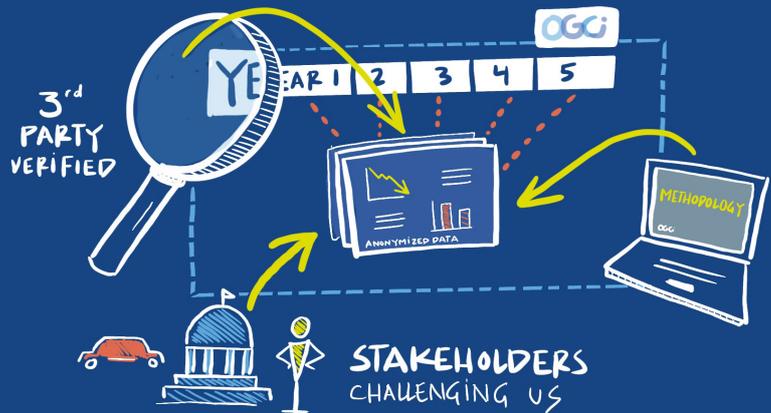


# OGGI PERFORMANCE DATA 2019



Over the past year, OGCI has worked to improve the consistency and reliability of our aggregate performance data. That has involved three specific activities:

1. Adjusting the data and key performance indicators (KPIs) to include the 12 member companies that are providing data. The data for 2017 to 2019 now reflect consolidated contributions from 12 companies and the baseline for our methane target and ambition has been revised to reflect this change.
2. Working with EY, as an independent third party, to go beyond the existing data consolidation and review process for OGCI's data. EY has this year issued a limited assurance statement for a set of aggregate data – reviewing and testing member company data and checking for third-party assurance. This is the first such statement for a membership organization rather than for a single company.
3. OGCI has worked to improve the definition of data around spending on low carbon technologies, allowing more companies to provide data for the first time.

## Abbreviations and definitions

<b>Mboe/day</b>	Million barrels of oil equivalent per day
<b>kgCO<sub>2</sub>e/boe</b>	Kilograms of carbon dioxide equivalent per barrels of oil equivalent
<b>MtCO<sub>2</sub>e</b>	Million tonnes of carbon dioxide equivalent
<b>MtCH<sub>4</sub></b>	Million tonnes of methane
<b>Mm<sub>3</sub></b>	Million cubic metres

**Operated production** refers to total output produced under a company's control and responsibility

**Equity production** refers to total output in operations that are owned by a company, calculated by ownership share

*All data is aggregate operated data for 12 member companies, unless specified otherwise*

*Read more about data definitions and methodology in the OGCI [Reporting Framework](#)*

## PRODUCTION

The aggregate oil and gas production of the 12 OGCI member companies rose by 1% in 2019, largely due to a rise in natural gas production. Operated oil production remained stable at 30 Mboe/day, while gas production rose 2% to reach 16 Mboe/day. OGCI member companies now operate 28% of global oil and gas production and represent 16% of total primary energy demand.<sup>1</sup>

Natural gas represents just over a third of OGCI member companies' operated oil and gas portfolio, at 34% in 2019, slightly up on 2018. OGCI member companies represent almost a quarter of global natural gas production, at 23% in 2019.

Equity production is slightly lower than operated production. The share of equity production not operated by other OGCI members is around 30%. Based on these numbers, OGCI member companies are responsible for a total of around 36% of global oil and gas production.<sup>2</sup>

OGCI indicators	Unit	2017	2018	2019
OGCI oil production (operated)	Mboe/day	29.8	30.0	30.1
OGCI gas production (operated)	Mboe/day	15.2	15.5	15.8
OGCI oil and gas production (operated)	Mboe/day	45.0	45.6	45.9
Share of natural gas in OGCI operated portfolio	%	33.8	34.1	34.4
OGCI oil and gas production (equity)	Mboe/day	42.5	42.3	42.5

### Notes:

<sup>1</sup> According to data from IEA WEO-19, global oil and gas production in 2018 was 163 Mboe/day. Oil production in 2018 was 95 Mboe/day, while natural gas production was 68 Mboe/day. Total global energy demand in 2018 was 288 Mboe/day. OGCI member companies' share of total oil and gas production is 28% on an operated basis and 26% on an equity basis. The share of total global energy demand is 16% on an operated basis and 15% on an equity basis. OGCI production data is counted up until first point of sale, including LNG liquefaction plants if located before the first point of sale.

<sup>2</sup> Total OGCI oil and production is around 59 Mboe/day (operated production plus additional equity production of around 13 Mboe/day). That is 36% of total global oil and gas production of 163 Mboe/day.

## GREENHOUSE GAS EMISSIONS

As preparation for launching our upstream carbon intensity target in July 2020, we further aligned our methodology for calculating operated Scope 1 and 2 greenhouse gas emissions intensity. In 2019 our upstream carbon intensity fell 5%, bringing the total reduction from the 2017 baseline to 7%. This improvement, due largely to reducing methane emissions, emissions from flaring through flare reduction and optimization, energy efficiency projects and the integration of renewables, sets us on track towards the ambitious end of our target range.

OGCI member companies' aggregate absolute Scope 1 operated greenhouse gas emissions, both upstream and downstream, fell by 1% in 2019 and by 4% from 2017. At 678 MtCO<sub>2</sub>e, they represent 1.4% of global greenhouse gas emissions, using data from the UNEP's [Emissions Gap Report 2019](#). Upstream emissions represent 50% of total aggregate Scope 1 emissions.

OGCI indicators	Unit	2017	2018	2019
Upstream carbon intensity <sup>1</sup>	kgCO <sub>2</sub> e/boe	22.7	22.1	21.1
Total greenhouse gas emissions (Scope 1) <sup>2</sup>	MtCO <sub>2</sub> e	709	684	678
<i>of which: upstream emissions (Scope 1)<sup>3</sup></i>	MtCO <sub>2</sub> e	362	346	339
Upstream greenhouse gas emissions (Scope 2)	MtCO <sub>2</sub> e	41.4	43.9	43.5

Notes:

<sup>1</sup> This is the key performance indicator for OGCI's upstream carbon intensity target. It includes upstream carbon dioxide and methane emissions, both Scope 1 & 2, on an operated basis. It excludes emissions from gas liquefaction (which are largely equity rather than operated assets).

<sup>2</sup> This figure includes direct (Scope 1) emissions of carbon dioxide, methane and nitrous oxide (for those companies that report it) from all operated activities (upstream as well as downstream, which includes refineries and petrochemicals).

<sup>3</sup> Upstream activities comprise all operations from exploration to production and gas processing (up to the first point of sale), including LNG liquefaction plants if located before the first point of sale.

## METHANE EMISSIONS

This year we adjusted our methane intensity baseline and progress measurements to accommodate 12 rather than 13 member companies. As a result, our baseline fell from 0.32% to 0.30%. As a result, and along with data corrections for 2018, we met our initial methane intensity target in 2018. Following continued progress in 2019, we are now on track to meet our 2025 ambition of 0.20%.

Our methane intensity has fallen by 25% since 2017, with a 9% drop in 2019 to 0.23%. Absolute methane emissions, including both upstream and downstream, fell 7% over the year and 22% over two years. The greatest impact in both 2018 and 2019 came from equipment upgrades and extensive leak detection and repair campaigns to reduce leaks and non-routine methane emissions. These two sources – fugitive leaks and venting – accounted for two-thirds of upstream methane emissions in 2019.

OGCI indicators	Unit	2017	2018	2019
Upstream methane intensity <sup>1</sup>	%	0.30	0.25	0.23
Methane emissions – upstream	MtCH <sub>4</sub>	2.0	1.6	1.5
Total methane emissions <sup>2</sup>	MtCH <sub>4</sub>	2.1	1.8	1.7

Notes:

<sup>1</sup> This is the key performance indicator for OGCI's 2025 upstream methane target. It includes total upstream methane emissions from all operated gas and oil assets. Emissions intensity is calculated as a share of marketed gas.

<sup>2</sup> This figure includes relevant operated activities (upstream, refineries, petrochemicals, power generation etc where these are operated by the company).

## FLARING

Upstream flaring intensity fell by 4% in 2019 and by 13% since 2017, reflected in falling emissions from flaring. This improvement was due to lower flaring volumes, linked to flare reduction projects, better compressor reliability and reduced start-up periods. Routine flaring data has been collected for the first time in 2019 – it accounted for 24% of total volumes flared for the 10 member companies that reported data in 2019.

OGCI indicators	Unit	2017	2018	2019
Upstream flaring intensity <sup>1</sup>	Mm <sup>3</sup> /Mtoe	10.8	9.7	9.4
Natural gas flared – upstream	Mm <sup>3</sup>	24,221	22,061	21,416
Routine gas flared – upstream (10 companies)	Mm <sup>3</sup>	–	5,162	5,163
Flaring greenhouse gas emissions – upstream	MtCO <sub>2</sub> e	62	57	54

Notes:

<sup>1</sup> Upstream flaring intensity is calculated on the basis of the volume of gas flared per million tonnes of oil equivalent produced on an operated basis.

## INVESTMENT AND R&D IN LOW CARBON TECHNOLOGIES

Given the importance of monitoring performance in low carbon spending, we have clarified the definitions for collecting this information and revised past data from 2017 on this basis. The companies that provided information (10 for investment and nine for research and development (R&D)) spent a total of US\$7.4 billion in low carbon technologies in 2019, an increase of 12% over the year and 35% over 2017. Of this, US\$6.4 billion was spent on low carbon energy projects and acquisitions. Almost 70% of the total was spent on renewable energies, while total investment in carbon capture, use and storage (CCUS) more than doubled in 2019.

In addition, R&D spending in low carbon energy (reported by nine companies) remained at just over US\$1 billion in 2019 – amounting to 17% of total R&D spend for those companies. Over a quarter of the R&D expenditures were focused on renewables and around 15% on CCUS technologies.

OGCI indicators	Unit	2017	2018	2019
		(number of companies providing data)		
Total investment in low carbon technologies <sup>1</sup>	US\$ billion	4.7 (10)	5.6 (10)	6.4 (10)
<i>of which: acquisitions</i>	US\$ billion	0.3 (5)	0.9 (7)	1.1 (8)
R&D expenditures on low carbon technologies <sup>2</sup>	US\$ billion	0.7 (9)	1.0 (9)	1.0 (9)
Low-carbon R&D as a share of total R&D spend	%	19 (9)	15 (9)	15 (9)

Notes:

<sup>1</sup> Low carbon energy technologies include but are not limited to wind, solar and other renewable energies, carbon-efficient energy management, CCUS, hydrogen, biofuels, energy storage and sustainable mobility.

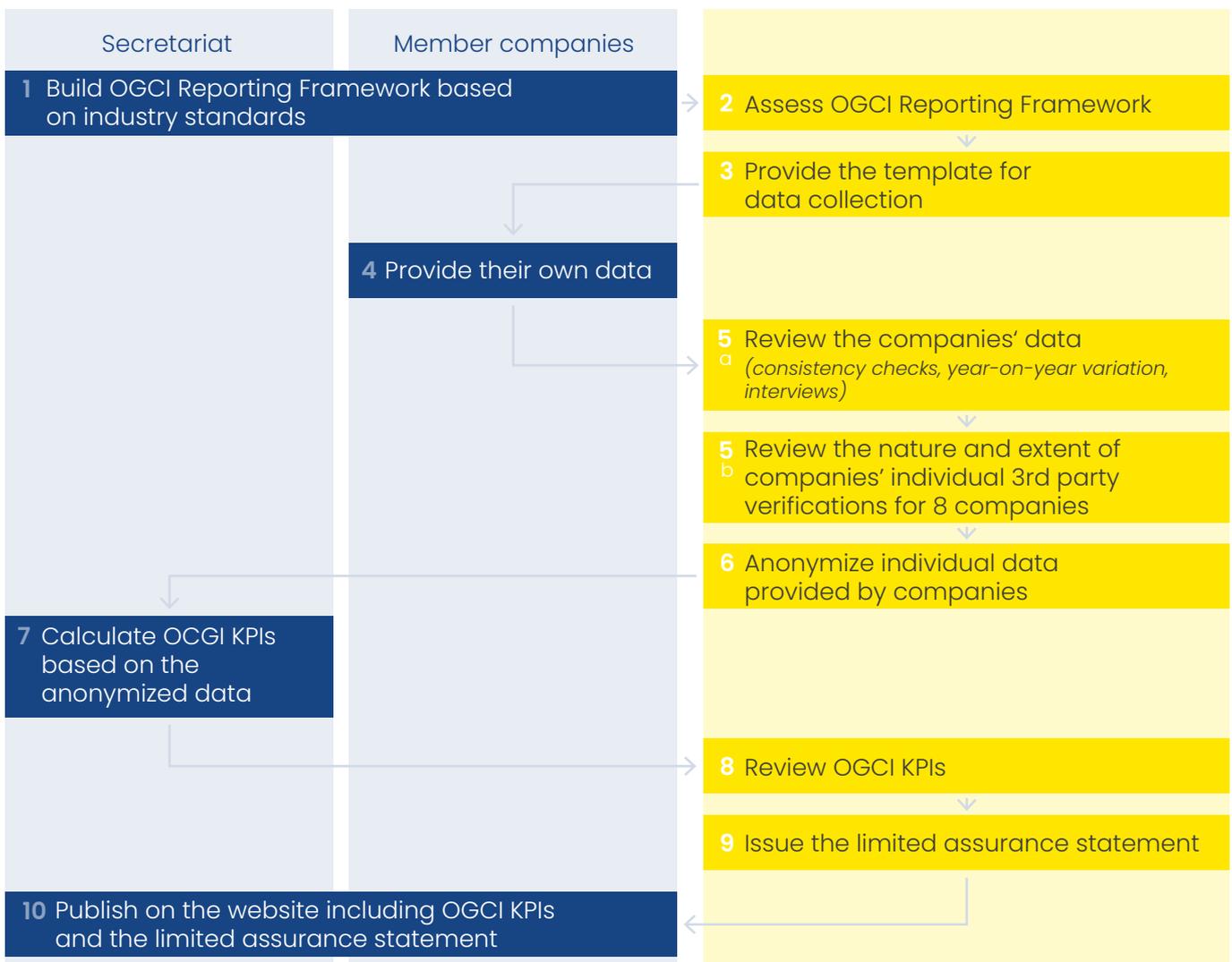
<sup>2</sup> R&D spending is additional to investment.

## DATA CONSOLIDATION AND REVIEW PROCESS

Since 2016, OGCI has been working with EY & Associés (EY), as an independent third party, to collect and check data consistency, and guarantee the confidentiality of member companies' data. In 2019, we developed together with EY an innovative process, applicable to both listed and state-owned national oil companies, to aggregate information about the level of third-party assurance that member companies apply individually into OGCI data reporting. Most OGCI member companies already ensure that data reported to OGCI are independently verified. This process confirms 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 aggregate data we publish. In 2020, we worked with EY to develop a verification process for a selection of our aggregate data. EY's statement this year covers eight of OGCI's 12 members.



Independent 3<sup>rd</sup> party



Our process for data consolidation and review

## Independent verifier's report on a selection of indicators for calendar year ended December 31, 2019



Further to the OGCI CI request on behalf of OGCI and in our quality as an independent verifier, member of the EY network that is the statutory auditor of OGCI CI, we present our report on a selection of OGCI Indicators for the year ended December 31, 2019, that OGCI has chosen to prepare and present on its website.

### Selected OGCI indicators (all operated)

- Total greenhouse gas emissions – Scope 1
- Upstream greenhouse gas emissions – Scope 1
- Upstream greenhouse gas emissions – Scope 2
- Total methane emissions
- Upstream methane emissions
- Upstream natural gas flared
- Upstream flaring greenhouse gas emissions

### Responsibility of OGCI

As part of this voluntary approach, it is the responsibility of OGCI:

- to disclose the OGCI Reporting Framework dated July 2020 (hereafter referred to as the “Criteria”), available on OGCI website
- to consolidate the anonymized member companies' data and ensure their consistency,
- to publish the consolidated OGCI indicators on its website.

### Responsibility of OGCI member companies

As part of this voluntary approach, it is the responsibility of OGCI member companies to report their data according to the Criteria to OGCI and to communicate the nature and details of the verification performed on their data at member company level.

### Independence and quality control

Our independence is defined by the Code of Ethics of our profession. In addition, we have implemented a quality control system, including documented policies and procedures to ensure compliance with ethical standards, professional standards and applicable laws and regulations.

### Responsibility of the independent verifier

It is our responsibility in response to the OGCI request, based on our work, to express a limited assurance conclusion that OGCI Indicators have been established in accordance with the Criteria. It is not our responsibility to give an opinion on other reporting or on the compliance with applicable legal provisions.

## Nature and scope of the work

We conducted the work described below in accordance with the international standard ISAE 3000 (International Standard on Assurance Engagements) and with the professional standards applicable in France.

- We assessed the suitability of the Criteria in terms of its relevance, comprehensiveness, reliability, neutrality and understandability by taking into consideration the best practices of the oil and gas industry
- We conducted the following work related to consistency and arithmetical accuracy of member companies' data reported by the 12 OGCI member companies with the Criteria:
  - Assessment of the appropriate implementation of the Criteria to the member company data
  - Analysis and investigation of member company data value change in 2019 compared to 2018
  - Calculation of consistency ratios and investigation to identify potential outliers among member company data
- We conducted a reconciliation between member company data and publicly available information
- We assessed the nature and extent of third-party verification conducted at company level on member company data
- We conducted interviews with the 12 OGCI member companies
- We reviewed the consolidation performed by OGCI on the anonymized member company data

We consider that the work we have done by exercising our professional judgment allows us to express a limited assurance conclusion; an assurance of a higher level would have required more extensive verification work.

## Qualification

For 8 companies among the 12 OGCI member companies (representing 50% of the OGCI indicator "Total greenhouse gas emissions – Scope 1"), we reviewed the nature and extent of third-party verification conducted at company level on member company data.

For 4 companies among the 12 OGCI member companies, the information on the nature and extent of third-party verification conducted at company level on member company data was not provided.

## Comments

Member companies align their reported data with local methodologies required by local authorities, that may vary depending on geographies. For methane emissions quantification, companies are using different tiered approaches.

## Conclusion

Based on our work, except for the effect of the matter described above, nothing has come to our attention that causes us to believe that OGCI Indicators are not presented in accordance with the Criteria, in all material respects.



Signed by:

**EY & Associés** • Christophe Schmeitzky • Partner, Sustainable Development

Paris-La Défense, October 10, 2020

**Percentage of OGCI indicators considered as reviewed by an external third party and covered by EY limited assurance statement**

OGCI indicators <sup>1</sup>	Total as a percentage of 2019 ...	
	... data considered reviewed <sup>2</sup> by an external third-party	... data covered by EY limited assurance statement on eight companies
Total greenhouse gas emissions – Scope 1	75%	50%
Upstream greenhouse gas emissions – Scope 1	79%	57%
Upstream greenhouse gas emissions – Scope 2	38%	32%
Total methane emissions	63%	44%
Upstream methane emissions	64%	45%
Upstream natural gas flared	91%	59%
Upstream flaring greenhouse gas emissions	91%	62%

Notes:

<sup>1</sup> All indicators are operated. "Upstream greenhouse gas emissions", "Total methane emissions – all sectors", "Total methane emissions – upstream", "Natural gas flared – upstream" and "Flaring greenhouse gas emissions – upstream" indicators are considered reviewed if the "total greenhouse gas emissions" are reviewed, as they are part of the overall greenhouse gas emissions review.

<sup>2</sup> An indicator is considered as "reviewed" if it is published in a publicly available document and if it is covered by an opinion or conclusion statement provided by an external third party or is reported to a governmental authority and available for public review. None of the opinion/conclusion statements consulted contained any qualification. All levels of opinion and conclusion statements have been considered (reasonable assurance, limited assurance and assurance on implementation of processes).