



**Karen Knutson**

Vice President & General Manager, Government Affairs

**October 6, 2022**

**Via online submission:** [www.regulations.gov](http://www.regulations.gov)

The Honorable Michael S. Regan  
Administrator  
Mail Code 28221T  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

**Re: Docket ID Number: EPA-HQ-OAR-2019-0424**

Chevron Corporation ("Chevron" or "we") is one of the world's leading integrated energy companies. We believe affordable, reliable and ever-cleaner energy is essential to achieving a more prosperous and sustainable world. In the United States (U.S.), Chevron has active exploration and production operations for crude oil and natural gas in several states and the Gulf of Mexico; manufactures transportation fuels, lubricants, petrochemicals and additives, including at five U.S. refineries; and develops technologies that enhance our business and the industry. We are focused on lowering the carbon intensity in our operations and growing lower carbon businesses along with our traditional business lines.

Through the Greenhouse Gas Reporting Program (GHGRP), the U.S. Environmental Protection Agency (EPA) has been a global leader in mandatory reporting and transparency for GHG emissions information across sectors. From our perspective, the GHGRP includes important elements around:

- *Comparability* – Emission reporting under the GHGRP requires the use of specific emission calculation methods and factors that are the same for all reporters in the segment.
- *Transparency* – Nearly all reported GHG emission information, with exceptions for confidential business information, is publicly accessible through EPA websites to anyone.
- *Relevance* – Most segments under the GHGRP include source level information for specific assets. This allows for direct comparison of emission intensity performance across similar types of assets and provides granular emission information for interested stakeholders at the asset or facility level.

Chevron reports to the GHGRP under many subparts across our operations in the U.S. and appreciates the opportunity to provide public comments.

*Subpart W – Petroleum and Natural Gas Systems, including methane reporting*

Requirements to report methane emission data under Subpart W over the last decade has helped Chevron to focus on specific methane emission sources within our operations, reduce methane emission intensity through facility design changes and best practice deployment, and benchmark performance directly against peers based on publicly-available data. Based on 2020 data from Subpart W, Chevron's U.S. onshore production sector methane intensity was 85% lower than the U.S. industry average. We continue to design, construct, and operate facilities with strategies to help prevent methane emissions.

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We agree with EPA that there are opportunities to improve the quality of data provided under the GHGRP. For the proposed revisions to Subpart W, we appreciate EPA efforts to update methane emission factors using the latest field measurement studies, including work on equipment leaks and pneumatic controllers that was co-authored by our experts. We also support the provision of additional reporting guidance aimed at increasing calculation input consistency across Subpart W reporters. If there are questions on studies in which Chevron has participated, we would be pleased to meet with EPA during the rulemaking process.

In our view, methane reporting under the GHGRP should move toward the use of empirical data for measurement-informed reporting. This requires both advanced technologies for direct measurement of methane that work at-scale across dispersed assets in the U.S. oil and gas sector and protocols for consistent incorporation of information from these advanced technologies into emission inventories. At Chevron, we have trialed thirteen advanced methane detection devices across aircraft, drone, satellite, and continuous monitoring platforms to understand what works across different assets and geographic locations. We have also supported a multi-stakeholder initiative with Veritas, a GTI Energy Methane Emissions Measurement and Verification Initiative, that aims to develop the technical protocols for measurement, reconciliation, and assurance that would be needed for consistent, measurement-informed emission reporting. Based on our work with advanced technologies and protocols, we believe that the GHGRP will continue to need both emission factors for smaller dispersed sources and data from advanced technologies to reach a goal of empirical methane reporting on a national scale and that future updates to Subpart W will be needed as technologies and protocols mature.

We support the intent of the new reporting category of 'other large release events', which is defined in the proposed rule as at least 250 metric ton CO<sub>2e</sub> per event, and the ability to use engineering estimates associated with well blowouts, blowdowns, and other types of releases. While this proposed category is a good step toward improved methane reporting and such emission sources should be reported, we believe that additional information and a lower threshold per event than the proposed 250 metric ton CO<sub>2e</sub> will ultimately be needed for measurement-informed reporting under Subpart W and in support of the Methane Emission Reduction Program (MERP) of the Inflation Reduction Act of 2022. In our view, methane reporting could be further strengthened with methane data from voluntary or regulatory leak detection and repair (LDAR) programs centered on alternative methane detection technologies. We believe a lower threshold for reporting under the 'other large release events' category should be developed based on reasonable minimum detection limit standards for advanced technologies, while allowing operators flexibility to use best available engineering estimates for event duration and avoiding double-counting of emissions detected by advanced technologies that are already reported under the relevant current source category in Subpart W. We recognize updating the 'other large release events' reporting based on advanced technology screenings will require additional work by EPA and follow-on rulemakings.

To enable measurement-informed reporting at the national scale and to support the MERP, EPA and other federal and state agencies must actively promote the use of alternative technologies, like aircraft and drones, and must align requirements across ongoing and anticipated rulemakings (e.g., OOOOa, OOOOb, OOOOc, GHGRP, state regulations). Specifically, EPA should incentivize the use of alternative technologies, which are a needed pre-requisite for measurement-informed methane reporting at the national scale. As it is not a quantitative technology, optical gas imaging (OGI) will likely be unable to provide empirical data for emission reporting across source categories beyond equipment leaks.

We understand that EPA considers many factors for onshore technology selection and requirements for its regulations. We anticipate that several types of technologies could meet needed performance requirements and support flexibility for operators to determine those best suited to their operations. However, our direct experience with onshore aircraft-based technologies has pointed to multiple benefits that would support EPA's methane reporting and reduction goals:

- *Mapping to source types* – Certain aerial surveys have sufficient resolution to map detected plumes to individual pieces of equipment on a site. We believe this type of granular information would be helpful in updating emissions by source category in the GHGRP.
- *Existing support from regulated entities* – Many leading companies, including Chevron, have increasingly incorporated aerial surveys into their voluntary methane reduction programs.
- *Detection limits* – There are alternative technologies that can meet detection thresholds of 10 kg/hr. For the production sector, an aerial service provider (Bridger Photonics) advertises a detection limit of 3 kg/hr with a 90% probability of detection. When combined with emission-factor based estimates for smaller individual emission sources (pneumatics, etc.) that already are included in the GHGRP, we believe that this approach would cover most emissions from oil and gas production operations.
- *Compatibility with annual reporting cycles* – With appropriate timing for aerial vendors to scale-up their services, we believe that the survey speed and timelines for information receipt for operators would be compatible with annual GHGRP reporting cycles at reasonable cost to reporting entities.
- *Considerations for small operators* – We believe cooperative aerial surveys in production basins can be cost-effective for smaller operators since their sites can be grouped with others nearby, which can increase access for smaller operators to new technology.

In our view, there must be a concerted effort at EPA, other federal agencies, and state agencies to align requirements for compliance and emissions reporting to ensure that these programs are successful. Advanced methane monitoring technologies are the key to aligning requirements and implementing measurement-informed reporting across all methane-emitting sectors. These techniques require different considerations than OGI-based surveys and data reporting frameworks. We are happy to meet with EPA during the rulemaking process for further discussion of this important topic.

### *Purchased Energy Products*

As part of the proposed rule, EPA has asked for comment on the best methods for including 'purchased energy' related to the provision of off-site purchased electricity and thermal (heating, cooling, steam) resources. For corporate emissions reporting, these are often called Scope 2 emissions, which Chevron has reported for a number of years as part of our voluntary disclosures. While EPA likely already receives direct, or Scope 1, GHG emissions data associated with the electricity and thermal resources from sectors like power plants, Chevron acknowledges there may be additional value for Scope 2 reporting across sectors to help understand and benchmark performance.

As part of our Scope 2 emissions reporting journey for voluntary disclosures, we have identified several factors that we believe are key for the successful implementation of such requirements at the national level:

- When sufficient information is available, we believe reporters should use a *market-based* approach for Scope 2 emissions reporting and be able to include emissions

reductions associated with retired renewable energy certificates (RECs) that are applied to the specific GHGRP facility for which emissions are reported.

- Given some companies have limited experience reporting Scope 2, we believe there should be an option to use the location-based approach, which is less information intensive. Emission factors for this approach for electricity use could come from sources such as the “Power Profiler” tool that EPA publishes.
- We believe facility-level applicability thresholds should continue to be based on direct, Scope 1 emissions. In our view, EPA emission visualization tools like FLIGHT should clearly make the distinction between Scope 1 and 2 emissions at the facility.
- We believe that national emission estimates like the U.S. GHG Inventory should continue to be based on direct emissions by sector (Scope 1) to avoid double counting of emissions at the country level.

To be consistent with other reporting under the GHGRP, we recommend that purchased energy products be reported in terms of GHG emissions rather than energy use.

#### *Subpart P – Hydrogen Production*

For Subpart P, we support the proposed revision that addresses emerging feedstocks for hydrogen production and provides alternative methods to determine their composition for GHG reporting. Chevron seeks to grow hydrogen production to 150,000 tonnes per year by 2030. As such, we appreciate EPA’s early attention on this important topic.

Thank you for the opportunity to submit these comments to the rulemaking docket. If you have questions regarding the comments above, please contact Jay Thompson at (202) 812-2440, or [thompsonjr@chevron.com](mailto:thompsonjr@chevron.com), or Steven Yang at (510) 619-5235, or [stevenyang@chevron.com](mailto:stevenyang@chevron.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Knutson". The signature is fluid and cursive, with the first name "Karen" and last name "Knutson" clearly distinguishable.

Karen Knutson  
Vice President & General Manager, Government Affairs