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Colorado Department of Public Health and Environment  
Air Pollution Control Division  
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**Re: Draft Colorado Greenhouse Gas Inventory**

To Whom It May Concern:

WildEarth Guardians submits the following comments on the Colorado Department of Public Health and Environment, Air Pollution Control Division's ("APCD's") Draft Colorado Greenhouse Gas Inventory for 2019.

While the draft inventory is robust and insightful, we are concerned that it falls short of fully informing the public and policymakers of Colorado's full climate footprint and the opportunities and challenges ahead in curtailing greenhouse gas emissions. We have two primary concerns with the current inventory:

**1. Methane Global Warming Potential**

With regards to methane emissions, the report does not rely on up-to-date scientific data regarding methane's global warming potential, including more recent reports of methane's global warming potential by the Intergovernmental Panel on Climate Change ("IPCC") presented in the Panel's Fifth Assessment Report ("AR") released in 2014. The IPCC reported in its Fifth AR that methane has a 20-year global warming potential of 84 and a 100-year global warming potential of 28. The APCD's draft inventory relies on a 100-year global warming potential for methane of 25.

Although we understand the APCD desires the current inventory to be "consistent" with other inventories, including the U.S. Environmental Protection Agency's ("EPA's") federal inventory of greenhouse gas emissions, it makes no sense for Colorado's inventory to not present updated and accurate information regarding methane emissions. Especially given that the EPA

under the current Administration is rolling back climate policies and undermining progress in reducing U.S. greenhouse gas emissions, Colorado must strive to do better.

At a minimum, the APCD must present accurate and up-to-date methane emissions data in any final greenhouse gas inventory for informational purposes to ensure that the public and policymakers have access to reliable information. Although we strongly believe that accurate methane emissions data is critical for ensuring an effective formal inventory, it behooves the APCD to at least present accurate data for informational purposes. The APCD took such an approach to presenting electricity consumption emissions, highlighting and disclosing these emissions in the draft inventory for “informational” purposes.

We further urge the APCD to provide methane emissions data based on its 20-year global warming potential. Again, we understand the APCD relied on a 100-year global warming potential to ensure consistency between Colorado’s inventory and the EPA’s. However, disclosing methane emissions based only on its 100-year global warming potential effectively downplays, if not covers up completely, the potential for making significant near-term gains in reducing greenhouse gases and advancing climate progress in Colorado. Given this, we urge the APCD to at least disclose methane emissions based on a 20-year global warming potential for informational purposes.

## **2. Indirect, or End-Use, Emissions From Fossil Fuel Production**

In the final inventory, we urge the APCD to present indirect, or end-use, greenhouse gas emissions related to coal, oil, and gas production in Colorado. While we understand such emissions have not been included in prior inventories, we believe that now is the time to include such inventory data given advancements and refinements in calculating and presenting such emissions data.

A full disclosure of end use, or consumption-related (i.e. downstream), emissions associated with fossil fuel production in Colorado is necessary to fully understand and address the complete climate footprint of the state and its greenhouse gas-producing activities. Already, federal agencies are calculating and disclosing such emissions in relation to the production of federal coal, onshore oil and gas, and offshore oil and gas. In the fall of 2018, the U.S. Geological Survey (“USGS”) released a comprehensive inventory of greenhouse gases associated with federal fossil fuel production, providing both direct and indirect emissions data. This report is attached as Exhibit 1. The USGS’s data confirmed that the vast majority of greenhouse gases associated with fossil fuel production were indirect emissions, including emissions produced as a result of coal combustion and oil and gas refining and combustion.

In addition to the USGS’s report, the U.S. Bureau of Land Management routinely discloses greenhouse gas emissions associated with federal fossil fuel production in conjunction with its environmental reviews of new coal and oil and gas projects. For example, as part of the agency’s proposed Resource Management Plan for the Royal Gorge Field Office of eastern Colorado, the Bureau of Land Management estimated end-use greenhouse gas emissions associated with projected oil and gas production. The table below, which is from the agency’s

draft environmental impact statement for its proposed Royal Gorge Resource Management Plan (see [https://eplanning.blm.gov/epl-front-office/projects/lup/39877/175066/212661/Volume-3\\_DRAFT\\_Eastern\\_Colorado\\_RMP.pdf#page=87](https://eplanning.blm.gov/epl-front-office/projects/lup/39877/175066/212661/Volume-3_DRAFT_Eastern_Colorado_RMP.pdf#page=87)), demonstrate that disclosure of end-use emissions is not only possible, but routine.

**Table B.19. Estimated Cumulative GHG Emissions from Downstream Oil and Gas Use (RGFO Area, 10 Years)**

Alternative	Gas Production (Mcf)	Oil Production (bbl)	GHG Emissions (Metric Tons)			
			CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Alternative A	159,652,374	26,365,054	19,016,727	Alternative A	159,652,374	26,365,054
Alternative B	143,782,588	20,639,162	15,910,355	Alternative B	143,782,588	20,639,162
Alternative C	161,653,969	27,087,238	19,408,522	Alternative C	161,653,969	27,087,238
Alternative D	162,368,824	27,345,161	19,548,448	Alternative D	162,368,824	27,345,161

bbl barrels  
Mcf thousands of cubic feet

The need to disclose end-use emissions is especially critical for ensuring Colorado accounts for the impacts of out-of-state fossil fuel exports. It is simply common sense that reducing emissions statewide amounts to nothing if coal, oil, and gas are going to be produced and shipped for burning outside of Colorado. It is important to highlight that nothing in Executive Order D-004-08, Senate Bill 19-096, or House Bill 19-1261 indicate that when it comes to fossil fuel production in Colorado, greenhouse gas emissions accounting should be limited only to direct emissions.

The critical importance of disclosing end-use emissions is underscored by the fact that these emissions are massive. Just in terms of oil and gas production in Colorado, consumption-related emissions appear to dwarf direct emissions. According to the Colorado Oil and Gas Conservation Commission, the state produced more than 2.2 billion cubic feet of gas in 2018 and more than 170 million barrels of oil. Using EPA emission factors (<https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references>), which indicate that 0.0551 metric tons of carbon dioxide are released from every thousand cubic feet of natural gas produced and 0.43 metric tons of carbon dioxide are emitted from every barrel of oil produced, this means that Colorado’s oil and gas production in 2018 led to the release of more than 200 million metric tons of carbon dioxide.

This is nearly twice the amount of direct greenhouse gas emissions reported in the current draft inventory, underscoring that these indirect emissions must be acknowledged and disclosed if Colorado has any hope of implementing effective statewide emission reduction strategies. Taking into account indirect greenhouse gases from coal mining in Colorado, it’s clear that end-use emissions must be factored into the state’s inventory.

**Indirect greenhouse gas emissions associated with oil and gas production in Colorado. Based on COGCC production data and EPA emission factors, total end-use emissions are greater than 200 million metric tons of carbon dioxide.**

<b>Natural Gas (MCF)</b>	2,288,509,779
<b>Nat Gas GHGs (metric tons CO2)</b>	126,096,888.8229
<b>Oil (barrels)</b>	177,652,620
<b>Oil GHGs (metric tons CO2)</b>	76,390,626.6
<b>TOTAL CO2</b>	<b>202,487,515.4229</b>

We understand that the APCD may worry about double-counting greenhouse gases in accounting for the indirect emissions from fossil fuel production. Given this, we urge the APCD to focus and analyze how much coal, oil, and gas is shipped out of state for consumption and base its inventory on this assessment. Fundamentally, Colorado’s greenhouse gas inventory must reflect the state’s total climate footprint and not gloss over the consequences of exporting fossil fuels to other state or countries.

Thank you for the opportunity to comment.



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