alliance can be found on page 30.

**BOX 1**

Building a Framework for a Just and Equitable Transition

Alliance members recognize that the transition to a clean energy economy carries impacts that can be disruptive, particularly to communities that rely on traditional fossil fuels for jobs and tax revenue. Addressing the challenges brought by this disruption, along with deeper systemic inequalities, will enable the advancement of a resource transition that allows for environmental protection and economic growth, equitable distribution of costs and benefits, and enhanced community vitality. To achieve this, states and territories must incorporate input from invested and impacted parties, tackle difficult discussions, and confront our own biases.

Alliance members launched the Just Transition Working Group (JTWG) in January 2020 to support each other in advancing

a clean energy transition while supporting impacted workers and communities. Our goal is to help shape policies that reform economic systems and labor markets to support prosperous and resilient communities focused on the needs of the people who live there. The JTWG will highlight work that members are doing, share best practices, and provide technical assistance to better integrate principles of just transition. In addition, the JTWG will work to integrate environmental justice and racial equity across all Alliance workstreams. We also recognize that just transitions go beyond merely fossil fuel transitions, and we seek to frame our efforts in terms of how broader forces might impact other sectors of the economy, such as agriculture and transportation.

In the JTWG's first year, we have developed guiding principles that align with our understanding of impacted community needs and environmental justice; begun to compile tools and best practices members can tailor to inform their decision-making processes; and identified opportunities for collaboration with other working groups. Over the coming months we will embark on comprehensive diversity, equity, and inclusion training for state and territory officials; develop a multi-state framework for cooperation; and work to provide state- and territory-specific technical resources to help members better address just transition issues and integrate solutions into broader climate and energy policies.

and incorporate climate considerations into land use permitting decisions.²⁷

- After a period of stakeholder engagement, the Montana Climate Solutions Council released its final set of recommendations to justly transition the state toward a net-zero GHG goal.²⁸
- Maine’s Climate Council is developing a four-year plan to put the state on a trajectory achieve its GHG emissions-reduction goals.^{29,30} The plan will also include strategies to make Maine’s people, industries, and communities resilient to the impacts of climate change. Even as public health requirements related to COVID-19 required the climate planning process to move to virtual meetings, more than 200 volunteer working group and Council members have continued their work and the Council will deliver Maine’s climate action plan to the governor and state legislature on December 1, 2020.
- Throughout 2020, Delaware has engaged residents and businesses to develop the state’s climate action plan, with a planned release for winter 2021. The plan will outline strategies to reduce GHG emissions in partnership with federal agencies, local governments, and businesses, as well as ways Delaware can respond to the climate impacts the state is already experiencing.³¹
- Maryland is on track to publish the state’s 40-by-30 plan, which secures a 40 percent GHG reduction by 2030 as required by the *Greenhouse Gas Reduction Act*. The plan will demonstrate how the state can achieve substantial economic benefit, including thousands of jobs and billions of dollars in increased economic output.
- In August, Illinois Governor Pritzker announced eight principles that will serve as a foundation for transitioning Illinois to a clean energy economy, including substantially increasing

utility accountability and transparency, creating new clean energy jobs in Illinois, reducing harmful emissions, and maintaining low energy costs for consumers and industrial users. The administration intends to reconvene working groups to focus on these principles as the foundation to achieve meaningful and comprehensive energy reform.³²

- To ensure that Colorado is meaningfully progressing towards its GHG emissions-reduction goals, Governor Polis directed state agencies to develop a comprehensive roadmap that would present options for action that can be taken in the next two years, assess the potential for additional policies to meet a 2030 mid-term goal, and ensure Colorado is on a pathway to meeting its 2050 goal. The roadmap will be finalized in fall 2020.

Ensuring a Just and Equitable Transition

Alliance states are already deploying exemplary programs to elevate disenfranchised voices, generate new jobs in the low-carbon economy, and ensure a just and equitable transition for all our communities. For example:

- In 2019, Colorado established the nation’s first state Office of Just Transition and a Just Transition Advisory Committee (JTAC). The JTAC—comprising diverse representatives—released its *Draft Just Transition Plan* in August 2020,³³ with the final plan on track to be submitted to the governor and General Assembly by December 31, 2020, following an extensive public input process.
- In December 2019, Connecticut relaunched the Governor’s Council on Climate Change, charging it with ensuring the strategies identified in the state’s 2018 climate mitigation plan advance an equitable distribution of their costs and benefit and address any disproportionate impacts on environmental justice communities.³⁴



Recognizing that rural and coal communities continue to be negatively impacted by climate change or transitions away from fossil fuel-based economies, several Alliance members have included workforce and community development and environmental justice stipulations in their recent clean energy commitments.

Photo by Dennis Schroeder, NREL

- Under its comprehensive CLCPA, New York created a Climate Justice Working Group to guide and hold the state accountable for its commitment to direct 35 percent of the benefits of its clean energy investments toward disadvantaged communities.³⁵
- The Maine Climate Council is working with the University of Maine’s Mitchell Center for Sustainability Solutions to help with efforts to improve equity outcomes of the *State Climate Action Plan*.³⁶ The work of the Mitchell Center complements the Council’s establishment of a new equity advisory group, which will offer ongoing guidance and input on the creation of the Council’s four-year *State Climate Action Plan*.
- Virginia passed a bill that established a Council on Environmental Justice, which will provide guidance and a platform for engaging community members in the policy process.³⁷
- North Carolina established the Andrea Harris Social, Economic, Environmental, and Health Equity Task Force to address the social, environmental, economic, and health disparities that exist in communities of color and have been exacerbated by the COVID-19 pandemic.³⁸

- Maryland is enhancing its Commission on Environmental Justice and Sustainable Communities, a 20-member body analyzing the effectiveness of state and local government laws and policies to address issues of environmental justice and sustainable communities.

Recognizing that rural and coal communities also continue to be negatively impacted by climate change or transitions away from fossil fuel-based economies, several Alliance members have included workforce and community development and environmental justice stipulations in their recent clean energy commitments:

- In its 2019 *Clean Energy Transformation Act*, Washington tasked its health department with identifying communities most impacted by fossil fuel pollution and climate change and requires utilities to create programs that support low-income households. The act also provides tax exemptions for clean energy projects that pay union wages, hire locally, and contract from minority or women-owned businesses.³⁹
- New Mexico’s 2019 *Energy Transition Act* directed millions of dollars for economic development, severance, and retraining

programs for affected coal employees. The bill created three funds, whose administering agencies are engaging with impacted communities on how to best allocate the transition funding.⁴⁰

- Virginia's 2020 *Clean Economy Act*, which established large offshore wind and solar capacity targets, ensures that local workers are given hiring preference on new clean energy projects. In addition, disadvantaged communities located near fossil fuel assets must receive preference for both the siting and job training of renewable energy projects. The act also establishes a program that caps the electricity bills paid by low-income utility customers.⁴¹
- As part of its renewable energy and climate platform, Colorado is developing a Climate Equity Framework to help ensure that Colorado's response to climate change is guided by principles of racial equity and economic justice. The framework, which will be finalized in fall 2020, outlines the state's plan to identify and meaningfully engage with communities that climate change disproportionately impacts.

Alliance members are also prioritizing clean energy industry jobs training and retraining:

- In its 2019–20 fiscal year, California appropriated \$35 million from cap-and-trade revenues to two workforce development programs, which aim to create talent pipelines for high-quality jobs that support climate change mitigation, adaptation, and resilience in the state.⁴²
- New Jersey's 2019 *Energy Master Plan* explicitly identifies clean energy industry jobs training and workforce development as one of its seven strategies to meet the state's 100 percent clean energy goals.⁴³
- Since 2009, the Massachusetts Clean Energy Center (MassCEC) has served as a specialized

state economic development agency investing in the clean energy sector, operating more than 40 programs to meet the dual goals of long-term economic growth and clean energy deployment.⁴⁴ In 2020 as part of its second Offshore Wind Workforce Training and Development solicitation, MassCEC awarded \$1.3 million in grants for nine new offshore wind workforce training and development programs.⁴⁵

- New York has committed \$100 million in clean energy job training programs through 2025, with these programs already contributing to record-breaking employment growth in target areas including grid modernization and storage.⁴⁶
- North Carolina is using Coronavirus Aid, Relief, and Economic Security (CARES) Act funding to develop an energy efficiency apprenticeship program through the state's community colleges and historically Black colleges and universities to provide technical skills and on-the-job training to students from marginalized communities.⁴⁷
- In its most recent round of funding, the Rhode Island Department of Labor and Training announced the Fostering Fuel Talent partnership. This program will provide workforce training opportunities to the delivered fuel sector to retrain workers in energy efficiency and renewable heating and cooling careers.⁴⁸

Cleaning and Modernizing Our Power Grids

Over the past year, Alliance members have continued to decarbonize our electricity sector. These efforts have received renewed attention due to the important public health co-benefits associated with transitioning away from fossil fuel sources to renewable energy.

Strong policy mandates are leading to increased deployment of renewable energy sources across Alliance members, including solar, wind, and battery energy storage.

- In California, grid operators are expecting the state's battery storage capacity to grow six-fold over the course of 2020. In June, California deployed the largest battery storage system in the United States.⁴⁹
- In February, the Maine Public Utilities Commission initiated the largest clean energy procurement in Maine's history for up to 10 percent of the state's electric load.⁵⁰
- New York announced the largest combined renewable energy solicitation ever in the United States, totaling 4 GW of clean energy development projects, including a nation-leading 2.5 GW solicitation for offshore wind and port infrastructure.⁵¹
- In August, Colorado finalized tax incentives for one of the nation's largest on-site solar plants—as part of a \$500 million expansion, EVRAZ Rocky Mountain Steel is developing a 240 MW solar installation on its property that will create jobs and guarantee the facility low electricity rates.⁵²
- In Nevada, the state's energy providers have developed nearly 2.5 GW of new solar and are developing almost 700 MW of battery storage.⁵³
- In August, the New Mexico Public Regulation Commission (PRC) approved 650 MW of solar resources and 300 MW of battery storage resources to replace retiring units of the coal-fired San Juan Generating Station.

These large-scale procurements provide important long-term market signals during an otherwise turbulent economic environment. Continued investment in distributed resources also helps sustain renewable industry and keep clean energy affordable: this year New Mexico established a Solar Market Development Income Tax Credit, offering up to \$6,000 per taxpayer per taxable year for solar thermal and photovoltaic system installation.

Offshore wind plays a central role in Virginia's landmark clean energy achievements this year, and recent legislation included a target of deploying 5.2 GW of offshore wind energy by 2034, creating an Office of Offshore Wind, and moving forward with demonstration projects in federal waters.⁵⁴ Massachusetts and Rhode Island, in partnership with the U.S. Bureau of Ocean Energy Management, announced grants worth \$1.1 million for first-in-the-nation studies assessing the interactions between regional fisheries and offshore wind, providing vital guidance for New England's offshore wind development while protecting existing resource uses.⁵⁵ Connecticut announced the procurement of 804 MW of offshore wind, the state's largest purchase of renewable energy, pending final approval by the Connecticut Public Utilities Regulatory Authority.⁵⁶ North Carolina is conducting an offshore wind supply chain and infrastructure assessment to help leverage the state's business and workforce assets to meet strategic segments of the offshore wind supply chain.⁵⁷ In late August, Maryland utility regulators approved a plan to build offshore wind turbines up to 800 feet tall (about 200 feet larger than originally proposed).⁵⁸

Sixteen Alliance members now have 100 percent zero-carbon or carbon-neutral electricity targets through statute or executive order. In January, Rhode Island Governor Raimondo signed Executive Order 20-01, setting a 100 percent renewable electricity target by 2030. If achieved, this target will make Rhode Island the first state in the nation to be powered by 100 percent renewable electricity by the end of the decade.⁵⁹ In April, Virginia Governor Northam signed the *Clean Economy Act* into law, becoming the first Southern state with a 100 percent clean energy standard.⁶⁰ In Connecticut, Governor Lamont issued Executive Order 3, directing the Department of Energy and Environmental Protection to analyze pathways and recommend strategies for achieving a 100 percent zero-carbon target for the electric sector by 2040.⁶¹ Hawaii's coal ban bill is expected to become law in September 2020, eliminating coal use across the state in 2022.





Ten Alliance states currently participate in RGGI, a cap-and-trade program that is reducing power sector GHG emissions and has greatly improved the health of children across the entire region.

To achieve these ambitious targets, we need large-scale investments in electricity transmission and distribution, and Alliance members are leading the charge to meet these grid modernization needs. New York created a first-of-its-kind Office of Renewable Energy Siting to consolidate the review process for major renewable energy facilities and provide a single venue where community and environmental impacts can be addressed.⁶² Michigan launched the first-ever renewable energy zoning database that provides updated maps on renewable energy ordinances across the state’s 1,800+ municipalities, helping communities and renewable energy developers plan siting decisions.⁶³ New Mexico passed two innovative bills that address grid modernization and transmission expansion needs: the *Energy Grid Modernization Roadmap*⁶⁴ will create a strategic plan and competitive grant program to support grid modernization projects; amendments to the *Industrial Revenue Bond Act*⁶⁵ will expand the infrastructure for renewable energy by making transmission line projects eligible for certain municipal bonds. In April, Rhode Island released its *Heating Sector Transformation* report, which provided thermal-sector analyses and policy recommendations to guide the decarbonization and modernization of

the heating and cooling sector for the electric grid as well as heating fuel delivery systems.⁶⁶

Deploying Market-Based Solutions

Alliance members continue to participate in market-based climate programs, which incentivize cost-effective emissions reductions by setting prices or caps on carbon pollution. In January 2020, New Jersey officially re-joined the Regional Greenhouse Gas Initiative (RGGI), a cap-and-trade program that is reducing power-sector GHG emissions across ten New England and Mid-Atlantic states. Since then, New Jersey released a strategic funding plan for its RGGI auction proceeds, directing approximately \$80 million per year toward clean transportation projects, coastal ecosystem enhancement, forest restoration, and the creation of a New Jersey Green Bank. Both the transportation projects and Green Bank will heavily focus on improving outcomes for environmental justice communities.⁶⁷



Beginning in 2021, RGGI will welcome its eleventh member, Virginia. The first Southern state to join the initiative, Virginia plans to direct its auction proceeds toward flood preparedness, coastal resilience, and energy efficiency programs, with more than 50 percent of proceeds dedicated to energy efficiency

projects in low-income communities.⁶⁸ Pennsylvania, currently in the midst of its rulemaking process, is working toward joining RGGI.⁶⁹ According to preliminary analysis, this would lead to a net increase in jobs, state GDP, and positive health outcomes due to reduced air pollution.⁷⁰ In fact, a recent study has found that by incentivizing a transition to cleaner electricity production, RGGI has greatly improved the health of children across the entire region, avoiding more than 500 pediatric asthma cases and 100 preterm births, with associated avoided costs in the range of \$191–350 million.⁷¹

On the West Coast, California's cap-and-trade program covers 85 percent of the state's economy-wide GHG emissions and plays a pivotal role in helping the state reach its climate goals. Revenues from quarterly cap-and-trade auctions are deposited into the Greenhouse Gas Reduction Fund, which is appropriated to state agencies to operate programs that accelerate emissions reductions, particularly in disadvantaged and low-income communities. The program has generated more than \$12 billion in revenue over the past decade. Notably, more than 60 percent of funds have directly benefited disadvantaged communities statewide.

Beginning in January 2019, nine Alliance members and Washington, D.C., as a part of the Transportation & Climate Initiative (TCI) Regional Policy Design Process, have been working to "design a regional low-carbon transportation policy proposal that would cap and reduce carbon emissions from the combustion of transportation fuels."⁷² Based on initial modeling of a carbon cap between 20 and 25 percent from 2022 levels, the program would generate \$1.4–6.9 billion in proceeds per year that could be invested in clean transportation solutions. In December 2019, participating jurisdictions released a draft memorandum of understanding (MOU), which outlined an initial proposal of the rules, mechanisms, and structure of the program. A final MOU is anticipated to be released in fall 2020, at which point each member will decide whether to participate in the regional program.⁷³

Increasing Building Energy Efficiency

Globally, building construction and operation are responsible for 36 percent of energy use and 39 percent of energy-related GHG emissions.⁷⁴ Reducing the amount of energy needed to power our buildings—and decarbonizing the source of that energy—are critically important steps to help us realize our shared climate goals and decrease consumer energy bills.

Alliance members have continued to lead the way with ambitious energy efficiency and decarbonization policies and programs during the past year. To date, 11 Alliance members have adopted energy and/or water appliance efficiency standards on top of existing federal efficiency standards.⁷⁵ Collaborating to adopt substantially similar regulations across states ensures consistency and supports industry standardization. Alliance members are now coordinating on implementing those standards, so that states are engaging the market, raising awareness, and enforcing compliance using similar methods and tools, thereby lowering resource needs on individual states and standardizing processes for industry. ★

Some Alliance members have also begun efforts to promote load flexibility in buildings. In November 2019, California released its roadmap for an energy-efficient and low-carbon future for buildings, highlighting that buildings that are both highly efficient and grid-interactive will facilitate better integration of distributed energy resources and demand-side services, as well as enable energy-use management that minimizes the grid's cost drivers and carbon content.⁷⁶ California is currently updating its Load Management Standards to promote a flexible demand electricity market and scoping new statutory authority to create appliance regulations that standardize demand response capabilities.⁷⁷

Alliance members have also adopted ambitious standards and codes within their states and territories. In April, Governor Northam signed Virginia's first Energy Efficiency Resource Standards (EERS) into law, which includes the creation of a

new program designed with input from affected stakeholders and intended to reduce the energy burden for low-income customers.⁷⁸ In June, the New Jersey Board of Public Utilities adopted one of the most-stringent EERS packages in the country for both electric and gas utilities.⁷⁹ Building off stakeholder input, the Board also included requirements to increase access and language services, vocational training and local workforce development, and supplier diversity considerations, among others. In June, Delaware updated its building energy codes to become one of the first states to adopt—without amendment—the IECC 2018 and the ASHRAE 90.1 Energy Standard for Buildings Except Low-Rise Residential Buildings. The state’s leadership in their building energy code will enhance energy efficiency requirements for air sealing, insulation, HVAC, windows, and lighting.⁸⁰ In August, New Mexico updated its residential and commercial building codes to IECC 2018 standards, a significant improvement over the IECC 2009 codes previously in place. Several Alliance members also participated in the IECC 2021 model energy code development process, which resulted in historic energy efficiency improvements more than 10 percent relative to the previous IECC.⁸¹

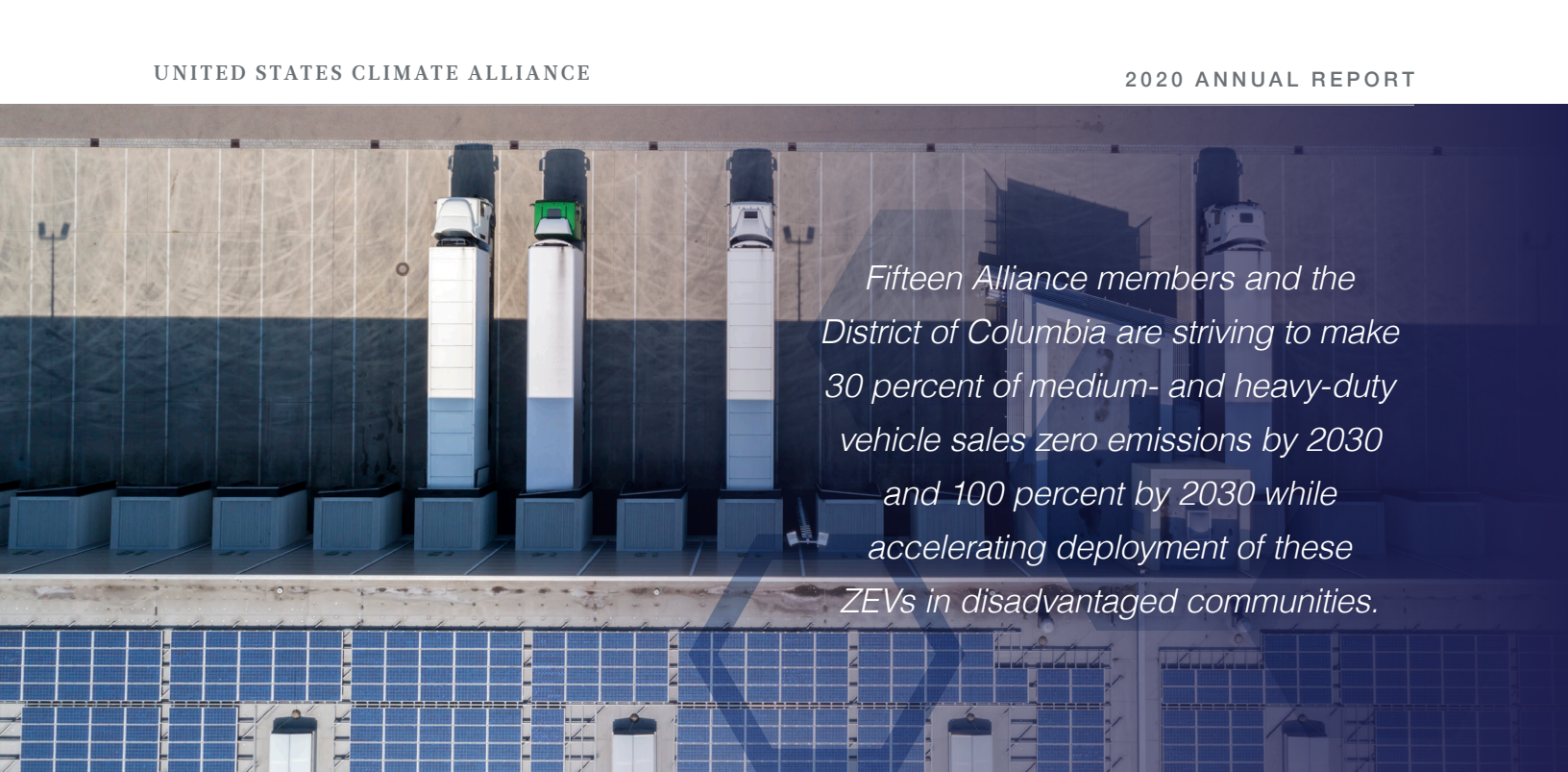
Leading the nation in innovative energy efficiency programs, Alliance members have announced new funding opportunities and investments in pilot programs that help actualize building decarbonization. For example:

- Puerto Rico’s Energy Bureau initiated a series of stakeholder workshops to identify viable energy efficiency programs in order to make its electric system more resilient while reducing harmful emissions.⁸²
- Governor Cuomo announced \$2 billion in additional funding for energy efficiency and electrification programs through New York’s investor-owned utilities, bringing the state’s total investment to \$6.8 billion from 2020 to 2025.⁸³ These investments are being made in a way

that leaves no New Yorker behind, including a framework to invest \$1 billion in energy efficiency, capacity building, and clean heat and cooling in low- and moderate-income communities.⁸⁴

- Governor Mills announced that Maine was doubling its rebates to help residents purchase high-performance heat pumps.⁸⁵ This action helps to advance the governor’s heat pump initiative, which aims to install 100,000 heat pumps in Maine homes and businesses by 2025.
- Governor Polis announced two pilot programs focused on energy efficiency and sustainability in Colorado’s cannabis and beer industries, which provides a roadmap for two prominent Colorado industries to reduce their carbon footprint and increase operational efficiency.⁸⁶
- As part of Governor Baker’s \$48 million commitment to developing affordable clean heating and cooling solutions, Massachusetts launched and funded two new initiatives—MassCEC’s “Whole-Home Air-Source Heat Pump Pilot”⁸⁷ and “Triple Decker Design Challenge”⁸⁸—to accelerate clean and affordable housing solutions in the Northeast.
- In accordance with legislation from 2018, California is currently developing two new programs that provide incentives for the development and deployment of near-zero-emissions building technologies to reduce the GHG emissions from buildings. One of the programs will focus on all-electric construction in new low-income residential housing.⁸⁹

Focusing efforts on energy efficiency and decarbonization in the built environment can have myriad economic and health benefits. Investing in energy efficiency creates nearly three times more jobs per dollar than investing in the fossil fuel sector.⁹⁰ These policies also save consumers money. Appliance standards alone save households an estimated \$500 per year on utility bills; if adopted



Fifteen Alliance members and the District of Columbia are striving to make 30 percent of medium- and heavy-duty vehicle sales zero emissions by 2030 and 100 percent by 2030 while accelerating deployment of these ZEVs in disadvantaged communities.

nationwide this would add up to \$1.9 trillion in total savings by 2035.⁹¹ This conclusion is particularly important for low-income households, which face an energy burden (the portion of income spent on utility bills) that is three times higher than others. The U.S. Department of Energy estimates that cost-effective energy efficiency measures could save low-income households 13–31 percent of their energy bills.⁹² Eliminating indoor gas combustion by electrifying homes can significantly improve indoor air quality and reduce asthma triggers, particularly relevant considerations during the current global pandemic.

Deploying Cleaner and More-Efficient Vehicles on Our Roads

Over the past year, Alliance members have continued to push forward ambitious vehicle emissions standards and accelerate the adoption of clean fuels and vehicles in order to tackle the largest source of GHG emissions. In March, Governor Brown announced that Oregon will more than double the goal of its clean fuels program. As a result, the state expects climate pollution from cars and trucks to be reduced 20 percent by 2030 and 25 percent by 2035, making it the most-ambitious clean fuels standard in the country.⁹³

In June, Nevada became the latest Alliance member to launch a rulemaking process to adopt low-emissions vehicle (LEV) and zero-emissions vehicle (ZEV) standards for light-duty vehicles.⁹⁴ In March, Governor Inslee adopted California's ZEV mandate in Washington, making it the 12th ZEV state. Altogether, these 12 Alliance members comprise approximately 66 percent of national electric vehicle (EV) sales since 2010⁹⁵ and nearly 32 percent of national automobile sales.⁹⁶ Sixteen Alliance members have now adopted, or are in the process of adopting, California's LEV standards and 14 states have now adopted, or are in the process of adopting, California's ZEV regulations. Additionally, California and 22 Alliance states are challenging the federal administration's revocation of California's waiver to set stricter vehicle tailpipe emissions rules.⁹⁷

In August 2020, a consortium of automakers and the California Air Resources Board⁹⁸ voluntarily entered into a series of bilateral agreements to reduce emissions that support progress towards cleaner vehicles across the country. Automakers who entered into the agreements include Ford, Honda, BMW of North America, and Volkswagen Group of America, and Volvo. The agreements will lead to continued annual reductions of vehicle GHG emissions through the 2026 model year,



encourage innovation to accelerate the transition to electric vehicles, and provide industry the certainty needed to make investments and create jobs.

Looking beyond passenger vehicles, California announced its Advanced Clean Trucks regulation, the world's first zero-emissions truck standard to address diesel pollution.⁹⁹ According to the California Air Resources Board, the rule could prevent 17.9 million metric tons of carbon dioxide and 58,000 tons of nitrogen oxides from entering the atmosphere through 2040, generate \$5.9 billion in savings, and create roughly 7,500 net new jobs.¹⁰⁰ In July, 15 Alliance members and the District of Columbia announced a joint MOU to collaborate on the creation of a self-sustaining, zero-emissions medium- and heavy-duty vehicle (MHDV) market. This includes developing a multi-state action plan, striving to make 30 percent of all sales of MHDVs zero emissions by 2030 and 100 percent by 2050, and accelerating deployment of MHDV ZEVs in disadvantaged communities. Electrifying MHDVs is important not only for reducing GHG emissions (trucks and buses account for a quarter of the sector's emissions), but also for improving air quality and health outcomes.¹⁰¹

Alliance members are also addressing diesel pollution with state and federal grants. Delaware,¹⁰² North Carolina,¹⁰³ Michigan,¹⁰⁴ New York,¹⁰⁵ New Jersey,^{106,107} New Mexico,¹⁰⁸ Rhode Island,¹⁰⁹ and Washington¹¹⁰ awarded millions of dollars in Volkswagen settlement funds towards projects that will electrify school and transit buses, heavy freight equipment, and refueling infrastructure.

Alliance members continue to provide incentives to drive consumer adoption of ZEVs and expand charging infrastructure. In January, Governor Murphy of New Jersey signed legislation that established a goal of putting 330,000 EVs on the road by 2025. To support these targets, the legislation created a \$300 million EV rebate program (providing up to \$5,000 per EV) and authorized utilities to provide customer incentives for in-home charger

installation.¹¹¹ In July, New York approved the \$701 million "EV Make-Ready" Initiative, incentivizing utilities to invest in charging infrastructure through 2025. Nearly 30 percent of this funding is earmarked for environmental justice efforts and is now one of the largest state vehicle electrification efforts in the nation.¹¹² California's Public Utilities Commission approved a \$437 million proposal by Southern California Edison to add 38,000 chargers to its 50,000-square-mile service area. The plan has an equity focus, with half of investments destined for disadvantaged communities and 30 percent in multi-family housing, and is the largest utility buildout of charging infrastructure to date.¹¹³ In addition, the Commission approved an electric rate for Pacific Gas & Electric's electric vehicle commercial customers.¹¹⁴

Members are also continuing to develop roadmaps and long-term plans to ensure continued progress in addressing transportation emissions. For example:

- The *Electric Vehicle Roadmap* for Connecticut is a comprehensive strategy for achieving widespread deployment of EVs in the state, and a key tool in the state's effort to improve air quality for residents while also addressing the climate crisis.¹¹⁵
- The *Colorado Electric Vehicle Plan 2020* details five actions that will help achieve the large-scale transition of the state's transportation system to zero-emissions vehicles.¹¹⁶
- In March, Governor Whitmer and Finland's Minister of Economic Affairs Mika Lintilä signed an MOU to increase collaboration and innovation between Michigan and Finland related to clean technology industries, the EV sector, and mobility.¹¹⁷ And in July, Michigan established an Office of Future Mobility and Electrification, which will work across state government, academia, and private industry to support the state's ability to develop and produce the next generation of transportation technologies.¹¹⁸

- In August, Governor Raimondo launched the Mobility Innovation Working Group consisting of state agency leaders and local stakeholders. The objective of the Working Group is to inform the design of a statewide mobility strategy that will reduce GHG emissions, expand accessible and equitable transportation options, and promote economic development and clean job creation.¹¹⁹

Addressing Short-Lived Climate Pollutants

Short-lived climate pollutants (SLCPs)—including methane, HFCs, and black carbon—are harmful air pollutants and potent climate forcers with a much shorter atmospheric lifespan than carbon dioxide. For example, just one pound of HFC-134a warms the planet as much as 1,400 pounds of carbon dioxide. Because they are potent and short-lived, action taken today to reduce these pollutants can achieve significant climate benefits in the near term. Further, effectively designed measures to reduce SLCP emissions will make U.S. businesses and states more competitive globally.

Until recently, an effective federal regulatory framework was in place to reduce SLCP emissions nationally. However, many of these rules have been rescinded or delayed, leading to significant regulatory uncertainty affecting businesses and emissions in the United States. In response, the Alliance released its *SLCP Challenge to Action Roadmap* in 2018, which outlines a number of actions states and territories can take to reduce SLCPs to meet the goals of the Paris Agreement.¹²⁰


★ Prior to September 2018, California was the only state that regulated HFCs. Since then, 15 additional Alliance members have initiated rulemaking processes, passed legislation, or are in the process of moving legislation forward modeled after California’s rules and consistent with U.S. EPA’s 2015/2016 Significant New Alternatives Policy (SNAP) rules. California is currently proceeding with rulemaking to advance the state’s mandatory

HFC reductions.¹²¹ Proposed changes include new definitions for end uses, prohibitions on high-global-warming potential (High-GWP) refrigerants for new stationary air conditioners and large stationary refrigeration systems, additional requirements for existing retail food facilities, and a variance provision. To help meet its statewide HFC goals, Delaware launched its “Cool Switch” program, which provides grant incentives to small businesses that retrofit or purchase new low-GWP refrigerant systems.¹²²

As more Alliance members move to phase down HFCs, these regulations will apply to a larger share of the U.S. market and create opportunities for industry to sell high-standard products across the country. Additionally, Congress is currently negotiating federal legislation to limit the use of HFCs nationwide. The Alliance has submitted written testimony to the Committee on Environment and Public Works, supporting a strong federal framework for an HFC phasedown that complements and upholds state efforts while providing regulatory certainty for industry nationwide.¹²³

Many Alliance members are also developing regulations or strengthening existing laws to address methane emissions from natural gas infrastructure and landfills. For example:

- Colorado is currently implementing landmark oil and gas legislation—Senate Bill 19-181¹²⁴—which puts health and safety first when it comes to oil and gas extraction activities and gives local communities a major say over drilling in their area. The law also includes strong direction to reduce greenhouse gases and other pollutants from the oil and gas industry.¹²⁵
- New Mexico is committed to developing a nationally-leading comprehensive methane regulatory framework to reduce methane emissions from oil and gas operations. New Mexico’s Energy, Minerals, and Natural Resources Department (EMNRD) released preliminary draft rules this summer for



Alliance members are taking innovative approaches to better detect where methane leaks are occurring and prioritize investments to reduce emissions.

stakeholder review, which propose to require 98 percent of natural gas leakage be captured by oil and gas operators by the end of 2026.¹²⁶ The New Mexico Environment Department (NMED) also released preliminary draft rules targeting volatile organic compounds (VOCs), which will have the co-benefit of reducing methane emissions. The Environmental Improvement Board is expected to hold a hearing for NMED's rules in early summer 2021, and the Oil Conservation Commission is expected to hear EMNRD's proposed rules by early 2021.

- In May, Pennsylvania proposed regulations that address VOC emissions from oil and natural gas sources, with associated cuts in methane emissions expected as a co-benefit.¹²⁷ In order to address the almost \$6 billion liability from unaccounted-for legacy wells, the Pennsylvania Department of Environmental Protection recently renewed efforts to enhance its program to plug abandoned oil and gas wells to mitigate health, safety, environmental, and economic impacts.^{128,129}
- In July, Maryland proposed regulations that aim to reduce vented methane emissions from both new and existing

facilities, as well as requirements for leak detection, repair, and reporting.¹³⁰

- Governor Northam has directed the Virginia Department of Environmental Quality to develop a framework for limiting methane leakage from natural gas infrastructure.¹³¹

States are also taking innovative approaches to better detect where methane leaks are occurring and prioritize investments to reduce emissions. In 2019, California used NASA technology via remote sensing and aerial flyovers to conduct an initial survey of large methane emitters. They found that 10 percent of the point sources emitted 60 percent of the methane detected.¹³² The state is planning another round of airborne flight measurements in fall 2020 to further test the data platform prototype. This testing is expected to demonstrate the ability to translate data into methane emissions reductions as California moves toward the 2022 launch of a satellite platform that will provide persistent observations to identify methane point sources, with results being available within 24–48 hours, a key feature that allows for mitigation. Colorado will also participate in flyovers and will be coupling the aerial leak detection with on-the-ground outreach to operators.¹³³ The New Mexico Economic

Development Department pledged \$5 million in *Local Economic Development Act* funding to Sceye Inc., which will build a fleet of airships that can support New Mexico's ozone attainment and climate change efforts by monitoring ozone levels and methane emissions.¹³⁴ New Mexico has also developed a methane tracking dashboard map and mobile application platform to display information on venting, flaring, and other emissions.¹³⁵ The Alliance hopes to expand efforts across other members to detect and repair large methane leaks and achieve significant emissions reductions.

Beyond the oil and gas sector, states are examining new emissions-reduction strategies from other methane sources like landfills, wastewater, manure management, and enteric fermentation. For example, as part of its 2018 *Universal Recycling Law*, which went into effect in July, Vermont banned food scraps from its landfills.¹³⁶ In May, Oregon advanced a *Landfill Methane and Food Waste Work Plan* as part of its response to meeting the state's new GHG reduction targets.¹³⁷

Creating More Resilient Communities

Unprecedented high global temperatures and large-scale natural disasters marked the decade between 2010 and 2019. In 2019 alone, 14 separate billion-dollar disasters, including three major inland floods, eight severe storms, two tropical cyclones, and one wildfire event, ravaged communities.¹³⁸ These incidents have led to Alliance members calling for increased support and investments from the federal government and elsewhere to brace for future disasters.

Over this past year, Alliance members have worked to align the latest climate science with these financing gaps. Several members released robust state roadmaps and policy recommendations to guide the implementation of recent laws and executive orders to increase our preparedness and resilience to natural disasters and climate stressors. For example:

- North Carolina released its *Risk Assessment and Resilience Plan* after more than a year of ongoing engagement with state agencies and stakeholders.¹³⁹ The plan addresses climate vulnerabilities across the economy and includes a *North Carolina Climate Science Report*, a *NC Natural & Working Lands Action Plan*, and strategies for advancing climate and environmental justice.
- After working with science, policy, and business leaders to assess the threats that climate change poses across the state, Washington's Department of Natural Resources (DNR) released its Plan for Climate Resilience with recommendations on ways to build resilience to minimize climate impacts.¹⁴⁰ The plan highlights DNR's commitment to working and consulting with tribes on climate resilience and integrating equity and environmental justice into climate planning and strategies.
- California released its *Water Resilience Portfolio Initiative*¹⁴¹ to ensure safe and resilient water supplies, flood protection, and healthy waterways for the state's communities, economy and environment, as well as a five-year strategic plan to protect California's coast and ocean. California's Integrated Climate Adaptation and Resiliency Program continues to prioritize equity and the needs of frontline communities in its activities.¹⁴² California's Public Utilities Commission authorized more than \$650 million as part of the Self-Generation Incentive Program (SGIP) for behind-the-meter storage projects that are located in high-fire-threat districts or in the homes of customers impacted by public safety power shut-offs.
- Colorado's Resilience Office is currently leading an update to the Colorado Resiliency Framework, a process that is centering climate change impacts and will develop actionable and high-impact strategies to be accomplished in the near term.¹⁴³

- In June, New Jersey released its *Scientific Report on Climate Change*,¹⁴⁴ which will be used to inform the state’s resilience plan due out later this year.¹⁴⁵

Members also made significant investments to help their communities brace for climate impacts.

For example:

- Rhode Island announced \$4.3 million in grants to help communities confront the effects of climate change¹⁴⁶ and awarded \$4.7 million of matching grants to municipalities strengthening their wastewater treatment infrastructure.¹⁴⁷
- The Baker-Polito Administration awarded \$11.6 million in climate resilience funding to Massachusetts’ cities and towns.¹⁴⁸
- Virginia created a low-interest loan program for enhancing flood preparedness, which will be funded by RGGI auction proceeds.¹⁴⁹
- Colorado released a first-of-its-kind interactive dashboard to help inform preparedness and resilience policies, support recovery and adaptation investments, and provide decision-makers with tools to quantify the growing cost of inaction.¹⁵⁰
- Connecticut expanded the charge of its Governor’s Council on Climate Change to include an adaptation and resilience plan for the state, including financing strategies and recommendations to prioritize the protection of vulnerable communities disproportionately impacted by the effects of climate change.¹⁵¹
- Nevada’s legislature required ongoing natural disaster mitigation planning for the state’s public electric utility to ensure reliability during wildfires and other natural disasters.¹⁵²

To further the collective understanding of building resilience to climate change, the European Union

and the Alliance launched a collaboration in 2019 to strengthen dialogue and exchange ideas between climate leaders from both sides of the Atlantic. This joint collaboration will facilitate technical cooperation on climate risk and resilience strategies, paving the way for Alliance members to incorporate resilience into everyday planning; make the economic and fiscal case for resilience; increase community adaptation preparedness training, funding, and implementation; and mobilize investments in resilience.

Protecting and Enhancing Our Natural and Working Lands

Increasing carbon sequestration in and reducing GHG emissions through natural and working lands (NWLs) are critical components of state and national deep decarbonization strategies. The NWL sector—including farmlands, forests, wetlands, grasslands, and other land types—has the unique ability to both store carbon in plants and soils (i.e., providing resilient carbon sinks) and protect and enhance the communities, economies, and ecosystems that depend on them. NWLs currently offset approximately 12 percent of U.S. GHG emissions,¹⁵³ with the potential to sequester approximately 20–50 percent by 2050.^{154,155,156}

Seven Alliance members have specific “healthy soils” policies or programs in place to increase adoption of conservation practices on farms and ranches; all 25 Alliance members are producing a statewide forest resource assessment and strategy that identifies strategies and resource needs for maintaining forest resilience in a changing climate.



In 2018, the Alliance launched the Natural and Working Lands Challenge (#NWLChallenge), recognizing the need to include natural and working lands in ambitious climate change goals and policies. In two years, Alliance members have significantly scaled up on-the-ground implementation of best practices for land management, restoration, and conservation so



Alliance members have significantly scaled up on-the-ground implementation of best practices for land management, restoration, and conservation so that these activities meaningfully contribute to GHG mitigation and resiliency goals.

that these activities meaningfully contribute to GHG mitigation and resiliency goals. For example:

- Minnesota’s Board of Water and Soil Resources’ *Climate Change Trends and Actions Plan* focuses on increasing resiliency and outlines next steps to further carbon sequestration, reduce GHG emissions, and establish practices for a statewide inventory of NWLs.¹⁵⁷
- Governor Murphy’s administration launched New Jersey Protecting Against Climate Threats (NJ PACT), with a long-term strategy of carbon sequestration and storage to reduce GHG emissions.¹⁵⁸
- Governor Brown announced a historic agreement to chart a collaborative course toward science-based forest management in Oregon.¹⁵⁹
- In June, North Carolina released its state *Natural and Working Lands Action Plan*, which identifies specific projects for natural and working lands to sequester carbon, build ecosystem and community resilience, provide ecosystem benefits, and enhance the state’s economy.¹⁶⁰

- New Mexico’s *2020 Forest Action Plan* update process focused on climate adaptation and mitigation approaches.¹⁶¹ The final plan will include numerous long-term goals to improve the sequestration capacity of forests in the state.
- Colorado has established an interagency task force to advance natural climate solutions that aim to reduce emissions from natural and working lands and protect their ability to sequester carbon.

Deploying Innovative Climate Solutions

Alliance members have long championed innovative climate action. In addition to the actions described above, members accomplished the following this year:

- In June, the New Jersey Board of Education adopted education standards that fully integrate climate change education into its K-12 schools, following an initiative championed by First Lady Tammy Murphy.¹⁶² Although not typically discussed, education may be a crucial opportunity for reducing long-term emissions. A recent study estimated that climate change education could lead to lifestyle

changes that reduce an individual's emissions by nearly three tons of CO₂ per year.¹⁶³

- In July, Connecticut's Green Bank launched "Green Liberty Bonds," the nation's first green bond designed to be accessible to the individual investor. Priced at \$1,000 each, the bonds' relative affordability grants retail investors the ability to participate in financing climate-positive projects.¹⁶⁴ The initial bond sales raised more than \$16 million¹⁶⁵ to deploy rooftop solar across the state.¹⁶⁶
- In August, Massachusetts became the first state to launch a Clean Peak Energy Standard. This financial incentive program promotes the use of clean energy generation when electricity demand is highest.¹⁶⁷ The Commonwealth expects this standard to reduce GHG emissions, lower electricity costs, and facilitate the continued growth of renewable energy.
- In August, Michigan launched its Mass Timber Initiative, focused on increasing the number of mass timber buildings across the state, reducing the carbon footprint of Michigan's built environment, and identifying resources to accelerate mass timber in Michigan.¹⁶⁸

A ROBUST AND RESILIENT RECOVERY

Communities across the country are hurting on multiple fronts—from the ongoing economic and public health fallout of the COVID-19 pandemic to long-standing racial justice and equity issues. At the same time, we continue to face the stress of extreme weather and climate change impacts from wildfires, droughts, hurricanes, and flooding. As we respond to these crises and move toward recovery, Alliance members are committed to rebuilding our economies in ways that prioritize equity, resilience, and public health.

In July, the Alliance submitted a letter to Congressional leadership that shared bipartisan recommendations to put the United States on the path to economic recovery.¹⁶⁹ The first step is for Congress to provide states and territories at least \$500 billion in flexible aid to provide critical resources necessary to continue providing essential services throughout our communities. It then should make investments that create family-sustaining jobs while also reducing GHG emissions, improving public health, and building more-resilient communities and economies.

★ Public funding and incentives are needed to mobilize private investment and create public-private partnerships. Twelve Alliance members have, or are developing, energy and/or resiliency infrastructure banks, proven models for leveraging increased public and private investment. Building on this work, we support the establishment of an independent, non-profit National Green Bank. Extending or reinstating clean energy and climate-friendly tax credits and bonding tools would allow businesses and residents to invest in the transition to a decarbonized and resilient economy.¹⁷⁰ Above all, it is essential that any investment in the recovery prioritizes support for communities that are disproportionately impacted by environmental, health, and economic crises.

Alliance members are already taking action to kickstart an equitable, clean, and resilient recovery. For example:

- In April, Governor Newsom launched a Task Force on Business and Jobs Recovery that brings together leaders across California's diverse, innovative economic and social sectors to chart a path forward on recovery.¹⁷¹ The task force is focused both on immediate recovery and bold actions to support a cleaner, equitable, and prosperous future for all Californians. The climate-specific work under the task force has three priorities: clean transportation, resilient infrastructure, and the just transition.
- In May, Governor Murphy announced plans for the New Jersey Wind Port, a leading infrastructure investment that will provide a location for essential staging, assembly, and manufacturing activities related to offshore wind projects along the East Coast. Construction is planned to begin in 2021, creating up to 1,500 manufacturing, assembly, and operations jobs, as well as hundreds of construction jobs in the state. New Jersey is committed to using union labor to construct the Wind Port and intends to set a new standard for the inclusion of minority and women workers and business owners.¹⁷²



Alliance members understand that it is essential that any investment in the economic recovery prioritizes support for communities that are disproportionately impacted by environmental, health, and economic crises.

- In June, New York proposed an expanded clean energy standard that aims to accelerate renewable energy development across the state and create thousands of well-paying clean energy jobs. The clean energy standard is designed to advance environmental justice by focusing on communities and workers that have been historically marginalized and actively disadvantaged by energy policy planning.¹⁷³
- In June, Governor Polis announced the Can Do Colorado Community Challenge, which offers at least \$5 million in grant funding and technical assistance to communities and businesses that integrate health, equity, and sustainability considerations into their reopening plans amidst the ongoing pandemic.¹⁷⁴
- In June, Governor Northam announced the Agriculture and Forestry Industries Development (AFID) Fund Planning Grant program as a new way for local governments in Virginia to support agriculture- and forestry-based businesses during the COVID-19 pandemic.¹⁷⁵ And in July, the governor launched Clean Energy Virginia, a new initiative providing educational tools and resources to clean energy businesses that are interested in expanding or locating in Virginia.¹⁷⁶
- In August, Illinois Governor Pritzker announced a \$3 million state investment toward transforming a vacant brownfield site on Chicago's south side into a new Green Era Urban Farming Campus for a community that has historically suffered from disinvestment and a lack of employment opportunities.¹⁷⁷ This project combines capital investment, renewable energy, food production and access, and training and education to create a model for economic development, creating hundreds of permanent and construction jobs for community members.

CLIMATE LEADERSHIP ACROSS THE ALLIANCE

U.S. Climate Alliance members are taking bold climate action across every sector of the economy, with individual leadership by each Alliance governor building the foundation of our collective ambition. Below we highlight some of the bipartisan climate solutions our states are deploying at scale to reduce GHG emissions, strengthen resilience, and expand clean energy and climate finance tools.

ECONOMY-WIDE TARGETS

8 Have adopted carbon-neutrality goals
CA, HI, ME, MA, MT, NV, NY, WA

ELECTRICITY

16 Have adopted 100 percent zero-carbon or carbon-neutral electricity targets through statute or executive order
CA, CO, CT, HI, ME, MT, NV, NJ, NM, NY, NC, PR, RI, VA, WA, WI *(MT and NC targets are for carbon-neutral electricity)*

CARBON MARKETS

11 Participate in carbon markets
CA, CT, DE, ME, MD, MA, NJ, NY, RI, VT, VA *(CA participates in its own economy-wide market, all others are participating in RGGI)*

9 Are designing a regional low-carbon transportation policy proposal
CT, DE, MD, MA, NJ, PA, RI, VT, VA

BUILDINGS

11 Have adopted energy and/or water appliance efficiency standards on top of existing federal efficiency standards
CA, CO, CT, HI, MD, NV, NY, OR, RI, VT

TRANSPORTATION

- 17** Have adopted, or are in the process of adopting, low-emissions vehicle standards for light-duty vehicles
CA, CO, CT, DE, ME, MD, MA, MN*, NV*, NJ, NM*, NY, OR, PA, RI, VT, WA
- 15** Have adopted, or are in the process of adopting, zero-emissions vehicle regulations for light-duty vehicles
CA, CO, CT, ME, MD, MA, MN*, NV*, NJ, NM*, NY, OR, RI, VT, WA
- 15** Are collaborating on the creation of a self-sustaining, zero-emissions medium- and heavy-duty vehicle (MHDV) market
CA, CO, CT, HI, ME, MD, MA, NJ, NY, NC, OR, PA, RI, VT, WA

SHORT-LIVED CLIMATE POLLUTANTS

- 16** Have initiated rulemaking processes or passed legislation to phase down the use of HFCs consistent with previously enacted national standards
CA, CO*, CT*, DE*, MD*, MA*, NJ, NY*, PA*, RI*, VT, VA*, WA. States in the process of adopting these rules when their legislature was disrupted: HI, ME, and OR

RESILIENCE

- 20** Have developed, or are in the process of developing, climate adaptation or resilience plans
CA, CO, CT, DE, HI, ME, MD, MA, MI, MN, NJ, NY, NC, OR, PA, RI, VA, VT, WA, WI

NATURAL AND WORKING LANDS

- 7** Have specific “healthy soils” policies or programs in place to increase adoption of conservation practices on farms and ranches
CA, HI, IL, MD, NM, VT, WA
- 25** Are producing a statewide forest resource assessment and strategy for maintaining forest resilience in a changing climate
CA, CO, CT, DE, HI, IL, ME, MD, MA, MI, MN, MT, NV, NM, NJ, NY, NC, OR, PA, PR, RI, VT, VA, WA, WI

CLIMATE FINANCE

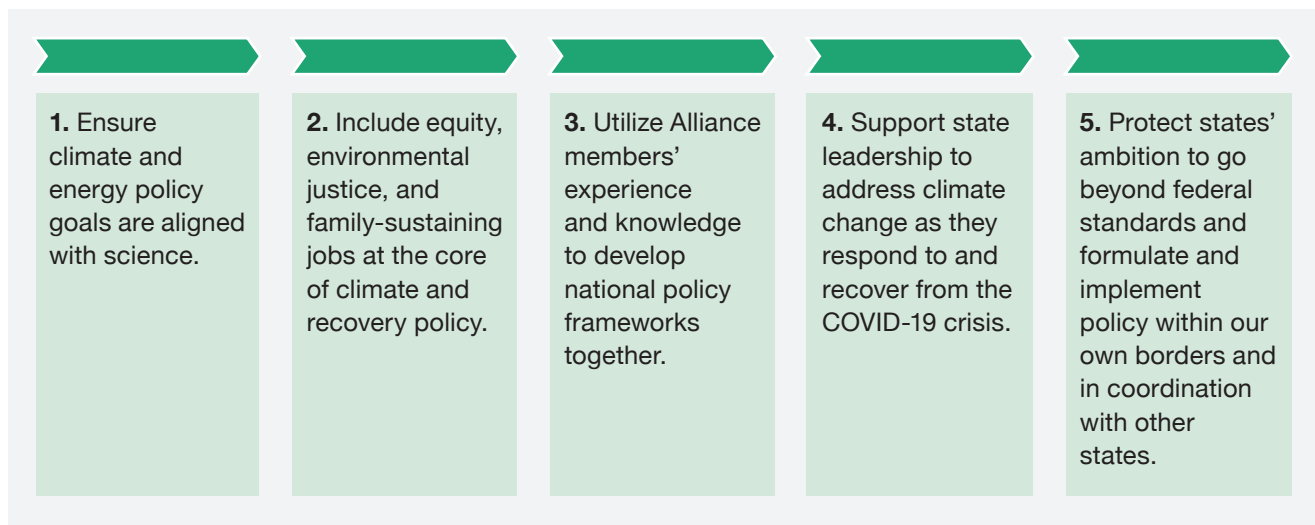
- 12** Have developed or are developing energy and/or resiliency infrastructure banks
CA, CO, CT, DE, HI, MD, MI, NJ*, NY, NV, PA*, RI

* Proposed

RECOMMENDATIONS FOR NATIONAL CLIMATE ACTION

Recovery from the economic and health impacts of COVID-19 presents the United States with a unique opportunity to tackle climate change in a way that catalyzes a clean, equitable, and prosperous future. With federal leadership on climate change, we can benefit from shared resources and uniform policies across all states and territories. Through our experience developing and implementing leading climate policies, Alliance members offer five key recommendations that Congress and the federal government should integrate into future national climate policy.

FIGURE 3 Five Key Recommendations for Congress and the Federal Government



1. Ensure climate and energy policy goals are aligned with science. The world's top scientists have mapped out several strategies for achieving emissions reductions that would allow us to avoid the worst impacts of climate change by midcentury.¹⁷⁸ They also tell us what climate impacts may lie ahead if we fail to reach these emissions-reduction targets. Such scientific projections are vitally important tools for informing and developing climate and energy policies that help us achieve the necessary cuts in carbon pollution and ensure that our communities are resilient in the face of extreme weather and climate impacts.

2. Include equity, environmental justice, and family-sustaining jobs at the core of climate and recovery policy. Ensuring equity and environmental justice should be key principles of any climate policy, as environmental, health, and economic crises disproportionately impact disenfranchised communities. The federal government should ensure that residents and businesses across all communities have ample opportunity to shape and comment on climate policy, direct resources to help at-risk communities address climate change and benefit from the transition to clean energy, and address the harm caused by previous policies. Likewise, economic recovery policies should support family-sustaining jobs with fair wages and strong labor standards, as well as accessible training pathways into these jobs. Support for small businesses, worker training, recruitment and retention, and formulating local economic development and diversification strategies is critical.

3. Utilize Alliance members' experience and knowledge to develop national policy frameworks together. Alliance member states and territories have long been leaders on climate and clean energy policy, working to develop the next generation of innovative policy solutions. Any national economic recovery and climate and clean energy policy framework should build on state successes and draw from the lessons we have learned along the way. We have best practices for

national policies that span the economy—from clean car and truck standards, zero-carbon electricity standards, and the next generation of building energy codes to policies that limit short-lived climate pollutant emissions and enhance the carbon sink of our natural and working lands.

4. Support state leadership to address climate change as they respond to and recover from the COVID-19 crisis. As illustrated by our actions over the past several years, Alliance governors have advanced the most-ambitious state climate agenda in U.S. history, despite federal deregulatory efforts.¹⁷⁹ Prior to the current recession, Alliance members' economic output continued to grow even as we reduced our emissions, demonstrating that climate leadership and economic growth can go hand-in-hand. We have an opportunity to use this moment to stimulate the economy and sustain economic growth. Major infrastructure investments, private-sector mobilization, and the creation of family-sustaining jobs will put us on a path to economic recovery and address the ever-growing climate crisis.

5. Protect states' ambition to go beyond federal standards and formulate and implement policy within our own borders and in coordination with other states. States have historically held, and continue to employ, the right to formulate and implement policies to protect our communities, economies, and ecosystems from environmental and climate impacts. The *Clean Air Act*, for example, has set a 40-year precedent that allows states to choose whether to adopt federal or California clean car standards. States' jurisdiction has proven increasingly important in times when federal governments roll back, weaken, or do not enforce climate regulations. Any federal climate legislation should avoid pre-emption clauses or, at a minimum, allow states to backstop rules if the federal government reverses course.

LEADING THE CHARGE

Alliance members are at the forefront of addressing climate change. We are developing innovative policies and programs that promote clean energy; lower emissions in our transportation, buildings, and industrial sectors; and make our communities more resilient. In the absence of federal leadership, our members have stepped up over the past three years in service of our national GHG emissions-reduction goal.

To achieve this goal, Alliance members have worked together to develop consistent climate policy frameworks and issue challenges that aim to spur additional action across a range of sectors. These include:

- Fulfilling the Short-Lived Climate Pollutant Challenge:** The Alliance issued the #SLCPChallenge in June 2018 ahead of the Global Climate Action Summit.¹⁸⁰ Since then, more than half of Alliance members have adopted regulations and/or enacted legislation that comprehensively addresses SLCP emissions, and several states have implemented innovative technologies that quickly identify “super emitters.”
- Taking on the Natural and Working Lands Challenge:** In August 2018, the Alliance issued the #NWLChallenge, which seeks to identify and address obstacles to integrating NWLs into state and territory GHG mitigation plans. Alliance members have made significant progress over the past two years, particularly with regards to overcoming data, modeling, and other barriers to GHG mitigation planning and policy integration, and identifying best practices to reduce GHG emissions and increase resilient carbon sequestration.¹⁸¹

- Working together to deploy cleaner vehicles:** In July 2019, 24 Alliance governors issued the Nation’s Clean Car Promise, which reemphasizes these members’ commitment to calling for one strong, national clean car standard and preserving state authority to protect residents from vehicle pollution.¹⁸² In July 2020, 15 states and the District of Columbia announced a joint MOU committing to work collaboratively to advance and accelerate the market for electric medium- and heavy-duty vehicles.¹⁸³

Through our Energy Efficiency Working Group, Alliance members have been working together to develop and adopt consistent standards to ensure that our residents and businesses have access to the most-efficient appliances and equipment available. We are now issuing the Appliance Efficiency Challenge to accelerate this effort (Box 2).

At the same time, we have increasingly engaged with international leaders at key climate events like the Global Climate Action Summit in 2018, the United Nations Climate Action Summit in 2019, and several Conference of the Parties (COP)—the United Nations’ annual climate change conference. At these events, we have shared our experiences and explored opportunities to enhance ambition globally. We have also joined forces with Canada and Mexico through the North American Climate

**BOX 2**

U.S. Climate Alliance Issues the Appliance Efficiency Challenge

Alliance members will sometimes put forward joint statements—called “challenges”—announcing mutual goals that signal coordinated policy adoption and implementation. Two years ago, the Alliance committed to identify priority state-level appliance efficiency standards and to coordinate with Alliance members on the adoption, implementation, and enforcement of such standards.¹⁸⁴ Eleven members have now adopted energy and/or water appliance efficiency standards that complement existing federal efficiency standards, with seven of those states adopting new standards since 2018. Now, to seize every opportunity for low-cost emissions reduction and to keep energy costs for consumers as low as possible, the U.S. Climate Alliance commits to work on the adoption of similar appliance efficiency standards across states

to create larger national markets for these more-efficient products through the Appliance Efficiency Challenge. The Alliance will work together and in partnership with industry on implementation to enable compliance, including launching a shared portal in 2021 to easily communicate Alliance state-level standards. Our goal is to maintain close coordination and provide consistent market signals that can support new product capital investments and reduce uncertainty and opposition to new proposed standards. More information on this challenge, and how others can join, can be found at www.usclimatealliance.org/efficiency-challenge.



Alliance members will continue to lead the charge by implementing bold and meaningful climate change policies that will help build an equitable, clean, and prosperous future.

Photo by National Renewable Energy Lab

Leadership Dialogue (NACLD) to accelerate climate policy efforts across North America.¹⁸⁵

We are increasing our engagement with Congress to build on our state leadership and rebuild a cleaner and stronger U.S. economy. In addition to our recommendations to Congressional leadership for achieving a resilient and equitable recovery,¹⁸⁶ we shared best practices and lessons learned from our experiences enacting bipartisan climate solutions in early 2020.¹⁸⁷

With or without federal support, Alliance members will continue to demonstrate bold climate action.

We welcome the opportunity to partner with the federal administration to build a strong national framework to address the climate crisis. Our communities, businesses, and especially our future generations deserve to have access to clean and affordable energy, family-sustaining jobs, and a healthy planet. Therefore, we will continue to urge the federal government to take bold, science-based climate action—and advocate against any effort to roll back existing protections.

We will also work collaboratively, as an alliance, to continue to pursue new and innovative climate and clean energy actions. We encourage more states to join us as we look to make investments that strengthen our power grid, reduce and decarbonize the energy used in our buildings, transition to low-carbon transportation, and expand nature-based solutions designed to reduce physical risk from extreme events while maximizing the potential for carbon removal and storage. At the same time, we will work to increase access to quality jobs, government services, and education and training to help transition communities to a low-carbon future.

Alliance members have proven that climate leadership and economic growth go hand-in-hand. We know a just transition to a clean and sustainable economy is desperately needed and that this transition will strengthen our communities. We will continue to lead the charge by implementing bold and meaningful climate change policies that will help build an equitable, clean, and prosperous future—laying a climate leadership roadmap for our federal government to mobilize the entire country.

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