

THE OIL AND GAS CLIMATE INITIATIVE (OGCI) SUBMISSION TO THE GLOBAL STOCKTAKE First Submission – March 2023

Oil and Gas Climate Initiative
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The Oil and Gas Climate Initiative (OGCI) appreciates the opportunity to submit inputs related to the oil and gas sector for the first Global Stocktake in 2023. In this submission, we address a select number of questions that are most applicable to this process.

The OGCI is a CEO-led organization bringing together 12 of the largest oil and gas companies worldwide to lead the industry's response to climate change. **It aims to be a catalyst for change of the oil and gas industry and accelerate action towards a net zero emissions future consistent with the Paris Agreement.** OGCI members are Aramco, bp, Chevron, CNPC, Eni, Equinor, ExxonMobil, Occidental, Petrobras, Repsol, Shell and TotalEnergies.

Together, OGCI member companies represent about 27% of global oil and gas production.

OGCI Climate Investments is a billion-plus independently managed decarbonization investor formed by OGCI in 2017. CI invests in solutions to decarbonize under-invested GHG-intensive sectors within energy, industrials, built environments and transportation. Climate Investments targets solutions that deliver near-term greenhouse gas impact in three areas: reducing methane; reducing carbon dioxide emissions; and recycling or storing carbon dioxide. CI seeks to accelerate the global implementation of low-carbon solutions by collaborating with OGCI members, governments, customers and co-investors.

OUR MEMBER COMPANIES



OGCI supports the goals of the Paris Agreement, limiting global warming to well below 2°C and pursuing efforts to limit it to 1.5°C, and recognizes that there is a real urgency to act. One of OGCI's core missions is to help accelerate the reduction of greenhouse gas (GHG) emissions from the oil and gas industry. As a leadership group, but still representing around 27% of the world's total oil and gas production, we work proactively with and encourage the entire oil and gas industry, including national oil and gas companies, towards net zero operations, including the ambition of near zero methane emissions.

Total direct emissions from the global oil and gas industry are estimated to be around 4 gigatonnes of CO₂ equivalent per year. For the 12 member companies, taken in aggregate, operated emissions amounted to almost 700 million tonnes of carbon dioxide equivalent (700 MT/CO₂e) in 2021. That represents around 1% of total global GHG emissions, so reducing these is a key contribution to decarbonization. As a matter of transparency, the methodology used by OGCI to calculate its KPIs and performance targets are available on OGCI website ([link](#))

All 12 OGCI member companies are pursuing strategies that aim to achieve net zero GHG emissions (or carbon neutrality) from operations under their control by mid-century, leveraging their influence to achieve the same in non-operated assets, within the timeframe set by the Paris Agreement, and near zero methane emissions from operated oil and gas assets by 2030. OGCI's role is to provide a forum where member companies can explore what is possible and what stakeholders expect, agree on collective targets and goals, and share knowledge on how best to measure and tackle key emission sources – energy used in production, flaring, methane leaks and methane venting. Supporting the world as it moves towards a net zero carbon emission future will require international collaboration on the energy transition as well as a reduction in GHG emissions from the oil and gas industry.

OGCI has collective 2025 targets for upstream methane and upstream carbon intensity. Results have exceeded expectations and the targets were adjusted in 2021 to make them more ambitious. The aggregate targets now serve as a benchmark for member companies and the wider industry. All member companies are also signatories to the Aiming for Zero Methane Emissions Initiative, launched in March 2022, recognizing that virtually all methane emission from the industry can and should be avoided.

1. OGCI towards Net Zero Operations

OGCI Upstream Carbon Intensity Target

OGCI updated its **upstream carbon intensity target to 17 kg CO₂e per barrel of oil equivalent (boe) by 2025**. Progress towards this target is nearing with an improvement of **17% over the five years since 2017**. In 2021, OGCI member companies had a collective upstream carbon intensity of 18.9 kgCO₂e/boe, covering CO₂ and methane emissions, a drop of 1.2 kgCO₂e/boe (6%) from 2020 to 2021 alone. Several key levers to reduce carbon intensity include:

- Improve energy efficiency
- Co-generate electricity and useful heat
- Zero routine flaring by 2030
- Electrifying operations with renewables where possible, and
- Near zero methane emissions.

OGCI Upstream Methane Intensity Target

In 2018, member companies set a collective ambition of reaching an average upstream methane intensity of 0.20% by 2025. That action established a benchmark for the industry, which we achieved five years ahead of target, in 2020. Between 2017 and 2021, OGCI member companies' efforts reduced aggregate absolute upstream methane emissions by 40% and GHG emissions from upstream flaring by 33%. Over the same time frame, we **achieved 44% for upstream CH₄ intensity and 32% for upstream flaring intensity**. Despite increased gas production in 2021, OGCI member companies had a collective upstream methane intensity of 0.17% in 2021, a 17% decrease compared to the previous year.

Key levers identified to reduce methane emissions include:

- Expand leak detection and repair campaigns
- Replace or upgrade high-emitting devices
- Reduce flaring, and
- Reducing venting in new and existing assets

In 2020, OGCI member companies **updated the methane target to "well below 0.20%" by 2025**. In 2022, OGCI developed the Aiming for Zero Methane Emissions Initiative, which calls for the sector to aim for near zero methane emissions by 2030. To date, more than 70 companies from across the oil and gas value chain have pledged their support for the initiative.

In 2022, this 0.20% target set by OGCI was directly referenced in the EDF [Certification of Natural Gas with Low Methane Emissions](#) and was adopted by the U.S. S.645 - [Methane Emissions Reduction Act](#) as threshold to pay a levy on methane emissions.

OGCI 2021 Performance Data

OGCI has been collecting aggregate data across all member companies since 2017, using a common [reporting framework](#). The scope of data collection includes production, GHG emissions, methane emissions, flaring, and investment and R&D in low carbon technologies. Since 2016, OGCI has been working with an independent third party to collect and check data consistency, and guarantee the confidentiality of member companies' data. In 2019, together with the independent third party we developed an innovative process, applicable to both listed and state-owned national oil companies, to confirm that OGCI data, as well as information about third-party data assurance, are consolidated, reviewed and challenged in order to increase the reliability of the aggregated data we publish. In 2022, OGCI started to collect GHG emission data on an equity basis to complement operated data which is planned to be published in the future. With five years of data collection available, a number of clear trends can be seen:

1. **Absolute upstream methane emissions have fallen 40% since 2017**. This volume of methane emission reduction is on the scale of 800,000 tonnes per year or equivalent to around 2.5 million homes no longer using energy¹. OGCI member companies are now aiming to reach near zero methane emissions by 2030 from their operated oil and gas assets.
2. **Investment in low carbon technologies has risen steadily over the five years**. In 2021 it almost doubled, reflecting activity both in renewable energies and in developing carbon capture, utilization and storage (CCUS) facilities designed to decarbonize heavy industry. Cumulative spending on low carbon technologies (from both investment and R&D) from 2017 to 2021 was \$40 billion.

¹ 800,000 T/CH₄ converted using EPA, Greenhouse Gas Equivalencies Calculator

3. **Progress in reducing carbon dioxide emissions in downstream has been slower.** These have decreased by 11% since 2017, with a 3% drop in 2021. The slower progress largely reflects the lack of relatively straightforward solutions to reduce the carbon intensity of refineries and chemical plants. Concerted efforts to advance low carbon hydrogen, CCUS and electrification are expected to bring results in a few years' time.

Production

In 2021, OGCI member companies operated around 27% of the global oil and gas production. The aggregated oil and gas production of 12 OGCI member companies remained stable at 43.8 Mboe/day, with oil production falling 2% over the year, while gas production rose 3% on the back of stronger demand and significant acquisitions.

Over the past five years, OGCI member companies' **oil production has fallen 7% and gas production risen 7%**. The share of gas has now risen to 37% of aggregate oil and gas production.

GHG Emissions

OGCI member companies' upstream carbon intensity is on track to achieve the 2025 target of 17 kg/boe. In 2021, Scope 1 upstream greenhouse gas emissions fell by 5% over the year (and a **total of 18% since 2017**), due to falling oil production levels, flaring reduction and vent recovery projects, as well as portfolio changes. The decrease in Scope 2 emissions was due to a change in quantification methodology in one company and in perimeter scope for a pipeline in another. The upstream scope 2 greenhouse gas emissions decreased by 8% from 2017 to 2021.

Downstream, which accounts for around half of OGCI member companies' aggregate Scope 1 greenhouse gas emissions, has shown slower progress than upstream, reflecting the complexity and longer timelines of decarbonization efforts in refineries and chemical facilities.

Methane Emissions

OGCI members reported an aggregate upstream methane intensity of 0.17% in 2021, a 17% decrease over the year and a **44% reduction over 2017**. Despite the increase in gas production in 2021, **absolute upstream methane emissions showed a decrease of 8% over the year and 40% over five years**.

These reductions occurred across all the main sources of methane emissions – fugitive leaks, venting, flaring, and pneumatic controls, and pumps. The improvements were a result of widescale equipment and system upgrades, improved flaring controls, and continued leak detection and repair. **Venting and fugitive leaks accounted for over 60% of aggregate upstream methane emissions**. The upstream sector accounted for 92% of OGCI total methane emissions in 2021.

Flaring

As part of efforts to end routine flaring and achieve near zero methane emissions by 2030, OGCI member companies continued to reduce flaring volumes and GHG emissions from flaring in 2021. OGCI membership criteria include the support the aims of the Zero Routine Flaring by 2030 initiative of the World Bank.

Upstream flaring intensity and volumes fell by 3% in 2021, accompanying a 5% drop in emissions from upstream flaring. Routine flaring volumes (for the 11 companies that report it) fell 2% in 2021. Since 2017, **flaring greenhouse gas emissions have fallen 33%**. Progress in 2021 was linked to gas recovery and re-use during testing, closure of flares and other flare reduction projects and lower production at ageing assets.

Investment and R&D in Low Carbon Technologies

Aggregate OGCI data on low carbon investment and R&D includes only 10 companies in most cases. These companies reported investments totalling **US\$12.6 billion on low carbon technologies in 2021**, an **increase of 91% over 2020**. Renewable energies accounted for over half of the investment, comprising the bulk of the acquisition spend. Organic investment in CCUS more than doubled over the year, spread across many companies.

R&D spending on low carbon technologies rebounded in 2021, growing 52% in absolute terms over the year and accounting for **17% of total R&D spend**.

The total spends on low carbon technologies, taking investments and R&D together, amounted to **\$40 billion over the five years** from 2017 to 2021.

2. OGCI Leading the Industry

Aiming for Zero Methane Emissions Initiative

Eliminating methane emissions from the oil and gas industry represents one of the best short-term opportunities for quickly mitigating climate change. According to the IEA, and, based on recent elevated natural gas prices, almost all the options to reduce methane emissions from oil and gas operations worldwide could be implemented at [no net cost](#). With the updated 2025 target intensity of well below 0.20%, member companies developed the [Aiming for Zero Methane Emissions Initiative](#) in 2022. Signatories strive to reach near zero methane emissions from their operated assets by 2030, while sharing what they are learning about detection, measurement and reduction across the industry. To date, around **75 organizations (20 signatories and 55 supporters) have endorsed the initiative**, all recognizing that virtually all methane emissions from the industry can and should be avoided. Signatories are now using this clear, straightforward ambition to galvanize action within their organizations, whether in the deployment, maintenance and upgrading of physical assets, investment in new technologies, or other areas that might help eliminate methane emissions.

If the entire oil and gas industry makes similar commitments, **nearly 70% of the objectives pursued by the Global Methane Pledge could be achieved**, allowing a greater focus on developing options to address hard to abate remaining emissions, such as from agriculture or landfills.

Satellite Monitoring Campaigns conducted in 2021 and 2022

OGCI launched a **phased satellite monitoring campaign** over Iraq, Algeria, Kazakhstan, and Egypt in late 2021 and 2022, with the aim to (1) take practical, tangible action to reduce methane (CH₄) emissions and (2) demonstrate how satellite-based detection technologies can be used and integrated as part of a broader leak detection and repair (LDAR) campaign.

A combination of satellite observations is used at the country and asset level to **identify major sources of methane emissions**. Working in partnership with [GHGSat](#), an OGCI Climate Investments' portfolio company, which operates the satellites and provides readings of emissions from the facilities, and with [Carbon Limits](#) to help with operator engagement, conduct on-site assessment, and help find ways to fix leaks rather than venting.

For example, the detection, attribution, and engagement with a non-OGCI local operator in Iraq, resulted in the elimination of a continuous plume in the range of **5 to 10 tCH₄/hour to a level not detectable by satellite over the course of a few months in 2022**. If the plume is assumed to be continuous over time, the **abated emissions are in the order of 1.2 Mt CO_{2e}/year** (using a GWP = 28 [-]). Based on these results, OGCI have now extended the Campaign to 26 sites in Iraq, Kazakhstan, Algeria and Egypt.

Case Study: Iraq

- **There is significant potential for using satellite technology to detect observable methane emissions in Iraq and globally.** When detected, the methane emissions were significant with an average emission rate at the six assets of almost 1,500 kg CH₄ per hour. Two of the plumes detected contributed more than 25% of the total detected emissions, while at two of the monitored assets, no emission sources above satellite detection threshold were observed during the monitoring period.
- **The satellite monitoring provided important information to operators, helping them explore technical solutions for mitigation.** At one site, operators were able to make improvements in routine procedures, cutting repeatedly observed methane emissions in the range of 0.5 to 8.0 t CH₄/hour to a level not detectable by satellite over the course of a few months in 2022. However, some emission sources take longer to address and require larger capital investments. The most common emissions sources observed, established in communication with the operators, were associated gas flaring, direct venting, and maintenance events.
- **Satellites are capable of detecting and measuring methane emission sources from the oil and gas sector, but there are limitations.** Over 80% of the observations performed by GHGSat were successful. This means they were able to identify and quantify emission rates, where present, as low as 70 kg CH₄/hour. The remaining detections were inconclusive due to observation challenges such as the presence of water near to the source, cloud coverage and dust storms.

The benefits of the campaign extend beyond the immediate mitigation impact of reduced methane emissions. **Building capacity and knowledge base** among the local operators about the key root causes of methane leaks and vents, which are part of any normal operations, also contributes to long-term shift in approach to operations and decision-making in the company.

3. OGCI to Help Decarbonize Society

Energy is the foundation of the global economy and underpins all major industries. Production and use of energy account for 38 gigatonnes of global human-caused greenhouse gas emissions each year (over 60% of the total), of which oil and gas account for around 20 gigatonnes.

Policy Principles and Mechanisms on Article 6 and Carbon Valuation

OGCI believes that, for the majority of sources and sectors, the most effective means of reducing emissions is the application of an economic value (or price) to carbon-based emissions. Explicit market-based mechanisms – such as carbon taxes or emissions trading programs – can provide a transparent and technology-neutral pathway to greenhouse gas emissions abatement. If properly designed, international cooperation under Article 6 could make it easier to achieve reduction targets and raise ambition. This cooperation should ensure environmental integrity, transparency, consistency, and rules to avoid double counting of mitigation.

OGCI member companies support the aims of Article 6 and believe the following to be key components of a well-designed system to achieve these aims:

- Enables the transfer of Internationally Transferred Mitigation Outcomes (ITMOs) for use towards Parties' NDCs
- Incentivizes actions that prevent, mitigate, or remove emissions
- Clearly defines the scope of the Article 6.4 mechanism – and makes it clear that carbon capture, use and storage (CCUS) is included in both Article 6.2 and Article 6.4
- Develops systems that ensure the avoidance of double counting of mitigation outcomes transferred internationally
- Ensures that the choice of metrics (e.g., tCO₂e, MWh, etc.) for ITMOs allows for international cooperation under any NDCs, facilitates a liquid market and enables consistent monitoring, reporting and verification of ITMOs and Article 6.4 units, and recognizes the nationally determined nature of commitments under the Paris Agreement NDCs
- Defines and enforces quality and vintage rules for the transition of any Certified Emissions Reductions from the Clean Development Mechanism (CDM)
- Rapidly approves those CDM methodologies by an oversight body that will be accepted for use in the Article 6.4 mechanism
- Addresses properly the social and economic negative impacts and co-benefits resulting from activities under Article 6.

Policy Principles and Mechanisms for CCUS

- **Clear reference to CCUS targets in national climate strategies** (including revised NDCs and long-term development strategies) will signify national government's support for CCUS. To enable the success of CCUS, governments should create clear regulatory and legal structures to:
 - Incentivize and permit the use of existing pipeline infrastructure or the construction of new CO₂ transport infrastructure (such as pipelines, trucks, rail, ships)
 - Clarify the risk-sharing mechanisms and regulations with respect to long-term stewardship of stored CO₂
 - Introduce monitoring, reporting and verification (MRV) protocols and processes for injected CO₂ to ensure safe, reliable, and permanent storage
 - Introduce standards for construction, operation and CO₂ injection
 - Provide legal certainty on pore space ownership
 - Provide access to CO₂ storage capacity owned / controlled by governments
 - Streamline permitting for CCUS facilities.
- OGCI believes that **governments should perform an assessment of the potential for CCUS in their respective countries**. An analysis of source, concentration, and purity of CO₂ streams should be combined with the localization/type and volume of storage reservoir and transportation options to determine the potential for CCUS to deliver greenhouse gas mitigation and contribute towards the long-term climate goals of the country.
- To enable CCUS, governments should develop incentive structures that facilitate the emergence of market conditions for CCUS uptake nationally and globally. These frameworks can enable international collaboration by setting the building blocks for credit transfer mechanisms across nations. The frameworks include but are not limited to:
 - Tax incentives for the capture, storage and/or utilization of CO₂

- Investment incentives through contracts for differences for decarbonized power or services reliant on CCUS, including blue hydrogen
 - Offsets on carbon content, such as the California Low Carbon Fuel Standards (LCFS)
 - Public procurement for low- or zero carbon industrial products
 - Emission trading linkages recognizing the role of CCUS credits
 - Development of a new transferable asset class/ units such as a carbon storage unit (CSU), which would be a unit representing a verified ton of CO₂ or carbon, securely stored in geological formations
 - Incentivizing and cost-sharing the capture of CO₂ across a range of heavy emitting industries
 - Explicit support for CCUS in Article 6 of the Paris Agreement on international emissions trading.
- To maximize their efficiency, such policy and regulatory frameworks should be:
 - Adapted to the local context and existing options to deliver a low carbon strategy.
 - Be complementary / synergistic with other existing policies and low carbon technologies.
 - Established with sufficient long-term visibility and stability to allow the necessary time for hubs and projects to develop in predictable enabling economic conditions.

Case Study: OGCI's CCUS Hub

OGCI has worked for several years on ways to accelerate scale up, reduce costs and develop business models for deploying CCUS. One key focus area has been the development of CCUS hubs. These aim to capture carbon dioxide from several different emitters and transport and store it using common infrastructure. This approach fosters network effects and drives economies of scale. That reduces costs and risks for individual companies and makes it easier for national and regional policymakers to develop enabling incentives.

There are currently around 50 CCUS hubs proposed or in development around the world, with OGCI member companies involved in over 30 of them. The first, *Northern Lights*, is expected to start operation in mid-2024, serving emitters in Norway and Europe.

In 2022, OGCI launched the *CCUS Hub*, an open-source platform designed to support policymakers, potential hub developers and industrial emitters interested in setting up a CCUS hub. The platform has easily accessible information and common learnings, profiles of some of the more advanced hubs, and a global search tool to identify potential new hubs. The platform draws on the knowledge and support of many partners, including the *Global CCS Institute*, the *Clean Energy Ministerial CCUS Initiative*, *IEA Greenhouse Gas R&D Program* and BCG. It offers a platform for webinars with leading CCUS policy makers, hub developers and industrial emitters.

In 2023, the CCUS Hub will be extended to include technical data, initially from the development of the *East Coast Cluster* in north-east England, collected in a format that is accessible for other hub developers.

Case Study: OGCI's Pilot Project on Shipboard Carbon Capture

Shipping contributes almost 3% of global greenhouse gas emissions - a share that is still growing. Around a third comes from international shipping, which is considered one of the most difficult sectors to decarbonize. Projections indicate that **85% of the fuel mix for two-stroke engines will still be fossil fuel based in 2030 and 34% by 2050.** Before alternative fuels become widely available, OGCI is now collaborating with industrial partners on a shipboard carbon capture pilot project that aims to turn that idea into a deployable option, representing the first-ever attempt to capture carbon dioxide from a working cargo ship and deliver and process it safely.

The first step was a preliminary study, completed in 2021, to prove that a carbon capture device could be installed on a ship powered by heavy fuel oil, typically used in the industry today, without the need for extensive renovation or an entirely new ship design. On the basis of this study, study estimated the device could capture, in a first phase, **more than 30% of all the ship's emissions over a year's worth of operations.**

Policy Principles and Mechanisms for Natural Climate Solutions

NCS have the potential to deliver through 2030 at least a third of the cost-effective CO₂ mitigation needed for emissions to be aligned with the goals of Paris Agreement. IPCC scenarios, which lay out many paths to achieve net zero emissions, demonstrate that the inclusion of NCS allows for a faster and less costly transition for society. While NCS are critical to tackling climate change, the current deployment of NCS and the inclusion of NCS in the Nationally Determined Contributions (NDCs) to the Paris Agreement do not reflect the full potential of NCS.

NCS that ensure social and environmental integrity, while also helping protect resilience of communities to the impacts of climate change, can provide a range of other benefits for society, such as economic growth and diversification, improvement of human health and livelihood and protection of biodiversity and water resources, in line with UN Sustainable Development Goals.

As such, OGCI supports the International Union for Conservation of Nature (IUCN) recommendations developed or Nature-based Solutions (NbS) but also applicable to policies and measures that support NCS in NDCs. The IUCN recommendations are complementary to the NCSA guiding principles, in particular the need for robust and measurable targets on a large variety of ecosystems, the need to consider climate change adaptation and the importance to maintain reporting clarity.

In addition, OGCI believes in the need to rely on the best available framework to qualify NCS credits, integrating high quality practices, such as including high environmental and social integrity and avoiding double counting. In 2022, OGCI and Ipieca launched the *Natural Climate Solutions: high carbon stock ecosystems management* joint guidance on setting out the key principles to help energy companies conserve, enhance and restore the high carbon stock ecosystems where they operate.

Please see below list of trust organizations relevant to OGCI focus area and with whom we have on-going joint projects/collaborations (see our website for details):

Topics	External Organizations
Methane Emissions	EDF (CCAC Methane Studies) , UNEP (Global Methane Alliance) Imperial College London , Methane Guiding Principles , IOGP , Ipieca , Global Gas Flaring Reduction Partnership (GGFR, Global Gas Flaring Explorer)
CCUS	Clean Energy Ministerial , Global CCS Institute (Global Assessment of Storage Resources) , Stanford University (Energy Futures Initiative) , CCS+ Initiative
NCS	NCS Alliance , TSVCM
Transport Emissions	Concawe , Stena Bulk (Feasibility study: Mobile Carbon Capture in Shipping)

4. OGCI Climate Investment

OGCI Climate Investments (CI) has a mandate to deliver greenhouse gas (GHG) impact at industrial scale through investments in new technologies and projects. In its 2021 impact report, CI noted that the portfolio companies delivered **15.8 MtCO₂e of realized impact in 2021**. This portfolio impact has grown to over 20MT in 2022 and trebled since our measurement began in 2019. To ensure materiality, OGCI CI target investment opportunities that deliver at least 1 MtCO₂e per annum of GHG emissions reduction by 2030, with the potential to scale significantly in the longer term.

Since 2017, OGCI CI has invested in over 30 individual companies and projects. Over a similar timeframe, OGCI CI have witnessed the strong growth of the impact investing industry and the most recent accelerated emergence of specialist decarbonization-focused investment funds.

Growing Need for Standard and Transparent Impact

As the number and scale of decarbonization funds have grown, CI have also seen an increasing need for standardization of the metrics of GHG or carbon impact. While accounting-style “ESG” metrics have been maturing for backward-looking company impact reporting, supported by the recent formation of the International Sustainability Standards Board, **no such standardization is available for “forward-looking” impact measurement**. This lack of standardization leads to start-ups being asked to provide differing data for different impact investors, which can be a drain on their time and resources. From an investor perspective, standardization of GHG impact quantifications would direct capital towards the technologies and solutions which have the potential to make the largest impact on global emissions.

The early-stage nature of this impact investment community is illustrated by our analysis of the impact reporting of funds managed by specialist decarbonization fund managers. We found that only **20% of the assessed funds reported realized GHG impact, less than 10% reported quantified GHG impact targets for the future, and only 5% reported their methodology**.

OGCI CI's Impact Methodology project FRAME.

To support our investment strategy, CI has developed sophisticated methodologies for assessment and measurement of impact. These methodologies have been developed in collaboration with [Project FRAME](#), which is an open sourced collaboration of climate impact investors who are seeking to set stronger standards and methodologies for impact quantification. Membership of FRAME has grown rapidly and at the end of 2022 stands at over 300 institutions representing more than \$50b of Assets Under Management. Further details of [Project FRAME](#) and [CI's impact methodology](#) can be found in the embedded links.

Appendix – Guiding Questions Cross-check

Mitigation guiding questions	OGCI / CI Related?	Where is it addressed
1. What is the collective progress in terms of the current implementation of, and ambition in, mitigation actions towards achieving the Paris Agreement?	Yes	Upstream carbon intensity , methane intensity , 2021 performance data , AFZME
2. Considering NDCs, long-term low GHG emission development strategies and relevant commitments and initiatives, what are the projected global GHG emissions, and the emission reductions still needed, in 2030 and 2050 to achieve the Paris Agreement?	Partly	Nothing publicly available.
3. What efforts are being undertaken to plan, implement and accelerate mitigation action towards achieving the Paris Agreement?	Yes	Upstream carbon intensity , methane intensity , AFZME , Satellite Monitoring Methane Campaign , CCUS Hub , MCC
4. How adequate and effective are the current mitigation efforts and support provided for mitigation action towards achieving the Paris Agreement?	Yes	Upstream carbon intensity , methane intensity , 2021 performance data , Iraq case study
5. In order achieve the Paris Agreement: a) What further action is required? b) What are the barriers and challenges, and how can they be addressed at national, regional and international levels? c) What are the opportunities, good practices, lessons learned and success stories?	Yes	Position papers: CCUS , Article 6 , NCS , Success stories: CCUS Hub , Iraq , MCC

Adaptation guiding questions	OGCI / CI Related?	Where is it addressed
6. What is the collective progress in terms of the current implementation of, and ambition in, adaptation actions towards achieving the Paris Agreement?		Non-OGCI related
7. What efforts are being undertaken to plan, implement and accelerate adaptation action towards achieving the Paris Agreement and with a view to recognizing the adaptation efforts of developing country Parties, what efforts have been undertaken by these Parties towards achieving these goals?		
8. How adequate and effective are the current adaptation efforts and the support provided for adaptation towards achieving the Paris Agreement?		
9. How can the implementation of adaptation action towards achieving the Paris Agreement be enhanced, taking into account the adaptation communication referred to in paragraph 10 of the Paris Agreement?		
10. To achieve the Paris Agreement: a) What further action is required? b) What are the barriers and challenges, and how can they be overcome at national, regional and international levels? c) What are the opportunities, good practices, lessons learned and success stories? Finance flows and means of implementation guiding questions		
11. What is the collective progress in terms of the current implementation of, and ambition in, making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development towards to achieving the Paris Agreement?	Yes	OGCI Climate Investment
12. What is the collective progress in terms of the implementation of, and ambition in, the provision and mobilization of scaled-up financial resources from a wide variety of sources, instruments, and channels towards achieving the Paris Agreement, noting the significant role of public funds, and aiming to achieve a balance between finance for adaptation and mitigation?	No	
13. What is the collective progress in terms of the state of current implementation of, and ambition in, technology development and transfer towards achieving the Paris Agreement? What is the state of cooperative action on technology development and transfer?	No	
14. What is the collective progress in terms of the state of current implementation of, and ambition in, enhancing the capacity of developing country Parties to implement the Paris Agreement?	No	Capacity building efforts: Iraq

How effective has been the implementation of capacity-building efforts?		
15. In order to achieve the Paris Agreement as well as scale up the provision and mobilization of means of implementation (including finance, technology development and transfer and capacity-building), including in the short term, both from public and private sources, at the national and international levels to achieve the Paris Agreement goals: a. What further action is required? b. What are the barriers and challenges and how can they be overcome at national, regional and international levels? c. What are the opportunities, good practices, lessons learned and success stories?	Yes	OGCI's Standard and Transparent Impact, Impact methodology

Guiding questions that may be considered as appropriate, that:

Social & economic consequences and impacts of response measures:		
16. What is the collective progress in terms of the current implementation of, and ambition in, efforts made that address the social and economic consequences and impacts of response measures while implementing mitigation policies and actions towards the achievement of the Paris Agreement goals?		Non-OGCI related
Avert, minimize, and address loss and damage associated with the adverse effects of climate change:		
17. What is the collective progress in terms of the current implementation of, and ambition in, efforts made to enhance understanding, action, and support towards averting, minimizing, and addressing loss and damage associated with the adverse effects of climate change? What further action is required to strengthen these efforts?		Non-OGCI related
Cross-cutting guiding questions	OGCI /CI Related?	Where is it addressed
18. How are fairness considerations, including equity, being reflected in Parties' NDCs?		Non-OGCI related
19. How is climate action respecting, promoting and considering Parties' respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity?		
20. How are Parties recognizing the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, to achieve the purpose and long-term goals of the Paris Agreement?	No	NCS position paper
21. In what way are non-Party stakeholders contributing to the progress made to achieve the purpose & long-term goals of the Paris Agreement?	Yes	Upstream carbon intensity, methane intensity, 2021 performance data, AFZME, SEEP, Iraq, CCUS Hub, MCC
22. To achieve the purpose & long-term goals of the Paris Agreement: a) What integrated and holistic approaches are available? b) How can science and innovation be accelerated, encouraged and enabled? c) How can international cooperation for climate action be enhanced?	Yes	Position papers: CCUS , Article 6 , NCS ,