



*Colorado Emission Inventory
&
AQCC December GHG Rulemaking*

**Rocky Mountain States Section of the Air & Waste
Management Association**

Christy Woodward, P.E. – COGA Sr. Director Regulatory Affairs
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**COLORADO
OIL & GAS
ASSOCIATION**

Overview

- SB 19-181 – Protect Public Welfare Oil and Gas Operations
- SB 19-096 – Greenhouse Gas Emissions Data
- HB 19-1261 – Climate Action Plan to Reduce Pollution
- HB 21-1266 – Environmental Justice Disproportionately Impacted Communities
- Oil and Gas Inventory
- GHG Targets/2005 Baseline
- Upcoming Oil and Gas Rules
- December 2021 Rulemaking

SB 19-181 – Protect Public Welfare Oil and Gas Operations

- Minimize emissions from upstream, gathering and boosting, transmission and storage
- Directed AQCC to consider:
 - LDAR: At least semi-annual at wells
 - LDAR: “regular basis” at transmission pipelines and compressor stations
 - Continuous methane emissions monitors at large facilities and near dwellings
 - Reduced or non-emitting pneumatic devices
- AQCC may phase in requirements so long as inspections at phased facilities are increased
- Allocated authority to COGCC to regulate air pollution from facilities during pre-production, drilling and completions

SB 19-096 – Greenhouse Gas Emissions Data

- By June 2020, AQCC must adopt GHG reporting rules
 - Oil and gas sector relies on Reg 7 annual emissions
- Division must recalculate Colorado's 2005 GHG baseline inventory
 - Will finalize Fall 2021
- Division must update the statewide GHG inventory by sector at least every 2 years
 - Allow for reasonable progress of tracking reductions
 - Include forecasts for milestone years 2025, 2030, 2035, 2040, and 2045
- By July 1, 2020, AQCC must publish notice of a hearing on proposed rules to cost-effectively allow the state to meet its GHG emission reduction goals
 - Litigation pending

HB 19-1261 – Climate Action Plan to Reduce Pollution

- Set statewide goals to reduce emissions from 2005 baseline:
 - 2025 GHG Emissions by 26%
 - 2030 GHG Emissions by 50%, and
 - 2050 GHG Emissions by at least 90%
- “Reducing Greenhouse Gas Pollution will create new markets, spur innovation, drive investments in low-carbon technologies, and put Colorado squarely on the path to a modern, resilient, one-hundred-percent clean economy.”

HB 21 - 1266 – Environmental Justice Disproportionate Impacted Community

- Defined Disproportionately Impacted Communities
- Establishes an Env Justice Taskforce, EJ Advisory Board & Ombudsperson
- Rulemaking to establish fees for GHG emissions
- Rulemaking to ID DIC's and revisit the list at least every 3 years and revisit the determination of thresholds of affected pollutants within these communities
- By 6/1/23 undertake rulemaking to set modeling and monitoring requirements for new and modified sources in DICs & set processing fees for direct and indirect implementation costs
- Rulemaking to set a paper ton fee for GHG emissions w/annual adjustment
- Requires violating entities to conduct projects to mitigate excess emission in addition to civil penalties

HB 21 - 1266 – Environmental Justice Disproportionate Impacted Community

- Establish grants to benefit DI Communities
- Placed reduction caps/targets in statute
- Establishes a GHG inventory from all regulated sources, and establish a trading program using GHG credits (at signing Governor EO preventing the creation of a trading program)
- EIA's to include social cost of GHG's
- Established long term funding for the Just Transition Office
- Enabled language of the CEO to focus on assisting the statewide transition to a low-carbon, clean energy economy

HB 21 - 1266 – Environmental Justice Disproportionate Impacted Community

- DIC Definition: A disproportionately impacted (DI) Community is a community in a census block where
 - the proportion of low-income households is greater than 40%;
 - the proportion of minority households is greater than 40%;
 - the proportion of cost-burdened household is greater than 40%;
 - or a community identified by the state as experiencing a history of anti-indigenous, anti-immigrant, anti-Hispanic, or anti-black laws;
 - or a community where socioeconomic stressors, disproportionate environmental burdens, and vulnerability to environmental degradation may affect health and the environment and contribute to disparities (Section 3).

HB 21 - 1266 – Environmental Justice Disproportionate Impacted Community

- Rulemaking, no later than Jan 1, 2022, to establish additional permitting requirements for sources that affect DI communities and for GHG emissions reductions.
- This includes mandatory emissions caps/targets:
 - Utilities – 48% by 2025 and 80% by 2030, from 2005 levels
 - Oil & Gas – 36% by 2025 and 60% by 2030, from 2005 levels
 - Industrial & Manufacturing – 20% by 2030, from 2015 levels
- Rules must include protections for DI communities, more robust monitoring, leak detection and repair requirements,

HB 1266 – Environmental Justice Disproportionate Impacted Community

- Creates an Environmental Justice Action Task Force within CDPHE to propose recommendations to the general assembly regarding the practical means of addressing environmental justice inequities.
- Redefines disproportionately impacted communities
 - First focuses on low-income households, cost burdened housing and minority communities where they are greater than 40 percent of a census block.
 - Then further expands the definition to include a community that is vulnerable to environmental degradation or experiences disproportionate environmental burden.
- Also includes emission reduction caps for the oil and natural gas industry – 36% by 2025 and 60% by 2030 (2005 baseline).
- Also includes emission reduction caps for utility and manufacturing sectors.
- Establishes new fees for GHG emissions for O&G sector, modeling and monitoring requirements, establishes an environmental ombudsperson, environmental justice advisory board, includes additional permitting requirements, emission reduction rulemakings to ensure compliance with goals, more robust LDAR requirements, and a possible GHG credit trading/accounting system.

2019 Rulemaking Established Inventory

- June 30, 2021 oil and gas operators and midstream companies submitted a robust inventory for the later half of 2020
- Inventory includes traditional pollutants, HAPs and GHG's
- In the fall of 2019, the Colorado Energy Office with the support of APCD established a 2005 baseline in accordance with HB20-1261

AQCC Sector-Specific 2030 GHG Targets

Sector	2005 GHG Pollution Baseline (Million Metric Tons CO ₂ e)	2030 GHG Emissions Target (Million Metric Tons CO ₂ e)	Percent Reduction from 2005 Baseline
Electricity	40.28	8	80%
Oil and Gas	20.17	8	60%
Transportation	30.17	18	40%
Residential, Commercial Industrial Fuel Use (Gas Utilities)	24.65	20	19%
Other	23.42	15.6	33%
Total	139.22	69.6	50%

*AQCC October 23, 2020 Resolution

2005 GHG Baseline is Critical

- CDPHE used EPA's State Inventory Tool for most sectors
 - National data, scaled to Colorado
- CDPHE's 2005 oil and gas baseline GHG inventory:
 - Used 2008 aerial surveys, production data, and "catchall" upstream leak rates
 - Unclear methodology for gas process plants.
 - COGA asked to include them
 - Estimated leak rates for transmission and distribution
 - Estimated combustion emissions from fuel usage
 - Currently tracked in Residential, Commercial and Industrial sector
 - Moving to Oil and Gas sector
- Environmental NGOs claim 2005 baseline too high
- Disputes over methane GWP

December GHG Rulemaking

- Direct Midstream Regulation (Pigging)
 - Enhanced LDAR (more for DI Communities)
- Electrification Steering Committee
- Enclosed Combustion Device Testing
 - Includes inlet flow meter requirement
- Well Unloading (use of artificial lift & control)
- E&P GHG Intensity Program
- Enhanced LDAR (more for DI Communities)
- Emissions Inventory - Expanded

ECD Testing

Table 1 – Enclosed Combustion Device Inspections

<u>Location of enclosed combustion device</u>	<u>Compliance deadlines</u>					
	<u>Dec. 31, 2022</u>	<u>Dec. 31, 2023</u>	<u>Dec. 31, 2024</u>	<u>Dec. 31, 2025</u>	<u>Dec. 31, 2026</u>	<u>Dec. 31, 2027</u>
	<u>Percentage (%) of enclosed combustion devices that must be tested</u>					
<u>Within a DI community</u>	<u>At least 25%</u>	<u>At least 50%</u>	<u>At least 75%</u>	<u>At least 100%</u>	<u>NA</u>	<u>NA</u>
<u>Within the 8-hour ozone control area and northern Weld County</u>	<u>At least 20%</u>	<u>At least 40%</u>	<u>At least 60%</u>	<u>At least 80%</u>	<u>100%</u>	<u>NA</u>
<u>Outside the 8-hour ozone control area and northern Weld County</u>	<u>At least 10%</u>	<u>At least 20%</u>	<u>At least 35%</u>	<u>At least 50%</u>	<u>At least 75%</u>	<u>100%</u>

Well Unloading

II.G.1.c. Beginning January 1, 2023, owners or operators must use the following best management practices to minimize hydrocarbon emissions and the need for emissions from the well associated with all downhole well maintenance and well liquids unloading, including well swabbing, consistent with well site conditions and good engineering practices

II.G.1.c.(i) Use best engineering practices in the design and construction of oil and gas wells and well production facilities to minimize the need for well liquids unloading and other downhole well maintenance as the well ages.

II.G.1.c.(ii) Attempt to create differential pressure to unload the liquids from the well without emitting.

II.G.1.c.(iii) Monitor wellhead pressure and flow rate of the vented natural gas.

II.G.1.c.(iv) Reduce wellhead pressure before releasing gas to the atmosphere.

Well Unloading

II.G.1.c.(v) Close wellhead vents to the atmosphere and return the well to normal production operation as soon as practicable.

II.G.1.c.(vi) Use one of the following methods to reduce emissions during well liquids unloading, including well swabbing

II.G.1.c.(vi)(A) Installation and use of artificial lift, such as a plunger lift, with an automated lift controller where automation is technically feasible.

II.G.1.c.(vi)(B) Installation and use of a control device that achieves at least 95% control of hydrocarbon emissions. Portable combustion devices may be used to comply with Section II.G.1.c.(vi)(B).



Christy.Woodward@coga.org

Questions?

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Air Regulations – 2019-2021

- 2019 – Passage of SB 19-181, SB 19-096, & HB 19-1261
- 2019 December
 - Reg 7 – tanks, LDAR, PC find & fix, transmission
 - Reg 3 – E&P permit deadline, gas line venting
- 2020 May – Reg 22 GHG reporting
- 2020 September – Reg 7 engines, preproduction, monitoring
- 2020 COGCC Mission Change Rulemaking
- 2020 December – Reg 7 RACT (50-100 tpy sources), proximity LDAR
- 2021 February – Reg 7 non-emitting Pneumatic Controllers
- 2021 July – Reg 7 process heater RACT/Procedural Rules
- 2021 August – Employee Traffic Reduction Program
- 2021 December – GHG measures