

BIANNUAL GREENHOUSE GAS EMISSIONS REDUCTIONS IMPLEMENTATION REPORT

Report Pursuant to Executive Order B 2021 01 | June 2022



*A Partnership of the Colorado Energy Office and the
Departments of Agriculture, Natural Resources, Public
Health & Environment, and Transportation*

Table of Contents

Executive Summary (English)	2
Resumen ejecutivo (Español)	4
List of Acronyms	10
Electric Utility Sector	11
Transportation Sector	12
Residential, Commercial and Industrial Fuel Use	19
Oil and Gas	23
Natural and Working Lands	25
Other Sectors	27
Environmental Justice Act	29
Just Transition For Communities and Workers Impacted by Energy Transition	31
Greening Government Executive Order	32
International Trade	32
Major New Legislation	33

Executive Summary

The Governor signed an executive order directing the Executive Directors of the Colorado Energy Office (CEO), Colorado Department of Public Health & Environment (CDPHE), Department of Natural Resources (DNR), Colorado Department of Agriculture (CDA), and Colorado Department of Transportation (CDOT) to submit a bi-annual report to the Governor. This is the second biannual update in compliance with the Governor's Executive Order. This report recounts progress of specific policy and program implementation of the Greenhouse Gas Roadmap, and identifies new opportunities for action since the last biannual update released in December 2021. That report is available [here](#). This report covers areas of significant new work since the December report, but does not provide a comprehensive look at every climate-related effort across the state.

Since December, State agencies have made significant progress on numerous fronts. The legislative session, which ended in May 2022, included a historic investment in air quality programs and policies that will not only reduce greenhouse gas (GHG) emissions, but also improve air quality in Colorado. Important investments include:

- \$65 million for electric school buses
- \$47 million for air quality monitoring and enforcement
- \$25 million for industrial clean air and decarbonization grants
- \$12 million for eBike rebates and programs
- \$20 million for building electrification
- \$20 million for green rebuilding after disasters
- \$12 million for geothermal energy
- \$28 million for free transit fares statewide during ozone season
- \$7 million for aerial monitoring of oil and gas and other industrial emissions sources
- \$30 million for expanded bus rapid transit along the I-25 and I-70 corridors expansion

A full summary of new legislation is included at the end of this report.

Other highlights include:

- In May and June 2022, CDPHE and CEO led a cross-agency team that visited seven cities across the state and held two virtual meetings to gather community input on priorities, concerns, and ideas concerning climate change and the state's response to the climate crisis. CEO and CDPHE selected cities based on geographical diversity and proximity to disproportionately impacted communities. A final report, to be issued late summer 2022, will be used across agencies to help shape ongoing implementation efforts of the Greenhouse Gas Pollution Reduction Roadmap.
- In April 2022, Governor Polis signed a greening government [Executive Order](#), building upon previous directives to ensure energy efficiency and sustainability in State buildings, expand use of renewable energy and building electrification, transition state fleets to electric vehicles, and allow the State's workforce to continue providing efficient, high-quality services to Coloradans while protecting our environment and reducing GHG emissions from state facilities and operations.

- The Greenhouse Gas Emissions and Energy Management (GEMM) Phase 2 rulemaking process launched in early 2022 to reduce GHG emissions for non-trade exposed manufacturers in Colorado with direct emissions above 25,000 tons of CO₂e. All regulated facilities have been involved and the rule drafting phase has begun. Smaller community conversations are being planned for this Summer.
- In October of 2021, the Public Utilities Commission (PUC) opened a rulemaking for gas system planning and implementation of SB 21-264 (clean heat plans) and HB 21- 1238 (gas system demand side management). This proceeding is setting the stage for the required clean heat plan filings by August of 2023, as well as exploring broader changes to gas system planning to reduce emissions and protect gas customers from potential stranded costs.
- In early 2022, the Clean Heat - Recovered Methane rulemaking development process was launched to establish protocols and develop a crediting and tracking system for use of recovered methane, such as coal mine methane and biomethane. The Recovered Methane rule will be proposed before the Air Quality Control Commission in July 2022, with a final rule adopted in November 2022.
- In May 2022, the Transportation Commission approved Policy Directive 1610 - GHG Mitigation Measures, which quantifies almost 50 types of projects that reduce GHG emissions, including bike/ped, transit, land use, and transportation demand management, to help reach emissions reductions outlined in the GHG Pollution Reduction Planning Standards.
- In June 2022, the interagency Natural and Working Lands Taskforce, led by DNR and CDA, completed a draft Strategic Plan. The Strategic Plan highlights administrative and legislative priorities on natural climate solutions for the next two to five years.
- In April 2022, the Colorado PUC approved Tri-State Generation and Transmission's clean energy plan, and is currently in the final stages of approving Xcel Energy's clean energy plan. CEO expects these plans, along with forthcoming voluntary Clean Energy Plans from additional utilities, to achieve greater than 80% GHG emissions reductions by 2030, and, if approved by the PUC, close Colorado's last coal plant by 2031.
- On May 10, 2022, the Colorado Legislature adopted S.B., 22-198, the "Orphaned Oil and Gas Well Enterprise" bill. SB-22-198 creates an orphaned wells mitigation enterprise. The Enterprise facilitates the Colorado Oil and Gas Conservation commission's (COGCC) newly adopted Financial Assurance Rules. These rules fulfilled the Commission's obligation under SB 19-181 to undertake a rulemaking to "require every operator to provide assurance that it is financially capable of fulfilling every obligation imposed by this article 60 as specified in rules adopted on or after April 16, 2019." C.R.S. § 34-60-106(13). The Financial Assurance Rules ensure that the oil and gas industry is funding the plugging and abandonment of current and future orphan wells.

Resumen ejecutivo

El gobernador firmó una orden ejecutiva en la que se instruye a los directores ejecutivos de la Oficina de Energía de Colorado (CEO, por su sigla en inglés), del Departamento de Salud Pública y Medio Ambiente de Colorado (CDPHE), del Departamento de Recursos Naturales (DNR), del Departamento de Agricultura de Colorado (CDA) y del Departamento de Transporte de Colorado (CDOT) que presenten un informe bianual al gobernador. Esta es la segunda actualización bianual en conformidad con la orden ejecutiva del gobernador. Este informe detalla el progreso de la implementación de programas y políticas específicas del Plan de gases de efecto invernadero, e identifica nuevas oportunidades de acción desde la última actualización bianual publicada en diciembre de 2021. Ese informe está disponible [aquí](#) (en inglés). Este informe abarca áreas de trabajos nuevos y significativos desde el informe de diciembre, pero no ofrece una mirada integral de todas las iniciativas relacionadas con el clima en todo el estado.

Desde diciembre, las agencias estatales han realizado un progreso considerable en diversos frentes. La sesión legislativa, que finalizó en mayo de 2022, incluyó una inversión histórica en políticas y programas sobre calidad del aire que no solo reducirán las emisiones de gases de efecto invernadero (GEI), sino que también mejorarán la calidad del aire en Colorado. Algunas inversiones importantes incluyen:

- \$65 millones para autobuses escolares eléctricos
- \$47 millones para la ejecución del plan y el monitoreo de la calidad del aire
- \$25 millones para subvenciones industriales para descarbonización y aire limpio
- \$12 millones para programas y reembolsos en bicicletas eléctricas
- \$20 millones para electrificación de edificios
- \$20 millones para la reconstrucción ecológica después de catástrofes
- \$12 millones para energía geotérmica
- \$28 millones para transporte público gratuito en todo el estado durante la temporada de ozono
- \$7 millones para el monitoreo aéreo de industrias de petróleo y gas y otras fuentes de emisiones industriales
- \$30 millones para la expansión del servicio de autobuses de tránsito rápido, a lo largo de los corredores de la I-25 y la I-70

Al final de este informe, se incluye un resumen completo de la nueva legislación.

Otros aspectos destacados incluyen:

- En mayo y junio de 2022, el CDPHE y la CEO lideraron un equipo de colaboración entre agencias que visitó siete ciudades de todo el estado y realizó dos reuniones virtuales para recopilar los comentarios de la comunidad sobre prioridades, inquietudes e ideas relacionadas con el cambio climático y la respuesta del estado a la crisis climática. La CEO y el CDPHE seleccionaron las ciudades según la diversidad geográfica y la proximidad a las comunidades perjudicadas de manera desproporcionada. Se utilizará un informe final en todas las agencias, que se emitirá a fines del verano 2022, para ayudar a desarrollar las iniciativas de implementación continua de la Guía de reducción de la contaminación por gases de efecto invernadero.

- En abril de 2022, el gobernador Polis firmó una [orden ejecutiva](#) (en inglés) gubernamental con políticas medioambientales, continuando con directivas anteriores, para garantizar la sustentabilidad y la eficiencia energética en los edificios estatales, expandir el uso de electrificación de edificios y energía renovable, realizar la transición de las flotas estatales a vehículos eléctricos y permitir que la fuerza laboral del Estado continúe proporcionando servicios eficientes, de alta calidad a los habitantes de Colorado, mientras se protege nuestro medio ambiente y se reducen las emisiones de GEI de las operaciones e instalaciones estatales.
- El proceso de elaboración de normas de la Fase 2 del proyecto de Gestión de Emisiones de Gas de Efecto Invernadero y Energía (GEMM, por su sigla en inglés) se lanzó a inicios del 2022 para reducir las emisiones de GEI de fabricantes no expuestos al comercio en Colorado con emisiones directas superiores a las 25,000 toneladas de CO₂e. Todas las instalaciones reguladas se han involucrado y ha comenzado la fase de desarrollo del borrador de las normas. Para este verano, se están planificando conversaciones comunitarias más pequeñas.
- En octubre de 2021, la Comisión de Servicios Públicos (PUC, por su sigla en inglés) abrió el proceso de elaboración de normas para la planificación e implementación del sistema de gas conforme a la ley del Senado 21-264 (planes de calefacción limpia) y al proyecto de ley 21-1238 (gestión de la demanda energética del sistema de gas). Este procedimiento está sentando las bases para la presentación de documentos del plan de calefacción limpia requerida para agosto de 2023; asimismo, explora cambios más amplios en la planificación del sistema de gas para reducir las emisiones y proteger a los clientes del servicio de gas de costos de transición potenciales.
- A principios de 2022, se lanzó el proceso de desarrollo de la elaboración de normas para calefacción limpia y recuperación de metano, para establecer protocolos y desarrollar un sistema de acreditación y seguimiento para el uso de metano recuperado, como biometano y metano de minas de carbón. La norma de metano recuperado se propondrá ante la Comisión de Control de la Calidad del Aire en julio de 2022, y se adoptará una norma final en noviembre de 2022.
- En mayo de 2022, la Comisión de Transporte aprobó la Directiva de políticas 1610: Medidas de mitigación de GEI, que cuantifica casi 50 tipos de proyectos que reducen las emisiones de GEI, incluidas la gestión de demanda de transporte, uso de tierras, tránsito y bicicletas/peatones, para ayudar a alcanzar las reducciones de emisiones detalladas en los Estándares de planificación de reducción de contaminación por GEI.
- En junio de 2022, el grupo de trabajo entre agencias de Tierras naturales y productivas, liderado por el DNR y el CDA, completó el borrador de un plan estratégico. El plan estratégico destaca las prioridades administrativas y legislativas sobre soluciones climáticas naturales para los próximos dos a cinco años.
- En abril de 2022, la PUC de Colorado aprobó un plan para la generación y transmisión de energía limpia entre tres estados, y actualmente se encuentra en las etapas finales de aprobación del plan de energía limpia de Xcel Energy. La CEO espera que estos planes, junto con los planes de energía limpia voluntarios que están siendo preparados por empresas de servicios públicos adicionales, alcancen reducciones de las emisiones de GEI de más del 80 % para el 2030 y, si lo aprueba la PUC, que se cierre la última planta de carbón de Colorado para el 2031.

- El 10 de mayo de 2022, la legislatura de Colorado adoptó la ley del Senado 22-198, “Iniciativa de pozos de gas y petróleo abandonados”. La ley del Senado 22-198 crea una iniciativa de mitigación para pozos abandonados. La iniciativa facilita las normas de garantía financiera recientemente adoptadas por la Comisión de Conservación de Gas y Petróleo de Colorado (COGCC, por su sigla en inglés). Estas normas cumplían la obligación de la Comisión, conforme a la ley del Senado 19-181, de iniciar un proceso de elaboración de normas donde “se requiera que todos los operadores garanticen que son financieramente capaces de cumplir con todas las obligaciones impuestas por este artículo 60, según lo especificado en las normas adoptadas el 16 de abril de 2019 o posteriormente”. C.R.S. § 34-60-106(13). Las normas de garantía financiera garantizan que la industria del gas y petróleo esté financiando el taponamiento y abandono de pozos huérfanos actuales y futuros.

This table highlights near term actions identified in the Greenhouse Gas Pollution Reduction Roadmap that are complete or underway. Additional actions not included in the table are discussed throughout this report. Next fiscal year, this Near Term Actions list will be updated with priority actions identified for the next few years.

Table 1. Near-Term Actions Identified in Greenhouse Gas Pollution Reduction Roadmap: Completed or underway actions in Green.

	Fall/Winter 2020	Spring 2021	Summer 2021	Fall 2021	Winter 2021	2022
Public Utility Commission	Tri-State electric resource plan	Xcel Energy electric resource plan & clean energy plan	Xcel renewable energy plan			
	Xcel Energy transportation electrification plan	Black Hills transportation electrification plan	Black Hills Energy efficiency plan			
			Black Hills Energy renewable energy plan			
Air Quality Control Commission	Regional haze rules phase 1		Transportation emission rules (GHG standards for transportation plans, moved to Transportation Commission for adoption)	GHG emission reduction progress evaluation Regional haze rules phase 2	Oil and gas emission reduction rules	Next round, transportation emission rules (Advanced Clean Trucks)
	Ozone Plan	Stakeholder processes for transportation, industrial, oil and gas rules		GHG Emissions and Energy Management for Manufacturing Rule Phase I	Structures/building emission reduction rules (note: 2021 legislation moved this to end of 2022)	GHG Emissions and Energy Management for Manufacturing Rule Phase II
	Oil and gas well monitoring rules					
	Outreach on 2021 oil and gas rules					

Table 1 (cont'd).

	Fall/Winter 2020	Spring 2021	Summer 2021	Fall 2021	Winter 2021	2022
Colorado Oil and Gas Conservation Commission	Mission Change Rulemaking (200-600, 800. 900, 1200 Series)			GHG emission reduction progress evaluation in coordination with CDPHE		Financial Assurance Rulemaking
						Imposing permit fee; and requiring worker certification (these three topics complete mandatory SB 19-181 rulemakings.)
						First Cumulative Impacts Report Completed
Other State Agency Actions	Clean trucking strategy initiated	Electric vehicle equity plan initiated	Clean trucking technical analysis completed	Natural and Working Lands Taskforce pathways analysis completed	Draft Natural and Working Lands Taskforce strategic plan completed	Administrative and legislative action items from land use study
	Just transition plan finalized	Convene taskforce on Carbon Capture, Utilization and Storage (CCUS)	Begin smart land use stakeholder process and study	CDOT Transportation Commission GHG Pollution Reduction for Transportation Planning Rulemaking		Administrative and legislative action items from Natural and Working Lands strategic plan
	Draft Climate equity framework completed				Climate equity framework completed	

Table 1 (cont'd).

	Fall/Winter 2020	Spring 2021	Summer 2021	Fall 2021	Winter 2021	2022
Legislation		<ul style="list-style-type: none">• Fund infrastructure and incentives to transition to low and zero emissions cars, trucks and buses• Buildings & Gas Utilities<ul style="list-style-type: none">◦ Set carbon reduction targets for gas utilities◦ Set Biogas requirements for gas utilities◦ Require existing large commercial buildings to track energy use and make progress toward energy and pollution performance standards◦ Require regulated electric utilities to create programs that support beneficial electrification◦ Expand energy efficiency investments from gas utilities• Governor’s Proposed FY 21-22 Budget<ul style="list-style-type: none">◦ Fund Clean Energy Finance - \$40 M◦ Fund wildfire relief, mitigation and prevention - \$78 M◦ Support local government investment in renewables and efficiency - \$5 M◦ Create Climate Resilience Office at the CO Department of Agriculture◦ Build capacity of Colorado’s Office of Just Transition				

List of Acronyms

Departments/Regulatory Bodies

AQCC - Air Quality Control Commission
CAB - Colorado Aeronautical Board
CDA - Colorado Department of Agriculture
CDOT - Colorado Department of Transportation
CDPHE - Colorado Department of Public Health & Environment
CEO - Colorado Energy Office
COAG - Colorado Attorney General's Office
COGCC - Colorado Oil and Gas Conservation Commission
CPW - Colorado Parks and Wildlife
DNR - Department of Natural Resources
DOLA - Department of Local Affairs
OEDIT - Office of Economic Development and International Trade
OJT - Office of Just Transition
PUC - Public Utilities Commission

Other Terms

BPS - Building Performance Standards
CCUS - carbon capture, utilization, and storage
CCEF - Colorado Clean Energy Fund
CEP - Clean Energy Plan
C-PACE - Commercial Property Assessed Clean Energy
DCFC - Direct Current Fast Charge
EV - Electric Vehicle
GHG - Greenhouse Gas
MMT - Million metric tons
VMT - Vehicle miles traveled
ZEV - Zero-Emission Vehicle (includes Hydrogen Fuel Cell Vehicles and Electric Vehicles)

Electric Utility Sector

Clean Energy Plans and Voluntary Fossil-Plant Retirements

In 2019, the utilities that operate more than 99% of fossil fuel power plants in Colorado committed to meet at least an 80% greenhouse gas (GHG) emissions reduction by 2030. Senate Bill 19-236 codified that commitment for Xcel Energy and introduced a requirement for the utility to file a Clean Energy Plan (CEP). Under HB 21-1266, other utilities were also required to create a CEP. Xcel has reached a new settlement with multiple parties. If Xcel's CEP is approved, Comanche Unit 3, a coal-fired power plant in Pueblo, Colorado, will reduce operations starting in 2025 and retire by the end of 2030. Comanche Units 1 and 2 are already scheduled to retire by 2025. Xcel has also agreed to substantial Just Transition provisions, including providing ten years of property tax payments to Pueblo County to account for lost revenue from the plant closure.

Clean Energy Progress in Colorado

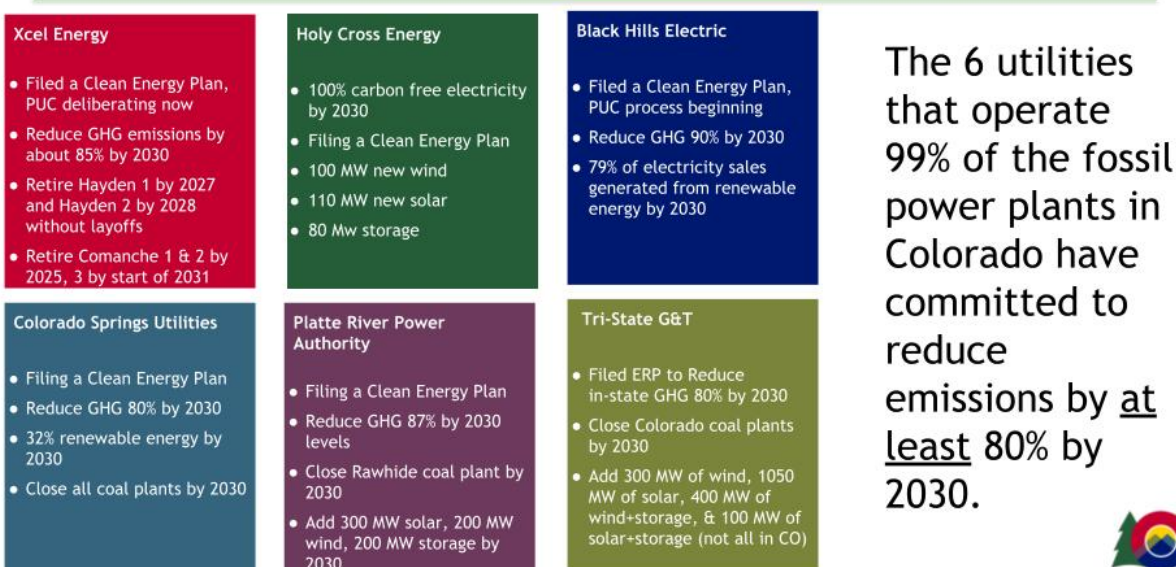


Figure 1. Status of Utility GHG Reduction Plans

Key developments in 2022 include:

- Multiple parties have negotiated a settlement agreement in Xcel's electric resource plan that would retire the Comanche 3 coal plan by January 1, 2031; achieve an 85% emissions reduction by 2030 and at least 88% by 2031; and address just transition for communities with retiring coal plants. The settlement agreement is currently under consideration by the Public Utilities Commission (PUC).
- In April, the PUC approved the settlement agreement in Tri-State's electric resource plan that retires all coal generation in the state and achieves at least an 80% emission reduction by 2030
- In June, Black Hills Energy filed their CEP with the PUC, designed to achieve a 90% emissions reduction by 2030. This is now under PUC consideration.
- Holy Cross Energy, Colorado Springs Utilities and Platte River Power Association have

each submitted voluntary CEPs to the Air Pollution Control Division for verification that each utility will achieve at least 80% reduction by 2030. These plans will be filed with the PUC by July 1.

Transportation Sector

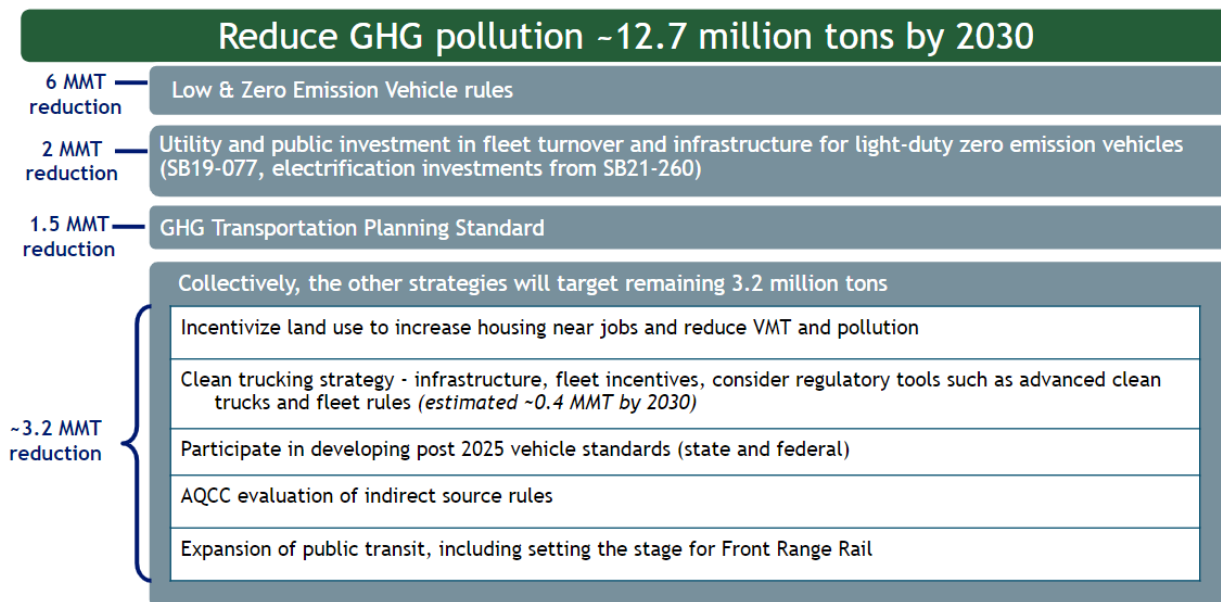


Figure 2. Summary of expected GHG emission reduction by 2030 attributable to various transportation emissions reduction strategies, with a target of 12.7 MMT reduction by 2030

Zero Emission Vehicles

SB21-260 Transportation Electrification Enterprises and federal infrastructure funding

In June 2021, Governor Polis signed SB21-260 which, among other elements, established three new state enterprises focused on transportation electrification. The law's aim is to reduce emissions while improving local air quality. The Community Access Enterprise will have an estimated \$310 million over ten years to support charging infrastructure and equity programs; the Clean Fleet Enterprise will invest an estimated \$289 million to support public and commercial fleet vehicle electrification; and the Clean Transit Enterprise will fund an estimated \$134 million in transit vehicle, charging, planning, and facility modification projects over the coming decade. Each of the enterprises have established their respective fees (including retail delivery fees and transportation network company fees), which the Department of Revenue will collect beginning July 1, 2022. Additionally, each of the enterprises met a statutory requirement to develop and post 10-year plans by June 1, 2022. These plans are available here: [Community Access](#), [Clean Fleet](#), [Clean Transit](#). These plans are meant to guide programs toward further GHG emissions reductions from the transportation sector and other benefits.

Colorado agencies also began preparing for the availability of approximately \$57 million in federal funding from the National Electric Vehicle Infrastructure (NEVI) program. One important step was filing an application with the US Department of Transportation to designate 6 additional highway corridor segments (on I-270 and US Highways 34, 36, 287, 385

and 550) for national alternative fuel corridor designation, which makes them eligible for federal funding for corridor charging stations.

Charge Ahead Colorado

Charge Ahead Colorado provides grant funding for Level 2 and Direct Current Fast Charge (DCFC) charging stations throughout Colorado via several competitive application processes each year. Each grant covers 80% of a charging station's cost (up to a set maximum per charger type). In February and June 2022, the program accepted grant applications. The Charge Ahead grants fund stations at diverse locations, including multi-family housing units, workplaces, local governments, utilities, and convenience stores. To date, the program has funded more than 1,500 charging stations statewide.

Alt Fuels Colorado Corridor Program

In an effort to enable statewide travel in electric vehicles, the Corridor program is funding DCFC stations at 34 sites along Colorado's major transportation corridors. These sites are being developed in partnership with ChargePoint and the site hosts, such as local governments, utilities, and private companies. To date, 22 of the 34 sites are open to the public. The remaining sites will be completed by the end of 2022.



Image Caption: Governor Polis, Administration Officials, Partners and Rivian Executives unveil the first Rivian electric vehicle charger at Cheyenne Mountain State park in March 2022

State Parks EV charging

The State has also pursued partnerships with out-of-state entities to expand charging infrastructure and accelerate the transition to electric vehicles. The State signed an agreement with Rivian, an electric vehicle manufacturer and automotive technology company, in which Rivian will install at least two open-network Rivian Waypoints chargers at more than 40 Colorado Parks and Wildlife (CPW) state park and office locations. The first, at Cheyenne Mountain State Park, opened in March 2022.

The Level 2 chargers can add up to 25 miles of driving range for each hour they are plugged in, making them ideal for EV-driving park patrons who are visiting for the day or camping overnight. This collaborative effort extends the electric charging infrastructure grid to new areas for EV drivers to explore. CPW and Rivian are working on an initial round of approximately 20 installations to be completed by late summer 2022, focusing on sites in the Southeastern part of the state, including the Southeast Region Office, Lake Pueblo and John Martin, the Denver Metropolitan Area, Barr Lake, Chatfield, and Castlewood Canyon, along with North Sterling on the Northeastern Plains, and sites on the Western Slope.

The easily accessible EV charging stations at Colorado state parks will allow Coloradans and out-of-state visitors to drive to remote outdoor destinations while preventing pollution and protecting the public lands they plan to enjoy.

100% Light-Duty Electrification Roadmap

This Roadmap, released in Summer 2022, analyzed policies, programs, incentives, and actions the state could adopt or undertake, including analysis of their implications, costs, benefits, and timeframes. This analysis will be used to inform (with stakeholder input) the development of Colorado's 2022 EV Plan and vision of 100% electrification of the light-duty sector.

Colorado Electric Vehicle Equity Study

The objectives of this study, released in June 2022, were to baseline, define, and map marginalized, minority, and frontline Colorado communities ("EV equity communities") that are or may be disproportionately affected by transportation pollution and/or experience barriers preventing them from equitably accessing electric transportation and its benefits. Impacts of transportation air pollution, including medium- and heavy-duty vehicle emissions, were evaluated and summarized graphically through mapping. Barriers (e.g., economic access, lack of infrastructure, lack of knowledge/familiarity) to EV adoption and strategies to remove or overcome these barriers were examined. Criteria to evaluate and prioritize potential programming in these communities were also developed. The results from this study provide guiding information and tools to help develop, prioritize, and locate policies and programs that enable equitable access to vehicle electrification and its benefits for all Coloradans.

State fleet

As part of the governor's focus on greening government and leading by example, state agencies have significantly ramped up the installation of EV charging infrastructure and the replacement of fleet vehicles with EVs. The governor's greening government executive order requires that agencies "Ensure that EVs (BEVs and PHEVs) are the default vehicle type for all light-duty vehicles for future vehicle purchases." During the FY 22 vehicle procurement cycle,

state agencies ordered approximately 160 EVs, more than 50 of which were electric trucks. In 2021, SB 21-230 allocated \$5 million for charging infrastructure for state agencies. To date, funding has been allocated to 11 agencies, which will result in nearly 200 Level 2 and DCFC stations at dozens of state facilities. A portion of the funding will also be used to support implementation of the state's new EV Take Home Policy, which allows agencies to assign state-owned EVs to employees to take home at night for charging, and to reimburse employees for the electricity used to charge them.

Clean Truck Strategy, Advanced Clean Truck Rule, Low NOx Omnibus Rule, and Fleet Rules

The Colorado Clean Truck Strategy began development in 2020 with Governor Polis' signing of a multi-state Memorandum of Understanding (MOU) to collaboratively advance the market for zero-emission trucks and buses. This was followed by a series of public stakeholder meetings to identify challenges and opportunities to reduce emissions in the medium- and heavy-duty transportation sector. In 2021, CEO, CDPHE, and CDOT collaborated on a Medium- and Heavy-Duty (M/HD) Vehicle Study to analyze the costs and benefits associated with several regulatory and investment scenarios related to this market. Modeling from this study indicates that, if the State of Colorado pursues strategies to support an accelerated transition to M/HD Zero-Emission Vehicles (ZEVs), it could reduce the state's M/HD GHG emissions 45-59%, nitrous oxide (NOx) emissions 54-93%, and particulate matter (PM) emissions 53-68% annually by 2050 from a baseline scenario. The modeling also projects significant health benefits from these reductions, such as fewer asthma cases, hospital visits, and premature mortality, particularly in low-income communities and communities of color.

Following the release of the M/HD Vehicle Study, state agencies held three public meetings and convened a stakeholder working group to gather input on the development of the Clean Truck Strategy. A draft strategy was released in March 2022, which was then refined based on feedback from additional written comments and public meetings. The final strategy was published in May 2022. It includes goals and objectives, 35 prioritized strategies for agencies to pursue in the near and medium term, and recommendations for leveraging the nearly \$1 billion in potential funding for clean trucks and buses coming from SB 260, federal infrastructure funds, Governor's budget, and other sources. It also includes a rulemaking for the Advanced Clean Trucks (ACT) and Low NOx Omnibus rules at the Air Quality Control Commission, to be initiated by the end of 2022.

Transit Zero-Emission Vehicle Roadmap

The purpose of the Colorado Transit Zero-Emission Vehicle Roadmap is to identify the strategies, policies, and funding levels necessary to achieve the state's goals of 1,000 transit ZEVs on the road by 2030 and a 100% ZEV transit fleet by 2050. Over the course of 2021, CDOT staff engaged with transit agencies, local governments, utilities, and industry stakeholders to conduct an inventory of the current state fleet make-up, identify the challenges and opportunities presented by transit electrification, and recommend future actions necessary to achieve the numerical targets established in the 2020 Colorado EV Plan. The final Roadmap was released in February 2022, and early implementation of its 37 identified action items has begun. In addition, the Roadmap has served as a strong foundation for the development of the new Clean Transit Enterprise's (CTE) 10-Year Plan, which was finalized in May 2022 and will guide the investment of an estimated \$134 million in zero-emission transit projects over the coming decade.

Expansion of travel choices for Coloradans to help reduce traffic

Greenhouse Gas Pollution Reduction Planning Standards

On December 16, 2021, the Transportation Commission approved new GHG Planning Standards to reduce GHG emissions from the transportation sector, improve air quality and reduce smog, and provide more travel options. This standard, which became effective on January 31, 2022, focuses on transportation planning – the process for how CDOT and the state’s largest metropolitan regions select future transportation projects. Long before a transportation project is built, it is first identified in plans developed with local public input. These plans often include a decade or more of projects, and thus represent a short- and medium-term vision for the state’s transportation system.

The GHG Pollution Reduction Planning Standards (the GHG Rule) requires CDOT and the state’s five Metropolitan Planning Organizations to determine the total GHG emissions expected from future transportation projects, and take steps to ensure that plans achieve set GHG emissions reduction amounts. In addition to reducing GHG emissions, this Rule is expected to improve quality of life and air quality across Colorado by encouraging projects that add sidewalks, build “complete streets,” and increase transit.

On May 19, 2022 the Transportation Commission approved Policy Directive 1610 - GHG Mitigation Measures, which quantifies almost 50 types of projects that reduce GHG emissions, including bike/ped, transit, land use, and transportation demand management. This Policy Directive, although voluntary, is designed to help CDOT and MPOs reach the GHG emissions reductions outlined in the Rule by providing optional mitigations that can be used if an agency’s transportation plan is unable to meet the Rule’s compliance levels. CDOT, the Denver Regional Council of Governments, and North Front Range Metropolitan Planning Organizations must all update their plans to comply with the new Rule by October 1, 2022.

Bustang

Bustang, which began operating in 2015, is CDOT’s interregional express bus service that connects urbanized areas across the State.

Signed into law in June 2022, SB22-180 will allow CDOT to significantly expand Bustang services on its North, South and West lines over the next three years. Initial runs on the Pegasus bus service, which operates as part of Bustang on weekends and holidays in the mountain express lanes of the I-70 corridor, began in May 2022. Mountain corridor service will increase 33% in year 1, rising to approximately 250% over the three-year pilot. In addition, trips along I-25 will expand 100% on weekdays and 200% on weekends over the next 3 years. Finally, additional Pegasus weekday service will be added to enhance the I-70 service between Denver and Avon.



Figure 4. A map of Bustang services across Colorado; the routes from Sterling to Greeley, Sterling to Denver, and Trinidad to Pueblo will begin service in early 2022

Indirect Source Standards

Indirect source standards are rules designed to reduce emissions from existing facilities and new developments that are reasonably expected to cause significant vehicle traffic. Representatives from CEO, CDPHE, and the Regional Air Quality Council are in the early stages of exploring approaches that address emissions from indirect sources in Colorado. This group will also conduct multi-phase research with a focus on potential emissions reduction strategies. The first phase of this research is a market-based study designed to understand the locations and scale of different types of indirect sources. Completion of this study is expected during the state fiscal year 2022-23.

Land Use Strategies

Revised Interchange Approval Policy Directive 1601

CDOT Policy Directive 1601 for Interchange Approval, which was created in April 2021 with a corresponding CDOT Procedural Directive signed in June 2022, requires applicants to implement a Transportation Demand Management (TDM) project specific plan for both new interchange projects and interchange modifications on the state highway system. The TDM requirement is a significant step toward helping preserve the overall functionality and operability of the state highway system. As our state continues to grow and develop, the TDM amendment emphasizes the benefits TDM can lend towards maximizing the use of transportation infrastructure and reducing vehicle miles traveled through strategies such as increased transit, mobility hubs, transit-oriented development, ridesharing, walking, biking, and telework to reduce reliance on single-occupant vehicles.

Land Use Stakeholder Group

In 2021, as directed by the GHG Roadmap, an interagency group composed of CDOT, CEO, DOLA, CDPHE, and DNR convened the Land Use Stakeholder Group to develop a partnership between state and local entities to "incentivizes smart land use decisions." This group, composed of state agencies and local government representatives, has drafted a research report expected to be released by the end of summer 2022. The report will detail common land use challenges and desired outcomes that are prevalent in local Colorado communities, and point towards potential land use strategies that would reduce GHG emissions. The interagency group will begin to identify specific land use strategies as part of the next phase of the work, utilizing feedback on the research report to develop a Cover Memo, which will outline proposed next steps, that will be attached the report and delivered to the state legislature.

In particular, the report will highlight the "Strong Communities" grant program, which was created by HB22-1304 and signed into law in June 2022. This \$40 million program will be administered by DOLA, with support from CEO and CDOT. It will be a competitive grant program for infrastructure investments to support infill development, particularly of affordable housing. The grant criteria will consider the extent to which local governments are reforming zoning and planning rules to allow and encourage more housing within communities, near jobs and schools. Not only will this catalyze more housing, but it will also have multiple benefits—less time spent commuting, lower GHG pollution from driving, and greater cost savings for residents.

HB21-1271 and HB21-1117

In 2021, the passage of HB21-1271 and HB21-1117 started incentive programs for local zoning and planning reform. HB21-1271 created a program at DOLA¹ that provides grants to local governments for adopting at least three policy and regulatory tools from a menu of options focused on promoting affordable housing development. HB21-1117 enables and clarifies local governments' ability to enact inclusionary zoning laws that support the construction of new affordable housing. Since November 2021, the planning program has awarded nearly \$3.4 million to 38 projects that will change local regulatory and process requirements to encourage affordable housing development. In April 2022, the Incentives Program made its first awards, providing more than \$18.4 million to 14 affordable housing development projects. For Incentives Program grants, review criteria prioritized projects that demonstrated sustainable development patterns (e.g., infill to reduce Vehicle Miles Traveled or VMT) and awarded bonus points to projects that incorporated energy efficiency and renewable energy components.

Aviation: Colorado Aeronautical Board and Colorado Department of Transportation Division of Aeronautics

Under the direction of the Colorado Aeronautical Board (CAB), CDOT's Division of Aeronautics' mission is to support airports and aviation as part of Colorado's multi-modal transportation system, promote aviation education and safety, and encourage an aviation system that is as efficient, accessible, and environmentally responsible as possible. Though states do not have the legal authority to regulate or limit aircraft emissions, airport operations, aircraft fuels,

¹ <https://cdola.colorado.gov/1271>

and flight paths (as aviation and interstate commerce are federally preempted), the CAB and the division will support the state in meeting GHG reduction targets by partnering with the aviation industry and others to facilitate aviation infrastructure, funding mechanisms, and policies that take full advantage of emerging aircraft technologies.

Alternatively Powered Aircraft Infrastructure Study

In August 2021, the CAB approved \$200,000 of funding for an alternatively powered aircraft infrastructure study, which will look at new aviation propulsive technologies and aircraft, and the benefits they will provide for cleaner, more efficient, and more accessible aviation mobility statewide. The study will also explore how CDOT's Division of Aeronautics can help prepare the state's system of 66 publicly-owned airports for these aircraft, which are expected to enter service in the next 10 to 20 years. As of May 2022, the division is in scoping and procurement conversations with the National Renewable Energy Laboratory (NREL) and the National Aeronautics and Space Administration (NASA) about opportunities to collaborate on this study in Colorado.

Alternative Aircraft Fuels

Globally, the aviation industry is responsible for 2.5% of all carbon dioxide emissions. However, that share could increase significantly as aviation activity worldwide is forecast to increase. Recognizing this likely growth, the aviation industry is taking steps to reduce its global impact. These actions include refining aircraft and powerplant design, and spurring extensive progress on new propulsive technologies, including the development of sustainable aviation fuels (SAF), such as those manufactured from renewable biomass waste or synthetic processes. Other developing technologies include battery-electric, hybrid, and hydrogen fuel cell-powered aircraft - all of which could move the industry toward its broadly stated goal of being carbon neutral by 2050.

Notably, as of May 2022, SAF is available at only three of Colorado's 57 public use airports where fuel is sold: Telluride Regional Airport, Aspen/Pitkin County Airport, and Eagle County Regional Airport. As SAF demand and production increases and availability improves, the Division will strategize on how to encourage SAF use at more airports. However, the goal is for battery-electric, hybrid, and hydrogen fuel cell aircraft power sources to eventually provide new opportunities to expand mobility in Colorado with significantly reduced environmental impacts.

Residential, Commercial and Industrial Fuel Use

The GHG Roadmap key near term actions for residential and commercial buildings are:

- Set carbon reduction targets for gas utilities
- Modernize and expand gas utility energy efficiency programs
- Improve building efficiency through benchmarking, codes, and standards
- Require regulated electric utilities to create programs that will support beneficial electrification
- Expand access to financing programs for building retrofits

With the completion of the 2021 and 2022 legislative sessions, every single one of these policies has been enacted into law. SB 21-264, clean heat plans for gas utilities, created a 22% carbon reduction requirement for gas utilities. HB 21-1238 modernized and expanded gas

utility demand side management requirements. HB 21-1286 set commercial building benchmarking and performance requirements. SB 21-246 set beneficial electrification requirements for regulated gas utilities. SB 21-230 capitalized the Colorado Clean Energy Fund as a state green bank to bring new tools for financing energy upgrades. Most recently, in early June, the governor signed HB 22- 1362, which significantly strengthens building energy and carbon codes statewide.

Oil and Gas Fuel Combustion Equipment

Fuel combustion equipment at upstream and midstream oil and gas operations is included in the industrial fuel use category.

Midstream oil and gas operations

Adopted by the Air Quality Control Commission in December 2021, Regulation No. 22, Part B, Section III establishes the Midstream Steering Committee (MSC). This is a technical working group tasked with developing guidance and plans to achieve statewide reductions in GHG emissions from fuel combustion equipment in the oil and gas midstream segment. The MSC's work, pursuant to HB21-1266, aims to ensure that the state meets its GHG reduction targets for the industrial sector in the GHG Roadmap. MSC meetings began in February 2022. The committee is composed of representatives from several groups, including the electric utility sector; the midstream segment; local governments; and the general public (including environmental organizations and representatives of a disproportionately impacted community).

Some of the required midstream segment-wide GHG reductions are anticipated to come from the electrification of existing fuel combustion equipment (such as natural gas-fired compressor engines or heaters). Currently, the MSC is collecting information, including:

- emissions, equipment, and facility information from all existing midstream operations statewide;
- electric capacity, demand, and forecasts from electric utilities; and
- information on midstream operations in disproportionately impacted communities.

By the end of 2022, the MSC will develop a guidance document to assist midstream operators in building their company-specific emission reduction plans due in September 2023. The MSC will then use those company emission reduction plans to develop a midstream segment emission reduction plan, which will be utilized in creating a regulatory proposal that the Air Pollution Control Division will present to the AQCC in 2024. That midstream segment emission reduction plan will ensure that GHG reductions with co-benefits (i.e., hazardous air pollutant and criteria pollutant reductions) in disproportionately impacted communities are prioritized.

Clean Heat, Gas Utility Demand Side Management and Recovered Methane

Senate Bill 21-264 requires investor-owned electric utilities to file plans with the PUC to provide rebates and incentives to help customers shift from fossil gas appliances to high efficiency electric appliances. The law also requires that gas distribution utilities submit comprehensive clean heat plans with the PUC. Each clean heat plan must outline the utility's proposal to reduce GHG emission levels by 4% in 2025 and 22% in 2030 below 2015 levels. The Air Pollution Control division believes that the oil and gas transmission and storage

performance program adopted by the AQCC in 2019 and the clean heat plans required by SB 21-264 are going to achieve reductions of emissions necessary from these segments to achieve the goals of § 25-7-105(1)(e)(XII), C.R.S.

Regulated gas utilities will develop clean heat plans that will be subject to PUC approval, and may use enhanced demand side management, beneficial electrification of end uses, leak reduction, blending of green hydrogen, and the use of recovered methane in Colorado to achieve these goals. Recovered methane includes, but is not limited to, coal mine methane, biomethane, such as from landfills and livestock manure management, and methane that would have leaked from a natural gas distribution system that would not otherwise be required to be repaired. Municipal utilities will submit their plan to the Air Pollution Control Division by August 1, 2023.

In October of 2021 the Public Utilities Commission opened a rulemaking on gas system planning and the implementation of SB 21-264 (clean heat plans) and HB 21- 1238 (gas system demand side management). This proceeding is both setting the stage for the required clean heat plan filings by August of 2023, and exploring broader changes to gas system planning to reduce emissions and protect gas customers from potential stranded costs.

The bill directs the AQCC to propose rules concerning recovered methane protocols no later than September 1, 2022, and to adopt the rules no later than February 1, 2023. The Air Pollution Control Division has established a Recovered Methane Protocols workgroup that has met regularly since January 2022, with meetings open to the public to develop recommended recovered methane protocols for the rule proposal. The AQCC is currently scheduled to hear the request for rulemaking in July 2022 and hold a hearing on the proposed protocols in November 2022. The protocols will address recovered methane projects in the areas of coal mines, biomethane, and leak reductions in gas utilities' delivery systems. Based on the bill, the AQCC will also establish a recovered methane crediting and tracking system for the GHG reductions achieved through these projects. The protocols and credits will be used by the PUC in their approval of Clean Heat Plans submitted by gas distribution utilities.

Commercial Building Benchmarking and Performance Standards

Following Washington, Colorado is the second state in the country to adopt a statewide benchmarking program and building performance standard. As part of our commitment to this process, we are participating in a national coalition, led by the White House Council on Environmental Quality, to advance the implementation of performance standards nationally. HB 21-1286 requires benchmarking of the energy use of large commercial buildings, and the development of performance standards that will achieve a sector-wide 7% emissions reduction by 2026 and 20% emissions reduction by 2030 (compared to a 2021 baseline).

As a result of HB 21-1286, CEO has developed a statewide benchmarking program called Building Performance Colorado, which requires commercial, multifamily, and public buildings 50,000 square feet or more to report their annual energy use and pay a \$100 fee per building. Building owners are required to report their 2021 energy use data by December 1, 2022, and their subsequent years' energy data on or before June 1 of each following year. The goal of the benchmarking program is to assist building owners and tenants to better understand how their building's energy performance compares to similar buildings, and identify opportunities to reduce energy waste. CEO is coordinating with municipalities that already have or want to enact benchmarking ordinances in order to help streamline the reporting process and reduce the burden on building owners.

In order to help the State develop the building performance standards, House Bill 21-1286 directed CEO to convene a BPS (Building Performance Standards) Task Force with 18 members representing a variety of interests and expertise. The BPS Task Force members were selected and began meeting in September 2021. The Task Force will meet until July 2022 to develop the BPS recommendations that achieve the sector-wide emission reductions outlined in HB 21-1286. The Task Force has developed draft recommendations for the BPS, and is in the process of receiving public input through an online survey and three virtual public meetings (hosted by CEO). After an opportunity for public input, the Task Force's recommendations will be finalized and presented to CEO's Executive Director, the Governor, and the Air Quality Control Commission (AQCC), which will provide more detailed rules of the BPS and establish the Building Performance Standards through a rulemaking. There will be additional opportunities for public comment during the AQCC rulemaking process. The final BPS rules will be published by June 2023.

Building Codes

CEO worked closely with a wide variety of stakeholders and legislative sponsors to craft HB 22-1362, Building Greenhouse Gas Emissions. This legislation creates a new energy code board, which is charged with creating new minimum requirements for local energy codes. The board must develop pre-wiring requirements for EV charging, building electrification, and solar by June 30, 2023; after that date any jurisdiction that updates its building code must adopt a code at least as strong as the 2021 International Energy Conservation Code (IECC), plus these pre-wiring requirements. Then in 2025 the board must adopt a low carbon code, based on the 2021 or 2024 IECC and its appendices, that maximizes carbon reductions while maintaining housing affordability. The board may also update the pre-wiring requirements. Starting in 2026, jurisdictions that update their building code must adopt an energy code at least as strong as this low carbon code and pre-wiring requirements. The energy code board members will be appointed by the executive directors of CEO and DOLA by October 1, 2022. The bill also allocates \$4 million to support code adoption and training.

Industrial and Manufacturing (GEMM II)

HB 21-1266, which set the GHG roadmap sectoral target for the industrial sector into statute, requires that the AQCC adopt rules that will achieve a 20% reduction across the industrial sector as a whole by 2030 relative to 2015 emission levels. In order to achieve this, specific industrial and manufacturing facilities will be subject to reduction requirements in a second phase of GHG Emissions and Energy Management for Manufacturers (GEMM) rulemaking. These are currently being developed and are expected to be proposed to the Air Quality Control Commission in 2023. The first phase of the GEMM rulemaking, which was completed in October 2021, regulated GHG emissions from the four most energy-intensive, trade-exposed manufacturing facilities in Colorado.

Financing for Building Energy Retrofits

SB21-230 allocated \$30 million to capitalize the Colorado Clean Energy Fund (CCEF) as the state green bank. CCEF has successfully created and launched several lending products in the commercial and residential sectors. Affordable housing loan products that are currently available include: a bridge loan, Commercial Property Assessed Clean Energy (C-PACE)

financing, a 15-year standard loan, and Equipment Finance Contract. Within the residential buildings sector, CCEF has launched two lending products, including the Colorado RENU Loan. This is a statewide residential loan program sponsored by the Colorado Clean Energy Fund in partnership with Colorado-based credit unions. It makes home energy upgrades easy and affordable by offering low-cost, long-term financing for energy efficiency and renewable energy improvements. The RENU loan seamlessly migrated to CCEF on June 1, 2022 from the Colorado Energy Office. CCEF also offers the Solar Equity Loan Fund for the residential market.

To date, CCEF has closed eight commercial loans and one residential loan, with a total loan portfolio of \$2.048 million. 58 commercial projects totaling \$15 million are currently in progress. Moving forward, CCEF is developing a cannabis pilot in partnership with the Colorado Energy Office, a residential emergency replacement loan product, and tariff-based on-bill repayment programs across several utility territories.

The Colorado C-PACE Program has also provided considerable capital for building retrofits. C-PACE enables owners of eligible commercial and industrial buildings to finance up to 100% of energy efficiency, renewable energy, and water conservation eligible improvements. Despite significant challenges stemming from the COVID-19 pandemic, supply chain constraints, labor availability costs, and construction materials cost increases, C-PACE has financed more than \$81 million for 25 projects in FY22.

Oil and Gas

Implementation of SB 19-181 & Minimizing Sector Emissions

Beginning in 2021 and continuing into 2022, the Colorado Oil and Gas Conservation Commission (COGCC) conducted a rulemaking process to update financial assurance for oil and gas operations. This was required under SB19-181. Effective in April 2022, these new rules include per-well fees to support the Commission's Orphaned Well Program (OWP), as well as individualized financial assurance plans for each operator in the state. The per-well fees will provide resources to the OWP to allow for more timely orphaned well plugging (wells that have no responsible operator and have been relegated to state oversight). Orphaned wells are often older and not up to current Commission standards. Plugging these wells reduces emissions, including those coming from methane.

The individualized financial assurance plans are written to incentivize operators to either plug older, lower producing wells or increase financial assurance to ensure appropriate resources will be available when the well retires. Over time, the new financial assurance plans may encourage plugging older wells and eliminate their related emissions, including methane. The first set of plans were submitted in April 2022.

In May 2022, the COGCC approved a project to better understand emissions from both orphaned wells and plugged and abandoned wells in Colorado. Colorado State University will initiate a field study in summer 2022 to measure methane emissions from these wells, and conduct an updated literature review on the variability of methane emissions from abandoned wells. This study will aid in understanding the emissions reductions associated with the OWP.

Cumulative Impacts Report

The COGCC director delivered the “2021 Report on the Evaluation of Cumulative Impacts” to the Commission on January 18, 2022. The first annual report incorporated data from the seven Oil & Gas Development Plans (OGDPs) approved in 2021. This data included estimated emissions from each oil and gas development plan approved by the commission. Future annual reports will be more substantive as additional OGDPs and Comprehensive Area Plans are approved. They will also reference additional analysis of emissions conducted with or provided by the CDPHE.

AQCC 2021 Oil and Gas Rulemaking Hearing

HB21-1261 directed the commission to enact regulations that would achieve a 36% reduction in GHG emissions from the oil and gas sector by 2025 and a 60% reduction by 2030. In December 2021, the commission adopted revisions to Regulations Number 7 and 22. These changes aim to achieve the necessary statewide GHG emissions reductions required under Colorado’s Greenhouse Gas Pollution Reduction Roadmap. The new rules also prioritize comprehensive reductions of GHGs and co-pollutants in disproportionately impacted communities - an approach that is consistent with the Environmental Justice Act.

The rules include:

1. Direct regulation of equipment or processes

The commission has adopted:

- Inspection and monitoring requirements, such as increased frequency for leak detection and repair of equipment leaks. More frequent inspections are required when the oil and gas site is located within 1,000 feet of an occupied area or disproportionately impacted community;
- New requirements to improve performance of enclosed combustion devices, including regular control device testing, regular visual inspections, and installation of flow meters. More frequent testing is required when the combustion device is located in the Front Range (where ozone levels are higher) and within disproportionately impacted communities;
- New emissions standards and control requirements for certain maintenance activities, such as well unloading, pigging activities, and blowdowns. More emissions reductions are required when the operations are located in a disproportionately impacted community;
- Additional requirements to phase-out and/or inspect gas-driven pneumatic controllers; and
- Improvements to the state’s annual emissions reporting program to ensure the information provided to the state is more accurate.

2. Upstream GHG intensity program

The commission adopted a program for greenhouse gas intensity in December 2021 to address methane and carbon dioxide emissions from oil and gas equipment (e.g. from combustion). GHG intensity is a term used to describe the percentage of GHG emitted from a unit of oil and gas production, such as natural gas throughput, oil, or both. The goal of a GHG intensity

program is to reduce the amount of GHG emitted per unit of production, and to provide flexibility to operators to achieve that reduction. The program will include production of oil and natural gas from upstream operations, with the targets set in this rule getting more stringent over time and taking into account the likely increased production from 2022 through 2030.

As part of the implementation of the intensity targets set by this rule, the Air Pollution Control Division will return to the commission with a verification rule in 2023. This is to ensure progress toward the state's GHG emissions reduction goals.

The GHG intensity program requirements address emissions in both the Oil and Gas industry, and the Residential, Commercial, and Industrial sectors of the roadmap.

3. Midstream GHG emission reduction plans

Midstream fuel combustion equipment - engines, heaters, boilers, and turbines - are cumulatively the largest source of GHG emissions from midstream operations, according to data reported both to the Environmental Protection Agency and to the division. The commission established a steering committee in December 2021 to develop guidance and a segment-wide emission reduction plan, which will be submitted as a regulatory proposal to the commission for adoption in 2024. Its goal is to establish the best way to reduce emissions, and where appropriate, transition away from fuel burning equipment. These reductions will likely drive the replacement of older, less-efficient combustion equipment with electric options. The steering committee, which has commenced work in 2022, includes representatives from industry, local governments, environmental groups, communities, and electric utilities.

Natural and Working Lands

Natural and Working Lands Greenhouse Gas Inventory and Strategic Plan

Colorado's Greenhouse Gas Pollution Reduction Roadmap established goals to improve estimating GHG emissions and carbon sequestration on natural and working lands (NWLs), and to develop a Strategic Plan for this sector. The State GHG Inventory is updated with the latest federal data. This information indicates that Colorado's forests are a net source of emissions due to ongoing drought, insect, disease, and wildfire impacts, while other natural and working lands serve as carbon sinks. Through HB22-1012, the Colorado State Forest Service will hire a Forest Carbon Inventory Specialist in 2022 to develop more accurate estimates of the carbon tradeoffs associated with different forest management strategies.

Beginning in 2021, the interagency Natural and Working Lands (NWL) Taskforce hosted a series of virtual public listening sessions to understand stakeholder priorities on natural climate solutions. Based, in part, on input from these events, a draft of the Strategic Plan was completed in June 2022. Following expert and leadership review, it will be available for public comment by the end of summer 2022. The Strategic Plan highlights administrative and legislative priorities on natural climate solutions for the next two to five years, and makes the crucial point that, due to Colorado's dry climate and high wildfire risk, carbon sequestration on natural and working lands is unlikely to play a large role in reducing Colorado's net emissions long term. Finally, the taskforce is nearing completion of a technical analysis of future pathways for NWL GHG emissions and carbon sequestration in Colorado and New

Mexico. The U.S. Climate Alliance initially funded this study in 2020, and results are also expected to be published by the end of 2022.

Soil Health Program

The Colorado Department of Agriculture's (CDA) soil health work assists agricultural producers in improving the productivity and resilience of their land. In partnership with the USDA Natural Resources Conservation Service (NRCS), state Conservation Districts, Colorado State Conservation Board, and others, CDA has developed the Saving Tomorrow's Agricultural Resources (STAR) program. Its purpose is to incentivize producers to implement soil health practices on their farms and ranches. Soil specialists provide technical assistance, facilitate farmer-to-farmer learning, host workshops, and help producers connect with new market opportunities.

The STAR program, launched in 2021, increases the capacity of conservation districts and other eligible entities to provide technical and financial assistance to farmers and ranchers in their region. With new market opportunities emerging for ecosystem services (like soil health improvements), CDA wants to assist conservation districts in preparing producers to be able to profit from new market platforms that reward conservation activities.

CDA hopes to expand and bolster the STAR program through federal funding. In spring 2022, CDA applied for USDA's Climate Smart Commodities Partnership grant opportunity. If awarded, the program will be expanded across the state and the western United States. Beyond that, CDA will partner with producers and our supply chain partners to expand the market for climate smart commodities, including crops grown under the STAR program. CDA will also continue to find public and private funding opportunities to continue to support Colorado producers who are implementing soil health and climate smart practices.

ACRE3

The Advancing Colorado's Renewable Energy and Energy Efficiency Program, or ACRE3 for short, provides funding and technical assistance to producers and agricultural businesses to implement renewable energy and increase efficiency in their agricultural operations. The program helps producers reduce energy costs, install better and cleaner equipment, and become more resilient and profitable.

From 2015 through 2021, the ACRE3 program has provided assistance for 133 projects in 24 counties, representing total project costs of \$5 million. In 2022, \$3 million from SB21-235 allows the ACRE3 program to provide cost share for 37 new projects this year and 35 projects in 2023. The stimulus funds are also allowing ACRE3 to expand its scope to include larger projects and new project types. Stimulus funds allow the ACRE3 program to increase its funding cap from \$50,000 per producer to \$500,000 for large projects. For the first time, stimulus funds are enabling the ACRE3 program to evaluate and award funding to demonstration projects for agrivoltaics on farms and ranches, solar hot water in dairies and greenhouses, transpired solar at poultry houses, and manure management systems at dairies to support more efficient production of renewable natural gas at several new biodigesters. The stimulus funds are also allowing ACRE3 to fund a larger number of projects in energy efficiency, energy-recovery hydropower in irrigation systems, and conventional solar projects in agricultural operations.

Other Sectors

Carbon Capture, Utilization, and Storage

As part of the near-term actions in the GHG Pollution Reduction Roadmap, Colorado created a task force to better understand the role that carbon capture, utilization, and storage (CCUS) may play in meeting the state's emissions targets. The CCUS Task Force launched in March 2021 and assessed existing initiatives and recent publications that analyze or identify carbon capture, transport, utilization, and storage opportunities in Colorado. In addition to the literature review, the CCUS Task Force broke into several subcommittees to evaluate various aspects of CCUS in Colorado. Specifically the subcommittees researched:

- **Opportunities:** Identify and evaluate the potential uses of carbon capture, transport, utilization, and storage
- **Resources:** Evaluate Colorado's carbon capture, transport, utilization, and storage resources
- **Issues to Consider:** Identify barriers, including economic, regulatory, legal, or other significant barriers to deployment of carbon capture, transport, utilization, and storage projects in Colorado, consistent with achieving Colorado's emissions goals
- **Environmental Justice:** Identify environmental justice impacts and opportunities.

These subcommittees conducted research in each category and identified potential recommendations in the following areas: environmental justice; coordination and permitting with federal agencies and regional partners; state agency permitting processes; state incentives; and siting of carbon dioxide pipelines and projects. The state, in coordination with the Colorado School of Mines, also hosted a virtual public engagement session on November 3, 2021 to review the CCUS Task Force's draft report and solicit feedback. This feedback, along with additional comments collected throughout the recommendation development process, were incorporated into the recommendations sent to the Governor.

These recommendations were provided to the Governor on February 1, 2022. Pursuant to HB 21-1266, Governor Polis requested the Environmental Justice Advisory Board review and provide input into CCUS strategies. CEO presented on the CCUS Environmental Justice Recommendations to the Environmental Justice Advisory Board meeting #2 on April 5th. The advisory board provided initial comments on the recommendations and will be facilitating a subcommittee to provide further input.

Governor's Directive

To codify those Task Force recommendations and continue making progress on an important potential tool for reducing and removing pollution, a May letter from Governor Polis directed the COGCC and Department of Natural Resources, in consultation with other relevant state agencies and stakeholders, to do the following over the coming year:

- I. Work with the Attorney General's Office (COAG) and/or Governor's legal counsel to evaluate legal and legislative pathways to achieve a comprehensive regulatory regime for CCUS in the state, including consideration of if, and where, legislation is required.
- II. Work with key stakeholders to prepare a comprehensive legislative proposal to address primacy and other legal changes necessary to create carbon sequestration opportunities in Colorado, which likely will need to address:

- A. COGCC pursuing primacy;
 - B. Pore space ownership, including addressing competing rights and uses for the proposed storage reservoir;
 - C. Unitization or spacing with the goal of creating storage opportunities across multiple pore space owners;
 - D. Compensation structure for non-consenting pore space owners;
 - E. Long-term stewardship/ownership of sequestration sites by the state after site closure, including potentially creating a CO2 storage fund to provide funding for post-closure site stewardship by the state;
 - F. Address State authority over CO2 pipeline and project siting;
 - G. Plan regional deployment of CO2 pipelines;
 - H. Identify existing infrastructure right-of-ways and ideal locations for potential CO2 pipeline corridors to facilitate future deployment;
 - I. Evaluate classifying CO2 storage to be in the public interest
 - J. Any related recommendations from COGCC Class VI Report, CCUS Task Force Report, or Environmental Justice Advisory Board.
- III. Draft technical and procedural Class VI rules that:
- A. Address all federal requirements for Class VI wells;
 - B. Integrate Class VI processes into current COGCC processes;
 - C. Incorporate any future related Colorado legislation into the rules;
 - D. Integrate feedback/collaboration from EPA and other stakeholders, including environmental justice stakeholders;
 - E. In cooperation with the COAG, ensure that laws, draft rules, and regulations provide the COGCC the proper authority to administer the UIC Class VI program.
- IV. Consider timing to initiate a formal rulemaking process for adoption of rules, which is a prerequisite to seeking primacy from EPA, and to engage stakeholders and ensure safe and effective regulation.
- V. Begin preparation and drafting of Class VI primacy application materials to expedite the submission process to the EPA once the rules and legislation are finalized, including:
- A. Draft the Program Description that includes a narrative of the program, an organizational structure, description of procedures, description of the compliance and enforcement program, and other requirements per 40 C.F.R. § 145.23
- VI. Contract for additional support to complete the work until legislation authorizes additional FTE.

Of note, in May [Carbon America announced](#) they will be building one of the first CCS projects in eastern Colorado, developing two industrial-scale carbon capture projects at the Yuma and Sterling ethanol plants. Combined, they estimate the projects will capture and permanently sequester approximately 350,000 metric tons of CO2 annually.

Hydrogen

In 2021, CEO worked with Energy and Environmental Economics (E3) to develop an initial Hydrogen Roadmap for the state. The recommendations included supporting near-term pilot projects in the power sector, and developing infrastructure investments for hydrogen use by heavy-duty trucks. At the same time, multiple utilities expressed interest in hydrogen. To that end, Tri-State Generation and Transmission Association, a wholesale power provider serving rural utilities in Colorado and three other states, has begun work to plan a hydrogen center in Craig.

Hydrogen Hubs MOU

In February 2022 the states of Colorado, New Mexico, Utah, and Wyoming signed a Memorandum of Understanding (MOU) to coordinate, develop, and manage a regional clean hydrogen hub. Named the Western Inter-States Hydrogen Hub (WISHH), this consortium is working to compete for a portion of the \$8 billion allocated in the 2021 Infrastructure Investment and Jobs Act to develop four or more regional hydrogen hubs. The RFP from the United States Department of Energy (DOE) is expected to be released in early fall, with concept papers due later in the fall for review by DOE.

Environmental Justice Act

On July 2, 2021, Governor Polis signed the Environmental Justice Act (HB21-1266) into law. The Environmental Justice Act commits to strengthening environmental justice, and prioritizes reducing environmental health disparities in disproportionately impacted communities. It also includes climate-related provisions. To support implementation of the Environmental Justice Act, CDPHE created a new Environmental Justice Program. As of June 21, 2022, the Environmental Justice Program consists of six full-time employees, including a full-time Environmental Justice Air Quality Liaison, and is slated for continued expansion.

Specific updates on CDPHE's implementation of the Environmental Justice Act include:

- **Identifying and Mapping Disproportionately Impacted Communities**
 - In June 2022, CDPHE launched a new interactive environmental justice mapping tool, [Colorado EnviroScreen](#), which shows areas that meet the definition of disproportionately impacted community and more generally identifies areas with environmental health burdens and cumulative impacts.
 - There is also a clickable layer in the [Climate Equity Data Viewer](#) that shows census block groups that meet the demographic components of the definition.
- **Enhanced Outreach for Disproportionately Impacted Communities**
 - The CDPHE Climate Change Program has been providing enhanced community engagement opportunities for rulemakings with significant potential to secure benefits and reduce harms to disproportionately impacted communities. A three-part series of informational sessions related to the advanced clean truck and low-Nox truck rules was offered in English and Spanish from April to June 2022, ahead of more general public stakeholder meetings. Sessions introduced participants to basic information needed to support meaningful engagement in the Advanced Clean Truck and Low-Nox rulemaking process, and illustrated

some of the potential health and environmental justice benefits of reducing harmful air pollutants from Colorado's trucking sector.

- CDPHE, CEO, CDOT, DORA, CDA, DNR, DOLA and others partnered to host a series of nine in-person and virtual community climate change workshops (with more than 330 registrants) across the state to gather community input on priorities, concerns, and ideas concerning climate change and the state's response to the climate crisis. Communities were selected based on geographical diversity and proximity to disproportionately impacted communities (using the Climate Equity Data Viewer). Marketing and outreach focused on engaging members from disproportionately impacted communities. Workshops utilized best practices in inclusive community engagement, including meeting in the evening in convenient community buildings, providing dinner, presenting meetings and materials in commonly spoken languages, and offering participant incentives and childcare stipends. Community input will be synthesized into a report for state agencies and leadership to support responsiveness as policies, programs, and funding opportunities are implemented.

- **Environmental Justice Advisory Board**

- The Environmental Justice Advisory Board meets quarterly. Its first meeting was in January 2022.
- The Advisory Board duties include:
 - Coordinating with Marcus Howell, the Environmental Justice Ombudsperson, and working with the Ombudsperson to facilitate public meetings and develop a complaint process.
 - Responding to environmental justice policy questions referred to the group by the Governor's Office or CDPHE. In April 2022, the board fielded a policy question on carbon capture and storage from the Governor's Office.
 - Advising CDPHE on best practices for engagement with disproportionately impacted communities.
 - Implementing a new environmental justice grants program to fund projects that avoid, minimize, or mitigate adverse environmental impacts in disproportionately impacted communities, including projects that reduce environmental health disparities and promote participation in agency actions by disproportionately impacted community members. The advisory board is working with Environmental Justice Program staff to launch the grants program in late 2022.

- **Environmental Justice Action Task Force**

- The task force has created five subcommittees, each of which meets monthly to focus on specific topics:
 - Environmental Equity & Cumulative Impacts Analysis;
 - Definition of Disproportionately Impacted Community;
 - Data & Reducing Environmental and Health Disparities;
 - Best Practices for Community Engagement; and
 - Indigenous Community Engagement

- **Environmental Justice Ombudsperson:**
 - Governor Polis appointed Marcus Howell as Colorado’s first Environmental Justice Ombudsperson in February 2022.
 - The Ombudsperson reports directly to CDPHE Executive Director Jill Hunsaker Ryan and receives administrative support from the Environmental Justice Program, but is otherwise independent.
 - The Environmental Justice Ombudsperson’s duties include:
 - Serving as an advocate for and liaison to disproportionately impacted communities;
 - Advocating for improved relationships with disproportionately impacted communities;
 - Overseeing CDPHE’s response to complaints and inquiries about environmental justice matters; and
 - Coordinating environmental justice work across the state government

Just Transition For Communities and Workers Impacted by Energy Transition

HB 19-1314 created the Office of Just Transition (OJT) to develop and implement a plan to assist Colorado communities and workers that are transitioning away from coal as an economic driver as it is phased out as a fuel for electricity generation in the state. OJT developed the Action Plan in 2020 and began implementation efforts in 2021. However, OJT did not receive significant General Fund support until FY 2022, when HB 21-1290 appropriated \$15 million to the office to be used over two years. In the first half of 2022, OJT expanded from one to four full-time staff and began to accelerate its work, most notably through a community grant program.

Between January and June 2022, significant OJT activities included:

- Approving 12 community grants totalling \$3.75 million. Grant recipients include NW Colorado Development Council; Uncompahgre Development Company; West End Economic Development Corporation; Moffat and Morgan counties; and the municipalities of Hayden, Meeker, Naturita, Pueblo, Rangely, and Yampa
- Participating in the Public Service Company (PSCo) and Tri-State Generation and Transmission Association proceedings at the PUC, which resulted in a significant financial commitment from PSCo to transition communities and facilitated a community assistance planning effort with Tri-State
- Laying the groundwork for large investor workshops for transition communities, beginning with the West End of Montrose County and communities in the Yampa Valley
- Providing outreach and planning for the workforce transition program, with the goal of having a final plan approved and ready for implementation by the end of FY23.

Additional legislation passed and signed in the first half of CY22 include:

- HB 22-1193 and HB 22-1394, which added another \$15 million to the Just Transition Cash Fund and extended spending authority through the end of FY27. As a result, OJT will be restructuring its community grant program (which was originally designed to meet very tight timelines for fund distribution in HB 21-1290).

- A Long Bill appropriation of \$5 million to the Office of Economic Development and International Trade (OEDIT) Strategic Fund to support business development in transition communities

Greening Government Executive Order

In April 2022, Governor Polis signed an Executive Order building upon previous directives to ensure State buildings are energy efficient and sustainable, and to allow the State's workforce to continue to provide efficient, high-quality services to Coloradans while protecting our environment. Among other specific areas of focus, it includes directives to:

- Reduce greenhouse gas emissions resulting from State operations by at least 26% by the end of FY 2024-25 over the FY 2014-15 baseline.
- Reduce energy use per square foot in State facilities by at least 15% by the end of FY 2024-25 (normalized for weather) over the FY 2014-15 baseline.
- Ensure that at least 7% of total electricity consumed by State facilities is renewable by the end of FY 2024-25. Such increase in renewable electricity shall be in addition to the renewable electricity provided by the local utility as part of the overall power mix.
- Reduce greenhouse gas emissions from State vehicles by at least 15% by the end of FY 2024-25 over the FY 2014-15 baseline.
- Reduce greenhouse gas emissions from State vehicles categorized as special use by at least 7.5% by the end of FY 2024-25 over the FY 2014-15 baseline.
- Reduce potable water consumption by at least 2% by the end of FY 2024-25 over the FY 2014-15 baseline.

The full text of the Executive Order is available [here](#).

International Trade

The Global Business Division of the Office of Economic Development and International Trade has spearheaded a number of initiatives with European countries to work on climate and clean energy. Recent agreements and educational exchanges in this area include:

- **Finland:** In February 2022, Governor Polis signed a Memorandum of Understanding (MoU) with Mikko Hautala, Finland's Ambassador to the United States, that focuses on creating collaborative opportunities regarding bilateral foreign direct investment, bilateral research and development projects, and company exchanges and expansion opportunities. The MOU specifies development and commercial sectors on sustainable and advanced technologies, including but not limited to computing technologies such as quantum tech, green economy advancements, and aerospace technology and applications. Green economy working group dialogue continues as interested business, government and higher education partners collaborate as part of the MoU agreement
- **Lower Austria:** In May 2022, Lt. Governor Primavera signed an MoU with Lower Austria's Governor Johanna Mikl-Leitner aimed at deepening cultural ties and encouraging scientific and technological collaboration that prioritizes climate protection and the sustainable use of resources.

- **European Union:** In May 2022, OEDIT took part in welcoming a delegation of EU diplomats to discuss climate and clean energy policy, investment, and action, as well as strengthen ties in these areas at the sub-federal level. Austria, Belgium, Denmark, Finland, France, Hungary, the Netherlands, Poland, Portugal, Romania, Sweden, and the European Union were represented. Governor Polis and his respective offices, Lt. Governor Primavera and her respective offices, CDPHE, CEO, CDOT, the City and County of Denver, OEDIT, and the Denver Regional Council of Governments all participated on behalf of Colorado. The talks addressed climate, energy, science, and innovation.

Major New Legislation

Following the completion of Colorado's legislative session in May 2022, Governor Polis signed a series of bills into law that build on the state's bold work to reduce GHG pollution and improve air quality. While some of these bills are discussed above, here is an overview of new laws that will play a role in fulfilling the roadmap's mandates.

Climate and air quality (broadly):

- ***Senate Bill 22-193 Air Quality Improvement Investments*** delivers a priority set of clean air and climate change investment programs from the Governor's budget. The law includes:
 - \$25 million in funding for the Clean Air Grant Program, which will provide grants for energy efficiency improvements, renewable energy, electrification, methane capture, sustainable aviation fuel, use of low carbon hydrogen, and industrial carbon capture to achieve additional emission reductions beyond those required by regulation.
 - \$12 million in rebates for the purchase of eBikes, and for programs that provide eBikes and safety equipment to approximately 12,000 low- and moderate-income Coloradans.
 - \$65 million to start a new school bus electrification grant program, which aims to transition Colorado's diesel school bus fleets to electric buses. Grants will be prioritized for vehicles operating in disproportionately impacted communities, the ozone nonattainment area, and schools with high proportions of students receiving free or reduced school meals. The program provides flexibility for districts to pay for charging infrastructure and buses, as well as covering administrative costs to apply for both the state and federal electric school bus programs. This will help leverage tens of millions of dollars of additional federal funding.
 - \$7 million for an oil and gas aerial monitoring program to identify leaks from sources such as pipelines and flowlines, production pads, tanks, central gathering facilities, and compressor stations, and quickly inventory and fix methane and other leaks from oil and gas infrastructure.
 - \$2 million to increase energy efficiency, reduce water use, promote renewable energy implementation, and enhance sustainable practices in operations of cannabis facilities in Colorado, which are major users of electricity and water.
- ***House Bill 22-1329 Long Bill (State Budget)*** invests \$47 million over three-year to help address air quality challenges through:
 - *Cutting-edge regulations* - Regulatory initiatives to help meet Colorado's ozone, GHG, and environmental justice goals

- *Immediate emissions reductions* - Incentives for state and local governments, schools, and other public entities to transition from gasoline powered to electric engines for lawn equipment
- *Air quality science* - Investments in additional and updated air quality data and analysis to inform future strategies and investments
- *Community relations* - Improvements in communication and outreach capacity to meet public expectations regarding engagement and availability of air quality information
- *Driving air pollution control board performance* - Support more stringent permitting, compliance, enforcement and oversight as required under the Clean Air Act

Emissions from the built environment:

- ***House Bill 22-1362 Building Greenhouse Gas Emissions*** creates requirements for the adoption of the most recent International Energy Conservation Code (IECC) in new buildings, pre-wiring for electric vehicles (EV), rooftop solar and heat pumps, and local adoption of a low carbon code starting in 2026, toward near net zero building energy codes. It also provides:
 - \$3 million to support local governments and state agencies in adopting and enforcing advanced energy codes. In part, this will be done by funding technical assistance and training for local building department officials and staff, builders, architects, designers, contractors, and other stakeholders
 - \$1 million to support contractor training
 - \$10 million to the clean air building investments fund for the creation, implementation, and administration of the building electrification for public buildings grant program
 - \$10.85 million to the clean air building investments fund for the creation, implementation, and administration of the high-efficiency electric heating and appliances grant program for neighborhood scale electrification
- ***Senate Bill 22-051 Policies To Reduce Emissions From Built Environment*** gives purchasers of an air-source, ground-source, or water-source heat pump system, or variable refrigerant flow heat pump system an income tax credit equal to 10% of the purchase price of the heat pump system or heat pump water heater. This legislation provides the same benefit for the purchase and installation of an energy storage system. In addition, the bill waives sales and use taxes in the sale of heat pump systems, heat pump water heaters, storage systems, and other “decarbonizing building materials.”
- ***House Bill 22-1304 State Grants Investments Local Affordable Housing*** includes a strong community grants program developed by a multi-agency team with the assistance of stakeholders, to determine a list of sustainable land use best practices aimed at enabling more housing within existing communities. These will be key in assessing a local government’s viability in being considered for these affordable housing development grants. It includes \$40 million for grants to local communities to advance land use best practices, including infill development for affordable housing.
- ***Senate Bill 22-159 Revolving Loan Fund Invest Affordable Housing*** creates an affordable housing revolving loan fund program. The loan program provides flexible, low-interest, below-market-rate loan funding to assist eligible recipients in obtaining loan projects identified in the bill. The program can include financing for energy improvements in affordable housing, which will provide funding for incremental up-front costs for efficient,

electric measures, and renewable energy systems for both existing buildings and new housing construction.

- ***Senate Bill 22-185 Security For Colorado Seniors*** extends a key grant program indefinitely. This program continues to support projects that promote the health, equity, well-being and security of older Coloradans across the state. It includes coordination with CEO on incentives and potential investments that align with the GHG reduction goals described in statute by increasing energy efficiency and renewable electricity in buildings used by older Coloradans. It also incentivizes the use of EVs for transporting older Coloradans.

Solutions for 100% Renewable Energy by 2040:

- ***House Bill 22-1381 Colorado Energy Office Geothermal Energy Grant Program*** incentivizes the expansion of Colorado's use of geothermal energy by providing grants to start programs supporting geothermal energy for electricity generation, space heating and cooling, water heating, and district heating. The \$12 million program will support the development of geothermal heating and cooling as well as public-private partnerships on the development of geothermal electricity generation — either as a stand-alone, or paired with electrolyzers for the production of green hydrogen.
- ***Senate Bill 22-118 Encourage Geothermal Energy Use*** creates a program for basic consumer education and guidance for systems that use geothermal energy for water heating, space heating, or cooling. The bill, which reduces permitting costs and minimizes property tax impacts for geothermal, also establishes a business model for community geothermal gardens, comparable to community solar gardens.

Resilience in our communities

- ***Senate Bill 22-206 Disaster Preparedness And Recovery Resources*** aims to strengthen communities affected by natural and climate disasters and incentivizes coordinated statewide planning on climate change preparedness. Elements include:
 - A program to help homeowners and businesses rebuild more efficiently after declared natural disasters. A \$20 million pool is being established to deliver a combination of low-interest loans and grant opportunities to cover costs associated with building high-performing, energy-efficient, and resilient homes and structures. These include the installation of high-efficiency space and water heat pumps, work towards net zero energy buildings or advanced energy certification, or assistance in adding battery storage or an electric vehicle charging station.
 - The establishment of the Governor's Office of Climate Preparedness. This office will not only increase capacity for recovery efforts, but will also support a climate-prepared future, starting with the development of the climate preparedness roadmap, which will allow the state to anticipate needs in the event of future climate-related events, and will encourage land use patterns to reduce both GHG emissions and exposure to climate driven hazards, such as wildfires and floods.
- ***House Bill 22-1249 Electric Grid Resilience And Reliability Roadmap*** commissions a grid resilience and reliability roadmap to develop a statewide strategy on the use of microgrids to harden the grid, improve its resilience and reliability, deliver electricity where extending distribution infrastructure may not be practical, and operate autonomously and independently of the grid, when necessary.

- ***House Bill 22-1013 Microgrids For Community Resilience Grant Program*** creates the microgrids for community resilience grant program, with \$3.5 million in funding for initial projects. A cooperative electric association or a municipally owned utility may apply for a grant award to finance the purchase of microgrid resources in eligible rural communities within the utility's service territory that are at significant risk of severe weather or natural disaster events, and in which there are one or more community anchor institutions.

Emissions from transportation and expanding public transit and transportation options:

- ***Senate Bill 22-180 Programs To Reduce Ozone Through Increased Transit*** creates a \$28 million grant program that enables transit agencies statewide to provide free transit fares for at least a month during ozone season for two years. Vehicles are the largest single source of nitrogen oxide pollution, a key contributor to the formation of ozone, as well as the largest source of GHG pollution. The bill also provides \$30 million for a three-year CDOT pilot project that expands bus rapid transit along I-70 and I-25, and \$10 million for supporting bicycle, pedestrian and transit improvements to main streets.

Climate-smart investments in forestry

- ***House Bill 22-1012 Wildfire Mitigation and Recovery*** directs the Colorado State Forest Service to create a carbon accounting framework and train practitioners in carbon-adaptive management in forest management practices. The bill also includes \$7.2 million in general funds to support wildfire mitigation programs in the Colorado State Forest Service and the DNR.
- ***House Bill 22-1379 Wildfire Prevention Watershed Restoration Funding*** invests \$20 million in American Rescue Plan Act funding to increase Colorado's capacity to enhance wildfire mitigation. This is necessary for reducing the risk of catastrophic wildfires and promoting faster watershed recovery to protect watershed health and replant burn scars.
- ***House Bill 22-1323 Updates to the State Forest Tree Nursery*** provides \$5 million for improvements to the Colorado State Forest Service's tree nursery to substantially increase its capacity to provide low-cost, native and climate-adapted trees; to build climate-resilient watersheds and forests; and to enhance carbon storage to meet the state's climate mitigation goals.

Reducing water consumption

- ***House Bill 22-1151 Turf Replacement Program*** directs the Colorado Water Conservation board to provide state matching funds for turf replacement programs to promote water-wise landscaping.

Just transition for workers and communities away from the use of coal

- ***House Bill 22-1193 Adjustments to expenditures from funds dedicated to assisting those impacted by the transition to a clean energy economy*** transfers \$2 million in previously appropriated funds from worker assistance programs to community assistance efforts to ensure more timely, efficient and effective use of Just Transition funding.