

# EVALUATING THE IMPLICATIONS OF ACCURATE METHANE EMISSIONS REPORTING ON THE WASTE EMISSIONS CHARGE IN THE INFLATION REDUCTION ACT

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## ABSTRACT

Addressing methane emissions in the oil and gas industry is an important component of global climate action because methane is a potent, short-term climate pollutant. Effective mitigation of methane emissions requires accurate emissions accounting. In 2023, the U.S. Environmental Protection Agency (EPA) released the proposed Greenhouse Gas Reporting Program (GHGRP) regulations, which includes amendments to rules that describe methods for reporting methane emissions from oil and gas facilities. Recent measurements have found that methane emissions in oil and gas industry are greater than reported emissions, leading to an undercounting of the total methane emissions for the U.S. The proposed regulations update emissions factors and equations used in reporting, add new emission source categories, and new or revised reporting methods, such as the ‘other large release events.’

In this work, I analyze and compare methane emissions estimates using engineering calculations from an upstream natural gas operator using the current and proposed EPA GRHRP regulations. I consider these estimates and the implications for the methane waste emissions charge in the Inflation Reduction Act of 2022. I find mixed effects. The proposed changes will lead to increases in reported emissions, such as in the reporting categories for malfunctioning intermittent pneumatic bleed devices and two-stroke lean-burn reciprocating internal combustion engines. In other categories the changes will reduce reported emissions, such as in the reporting categories for properly operating intermittent bleed pneumatic devices and four-stroke rich-burn engines. The proposed changes will also change the overall emissions intensity for the company’s operations. Evaluating the implications for the proposed GHGRP regulations is important to understand for the updated reporting requirements as well as the methane fee and the potential climate benefits for reducing methane emissions in the oil and gas industry.

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