

CDPHE Regulation of the Oil and Gas Industry



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OVERVIEW

- Overview of COGCC
- CDPHE Consultations
- CDPHE Regulatory Authority
- Oil and Gas Health Information and Response Program
- Senate Bill 19-181 (SB 19-181)



Overview of COGCC

- Colorado Oil and Gas Conservation Act (C.R.S. § 34-60-101, et seq.)
- COGCC's mission is to regulate the development and production of natural resources of oil and gas in the state of Colorado in a manner that protects public health, safety, welfare, the environment and wildlife resources
- COGCC authority over pre-production phases (drilling, hydraulic fracturing, completions)



CDPHE Consultations (COGCC Rule 306.d)

- **300 Series – Drilling, Development, Production and Abandonment**
 - Rule 317B Public Water System Protection
 - Rule 325 Underground Disposal of Water
- **600 Series – Safety Regulations**
 - Rule 603 Drilling and Well Servicing Operations and High Density Area Rules
 - Rule 608 Coalbed Methane Wells
- **800 Series – Aesthetic and Noise Control Regulations**
 - Rule 805 Odors and Dust
- **900 Series – E&P Waste Management**
- **1000 Series – Reclamation Regulations**
 - Rule 1002.f Stormwater Management



CDPHE Consultation Triggers

- Operator seeks a variance from rules highlighted in 306.d
- Local Governmental Designee request
 - Within 14 days of receiving notification of Form 2 or 2A
- Modification to increase well density
- Basin-wide order that may impact public health safety, welfare or the environment

CDPHE Consultation Procedures

- 40 day consultation period
- Identify and mitigate potential impacts
- Permit conditions





Water

Waste

CDPHE
Regulatory
Authority



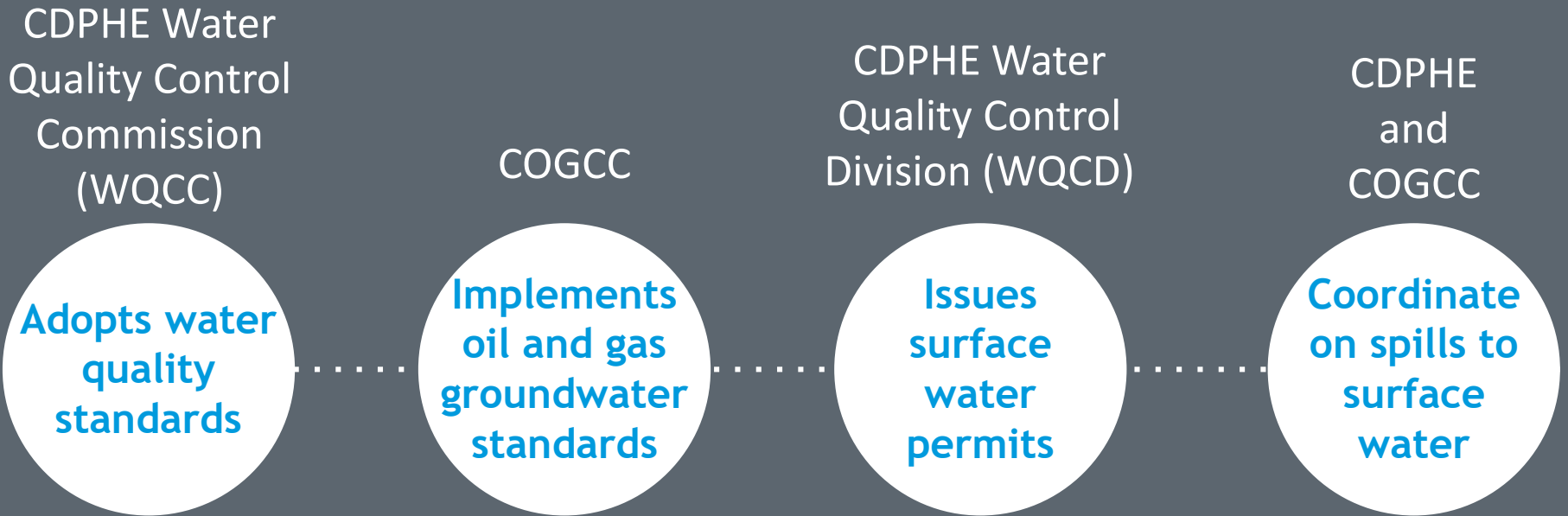
Air



COLORADO
Department of Public
Health & Environment

Regulation of State Waters

Water Quality Control Act defines roles and responsibilities



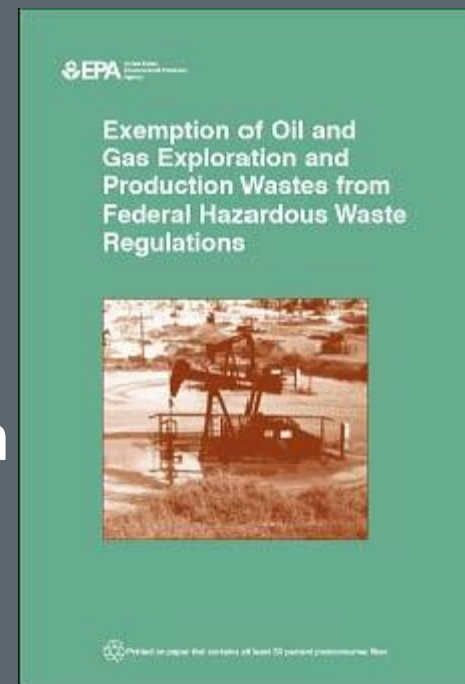
Stormwater Management

- Overlap between CDPHE and COGCC
- WQCD stormwater permit required for projects that disturb 1 acre or more
- Stormwater plan with best management practices



Waste Management

- Exploration and production (E&P) wastes are considered solid wastes
 - Drill cuttings, produced water, drilling muds, flowback
- Non-commercial waste management facilities are regulated by COGCC
- Commercial waste management facilities are regulated by CDPHE's Hazardous Materials and Waste Management Division (HMWMD)



Regulation of Air Quality



CDPHE's Air Pollution Control Division

- develops regulations
- issues permits
- monitors air quality
- conducts compliance and enforcement



Oil and Gas Air Quality Regulations

- Regulation 1 – Opacity (e.g. smoke and dust)
- Regulation 2 – Odor
- Regulation 3 – Statewide Permitting Requirements
- Regulation 6 – New Source Performance Standards (NSPS)
 - E.g. NSPS Kb (Storage Tanks) and NSPS OOOO (Crude Oil and Natural Gas Production, Transmission and Distribution)
- Regulation 7 – Control of Ozone Precursors and Oil and Gas Hydrocarbon Emissions
- Regulation 8 – Maximum Achievable Control Technology (MACT)
 - E.g. MACT HH (Oil and Natural Gas Production Facilities) and MACT HHH (Natural Gas Transmission and Storage Facilities)

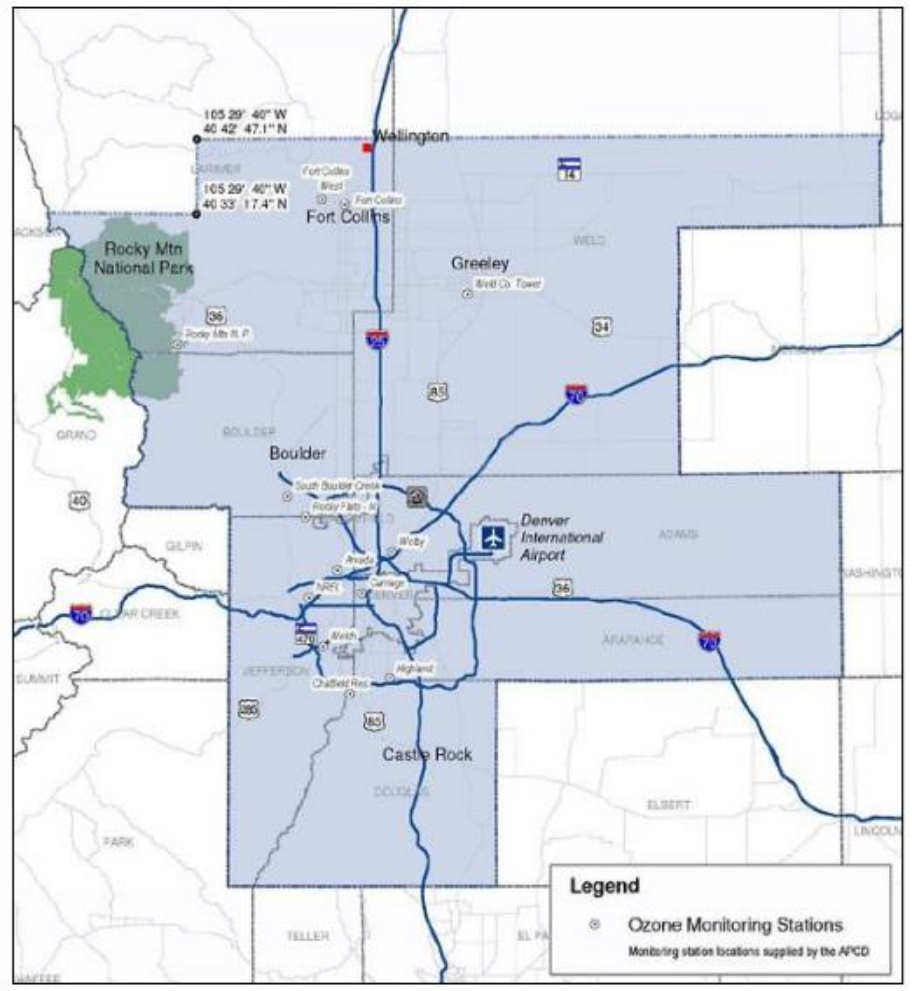
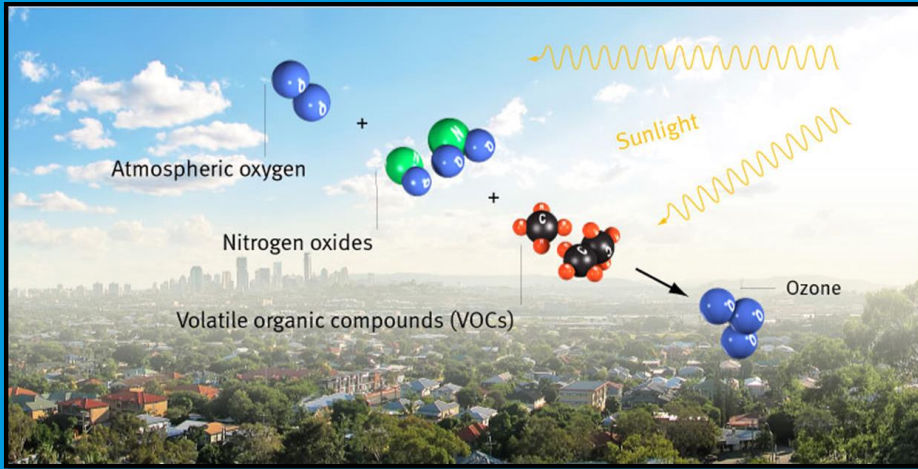


Air Permitting 101

- Air Pollution Emission Notice (APEN)
 - Authorizes legal emissions of air pollutants
 - Defines what pollutants can be emitted
 - Identifies emission reduction measures
 - Specifies how emissions must be reduced, measured and reported
- Small Business Assistance Program (SBAP)

Ozone Nonattainment

Ozone Formation

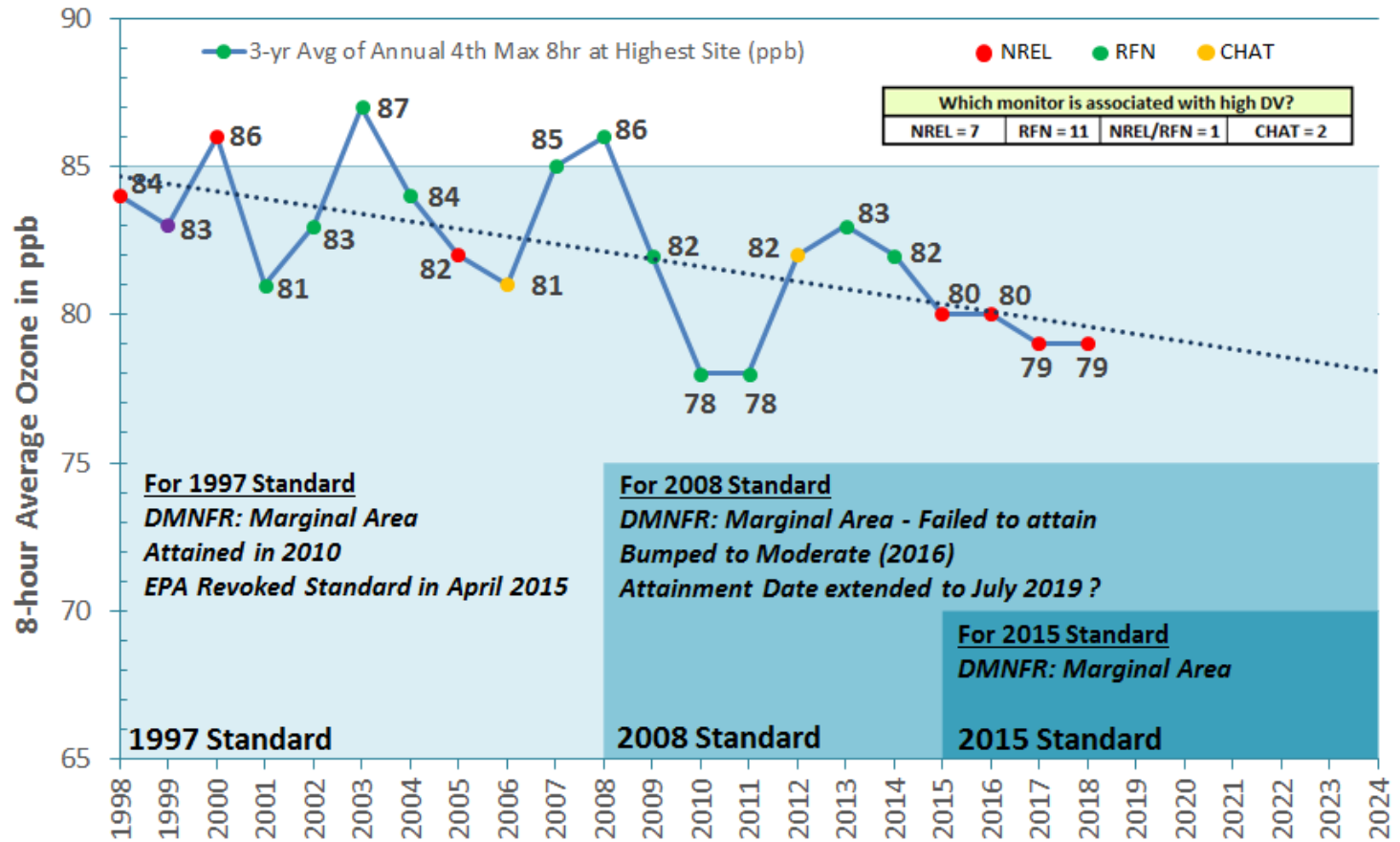


Nonattainment Area Map



Ozone Nonattainment

Design Value Trend in the Denver Metro North Front Range



*Design Value = 3-yr average of the annual 4th highest daily 8-hour maximum ozone concentration

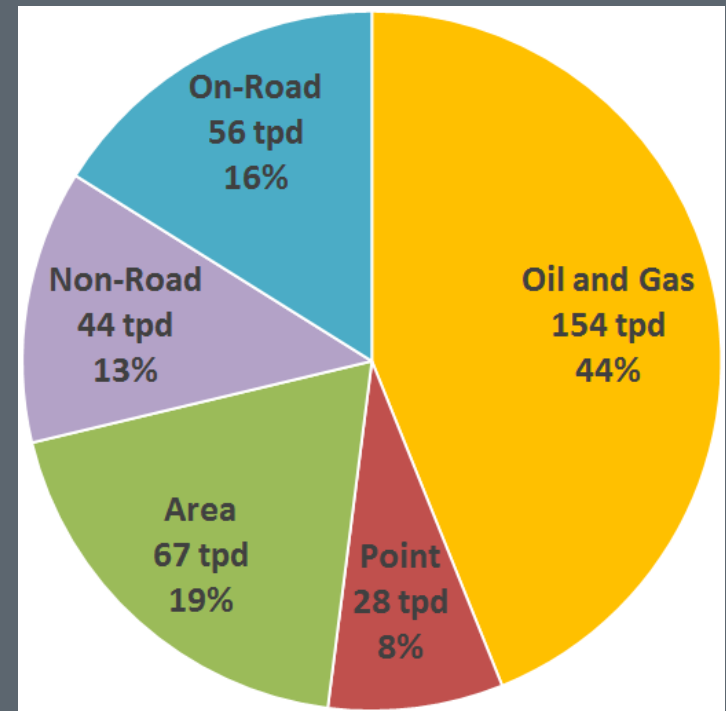
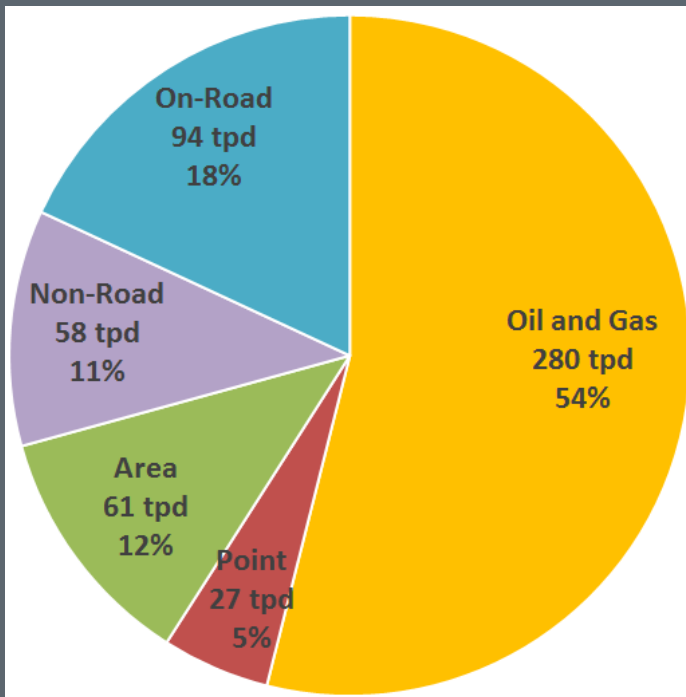


Nonattainment Area VOC Emissions

2011
518.8
tons/day

-33%
-169.6 tpd ↓

2017
349.2
tons/day



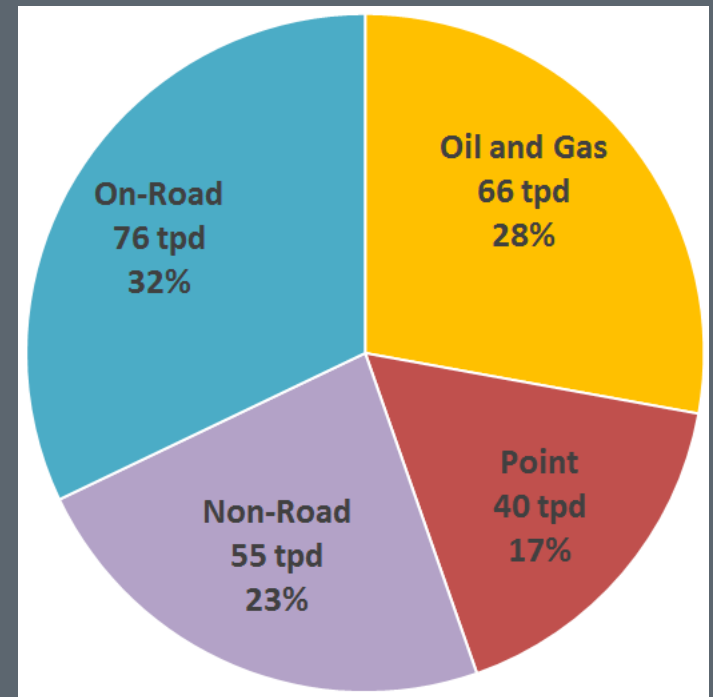
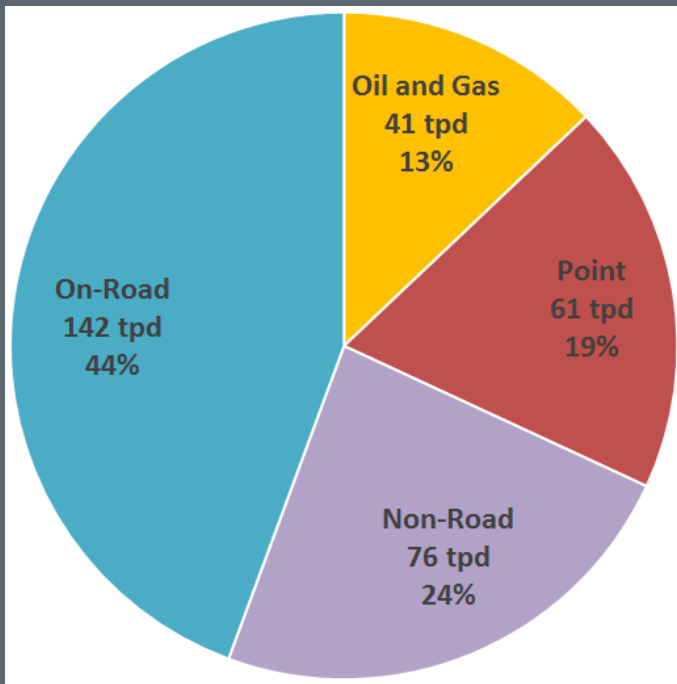
Nonattainment Area NOx Emissions

2011
320.8
tons/day

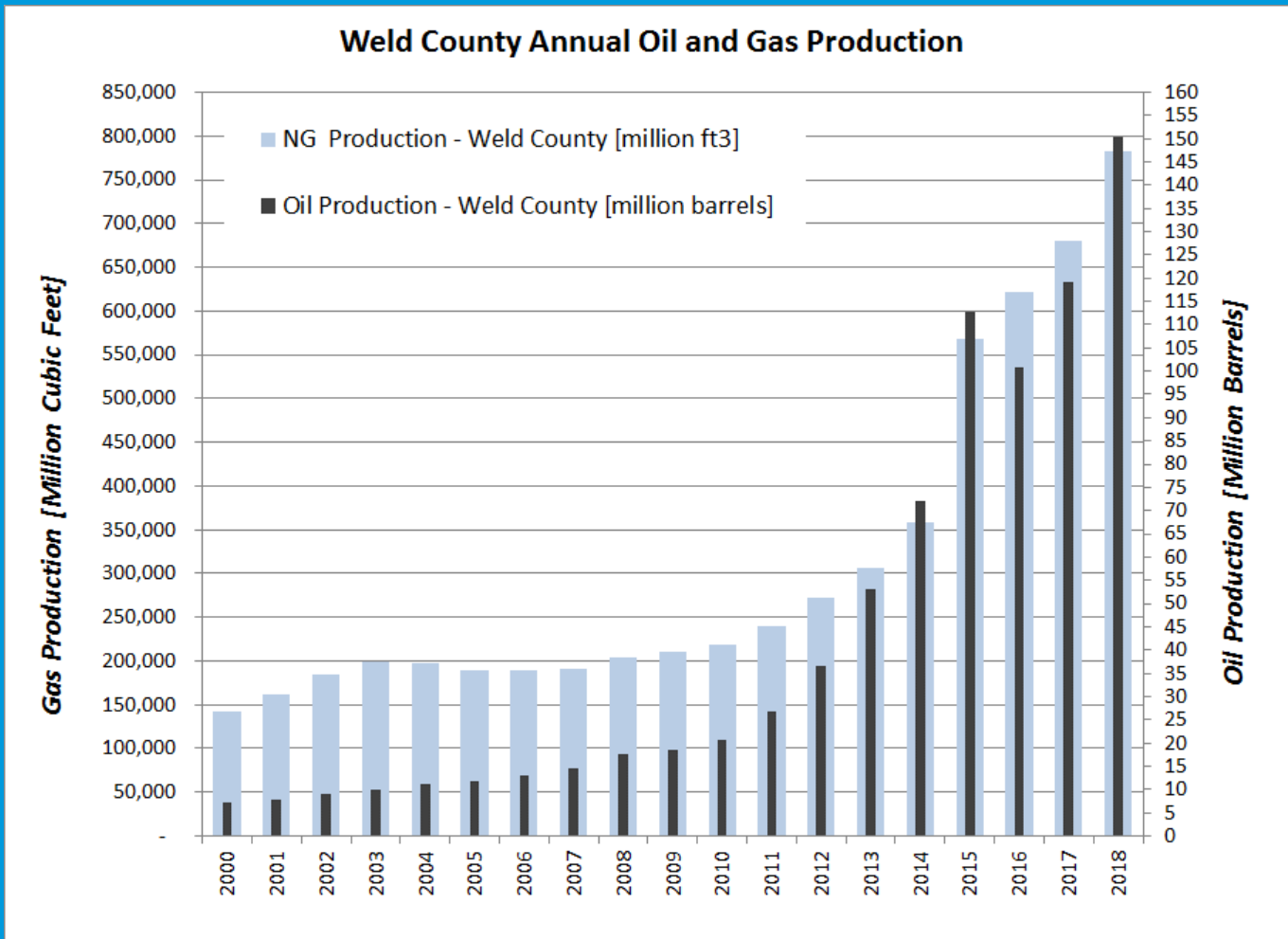
-27%
-86.8 tpd



2017
234.0
tons/day



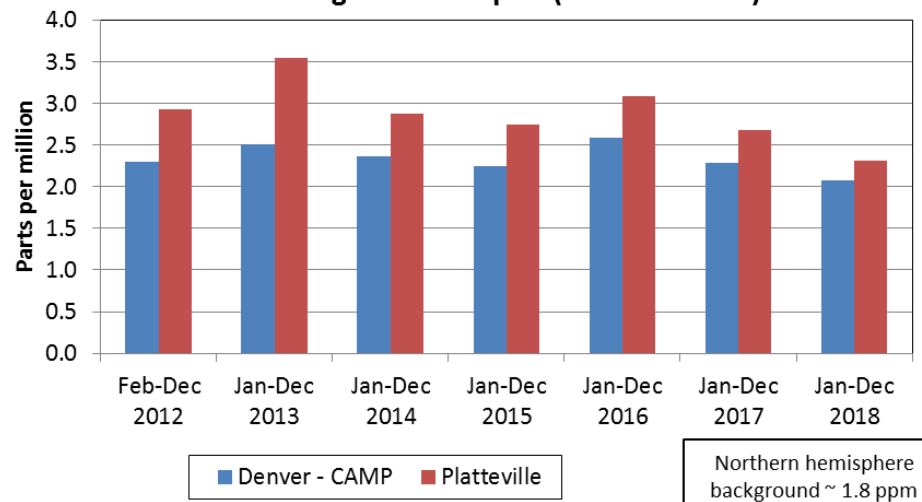
Growth in Oil and Gas Production



Decrease in Emissions

Methane

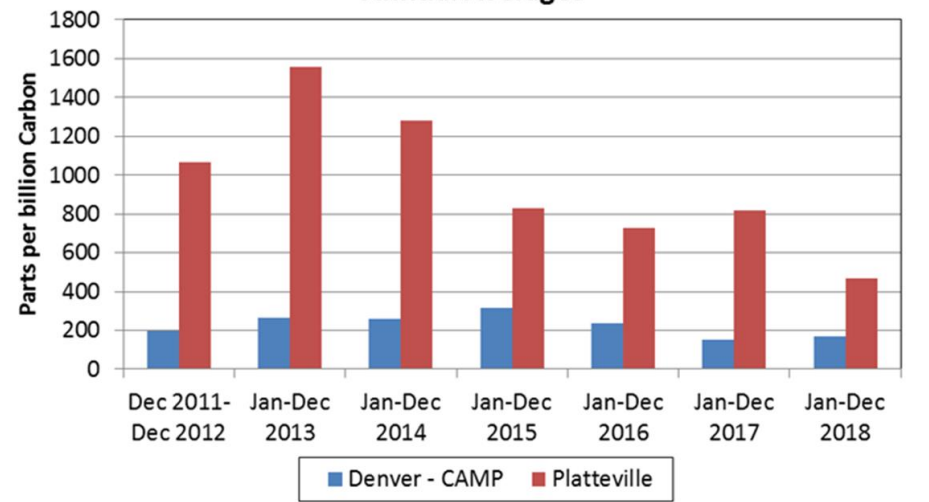
Average 3-hr. samples (6 a.m. - 9 a.m.)



Total Non-Methane Organic Compounds

Annual Averages

6 a.m. - 9 a.m. samples



APCD Technical Services Program Data Availability

Continuous data posted hourly and forecasting posted daily

<http://www.colorado.gov/airquality>

Example: No Action Day & No Advisory

Forecast - Denver Metro Air Quality	
Expected Air Quality for Your Health (Monday)	
MODERATE	
Expected Visibility (Tuesday)	
MODERATE	
Residential Burning Unrestricted 4PM Mon - 4PM Tue	

Example: Action Day & Advisory

Forecast - Denver Metro Air Quality	
Expected Air Quality for Your Health (Tuesday)	
MODERATE	ACTION DAY! FOR VISIBILITY
Expected Visibility (Wednesday)	
POOR	
Residential Burning Restricted 4PM Tue - 4PM Wed	

Oil and Gas Health Information and Response

- Collaboration between Disease Control and Environmental Epidemiology Division and Air Pollution Control Division
- Tracks and investigates health concerns
- Provides citizens with health science information



Investigation Process

- Track and investigate health concerns
 - Reported via CO HELP ([303-389-1687](tel:3033891687)) or online at www.colorado.gov/oghealth
- Coordinate with stakeholders
- Conduct air quality sampling
- Evaluate potential health risks
- Generate report



Investigation Results

- Over 650 concerns reported since 2015
- Northern Front Range counties account for ~76% of reported concerns
- 10 community exposure investigations, including 6 with the CAMML
 - One exposure investigation conducted near OG site through multiple phases of development
 - Multiple single samples (SUMMA canister)
 - Quarterly evaluations of ongoing air monitoring in Battlement Mesa

To date, we have not measured any concentrations above short or long-term health guideline values

(*conclusion only relevant to the time period and location in which samples were collected)

Senate Bill 19-181

- Directs Air Quality Control Commission (AQCC) to minimize emissions from oil and gas facilities
- Specifically directs consideration of certain strategies
- Clarifies AQCC authority to regulate emissions from pre-production activities, drilling and completion
- Part of a larger effort to improve air quality

Summary of SB 19-181 Rulemaking

Measure	New	Enhanced
Exploration and Production Facility Preconstruction Permit	X	
Storage Tanks		X
Leak Detection and Repair (LDAR)		X
Well Emissions		X
Pneumatic Controllers		X
Transmission Sector	X	
Statewide Annual Emission Report	X	



Proposed Revisions: Permitting Requirements

- Remove existing regulatory provision allowing operators of new oil and gas exploration and production facilities up to 90 days to apply for a permit
- Remove existing regulatory provision allowing oil and gas facilities that produce wastewater with less than 1% crude to forgo permitting
- Miscellaneous clarifications



Proposed Revisions: Storage Tanks

- Increase stringency of storage tank controls, inspections, recordkeeping and reporting
- Require new tanks to install auto-gauging devices to eliminate emissions when liquid levels are checked
- Require new and existing well production facilities statewide to control hydrocarbon emissions from loadout of tanks to trucks



Proposed Revisions: Leak Detection and Repair (LDAR)

- Semi-annual LDAR using an approved instrument monitoring method (AIMM) at well production facilities statewide with VOC emission greater than 2 tons per year (tpy)
- Semi-annual LDAR using an AIMM at natural gas compressor stations
- Maintain existing LDAR quarterly and monthly LDAR requirements
- Allow operators to utilize an alternative LDAR program if they can establish it is as or more effective than current regulatory LDAR program



Proposed Revisions: Well Emissions

- Expand statewide Best Management Practice requirements to include emissions during well unloading
- Enhance recordkeeping requirements

Proposed Revisions: Pneumatic Controllers

- Regulatory requirements based on strategy developed by Statewide Hydrocarbon Emission Reduction team (SHER) Team
- Requires companies to inspect pneumatic controllers for proper operation statewide
- Continue development of strategies concerning pneumatic devices that do not vent natural gas

Proposed Revisions: Transmission Sector

- Regulatory requirements based on strategy developed by Statewide Hydrocarbon Emission Reduction team (SHER) Team
- Requires companies to develop and implement company specific Best Management Practices statewide
- Establishes Steering Committee consisting of environmental/local government, industry, and APCD representatives

Proposed Revisions: Statewide Annual Report

- Require operators to provide a comprehensive annual emission report for their oil and gas facilities in Colorado
- Pollutants
 - Methane (first ever methane reporting rule in Colorado), ethane, VOC, CO, NOx
- Emission points, intended to be comprehensive inventory including:
 - Drilling/fracing/completion, separator venting, flaring, storage tanks, dehydrators, engines, component leaks, pneumatic devices, equipment blow-downs, well unloading, produced water handling



Proposed Rulemaking Schedule

- September 19- Request for hearing
- October 17- Party status requests due
- October 22- Mandatory status conference
- November 5- Prehearing statements due
- November 13- Prehearing conference
- November 25- Rebuttal statements due
- November 26- Public (non-party) comments due
- December 10, 11, 16- Public comment sessions in Rifle, Durango and Loveland
- December 17-19: Rulemaking Hearing



Air Quality Best Management Practices (BMPs)

BMPs	CDPHE Regulations
Continuous monitoring	Not explicitly required
Monthly/Quarterly/Semi-annual LDAR for well sites with tanks	Inspection tiers currently range from annual to monthly (but proposed rule would increase frequency from annual to semi-annual for some storage tanks and compressor stations)
Electric drill rigs	Not explicitly required
Electrified production facilities	Not explicitly required (except for pneumatics where technically feasible)
Ozone action days	Not explicitly required
Air modeling	Required for permits with 40 tpy NOx emissions increase
Exceedances of Health Guideline Values	Not explicitly required



Odor BMPs

BMPs	CDPHE Regulations
24 hour response to citizen complaints	Not explicitly required
Wipe down pipe	Storage tank guidelines suggest operators inspect for stains and visible evidence of leaks and clean it up
Use of filtration system to prevent or minimize odors	Not explicitly required
Use of filtration system to prevent or minimize odors	Not explicitly required
Contain fumes from drilling muds	Not explicitly required
Increase additive concentrations during peak hours	Not explicitly required
Use of low or no odor drilling mud	Not explicitly required



Rulemaking Resources

AQCC Website- <https://www.colorado.gov/pacific/cdphe/aqcc>

AQCC Rulemaking Process Guidebook-
https://drive.google.com/file/d/1uthevxG4eu0hV6jg5F5C_IZ8ggRUV9f2/view

Getting Involved in the Rulemaking Process-
https://drive.google.com/file/d/1ajTTHzQuJC1obnYmk35x7LV1_3Xe3LqW/view

AQCC Email- cdphe.aqcc-comments@state.co.us

APCD Fall 2019 Rulemaking Website-
<https://www.colorado.gov/pacific/cdphe/fall-2019-rulemaking>

APCD Email List- <https://www.colorado.gov/pacific/cdphe/air-mailing-lists>

APCD Email- cdphe.commentsapcd@state.co.us



Questions?

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