

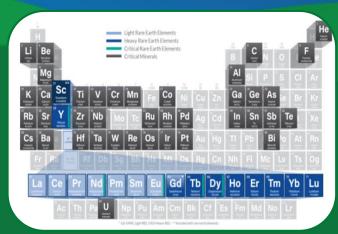
Overview of the International Greenhouse Gas Supply Chain MMRV Framework

The Role of Monitoring, Reporting, and Verification (MRV) in Addressing Methane Emissions
Oil and Gas Joint Technical Session

2024 Global Methane Forum | March 20, 2024









International MMRV Framework Overview

- Reducing GHG emissions across the fossil fuel energy value chain is essential for global energy decarbonization and to achieve the goals of the Paris Agreement.
- The lack of comparable and reliable information to characterize the GHG intensity of deliveries of natural gas limits the ability of buyers to demand and suppliers to provide natural gas with a lower GHG profile, hindering market-driven emissions abatement efforts.
- This initiative aims to identify key elements of a framework for the measurement, monitoring, reporting, and verification (MMRV) of GHG emissions across the international supply chain for natural gas.
- Such a framework would enable credible verification of methane, carbon dioxide, and other GHG emissions across the supply chain and provide market participants with verified information about life cycle GHG emissions volumes and intensity from production through delivery.

- A number of well-established domestic and international emissions reporting approaches already exist, our efforts are aimed at building on these existing approaches. This includes, but is not limited to, OGMP 2.0.
- International MMRV Working Group will work collaboratively through 2024 to develop, where appropriate, guidance, protocols, and tools for voluntary use in natural gas markets. The MMRV Working Group may expand in the future to include additional hydrocarbons.
- Participants in the MMRV Working Group are not committed to, nor restricted from, the use or inclusion of the work products in any regulatory process, policy measures, or commitments.

MMRV Framework Participating Countries / Regions

| Country / Region | Agency / Department |
|---------------------|--|
| Australia | Department of Industry, Science and Resources |
| Brazil | Nat'l Agency of Petroleum, Natural Gas & Biofuels, Ministry of Mines & Energy |
| Canada | Natural Resources Canada |
| Colombia | Ministry of Mines and Energy |
| European Commission | DG-Energy |
| East Med Gas Forum | Secretariat |
| Egypt | Ministry of Petroleum & Mineral Resources |
| France | Ministry for the Energy Transition |
| Germany | Federal Ministry for Economic Affairs and Climate Action |
| India | Ministry of Petroleum and Natural Gas |

| Country / Region | Agency / Department |
|----------------------|---|
| Italy | Ministry of Environment & Energy Security |
| Japan | Ministry of Economy, Trade and Industry |
| Korea | Ministry of Trade, Industry and Energy |
| Malaysia | Ministry of Economy |
| Mozambique | National Petroleum Institute |
| Nigeria | Nigeria Upstream Petroleum Regulatory Commission |
| Norway | Ministry of Petroleum and Energy |
| United Arab Emirates | Ministry of Energy and Infrastructure |
| United Kingdom | Dept for Energy Security and Net Zero |
| United States | Dept of Energy, Dept of State, Environmental Protection Agency |

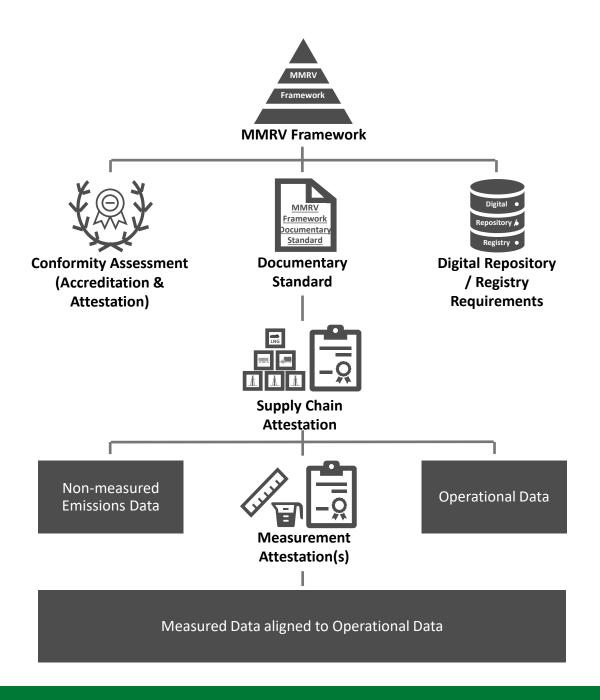
Government and regional entities listed on this slide have been participating in Working Group discussions. Inclusion on this list should not be interpreted as a commitment to endorse or use the framework or other work products of the Working Group.



Working Group Areas of Focus in 2024

- The MMRV Working Group will advance comparability by reviewing/building upon existing standards and protocols to provide a consistent set of technical criteria for reporting emissions and operating data at various levels of availability.
- 2. Comparability will be further supported by **using transparent and consistent tools for estimating GHG supply chain emissions and data quality** from pre-production through final delivery of the natural gas.
- 3. To provide comparable and reliable information, the Working Group will support independent third-party verification of the accuracy and representativeness of the emissions data and the aggregate supply chain emissions intensity.
- It will also support accreditation to ensure that certifiers are independent of the reporting entity and are technically qualified to conduct reviews.

2024 will focus on technical development and continued engagement with stakeholders.















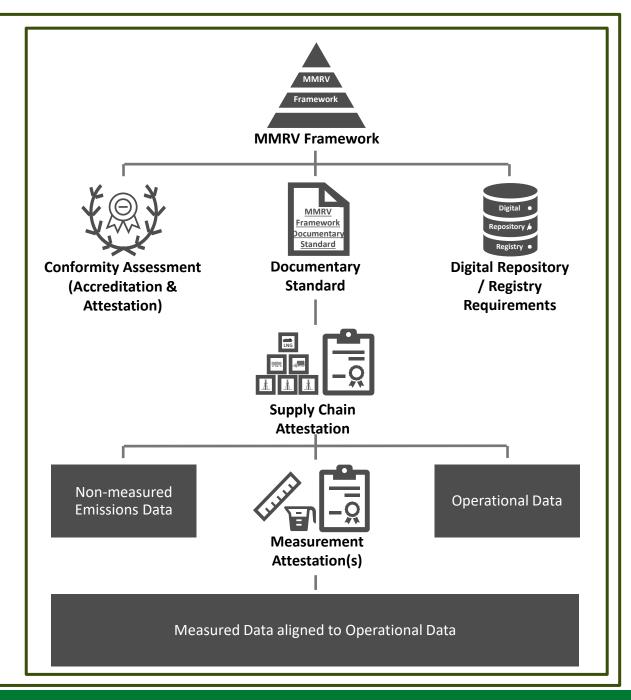
Government & Industry Support



MMRV Training & Support



Verified Measurement Technology



Next Steps

- Actively engaged with participating governments to advance the MMRV Framework.
- Goal is to have a consensuses-based voluntary standard for quantifying and reporting supply chain GHG emissions performance and data quality supported by an accredited independent third-party conformity assessment process by mid-2025.
- Global community outreach and coordination will continue throughout the development process – your feedback is important!

Thank You

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