



Final Report to the General Assembly

Legislative Interim Committee on Ozone Air Quality
June 2024 | Research Publication 814



Legislative Interim Committee on Ozone Air Quality

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June 2024

To Members of the Seventy-fourth General Assembly:

Submitted herewith is the final report of the Legislative Interim Committee on Ozone Air Quality. This committee was created pursuant to Article 7 of Title 25, Colorado Revised Statutes. The purpose of this committee is to study ozone air quality in Colorado.

Sincerely,

/s/ Representative Julie McCluskie
Chair

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This report is also available online at:

<https://leg.colorado.gov/committees/legislative-interim-committee-ozone-air-quality/2023-regular-session>

Committee Charge

Pursuant to Section 25-7-145, C.R.S., the Legislative Interim Committee on Ozone Air Quality was created for the 2023 interim to study ozone air quality in the state with a focus on:

- investigating the factors that contribute to ozone pollution in the state, including any scientific consensus around the issue of ozone pollution;
- analyzing strategies to address and improve ground-level ozone issues; and
- developing policy, technical, and financial solutions to improve ozone air quality.

Committee Activities

The committee held five meetings during the 2023 interim and took one field trip.

Briefings and presentations were made by a variety of state and federal agencies, local governments, industry, scientific research organizations, and community organizations on a wide range of subjects, including:

- the causes of ozone pollution and trends in the front range;
- public health impacts of ground-level ozone;
- state and federal regulation of ozone precursors;
- local government air quality monitoring;
- permitting for oil and gas wells; and
- labor and industry considerations.

The following entities and individuals gave briefings and presentations to the committee:

- American Lung Association;
- American Petroleum Institute;
- Boulder County;
- Center for Biological Diversity;
- Chevron;
- City and County of Broomfield;
- City of Commerce City;
- City of Fort Collins;
- City of Lafayette;
- City of Longmont;
- City of Northglenn;
- Colorado Communities for Climate Action;
- Colorado Department of Public Health and Environment (CDPHE);
- Colorado Department of Transportation (CDOT);
- Colorado Energy Office (CEO);
- Colorado Fiscal Institute;
- Colorado Oil and Gas Association;

- Cultivando;
- Earthjustice;
- Earthworks;
- Energy & Carbon Management Commission (ECMC), Department of Natural Resources;
- Environmental Protection Agency (EPA);
- Environmental Justice Task Force, CDPHE;
- EVRAZ North America/Rocky Mountain Steel;
- Jana Milford, Professor Emerita, University of Colorado;
- National Center for Atmospheric Research/University Corporation for Atmospheric Research (NCAR/UCAR);
- National Jewish Health;
- Northern Colorado Business Community;
- Northern Front Range Metropolitan Planning Organization;
- Public Employees for Environmental Responsibility (PEER);
- Regional Air Quality Council (RAQC);
- Town of Erie;
- United Steelworks;
- Weld County; and
- Western States Air Resources Council (WESTAR).

The following sections discuss the committee's areas of focus during the 2023 interim.

Causes of Ozone and Trends in the Front Range

The committee heard several presentations on the causes of ozone and trends in ozone levels across the Front Range. CDPHE's Air Pollution Control Division presented on how ozone forms along the Front Range and how the area's unique topography and meteorology impact ozone levels across the region. The CDPHE discussed how the Denver Metro/Front Range Nonattainment Area is a moderate-to-severe violator of National Ambient Air Quality Standards (NAAQS), though ozone levels have gone up and down since 2000. The Air Quality Control Commission representatives explained that the commission has engaged in a more ambitious rulemaking schedule to meet the Governor's directives on emissions, including vehicle standards and controls for maintenance activities in the oil and gas industry.

CDPHE presented on the importance of decreasing ozone precursors and oil and gas emissions. According to CDPHE, the state has decreased ozone precursors 26 to 30 percent since 2011. The department also discussed its work with the ECMC to collect data on stationary and mobile sources of emissions as well as carbon capture sequestration wells.

The Western States Air Resources Council (WESTAR) presented on the unique nature of ozone in the western United States, what contributes to ozone in the western United States versus the eastern United States, NAAQS planning, and improving modeling.

EarthJustice, a nonprofit environmental law organization, provided an overview of three types of pollutants contributing to ozone: criteria pollutants, air toxics, and climate pollutants. They discussed oil and gas and its contributions to ozone. The presentation also discussed barriers to

addressing ozone in Colorado, including ineffective State Implementation Plans (SIPs), siloed agency permitting processes that disregard air quality impacts, and a lack of air quality monitoring for minor sources of ozone.

The National Center for Atmospheric Research/University Corporation for Atmospheric Research (NCAR/UCAR) presented on the Front Range Air Pollution and Photochemistry Experiment (FRAPPÉ), including an overview of the research, changes in the past several decades, and monitoring recommendations.

Jana Milford, professor emerita, University of Colorado Environmental Engineering Program, presented on air quality, including modeling, temporary sources, and opportunities for improvement.

Public Health Impacts of Ground-level Ozone and Community Engagement

The committee heard several presentations on ground-level ozone's impact on public health as well as community engagement and activism around the issue of ozone. Cultivando, an advocacy and community development organization, presented to the committee on air quality monitoring in Commerce City and the health impacts of certain contaminants. The presentation included testimony from community members on local health outcomes.

National Jewish Health presented on the causes and health impacts of ground-level ozone. This included information on how ozone affects vital organs, the results of research investigating adverse health outcomes, and which populations are most vulnerable. These health outcomes include asthma, emphysema, heart attack, stroke, and cognitive decline.

The American Lung Association presented its State of the Air report, which evaluates air quality for human health nationwide. The presentation also included a county-level discussion of air quality in Colorado and associated health risks.

Earthworks, an organization focusing on the public health impacts of extractive industries, presented on its work identifying emissions from pre-production activities at oil and gas sites in the Front Range.

Members of CDPHE's Environmental Justice Task Force provided updates on the task force's recommendations, discussed environmental inequality, and raised concerns about enforcement, protection, and accountability.

State and Federal Regulation of Ozone Precursors

The federal EPA presented on the state's obligations under the Clean Air Act. The EPA establishes NAAQS for certain pollutants. When a region is out of compliance with the standard, the applicable state must develop a SIP to attain and maintain the NAAQS. The EPA described the process for states to develop SIPs, the criteria the EPA uses to approve them, the consequences when an element of a SIP is not approved, and what regulatory programs states must adopt based on the classification of the region's nonattainment. The committee heard that there are currently two ozone standards: the 2008 8-hour standard of 75 parts per billion and

the 2015 8-hour standard of 70 parts per billion. The Denver Metro-North Front Range nonattainment area is out of compliance with both standards.

The CEO presented on the state's Greenhouse Gas Pollution Reduction Roadmap that supports Colorado's goal of reducing statewide greenhouse gas pollution 26 percent by 2025, 50 percent by 2030, and 90 percent by 2050. CEO gave an overview of the 2023 electric vehicle (EV) plan, the state of the EV market in Colorado, vehicle standards, and recent legislation. Additionally, the CEO shared information on the state's electrification needs. The CEO predicts the electric load demand will increase 40 percent by 2040 to support EV and electric truck charging, electric heat pumps for buildings, oil and gas drilling rigs, and rooftop and community solar interconnection.

CDPHE gave an overview of the Governor's directive to reduce nitrogen oxides (NOx) by 30 percent by 2025 as well as other ozone rulemakings as of December 2023. This included emission limits for natural gas and diesel engines statewide, best-use practices for drilling and fracking in ozone nonattainment areas from May through September 2024, and prohibiting use of gas-powered lawn equipment by state agencies and local governments in the nonattainment area during the ozone season. Additionally, CDPHE touched on 2024 air quality rulemakings, EPA regulations, minor source modeling, air pollution penalty revenue, and shared goals to improve air quality.

The committee heard a summary of the 2021 independent investigative report into allegations that CDPHE's Air Pollution Control Division did not properly enforce federal air quality standards. A representative from Public Employees for Environmental Responsibility (PEER) presented recommendations for possible legislation on behalf of the CDPHE employees who brought the enforcement concerns to the EPA. CDPHE presented on their work since the complaint and gave an update how they have improved the minor source permitting process.

The RAQC presented on its role, its funding, the Front Range's performance on ozone NAAQS, estimates of emissions sources by category, and 2008 and 2017 SIP planning milestones. The RAQC also went over 2026 ozone projects, RAQC emission control strategy assessments, what is not included in modelling, lawn and garden equipment emissions, and possible next steps and incentives to assist with compliance.

The city of Northglenn, Commerce City, the city of Lafayette, the city of Fort Collins, and Colorado Communities for Climate Action presented on the health impacts of ozone, ozone and climate change, local climate action plans, and transparency and enforcement for oil and gas development. Boulder County, the city of Longmont, the town of Erie, and the city & county of Broomfield presented on local government air quality monitoring programs and studies.

Permitting for Oil and Gas Wells

The ECMC gave a presentation on the cumulative impacts of oil and gas operations and its strategies to address cumulative impacts. The ECMC has an Oil and Gas Development Plan for permitting that considers impacts on disproportionately impacted communities, schools, child care centers, wildlife, noise, light, odor, and dust. The approval process includes pre-application consultation, staff review, consultation with CDPHE, the commission's recommendation, and

a hearing. CDPHE requires air quality modelling for certain permit applications for pollution sources. Modelling usage in the permitting process has increased in recent years, and the department also conducts sensitivity analyses on air quality outcomes due to decreases in ozone precursors. The Center for Biological Diversity presented on minor source permitting and enforcement.

Weld County presented on their air quality monitoring program and their work to get their monitors included in the Colorado ozone network for inclusion in NAAQS assessments. Weld County suggested ozone control strategies.

Labor and Industry considerations

The committee heard from several labor and industry representatives on the effects of regulation on their operations and their work to try to limit contributions to ozone. EVRAZ North America presented on their steel manufacturing operations in Pueblo, facility electrification, and industry regulation. United Steelworkers (USW) Local 3267 presented on their policy priorities and how regulation impacts their work. The Colorado Oil and Gas Association (COGA) and the American Petroleum Institute presented on Colorado's oil and gas industry, regulatory activities, the permitting process, and compliance. Finally, the Colorado Fiscal Institute presented on the economic benefits and the environmental costs of the oil and gas industry, including greenhouse gas emissions and other costs.

November Tour

The committee visited the NCAR Mesa Lab in Boulder and received a tour of the Visitor Center. Committee members also attended a presentation from NCAR scientists on ozone, drivers of elevated ground-level ozone, and ozone research in the northern Front Range.

The trip continued with a presentation from CDOT on regional traffic patterns, congestion management, and air quality in route to visit the I-25/US 34 Mobility Hub. The committee visited Weld County's Missile Site Park Air Monitoring Site followed by a stop at the CDOT Region 4 Headquarters to hear from the Northern Front Range Metropolitan Planning Organization and Northern Colorado Business Community. Finally, the tour ended with a visit to a Chevron facility for an overview of their emissions management process.

Resource Materials

Meeting summaries are prepared for each meeting of the committee and contain all handouts provided to the committee. The summaries of meetings and attachments are available at the Division of Archives, 1313 Sherman Street, Denver (303-866-2055). The listing below contains the dates of committee meetings and the topics discussed at those meetings. Meeting summaries are also available on our website at:

<https://leg.colorado.gov/content/committees>

Meetings and Topics Discussed

August 25, 2023

- Presentation from Earthjustice
- Presentation from ECMC
- Presentation from CDPHE
- Discussion of upcoming meetings

September 22, 2023

- Presentation from the EPA
- Presentation from Cultivando
- Presentation from the American Lung Association and National Jewish Health
- Presentation from Earthworks
- Presentation from CDPHE and ECMC

October 13, 2023

- Presentation from Local Government Panel #1: Colorado Communities for Climate Action, City of Northglenn, Commerce City, City of Lafayette, and City of Fort Collins
- Presentation from Local Government Panel #2: Town of Erie, City of Longmont, Boulder County, City and County of Broomfield
- Presentation from EVRAZ North America/Rocky Mountain Steel
- Presentation from United Steelworkers
- Presentation from Regional Air Quality Council
- Presentation from Colorado Oil and Gas Association and the American Petroleum Institute
- Presentation from Weld County
- Presentation from Colorado Fiscal Institute

November 8, 2023

- Presentation from Environmental Justice Task Force
- Presentation from PEER
- Presentation from CDPHE
- Presentation from ECMC

- Presentation from WESTAR
- Presentation from NCAR/UCAR
- Presentation from Professor Jana Milford
- Presentation from the Center for Biological Diversity

November 29, 2023 Tour

- Tour of NCAR Mesa Laboratory
- Tour of CDOT Mobility Hub on I-25 and US 34
- Tour of Missile Park Air Monitoring Site, Greeley
- Presentation from Northern Front Range Metropolitan Planning Organization, Northern Colorado Business Community, and Weld County at the CDOT Region 4 Headquarters
- Tour of Chevron Site, Greeley

December 8, 2023

- Presentation from CDPHE
- Presentation from CEO
- Closing thoughts from members on insights and policy proposals