Written Testimony of Governor Jared Polis
Governor of Colorado

House Select Committee on the Climate Crisis
"*Colorado's Roadmap for Clean Energy Action: Lessons from State and Local Leaders*"

August 1, 2019

Good morning, Chairwoman Castor, Ranking Member Graves, and the members of the House Select Committee. Thank you for the opportunity to testify in front of you all today here in the great State of Colorado for your committee's first field hearing.

My name is Jared Polis and I serve as the 43rd governor of the State of Colorado, and as such I welcome you to our great state for this important Congressional field hearing. I was born and currently live here in Boulder, and before serving as Governor, I represented Boulder, Fort Collins and the rest of Colorado's 2nd District in the House of Representatives for a decade. I am proud to see our Colorado Representatives Neguse and DeGette here today protecting Coloradans by leading our nation's efforts to combat the climate crisis on the Select Committee.

Today, I will provide an overview of Colorado's urgent efforts to-date to achieve 100% renewable energy and bold climate action. It is my hope that other states and the federal government can draw lessons from Colorado to achieve substantial and permanent reductions in pollution and other activities that contribute to the climate crisis.

Coloradans Leading on Climate Action

Since 2004, Colorado has been among the states leading the clean energy transition. Not only do we have a moral imperative to combat climate change to protect the health of our communities and our environment, we also have an economic opportunity to lead the global clean energy revolution.

We have a choice: we can be a leader in renewable energy, or we can let other countries develop technologies, create the jobs, and reap the rewards of a renewable energy future. In Colorado, we have chosen to lead.

Renewable Energy Standard: In 2004, Coloradans approved Amendment 37, which established the first voter-approved state renewable energy standard, originally set at 10% by 2020 for our investor owned utilities. Subsequent legislation increased this to 30%.

Clean Energy Utilities: Since 2004, the State's largest electric utility, Xcel Energy, has increased its renewable energy from zero to roughly 3,600 megawatts of wind and solar installed today. Part of this clean energy is supplied by almost 50,000 Coloradans that have solar installed on their rooftops. HB10-1365—the *Clean Air Clean Jobs Act*—established a process to bring the state into compliance with federal Clean Air Act requirements by retiring, retrofitting, or repowering 900 megawatts of coal-based power generation from Xcel's Colorado system. After recent state Public Utilities Commission (PUC) approval of the *Colorado Energy Plan*, Xcel

plans to retire two more coal units a decade early and projects that by 2026, nearly 55% of the electricity it provides to customers will be from renewable resources. The *Colorado Energy Plan* was not driven by a legislative mandate, but rather by the remarkable reductions we have seen in the cost of wind and solar. Recent bids for new utility scale renewables have come in at about two cents per kwh for wind combined with battery storage and about 3 cents for solar - while simply operating existing legacy coal plants is over 4 cents per kwh. A study released earlier this year by Vibrant Clean Energy concluded that Colorado could close every coal plant in the state, replace them primarily with new wind and solar, and dramatically reduce greenhouse gas emissions from electricity generation—all while saving ratepayers more than $2.5 BILLION and having a net increase in jobs.

Utilities across the state are committing to an ambitious transition towards renewable energy because they know this is where the industry is headed—in Colorado and across the nation—and, they want to thrive as part of the 21st century, clean energy economy. We share that vision for the state. Xcel Energy has committed to an 80% reduction in emissions below 2005 levels by 2030 and is striving to reach 100% by 2050. We worked with Xcel and the legislature this spring to codify the goal of an 80% reduction by 2030 and create a pathway for approval of a plan by the state PUC. As part of the same bill, SB19-236, Colorado now requires the use of a social cost of carbon in utility planning to make sure that we are considering the very real costs imposed by carbon pollution. This is an analytical framework that will allow us to more precisely consider all costs and better inform our decision-making when deciding on generating resources, as well as investments in energy efficiency, electric vehicle (EV) infrastructure, or beneficial electrification. SB 236 also, for the first time, brings our largest rural utility, Tri-State Generation and Transmission, into PUC jurisdiction of their electric resource planning. Tri-State recently announced intentions to develop a *Responsible Energy Plan*, designed to establish pathways to comply with the state's carbon reduction and renewable energy goals. We look forward to engaging with Tri-State in their planning processes and at the PUC to continue to progress to an affordable and reliable clean energy future. Other utilities across the state are also showing leadership. Holy Cross Energy, the electric utility for several mountain communities in central Colorado, recently adopted a goal of 70% renewable energy by 2030 and now expects to achieve that goal 9 years ahead of schedule. Platte River Power Authority in Northern Colorado has also recently adopted an energy policy calling for a 100% zero carbon energy mix by 2030.

Clean Energy Local Action: Fourteen Colorado towns and counties have already taken the initiative and adopted the goal of getting 100% of their electricity from clean renewable energy: Denver, Pueblo, Boulder, Fort Collins, Summit County, Frisco, Aspen, Glenwood Springs, Breckenridge, Longmont, Lafayette, Nederland to Golden. These diverse communities know that protecting Colorado's way of life means doing our part to combat climate change, and that swiftly adopting renewable energy in our electricity sector and then extending the impact of that clean electricity across the economy will protect the health of our communities, create good-paying jobs, strengthen our economy, and keep rates low for customers. Our rural electric co-ops are also taking bold steps. In June 2019, Poudre Valley Rural Electric Association announced a new goal to provide 80% carbon-free energy to its members by 2030, joining three other electric coops in Colorado to establish a clean energy or carbon reduction goal. Delta Montrose Electric Association also recently announced an agreement to exit Tri-State in order to pursue higher levels of local, renewable energy generation.

Clean Transportation: Colorado is also taking the lead on moving towards clean transportation. While electricity generation is our largest single source of emissions, transportation is a close second. And while electricity generation is already on a path towards deep emissions reductions, transportation is not. Added to this, cars and trucks are one of the two largest sources of ozone precursors, which contribute to smog on our front range. That is why Colorado has stepped up to support cleaner vehicles and transportation systems. But we need the federal government to step up too. The biggest single step that the federal government has taken on climate was adoption of federal clean car standards that will cut emissions per mile in half by 2025, while saving consumers hundreds of billions of dollars in fuel costs. In 2017, a national consulting firm studied Colorado and concluded that a large-scale transition to EVs by 2050 would create a net savings of $43 billion for Coloradans. Unfortunately, the current administration is trying to roll back these standards, despite near unanimous opposition even from the automobile industry.

Last year, Colorado adopted Low Emission Vehicle standards, which will reduce emissions by over 2 million tons a year of carbon pollution compared to the proposed rollback—while saving our consumers hundreds of millions of dollars. We are also in the midst of considering adoption of zero emission vehicle (ZEV) standards, which will require automakers to make more EVs available to Colorado consumers.

And, I am proud to announce that earlier this week, state agencies announced an agreement with the Alliance of Automobile Manufacturers and the Global Automobile Alliance, which together represent over 99% of the vehicle market in Colorado, to support a ZEV standard that works for the state and for the industry. The proposal will not only increase ZEV adoption and provide air quality benefits, but also will drive early ZEV adoption and ensure the automakers can implement the regulation efficiently. We are hopeful that this signifies a new era of common-sense cooperation between states and the automobile industry, working together to reduce emissions.

This progress builds on the fact that Colorado already has the fourth highest EV market share in the nation. Some people may think of EVs as something we only see in coastal states or heavily urbanized states, but, in fact, the mountain west has emerged as an EV hotspot. Colorado, Utah, Nevada, and Arizona have consistently been in the top ten states for EV market share, and I am proud that the governors of every mountain west state—Arizona, New Mexico, Utah, Nevada, Wyoming, Idaho, Montana and Colorado—have joined together in an eight state Regional Electric Vehicle West Memorandum of Understanding, collectively committing to build fast charging along every interstate highway connecting our states. Colorado signed a contract with the company ChargePoint in April of this year, and by June 30, 2020, we should have 33 fast charging stations along major highway corridors. When combined with fast-charging stations planned by Electrify America, the program will provide fast-charging every 30-50 miles along Colorado's major transportation corridors.

Colorado currently has the highest ZEV incentive of any state in the country ($5,000 per ZEV tax credit), which the legislature recently extended through 2025. Financial incentives are important to increasing ZEV sales and are a factor in Colorado having higher sales than all but three other states.

Colorado is also building out a direct current fast charger network through the state's major corridors to address "range anxiety" allowing the use of EVs for longer trips.

While Colorado is already developing robust electric charging infrastructure, we passed legislation this year that requires electric utilities to file transportation electrification plans with the PUC every three years starting in 2020 to further expand that infrastructure.

The State is spending the maximum allowable amount of the Volkswagen Settlement funds on light-duty EV charging infrastructure (15% or $10.3 million), and an Executive Order I signed in January, directs State agencies to allocate all remaining Volkswagen Settlement funds to support vehicle electrification, including electric buses and school buses. In the executive order, I established a target of nearly a million EVs on the road in Colorado by 2030.

Just as with electricity generation, technological advances in the transportation sector are making it possible for us to reduce emissions while saving money. Even with today's electric grid in Colorado, powered by nearly 25% renewable energy, it's far more efficient to drive electric vehicles powered by more efficient utility-scale power production than a distributed, small scale internal combustion engine. Our analysis shows that widespread electrification of our transportation system will save consumers money because of lower fuel costs, will drive down the cost of electricity because it makes the grid function more efficiently, and do all this while cleaning our air and achieving deep reductions in climate pollution.

Move Towards Zero Emissions Buildings: While our electricity and transportation sectors are the top two sources of climate warming pollution, fuel use in buildings in our residential, commercial, and industrial sectors is not far behind and is an area where we need to make substantive progress. Achieving the state's emission reduction goals will require significant reductions in emissions in this sector. Integrating more energy efficiency with the expanded use of clean electricity as an alternative to burning fossil fuels in buildings could bring consumer cost savings, enhanced electric grid operations, and reduced emissions. This past spring, we passed HB19-1260, which requires that local jurisdictions adopt one of the three most recent versions of the International Energy Conservation Code, at a minimum, when updating any other building code. We are also working with local stakeholders to develop next generation building codes that address energy efficiency, building electrification, distributed renewables, and EV charging.

Reducing Emissions from Oil and Gas Development: As we work to reduce the use of fossil fuels in our electricity, transportation and building sectors, we must also mitigate methane emissions from oil and gas extraction and the natural gas fuel cycle. In 2014, Colorado became the first state in the nation to enact regulations requiring oil and gas companies to detect and reduce methane emissions. Looking forward, as part of the passage of SB19-181 (historic oil and gas reform legislation that protects public safety, health, welfare, and the environment and reinforces local government's regulatory authority over the surface impacts of oil and gas development), the Air Quality Control Commission will soon be adopting additional rules to further minimize emission of methane and other pollutants from the oil and gas production process.

Other Emissions Sources: As we look to the required emission reductions demanded by the latest available climate science, there is no single sector our strategy that will allow us to achieve our

goals. In addition to the numerous progress and activity that I have already outlined, we must continue to convene diverse stakeholders to advance economic and environmental progress in other sectors, such as agriculture, waste management, and our industrial sector.

2019: A Year of Action

The 2019 Legislative Session brimmed with incredible clean energy achievements and was arguably the most productive session in the history of this state on clean energy and climate action. We have adopted strong economy-wide targets, outlined in HB19-1261, for reducing greenhouse gas pollution, with goals of 50% reduction below 2005 levels by 2030 and 90% by 2050, which will lead to coordinated action by the Air Quality Control Commission and other state agencies to implement measures to progress towards those goals.

We have empowered the PUC to facilitate a rapid transition to renewable energy across the state that includes working with our largest utility to invest in renewable energy and reduce greenhouse gas pollution 80% by 2030. We're building a regulatory framework that will enable the PUC to work with our second-largest utility to transition from coal-fired power to cheaper, cleaner sources of energy.

We are making it easier for individual Coloradans to participate in this work by expanding access to energy efficiency and community solar gardens. And, as we continue our work to clean up our electricity sector, Senate Bills 77 and 239 and House Bill 1159 will further support the electrification of our transportation sector.

As I previously mentioned, we have put public safety, health, welfare, and the environment first in the oil and gas sector, and empowered local governments to make decisions about oil and gas operations. We are starting rulemaking to implement the direction of Senate Bill 181 to minimize methane and other emissions from oil and gas development.

We have unlocked creative financing solutions to help reduce the cost of retiring coal-fired power plants and we will establish a Just Transition Office tasked with aligning and delivering programming and funding to communities and workers impacted by a transition away from coal-fired electricity, in addition to disproportionately impacted communities who have borne the costs of pollution.

In addition, through Senate Bill 96, my administration and the legislature took steps to ensure a more consistent and robust tracking and reporting of Colorado's greenhouse gas emissions, which is foundational to effectively implementing a wide range of policies and programs designed to allow the state to cost-effectively meet its emission reduction goals.

We have worked together combining shared values with incredibly diverse strengths to prioritize the future of our great state. We have proved that we can take bold, decisive action on climate and clean energy. This legislative session has put Colorado on the right path.

Coloradans Delivering Results

My Administration is inheriting and building upon many years of Colorado's clean energy leadership working to reduce greenhouse gas pollution, improve air quality, and save money for Coloradans.

Shifting to clean energy has been an economic engine in Colorado. According to one analysis,[1] Colorado has roughly 57,000 clean energy jobs including 34,342 Energy Efficiency jobs, 7,819 solar jobs, 7,320 wind jobs, and 2,713 clean vehicle jobs.

In 2004, Colorado's electricity generation mix was 75% coal and roughly 25% natural gas. In 2017, the most recent year for which we have data, Colorado has 54% coal, 22% natural gas, and 20% renewable energy. That is a 20% increase in renewable energy and a 21% reduction in coal energy generation. During the same period, from 2004 to 2017, Colorado has seen a 13% decline in carbon emissions from electricity generation in the state.

In 1990, electricity generation accounted for 43% of Colorado's greenhouse gas emissions. By 2015, the last year for which there is available data, electricity accounted for just 34% of the state's greenhouse gas emissions.

In July, the Colorado Department of Public Health & Environment released the draft Greenhouse Gas Inventory 2019 Update.[2] Colorado greenhouse gas emissions increased between 1990 and 2010 and decreased between 2010 and 2015. While we need to make much more progress to achieve our goals, we should also celebrate that this is the first time that the inventory shows a decline in emissions. Emissions are projected to continue decreasing, dropping below 2005 levels by 2030. Figure 1 shows a graphical summary of estimated Colorado greenhouse gas emissions by sector, including projections to 2020 and 2030.

[1] U.S. Energy and Employment Report 2019. Colorado. Last accessed on 7/29/19. https://static1.squarespace.com/static/5a98cf80ec4eb7c5cd928c61/t/5c7f4096e79c70c65fe31745/1551843478412/Colorado.pdf

[2] Colorado Department of Public Health & Environment. DRAFT Colorado Greenhouse Gas Inventory 2019. Last accessed on 7/29/19. https://drive.google.com/file/d/1120LdxmecGTuf7uil9l6YmjOQonYOnxV/view

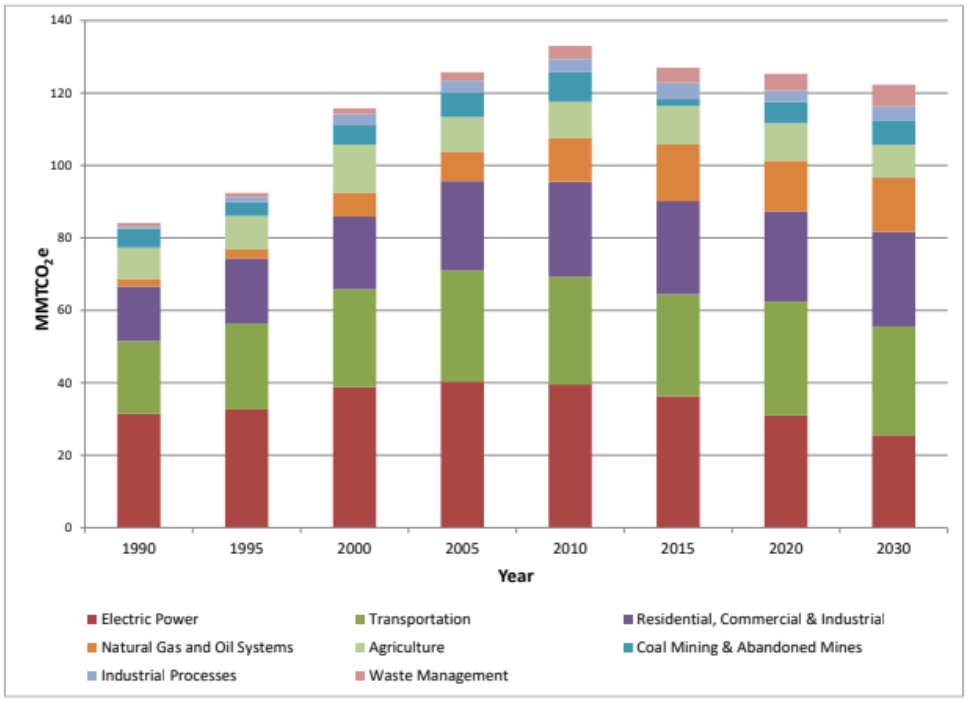

Figure 1: Estimated Greenhouse Gas Emissions by Sector

Roadmap to 100% Renewable Energy and Bold Climate Action

My administration is committed to pushing Colorado forward on the path to achieving 100% Renewable Energy by 2040. In June, when I signed seven climate and energy bills at a community solar garden, I released my administration's *Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action*.[3] This pledge is motivated by the moral imperative to fight climate change and curb pollution of our air and water and, as a governor of the great State of Colorado, to protect and preserve what is special to us here in the West.

The clean energy transition is also an opportunity to drive innovation and build Colorado's economy by continuing our leadership role in the green-energy economy. This transition is not just about jobs—the transition to cleaner electricity and transportation will help businesses and homeowners save money by switching to lower-cost, clean energy resources.

The policies adopted in this legislative session provide the foundation for much higher levels of renewable energy integration, but additional strategies will be needed to get to 100% by 2040. Given the shift that is already underway in Colorado's electricity sector, it has never been more important than now to focus on reducing greenhouse gas emissions from other sectors in the state. It is going to take the perspective, expertise, and commitment from diverse voices across the state to forge a renewable energy future that works for all of Colorado.

[3] Office of the Governor of Colorado. Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action. Last accessed on 7/29/19.
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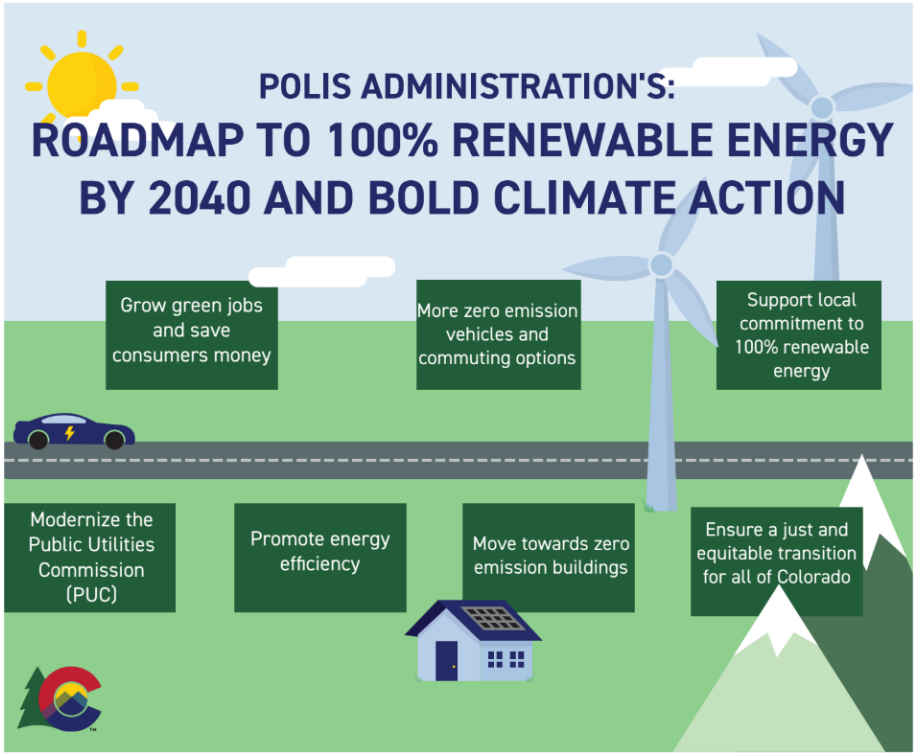

Figure 2: Roadmap to 100% Renewable Energy by 2040 and Bold Climate Action

Together, we can do our part to fight climate change, improve air quality and the health of our communities, diversify and strengthen our economy across the state, and ensure the good-paying jobs of the quickly growing green energy economy are created here in Colorado.

Colorado - A Model for the Nation

When it comes to clean energy action, I believe Colorado is a model for the nation. I have no doubt we can take bold action at the federal level as well.

I was glad to see the House pass H.R. Bill 9 to keep America in the Paris Climate Agreement, and I urge the Senate to take it up. There is no economic or moral reason for the United States—the most powerful economy in the world—to stick our heads in the sand while 185 other countries lead the way on combating climate change and developing renewable energy.

The United States is not a nation that backs down from a challenge. We are a nation of leaders, of doers, of dreamers. In America, we get to choose our own destiny.

Thank you again for allowing me to testify this morning. I look forward to answering your questions.