API Guidance Document for GHG Reporting 2.0

JANUARY 2023

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API Guidance Document for GHG Reporting

1 Introduction of API

API represents all segments of the U.S. oil and natural gas industry and member companies that conduct business in nearly every country worldwide. Our nearly 600 members include large integrated companies as well as exploration and production, refining, marketing, pipeline, and marine businesses, and oilfield equipment manufacturers, service, and supply companies. API was formed in 1919 as a standards-setting organization. In our first 100 years, API has developed more than 700 standards to enhance operational and environmental safety, efficiency, and sustainability. API's work includes a growing international dimension, and today API is recognized around the world for its broad range of programs.

2 Objective of API Guidance Document for GHG Reporting

The objective of the API Guidance Document for GHG Reporting ("API Guidance" or "Guidance") is to drive consistency of voluntary reporting by individual oil and natural gas companies of a core set of company-wide GHG indicators. This is intended to enhance comparability across company-by-company climate-related reporting in the oil and natural gas industry, in order to provide decision useful information to the financial sector, policy makers, industry customers, and other stakeholders. The Guidance Document for GHG Reporting contains the API Template for GHG Reporting ("API Template"), which can be found in the Annex A of this document, and can be obtained on API website in the spreadsheet form.[1] Reporting under this Guidance by individual companies is voluntary, and is intended for individual company use. API will not be aggregating data reported by individual companies or compiling individual company reporting.

It is expected that individual companies, at their discretion, will continue to report additional GHG emissions and other climate-related indicators in order to meet the principle of completeness for a comprehensive and meaningful company inventory of GHG emissions as outlined by *The GHG Protocol*.[2] The API Guidance includes the core set of GHG indicators for oil and natural gas companies to report, as relevant for those indicators that reflect the individual company's business assets. Companies with a history of reporting, which is often advanced beyond this core set, may continue to report the wider set of GHG indicators that they have deemed appropriate.

This API Guidance includes the updated version of the API Template[3], and API and its member companies expect to update the Guidance and Template periodically, if necessary, in order to achieve continuous improvement.

The timing of individual company reporting according under this Guidance will take place at their discretion and likely according to the company's regular cycle for voluntary sustainability reporting. It is expected that for many companies the first reporting according to this Guidance would be for 2021 data. It is also anticipated that a company may phase-in over several years the reporting under this Guidance across all the applicable indicators to the company's assets.

This Guidance Document for GHG Reporting draws from existing oil and natural gas company reporting practices, builds on the industry's own existing guidance for reporting, and takes into account relevant recommended GHG emissions reporting indicators from frameworks external to the oil and natural gas industry.

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[1] The API Template Excel spreadsheet can be found and downloaded on API website: https://www.api.org/news-policy-and-issues/sustainability/ghg-reporting

[2] The Greenhouse Gas Protocol, 2015, *A Corporate Accounting and Reporting Standard*, p.8.

[3] The first version of the API Template was released in June of 2021.

3 Orientation to API Template Spreadsheet

The API Guidance consists of the core set of GHG indicators and definitions, that can be also found in the template form in Annex A of this document, as well as downloaded as an Excel spreadsheet from the API website. The spreadsheet contains two tabs:

- **Tab 1—API Template:** a core set of GHG indicators with fields that individual companies can complete with data.
- **Tab 2—API Definitions:** definitions and references for the GHG indicators in Tab 1, to guide individual company compilation and insertion of data.

4 Tab 1—API Template

Tab 1 is an Excel reporting worksheet, the API Template, that contains the core set of GHG indicators that individual companies can use for public reporting. The core set of indicators represent those that satisfy these criteria:

- relevant measures of performance;
- concise in number;
- not burdensome for companies to report;
- not generate novel risks for companies.

Under the API Guidance, individual companies should report its enterprise-wide GHG emissions.

An individual company should only report those GHG emissions indicators that apply.

4.1 The Seven Sections of API Guidance Document for GHG Reporting

The API Guidance contains the core set of GHG indicators across seven sections[4]:

- Section 0: General
- Section 1: Direct GHG Emissions (Scope 1)
- Section 2: Indirect GHG Emissions from Imported Energy (Scope 2)
- Section 3: GHG Mitigation
- Section 4: GHG Emissions Intensity
- Section 5: Indirect GHG Emissions from Consumers' Use of Products (Scope 3)
- Section 6: Additional Climate-Related Targets and Reporting
- Section 7: Third-party Verification

Sections 1–3 generally includes an aggregate “All GHGs” number for that section (e.g., overall Direct GHG Emissions in Section 1), and the more specific data entry lines within a section show a breakdown of that aggregate number according to disaggregated parameters as described section-by-section within this

[4] The seven sections can also be found in the Annex A of this document that includes the API Template, as well as downloaded in the spreadsheet for from the API website: https://www.api.org/news-policy-and-issues/sustainability/ghg-reporting

Guidance. For a given company, the API Template is designed so that the disaggregated numbers for the "All GHGs" indicators sum *within* these sections:

- Section 1 (Direct GHG Emissions—Scope 1),
- Section 2 (Indirect GHG Emissions from Imported Energy—Scope 2), and
- Section 3 (GHG Mitigation).

This structure is designed to feature the reporting of "All GHGs." In addition, the API Template includes indicators for the reporting of CH4 (methane) and of Flaring within Section 1 (Direct GHG Emissions—Scope 1), which are subsets of the "All GHGs" direct GHG emissions that are reported elsewhere in Section 1. The API Template is designed so that data for CH_4 for indicators 1.1.1.1, 1.1.2.1, and the two indicators 1.1.1.2 Upstream Flaring and 1.1.1.3 Volume of Flares are not added to the total reflected in 1.1 Direct GHG Emissions (Scope 1).

It would be inappropriate to add data across Sections 1–3 because, for an individual company, there may be instances of duplication of GHG emissions reported across Sections 1–3. As illustrative examples only, this duplication may occur if a company generates electricity that it exports to the grid that may be comingled with electricity in the grid that the company then imports (which may result in some duplication in reporting of Direct GHG Emissions and of Indirect GHG Emissions from Imported Energy) *or* if a company reports CO_2 captured for the Carbon Capture Utilization or Storage indicator in the GHG Mitigation section, some or all of which is already subtracted from its Direct GHG emissions *or* if a company reports its Indirect GHG Emissions from Imported Energy with the market-based method and then also reports its Renewable Energy Credits (RECs) in the GHG Mitigation section.

While this Guidance is inclusive of most of the sources of GHGs across the value chain and business assets of oil and natural gas companies, some of these companies have assets with associated GHG emissions that are not included as reporting indicators in this Guidance.

These companies often report these additional sources of GHG emissions in the breadth of their own additional reporting.

4.2 Constituent GHGs and Units of Measure

The following cross-cutting parameters apply across all quantitative GHG emissions indicators in this Guidance:

- Constituent GHGs: Constituent GHGs are reportable in aggregate as "All GHGs" in the API Template. For Upstream, Midstream, and Oil and Natural Gas Services within Direct GHG Emissions (Scope 1), the template also prompts for the reporting of CH_4.
- Units of measure: "All GHGs" and CH_4 are expressed as million metric tons CO_2e.

The definitions and references in Tab 2 provide more information on GHGs that may be relevant for the "All GHGs" indicators and on the conversion factors for expressing non-CO_2 GHGs in CO_2e.

4.3 General

4.3.1 IPCC AR GWP

This Guidance prompts for all data to be reported according to the 100-year global warming potential (GWP) values in "AR4," the IPCC Fourth Assessment Report (2007), Table 2.14, p. 24 in "Changes in Atmospheric Constituents and in Radiative Forcing".

4.3.2 Operated and Equity

The API Guidance and its Template accommodate individual company reporting on both an Equity and Operated basis. Individual companies may report on an Equity and/or Operated basis. Over time, individual

companies are encouraged to report all applicable indicators on both bases. Currently, in some cases, it can be challenging for companies to obtain GHG emissions information on an Equity basis due to the lack of information from third parties that are part of joint ventures. However, recognizing the importance of reporting on an Equity basis, especially for financial stakeholders, oil and natural gas companies continue to work on obtaining the necessary information and advancing their reporting on an Equity basis.

Tab 1, Cell C6 in the spreadsheet is a toggle that provides a company the functionality to report GHG emissions under this Guidance as Equity or Operated, which allows a company to clearly indicate the basis for reporting for the numbers reported. Tab 2 in the template and the Detailed Definitions section below provide definitions for Equity and Operated, per the IPIECA-API-IOGP *Sustainability Reporting Guidance for the Oil and Gas Industry*, 2020.

4.3.3 General Section—Detailed Definitions

General: Equity Basis	
Definition	Equity is based on asset ownership (or share of financial benefits) [for] the consolidation of GHG emissions data. Unlike the operational approach, data is generally consolidated from all owned, or partly owned, assets in proportion to the reporting unit's percentage share of equity in the assets. In contrast to the operational approach, this means data are consolidated from assets partially owned, but not operated by, the reporting company, as well as from operated assets that are wholly or partially owned; thus, irrespective of who the operator is, data are consolidated but only in proportion to the reporting company's ownership of each asset.
References	IPIECA-API-IOGP, 2020, *Sustainability Reporting Guidance for the Oil and Gas Industry*, p. 1.34.

General: Operated Basis	
Definition	Operated is based on the assets that a company operates even if partly owned by other companies. Data is not collected for assets operated by other companies. The operational approach generally collects and consolidates all data from assets that meet either of the following criteria: — The asset is operated by the company, whether for itself, or under a contractual obligation to other owners or participants in the asset (for example, in a joint venture or other such commercial arrangement); or — The asset is owned by a joint venture (or equivalent commercial arrangement), and operated by a joint venture partner, in respect of which the company can determine management and board-level operational decisions of the joint venture.
References	IPIECA-API-IOGP, 2020, *Sustainability Reporting Guidance for the Oil and Gas Industry*, p. 1.33.

5 Section 1—Direct GHG Emissions (Scope 1)

This Guidance and its Template prompt for reporting of company-wide absolute direct GHG emissions from company equipment or other company sources consistent with The Greenhouse Gas Protocol *A Corporate Accounting and Reporting Standard*, 2015.

5.1 Oil and Natural Gas Value Chain Disaggregation

For Scope 1 absolute emissions reporting, the API Guidance Document for GHG Reporting disaggregates GHG indicators by segments of the oil and natural gas value chain:

— upstream;

— midstream;

— downstream;

— LNG.

The boundaries for this disaggregated reporting are based on segments from the U.S. EPA Greenhouse Gas Reporting Program (GHGRP), to which individual companies with U.S. operations that trigger the threshold are required legally to report to the U.S. EPA.[5] The GHGRP is a key input to the official U.S. Greenhouse Gas Inventory (GHGI). Because the API Template prompts for reporting of company-wide GHG emissions for each indicator, individual companies should report the GHG emissions for company-wide assets (U.S. and/or non-U.S.) within the reporting boundary for each applicable indicator, and not only those GHG emissions for U.S. assets above the GHGRP reporting threshold, according to the principle of completeness for a comprehensive and meaningful inventory of GHG emissions as outlined by The GHG Protocol.[6] For non-U.S. operations, companies should apply boundaries analogous to the GHGRP segments.

For Scope 1 absolute emissions reporting, this Guidance also includes an indicator for:

— Oil and Natural Gas Field Services[7]

It is intended that the Oil and Natural Gas Field Services indicator in this Guidance is intended to be reported only by a service and supply company, not by their owner/operator client companies.

However, owner/operator client companies (i.e., oil and natural gas production companies) may also report these GHG emissions from field services in the Upstream indicator under this Guidance. This occurs because oil and natural gas production companies with operations in the U.S. are required to report GHG emissions associated with field services under the U.S. GHGRP, and because it is a widely accepted industry practice.[8] Over time, the API Guidance prompts for the GHG emissions from field equipment and mobile sources, controlled by the field service company, to be reported by the field services company only.

Section 1 Indicators—Detailed Definitions provides more information on components that comprise each of Scope 1 indicators.

5.2 Subsets of Scope 1

The API Guidance includes indicators for reporting of CH_4 (methane) and flaring, a subset of Scope 1 absolute emissions, per GHG emissions (All GHGs) and per the natural gas volume of flares.

"Subset" means that these reporting indicators are a component of the "All GHGs" indicators within Section 1 of the API Template. These CH_4 and flaring subset indicators are included in the API Guidance because they also meet the criteria for reporting indicators outlined above.

Section 1 Indicators—Detailed Definitions provides more guidance on components that comprise each these subset indicators.

5.3 Section 1 Indicators—Detailed Definitions

1.1 Direct GHG Emissions (Scope 1)—All GHGs	
Definition	GHG emissions from equipment or other sources of the company.
Units	million metric tons CO_2e
References	Definition: *The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard*

[5] The GHGRP definitions for data reporting requirements can be found at 40 CFR §98.236 Data Reporting Requirements: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98#98.236; additional instructions for reporting GHG Emissions under GHGRP Subparts can be found here: https://ccdsupport.com/confluence/display/help/Subpart+Reporting+Instructions.

[6] The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard, p.8.

[7] Oil and Gas Field Services indicator also applies to Scope 2 emissions and can be found in Section 2 of the template.

[8] Definition of the source category: 40 CFR §98.230.

1.1.1 Upstream—All GHGs	
Definition	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to onshore and offshore oil and natural gas production activities, gathering and boosting, and natural gas processing, aggregated by company.
Units	million metric tons CO_2e
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations, and applied analogously for non-U.S. operations. The 40 CFR §98.236 definitions for data reporting requirements specify boundaries of reporting for the following segments: Onshore petroleum and natural gas production (40 CFR §98.236(a)(1)), Offshore petroleum and natural gas production (40 CFR §98.236(a)(2)), Onshore natural gas processing (40 CFR §98.236(a)(3)), Onshore natural gas transmission compression (40 CFR §98.236(a)(4)), and Onshore petroleum and natural gas gathering and boosting (40 CFR §98.236(a)(9)). It also includes GHGs from Stationary Combustion.

NOTE All of the above should be counted as Upstream even though, for some companies, their business structure for purposes other than GHG reporting may consider the following categories of assets as Midstream: Onshore natural gas processing, Onshore gas transmission compression, and Onshore petroleum and natural gas gathering and boosting.

1.1.1.1 CH_4 (Methane)	
Definition	Same as 1.1.1 per CH_4.
Units	million metric tons CO_2e
References	n/a

1.1.1.2 Upstream Flaring—All GHGs (subset of Direct Emissions—Scope 1)	
Definition	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to the destruction of volatile hydrocarbon compounds (including methane) by all flares, aggregated by company.
Units	million metric tons CO_2e
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations, and applied analogously for non-U.S. operations. The 40 CFR §98.236 definitions for data reporting requirements specify boundaries of reporting GHG emissions from flaring and comprised of: Well testing flaring (40 CFR § 98.236(l)); Associated natural gas flaring (40 CFR § 98.236(m)(8)(ii) (iv)); Offshore production (40 CFR § 98.236(s)) based on the most recent BOEM OCS Study.[9]

NOTE Although in the U.S. the EPA GHGRP requires reporting of "Flare Stacks" (40 CFR § 98.236(n)(9)-(11))[10] it is not intended that a company would report these GHG emissions for this indicator in the API Template. Ongoing work to define a related flaring intensity indicator may prompt refinements to this Upstream Flaring—All GHGs indicator.

1.1.1.3 Volume of Flares	
Definition	The volume of gas flared is comprised of the volume of gas routed to flare during well testing; associated gas flaring; and during offshore production.
Units	mmcf
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations, and applied analogously for non-U.S. operations. The 40 CFR §98.236 definitions for data reporting requirements specify boundaries for quantity of gas sent to flare and comprised of: Well testing (40 CFR § 98.236(l)); associated gas flaring (40 CFR § 98.236(m)); and flaring from offshore production (40 CFR § 98.236(s)). EPA's methodology for calculating GHG emissions at 40 CFR § 98.233(n)(1) specifies that flare volume can be determined either by continuous flow measurement devices or by engineering calculations based on process knowledge, company records, or best available data.

NOTE Although in the U.S. the GHGRP requires reporting of "Flare Stacks" (40 CFR § 98.236(n)(9)-(11)), it is not intended that a company would report these GHG emissions for this indicator in the API Template. Ongoing work to define a related flaring intensity indicator may prompt refinements to this volume of flares indicator.

[9] U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM). OCS Study BOEM 2019-07, Section 4.2.5 Combustion Flares.

[10] The GHGRP definitions for data reporting requirements can be found at 40 CFR §98.236 Data Reporting Requirements: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98#98.236

1.1.2 Midstream—All GHGs	
Definition	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to Natural Gas Transmission Pipelines, Liquids Transmissions Pipelines, Natural Gas Transmission Compression Stations, Natural Gas Distribution, and Suppliers of Natural Gas Liquids*, aggregated by company.
Units	million metric tons CO_2e
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations, and applied analogously for non-U.S. operations. GHGs from Stationary Combustion, if applicable, per 40 CFR § 98.30; the 40 CFR §98.236 definitions for data reporting requirements with the following boundaries: Onshore Natural Gas Transmission Pipelines (40 CFR § 98.236(a)(10)); Underground Natural Gas Storage (40 CFR § 98.236(a)(5)); Natural Gas Distribution (40 CFR § 98.236(a)(8)). [Oil] Liquids Transmission Pipeline [not required by GHGRP].

NOTE *For suppliers of natural gas and natural gas liquids, include direct or onsite GHG emissions only (i.e., GHG emissions reported to U.S. GHGRP under Subpart C and Subpart W), not GHG emissions associated with products supplied into the economy.

1.1.2.1 CH_4 (Methane)	
Definition	Same as 1.1.2 per CH_4.
Units	million metric tons CO_2e
References	n/a

1.1.3 Downstream—All GHGs	
Definition	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to Petroleum Refining and Hydrogen Production, aggregated by company.
Units	million metric tons CO_2e
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations and applied analogously for non-U.S. operations. Data reporting requirements for Petroleum Refineries are included in the general provisions in 40 CFR §98.3(c), 40 CFR § 98.256, and 40 CFR § 98.30 for Stationary Combustion devices. Refineries that operate a hydrogen plant should also include GHG emissions from Hydrogen Production per 40 CFR §98.166

1.1.4 LNG—All GHGs	
Definition	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to LNG storage and LNG import and export equipment, aggregated by company.
Units	million metric tons CO_2e
References	From U.S. EPA Greenhouse Gas Reporting Program (GHGRP) segments for U.S. operations, and applied analogously for non-U.S. operations. The 40 CFR §98.236 definitions for data reporting requirements specify boundaries for LNG Storage (40 CFR § 98.236(a)(6)) and 40 CFR § 98.30 for stationary combustion, if applicable. LNG Import-Export Equipment (40 CFR §98.236(a)(7)) and 40 CFR § 98.30 for stationary combustion, if applicable.

1.1.5 Oil and Natural Gas Field Services—All GHGs	
Definition	Direct emissions from field service company controlled field equipment (e.g.; pumps, generators, compressors) and emissions from field service company controlled mobile sources associated with well-site activities. — Emissions from mobile sources, including actual emissions from company trucks for material transport associated with field activities (including well completions and well workovers); company planes/helicopters, vessels, and other vehicles for personnel transport as related to well-site activities (e.g., to and from the field); company forklifts, all-terrain vehicles, company construction equipment, and other off-road mobile equipment associated with well-site activities. — Emissions from engines and equipment used in field operations, including direct emissions associated with well-site activities (including well completions and well workovers); gas-driven pneumatic devices, chemical injection pumps, as well as company-owned or leased field power generators (e.g., emissions from gas turbines powering electric vehicles or electric fracturing equipment or instrument air systems); rig engines; and compressors.
Units	million metric tons CO_2e
References	The API definition draws from: — *API, Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* — Expertise of API member companies

NOTE Additional clarifications for Oil and Natural Gas Field Services Indicator:

— An individual field service company should report those GHG emissions in Section 1 that apply and leave other rows blank.

— A service provider company should report emissions from fuel used in field operations purchased by their clients, as long as it is combusted in field service company-controlled field equipment or mobile sources.

— "Controlled," for the purposes of this indicator, means equipment that is operated by the same company's staff/employees.

— A service provider company should not report emissions associated with flaring that occurs during wellhead activities, which should be reported by the owner/operator client company.

6 Section 2—Indirect GHG Emissions from Imported Energy (Scope 2)

The API Guidance prompts for reporting of company-wide absolute indirect GHG emissions from imported energy, which includes imported electricity, heat, steam, and/or cooling and is consistent with The Greenhouse Gas Protocol *Scope 2 Guidance.* The API Template includes reporting of Indirect GHG Emissions from Imported Energy (Scope 2) by disaggregated segments of the oil and natural gas value chain and by oil and natural gas field services, per the same boundaries as in reporting of Direct GHG Emissions (Scope 1) in Section 2.

The API Guidance prompts for individual company reporting on indirect GHG emissions according to the market-based method. Individual companies may report indirect GHG emissions using the location-based method or a combination of market-based and location-based methods. An individual company can use the "Comments" column to describe the relevance of market- vs. location-based methods reflected in the company's reporting. Over time, individual companies are encouraged to conduct "dual reporting" of all applicable indicators according to market- and location-based methods to allow the company to compare its individual purchasing decisions to the overall GHG intensity of the grids on which it operates.

The Greenhouse Gas Protocol defines market- and location-based methods as follows:[11]

- Market-based Method: A method to quantify Scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own.

- Location-based Method: A method to quantify Scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries.

Section 2 Indicators—Detailed Definitions provides more guidance on components that comprise each of the Scope 2 indicators.

6.1 Section 2 Indicators—Detailed Definitions

2.1 Indirect GHG Emissions from Imported Electricity + Heat + Steam + Cooling (Scope 2, Market-based)	
Definition	Indirect GHG Emissions: GHGs emitted to produce purchased energy already transformed into electricity, heat, steam, or cooling.
Units	n/a
References	Definition for Indirect GHGs: *The Greenhouse Gas Protocol, 2015, A Corporate Accounting and Reporting Standard*

2.1.1 Upstream—All GHGs	
Definition	Indirect GHG emissions (Scope 2) for same activities as in 1.1.1.
Units	million metric tons CO_2e
References	Indirect GHG emissions (Scope 2) for same activities as in 1.1.1.

2.1.2 Midstream—All GHGs	
Definition	Indirect GHG emissions (Scope 2) for same activities as in 1.1.2**.
Units	million metric tons CO_2e
References	Indirect GHG emissions (Scope 2) for same activities as in 1.1.2.

NOTE **For suppliers of natural gas and natural gas liquids, include indirect emissions from electricity or heat purchased for the purposes of operating natural gas liquids fractionation facilities or operating a natural gas distribution company.

2.1.3 Downstream—All GHGs	
Definition	Indirect GHG emissions (Scope 2) for same activities as in 1.1.3.
Units	million metric tons CO_2e
References	Indirect GHG emissions (Scope 2) for same activities as in 1.1.3.

[11] The Greenhouse Gas Protocol, 2015, *Scope 2 Guidance*, p. 104. See also Chapter 4 and a comparison table of market-based and location-based methods on p. 26. See Chapter 7 and a section on "Dual Reporting" on p. 62.

2.1.4 LNG—All GHGs	
Definition	Indirect GHG emissions (Scope 2) for same activities as in 1.1.4.
Units	million metric tons CO_2e
References	Indirect GHG emissions (Scope 2) for same activities as in 1.1.4.

2.1.5 Oil and Natural Gas Field Services—All GHGs	
Definition	Indirect emissions from field service company-controlled engines and equipment (e.g., pumps, generators, compressors) used in field operations and well-site activities (including well completions and well workovers), gas-driven pneumatic devices, chemical injection pumps, field power generators (e.g., emissions from gas turbines powering electric vehicles or electric fracturing equipment or instrument air systems), rig engines, and compressors.
Units	million metric tons CO_2e
References	Same as in 1.1.5.

7 Section 3—GHG Mitigation

The API Guidance prompts for reporting of company-wide mitigation of GHG emissions, i.e., the avoidance or removal of GHG emissions from the atmosphere. This section provides a place in the template to report different types of GHG mitigation so that they may be viewed together.

For GHG mitigation reporting, the API Guidance includes the following indicators:

— Carbon Capture Utilization or Storage (CCUS)

— Renewable Energy Credits (RECs for Indirect Emissions)

— Offsets

Section 3 Indicators—Detailed Definitions provides more guidance on each of these GHG mitigation indicators in the API Guidance.

7.1 Section 3 Indicators—Detailed Definitions

3.1.1 Carbon Capture Utilization or Storage (CCUS)—All GHGs	
Definition	CO_2 captured from anthropogenic sources or from the atmosphere, from company-owned (fully or partially) facilities/equipment, for geological storage or utilization using technology-based methods, including only CO_2 that without carbon capture would have been emitted to the atmosphere or remained in the atmosphere. For example, CO_2 captured during oil and natural gas production and CO_2 captured during combustion can include CO_2 captured from hydrogen production and other industrial processes; can include reservoir CO_2 from gas fields; and can include CO_2 captured by direct air capture (from company owned direct air capture facilities).
Units	million metric tons CO_2e
References	IPCC Special Report on Carbon Dioxide Capture and Storage; Technology Report: About CCUs, IEA

NOTE The boundary for the Carbon Capture Utilization or Storage indicator in the API Guidance is drawn around CO_2 captured from anthropogenic sources, as well as CO_2 captured directly from the atmosphere by applying direct air capture (DAC) technology. The definition of anthropogenic CO_2 used in this template adapts concepts from several relevant sources in order to support consistency, but use of those concepts is not intended to incorporate any regulations or standards. API's definition for the Carbon Capture Utilization or Storage indicator draws from the following definitions:

- Carbon Capture Utilization or Storage (CCUS): CCUS involves the capture of CO_2 from large point sources, including power generation or industrial facilities that use either fossil fuels or biomass for fuel.[12]

- Carbon Capture and Storage: A process that involves capturing the CO_2 arising from the combustion of fossil fuels, as in power generation, or from the preparation of fossil fuels, as in natural-gas processing. It can also be applied to the combustion of biomass-based fuels and in certain industrial processes, such as the production of hydrogen, ammonia, iron and steel, or cement.[13]

  - The term “emissions” is taken to refer to emissions from anthropogenic, rather than natural, sources.[14]

  - Anthropogenic source: a source that is man-made as opposed to natural.[15]

- Anthropogenic carbon dioxide: Carbon dioxide that is initially produced as a by-product of a combustion, chemical, or separation process (including separation of hydrocarbon-bearing fluids or gases) where it would otherwise be emitted to the atmosphere (excluding the recycling of non-anthropogenic CO_2).[16]

Additional clarifications for the CCUS indicator:

- Geological CO_2 storage: Permanent geological storage of CO_2 via dedicated wells or via use as a tertiary injectant for enhanced oil or natural gas recovery.

- Utilization: the use of CO_2 as a feedstock for conversion to useful products, or other commercial use of carbon oxide that results in net reduction of greenhouse gas emissions to the atmosphere (excluding enhanced oil or natural gas recovery projects).

- CO_2 reported under the CCUS indicator under the API Guidance must be captured from anthropogenic sources or from the atmosphere and must include only CO_2 that without carbon capture would have been emitted to the atmosphere or remained in the atmosphere.

- CO_2 reported under the CCUS indicator should be appropriately accounted for under Indicator 1.1, Direct GHG Emissions (Scope 1)—All GHGs, with the company’s CO_2 emissions, which are captured per this indicator, being subtracted from the company’s Indicator 1.1 Direct GHG Emissions. For CO_2 emissions captured through DAC as defined by this indicator, generally-accepted guidance for companies from all industry sectors on the treatment of DAC vis-à-vis a company’s direct GHG emissions is still forthcoming; this guidance will be updated over time accordingly.

3.1.2 Renewable Energy Credits—(RECs for Indirect Emissions—Scope 2)—All GHGs	
Definition	Renewable Energy Credit (REC): A type of energy attribute certificate, used, for example, in the U.S. and Australia. In the U.S., a REC is defined as representing the property rights to the generation, environmental, social, and other non-power attributes of renewable electricity generation. Conversion of REC MWh to CO_2e: To calculate Scope 2 emissions, the Corporate Standard recommends multiplying activity data (MWhs of electricity consumption) by source and supplier-specific emission factors to arrive at the total GHG emissions impact of electricity use.
Units	million metric tons CO_2e
References	Definition for REC: The Greenhouse Gas Protocol. 2015. Scope 2 Guidance, p. 106. Definition for Conversion of MWh to CO_2e: The Greenhouse Gas Protocol. 2015. Scope 2 Guidance, p. 6.

[12] IEA, 2021, Technology Report: About CCU.S..
[13] Intergovernmental Panel on Climate Change (IPCC), 2005, Carbon Dioxide Capture and Storage, IPCC Special Report. Technical Summary, p. 54
[14] IPCC, 2005, Carbon Dioxide Capture and Storage, p. 54
[15] IPCC, 2005, Carbon Dioxide Capture and Storage. Glossary, acronyms and abbreviations, p. 402
[16] ISO 27916: Carbon dioxide capture, transportation and geological storage — Carbon dioxide storage using enhanced oil recovery (CO2-EOR)

NOTE RECs reported per this indicator should be appropriately accounted for under Indicator 2.1 Indirect GHG Emissions, such that the market-based reporting reflects the RECs also reported in the GHG Mitigation section.

3.1.3 Offsets (Total)—All GHGs	
Definition	Credit instruments resulting from the avoidance or reduction of GHG emissions or the removal of GHGs from the atmosphere that are purchased/developed and retired by the company; can include natural climate solutions (e.g., reforestation/afforestation, wetland restoration, agricultural soil carbon sequestration, coastal or erosion control); can include technology-based solutions (e.g., non-company owned direct air capture); can include other approved protocols to generate offsets.
Units	million metric tons CO_2e
References	The API definition draws from these references: — The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard — Taskforce on Scaling Voluntary Carbon Markets. 2020. Consultation Document

NOTE The definition for the Offsets indicator in the API Guidance draws from the GHG Protocol Corporate Standard, that defines offsets as: Offsets are discrete GHG reductions used to compensate for (i.e., offset) GHG emissions elsewhere, for example to meet a voluntary or mandatory GHG target or cap.[17]

This indicator does not include offsets sold by the company.

For the purposes of the Offsets indicator in API Guidance, the reported offsets should be consistent with the key characteristics identified by the Taskforce on Scaling Voluntary Carbon Markets (TSVCM), including:

— Real

— Based on realistic and credible baselines

— Monitored, reported, and verified

— Permanent

— Additional

— Only counted once

— Free of leakage (or leakage accounted for)

— Does no net harm.[18]

8 Section 4—GHG Emissions Intensity

8.1 Section 4.1—GHG Emissions Intensity Indicators Overview

The API Guidance prompts for reporting of company-wide GHG emissions intensity indicators, as relevant for those indicators that reflect the individual company's business assets.[19] For GHG Emissions Intensity reporting, the API Guidance includes:

[17] The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard, p. 59.
[18] Taskforce on Scaling Voluntary Carbon Markets. 2020. Consultation Document, p. 58.
[19] Note that the GHG Emissions Intensity Section 4 of the API Template 2.0 is not applicable to oil and natural gas field service companies.

- 4.1: Scope 1 + Scope 2 Upstream GHG Intensity
- 4.2: Scope 1 Upstream Methane Intensity
- 4.3: Scope 1 Upstream Flaring Intensity
- 4.4: Scope 1 + Scope 2 Liquids Pipeline Transmission GHG Intensity
- 4.5: Scope 1 Natural Gas Pipelines Transmission & Storage Methane Intensity
- 4.6: Scope 1 + Scope 2 Downstream GHG Intensity
- 4.7: Scope 1 + Scope 2 LNG GHG Intensity
- 4.8: Additional Intensity Indicators, if applicable (e.g., further disaggregated by constituent GHG or by more granular business asset, and/or for additional business assets beyond these categories)

Similarly for the indicators of absolute GHG emissions and mitigation in Sections 1-3, the API Guidance facilitates reporting GHG Emissions Intensity on an Equity and Operated basis. Individual companies may report on an Equity and/or Operated basis. Over time, the intent of the API Guidance\ is to prompt a company to report intensity indicators on an equity basis, which reflects a GHG emissions intensity associated with the same performance indicators for oil and natural gas production, and/or transmission, and/or manufacturing that are reported to financial stakeholders[20] and that reflect a company's economic interest.[21] Because equity-based GHG emissions data is a challenge for oil and natural gas companies to obtain from third party business venture partners,[22] it is expected to take longer for individual companies to report the GHG Emissions Intensity indicators on an equity basis. Finally, a company that reports GHG Intensity indicators on an equity basis may omit reporting on an operated basis but also may choose to do both, if practicable, for comparability purposes.

Most of the GHG Emissions Intensity indicators in the API Guidance include Scope 1 (direct GHG emissions) and Scope 2 (indirect GHG emissions from consumption of purchased electricity, heat or steam) in the numerator. The intent is to provide a fuller picture of a company's GHG emissions performance associated with its operations and over its energy use.

The API Template also includes a row *Additional Intensity Metrics*, where a company may check a yes/no box to signal to its stakeholders whether it reports any additional intensity indicators, including those consistent with other established oil and natural gas industry GHG reporting frameworks (e.g., Oil and Gas Climate Initiative (OGCI), American Exploration & Production Council (AXPC), Energy Infrastructure Council (EIC), OneFuture, and/or the Natural Gas Sustainability Initiative, among others).

This section provides more guidance on each of these GHG Emissions Intensity indicators on an Equity and Operated bases.

8.2 Section 4.2—GHG Emissions Intensity Indicators—Detailed Definitions—Equity Basis

For the equity-share approach for reporting GHG emissions intensity indicators, a company should obtain the applicable equity share direct GHG Emissions (Scope 1) and the equity share indirect GHG emissions from imported energy (Scope 2) associated with the same equity volumetric numbers used in the denominator for each indicator.

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[20] GHG performance data reported by oil and natural gas companies is often used by financial stakeholders, which are measuring their own GHG profile on basis of equity GHG emissions of Assets Under Management (AUM) or lending portfolios.

[21] Greenhouse Gas Protocol, Chapter 3: Setting Organizational Boundaries, http://pdf.wri.org/ghg_protocol_2004_chp003.pdf

[22] API will work with its member companies to facilitate knowledge-sharing and capacity-building to advance equity-based GHG Emissions Intensity reporting.

The detailed methodology for calculating the GHG Emissions Intensity indicators on an equity basis is outlined below.

4.1 Scope 1 + Scope 2 Upstream GHG Intensity (Equity)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an equity basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Liquids and gas produced for sale as reported in financial disclosures (e.g., Annual Report). The production boundary is aligned with net production values disclosed in a company's Annual Report, which usually excludes production volumes associated with royalty barrels (e.g., under SEC guidance for financial disclosures). However, for calculating intensity, companies may include royalty barrels in the denominator, as long as the associated GHG emissions are also included in the numerator. Ensuring that numerator and denominator match helps facilitate comparability of the metric from company to company. In some instances, it might not be practicable for a company to align the numerator and denominator, which is acceptable only when the metric yields a more conservative estimate (e.g., GHG emissions associated with royalties are included in the numerator, but respective volumes are excluded from the denominator). Companies should clearly disclose their approach to royalties in the Comments section of the Template.
Equation	$\frac{(\text{Scope 1} - \text{GHG emissions from exported electricity and steam}) + \text{Scope 2}}{\text{Liquids and gas produced in BOE (as reported in financial disclosures)}}$
Units	kilograms CO_2e / BOE
References	The API definition draws from these references: API members' reporting experience and input Title 17 Commodity and Securities Exchanges, Subpart 229.1200, https://www.ecfr.gov/cgi-bin/text-idx?node=sp17.3.229.229_11200&rgn=div6&se17.3.229_11204

NOTE According to SEC requirements, companies disclose production by final product sold, of oil, gas, and other products:

— Production of natural gas should include only marketable production of natural gas on an "as sold" basis.

— Flared gas, injected gas, and gas consumed in operations should be omitted.

Additional Guidance on Accounting for GHG Emissions and Production Entitlement when Reporting on an Equity-Basis

Differences between Equity Share and Entitlement Share of Net Production (under PSA/PSC): According to the *IPIECA Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*, the equity share "…reflects economic interest, which is the extent of rights a company has to the risks and benefits flowing from assets.

Typically, the share of the risks and benefits in an asset is aligned with the company's percentage ownership of that asset, and equity share will normally be the same as the ownership percentage. Where this is not the case, the economic substance of the relationship the company has with the reporting unit should typically override the legal ownership to ensure that equity share reflects the percentage of economic interest." However, in some cases companies might have in place specific contractual arrangements that either set out how GHG Emissions are to be allocated to the partners, or alter the normal practice of allocating costs and benefits in proportion to the equity interest.

One type of arrangement that alters the normal practice of allocating benefits in proportion to equity is the Production Sharing Agreement/Contract (PSA/PSC). Under PSA/PSC, one or more oil companies and a government entity or state company in which the participating companies provide financing and bear the risk of exploration and production activities in exchange for a share of the production remaining after royalties are paid to the government, including taxes and other levies paid in kind. This share of remaining production, commonly referred to as the company's entitlement share of net production, should be used as the basis for allocating emissions. The relevant net production volumes and the company share can be obtained directly from company financial departments.

Source: IPIECA *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions*[23]

4.2 Scope 1 Upstream Methane Intensity (Equity)	
Definition	**Numerator:** Upstream Scope 1 methane emissions reported in Section 1 of the API Template, calculated on an equity basis. **Denominator:** Same denominator boundary as in 4.1.
Equation	$\frac{\text{Scope 1 } CH_4}{\text{Liquids and gas produced in BOE (as reported in financial disclosures)}}$
Units	kilograms CO_2e / BOE

4.3 Scope 1 Upstream Flaring Intensity (Equity)	
Definition	**Numerator:** Upstream Scope 1 Flaring emissions (All GHGs) as reported in Section 1 of the API Template, calculated on an equity basis. **Denominator:** Same denominator boundary as in 4.1.
Equation	$\frac{\text{Scope 1 Flaring (all GHGs)}}{\text{Liquids and gas produced in BOE (as reported in financial disclosures)}}$
Units	kilograms CO_2e / BOE

[23] IPIECA. 2011. *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions, Second Edition,* https://www.ipieca.org/resources/good-practice/petroleum-industry-guidelines-for-reporting-greenhouse-gas-emissions-2nd-edition/, p. 3-4.

4.4 Scope 1 + Scope 2 Liquids Pipeline Transmission GHG Intensity (Equity)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, associated with a company's liquid, pipelines and estimated on an equity basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Liquids pipelines throughput measured in barrel-miles. The throughput boundary consistent with FERC Financial Report FERC Form No. 6 definition of barrel-miles throughput or applied analogously for non-U.S. operations. A company should use an analogous boundary for identifying the throughput volume on an equity basis for this indicator.
Equation	$\frac{(\text{Scope 1} - \text{GHG emissions from exported electricity and steam}) + \text{Scope 2}}{\text{Liquids throughput in barrel-miles}}$
Units	million metric tons CO_2e / throughput in barrel-miles
References	The API definition draws from these references: FERC Financial Report FERC Form No. 6, https://www.ferc.gov/sites/default/files/2020-06/Form-6-6Q.pdf

NOTE The boundary for the Liquids Pipeline Transmission GHG Intensity indicator in the API Guidance covers only liquids pipelines. Other midstream segments, associated with liquids transportation (e.g., trucking, rail, maritime), are not covered by this indicator and may be included in future updates of the Guidance.

The boundary for the denominator is aligned with the volumes reported by midstream companies on the FERC Financial Report FERC Form No. 6, which is only applicable to companies that are required to report under the said form and that are operating in the United States. A company should apply an analogous boundary to its assets in other jurisdictions and report company-wide Liquids Pipeline Transmission GHG Intensity. API recognizes the challenges associated with applying an analogous boundary in other jurisdictions, which is why it may take time for companies with assets outside the U.S. to report to this indicator on a company-wide basis. If a company does not report all of its equity liquids GHG emissions and/or throughput in this indicator, it should clearly state in the Comments box of the API template what percentage of its company-wide liquids pipeline GHG emissions is covered by this indicator and explain why.

4.5 Scope 1 Natural Gas Pipelines Transmission & Storage Methane Intensity (Equity)	
Definition	Methane emissions intensity associated with natural gas transmission and storage, calculated consistent with the NGSI Methane Protocol methodology. **Numerator:** Direct Scope 1 methane emissions, aggregated across relevant sources, as reported to GHGRP (for all relevant sources, consult the NGSI Methane Emissions Intensity Protocol, section #6 Protocol for the Transmissions & Storage Segment), calculated on an equity basis. **Denominator:** Natural gas throughput * Methane content For transmission and storage natural gas throughput is natural gas volume transported in transmission pipelines as reported on PHMSA Form F 7100.2-1 Part C (Volume Transported in Transmission Pipelines (Only) in Million Standard Cubic Feet per Year (MMscf)) of the Annual Report for Natural Gas and Other Gas Transmission and Gathering Pipeline Systems to the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration as required by 49 CFR Part 191. A company should use an analogous boundary for identifying the throughput volume on an equity basis for this indicator.
Equation	$\frac{\text{Methane Emissions from Natural Gas}}{\text{Methane Content of Natural Gas Throughput}}$
Units	%
References	The API definition draws from these references: — Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol, — https://www.aga.org/contentassets/c87fc10961fe453fb35114e7d908934f/ngsi_methaneintensityprotocol_v1.0_feb2021.pdf — Instructions for Form PHMSA F 7100.2-1, https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/subdoc/3161/gtgg annualinstructionsphmsa-f-71002-1cy-2010-and-2011.pdf

NOTE The boundary of the Natural Gas Pipelines Transmission & Storage Methane Intensity indicator in the API Guidance covers only the natural gas transmission and storage segment. While there are other midstream segments that do have GHG emissions (including processing, gathering & boosting, distribution), those segments do not fall within the boundary of this indicator and the appropriate methodologies to report their intensities may be evaluated for future updates of the API Guidance. The purpose of the Natural Gas Pipelines Transmission & Storage Methane Intensity indicator is to facilitate comparability among midstream companies with the transmission and storage component, and this indicator should be reported on a company wide basis. API recognizes the challenges associated with applying an analogous boundary to jurisdictions outside the U.S. due to varying approaches to segmenting the midstream natural gas value chain under different regulatory frameworks. It may take time for companies with global assets to report to this indicator on a company-wide basis. If a company does not report all of its equity natural gas pipelines transmission and storage GHG emissions and/or throughput in this indicator, it should clearly state in the Comments box of the API Template what percentage of its GHG emissions is covered by this indicator and explain why.

Methodology: To convert the transmission and storage segment throughput to methane, the reporting company will have to estimate the methane content of transported natural gas. The reporting company can use and disclose its own estimate of the methane content of natural gas or can use a default factor of 93.4 percent. To calculate transmission and storage segment intensity, the GHG emissions and throughput estimates must be converted to like units of methane. This can be on a mass basis or a volumetric basis. Companies reporting methane emissions intensity should use a methane density (at standard temperature and pressure) of 0.0192 metric tons per thousand cubic feet, consistent with the methane density used by EPA in the GHGRP (40 CFR 98.233(v)). For additional details, consult the Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol.[24]

4.6 Scope 1 + Scope 2 Downstream GHG Intensity (Equity)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, associated with a company's refining activity and estimated on an equity basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Refinery processed inputs volume as reported in financial disclosures.
Equation	$\frac{\text{(Scope 1} - \text{GHG emissions from exported electricity and steam) + Scope 2}}{\text{Refinery processed inputs (as reported in financial disclosures)}}$
Units	kilograms CO_2e / BOE

NOTE A company may also disclose downstream intensity indicators based on a methodology that accounts for the differences in the complexity of downstream operational activities and facilities, e.g., which accounts for refinery complexity and reflects a carbon-weighted barrel. A future update of the API Guidance will consider the inclusion of such a methodology as it becomes standardized and accepted within the industry.

[24] Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol, https://www.aga.org/contentassets/c87fc10961fe453fb35114e7d908934f/ngsi_methaneintensityprotocol_v1.0_feb2021.pdf

4.7 Scope 1 + Scope 2 LNG GHG Intensity (Equity)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an equity basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Volumes for export as reported to U.S Department of Energy (U.S. DOE) or using an analogous boundary for jurisdictions outside the U.S.
Equation	$\frac{(\text{Scope 1} - \text{GHG emissions from exported electricity and steam}) + \text{Scope 2}}{\text{Volumes for export (as reported to U.S. DOE)}}$
Units	million metric tons CO_2e / mmcf

NOTE Volumes for export, as reported to the U.S. DOE, represent volumes of product that is loaded from a company's terminals each year for shipment. If a company reports volumes for export to the U.S. DOE on an operated basis, it should use an analogous boundary for reporting to this indicator on an equity basis if the equity basis number is different.

8.3 Section 4.3—GHG Emissions Intensity Indicators—Detailed Definitions—Operated

API recognizes the challenges associated with obtaining equity-based Scope 1 and Scope 2 GHG emissions data, as noted earlier in this Guidance. Therefore, the API Guidance facilitates reporting GHG emissions intensity indicators on an operated basis as companies continue to enhance methods to obtain equity-share GHG emissions data from its joint venture partners in a timely manner. Companies reporting GHG emissions intensity on an operated basis should strive to transition to the equity-share approach with time. Stakeholders using the API Guidance to compare performance should note that comparing two companies that report GHG emissions should be done on a like-for-like basis (either equity compared to equity *or* operated compared with operated).[25] Therefore, a company reporting to the API Template under this Guidance Guidance should clearly indicate what method (operational control and/or equity share) is used to report GHG performance.

For reporting GHG emissions intensity indicators on an operated basis, a company should include direct GHG Emissions (Scope 1) on an operated basis and indirect GHG emissions from imported energy (Scope 2) on an operated basis (where applicable), associated with the same operated volumetric numbers used in the denominator for each indicator.

The detailed methodology for calculating the GHG Emissions Intensity indicators on an operated basis is outlined below.

[25] IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry. Module 3 Climate change and energy. March 2020. https://www.ipieca.org/media/5110/ipieca_sustainability-guide_2020_mod3-cce.pdf

4.1 Scope 1 + Scope 2 Upstream GHG Intensity (Operated)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an operated basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Gross (wellhead) production of oil and gas, consistent with compliance reporting to U.S. EPA GHGRP and the industry guidance. "Gross Production" on an operated basis means wellhead production of crude oil, condensates, natural gas liquids and dry gas (including flared gas and gas used for fuel but excluding gas reinjected into the reservoir).
Equation	$\frac{(\text{Scope 1} - \text{GHG emissions from exported electricity and steam}) + \text{Scope 2}}{\text{Gross liquids and gas production in BOE}}$
Units	kilograms CO_2e / BOE
References	The API definition draws from these references: — API members' reporting experience and input — IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry. 4th Edition, 2020. https://www.ipieca.org/media/5115/ipieca_sustainability-guide-2020.pdf

NOTE The established industry reporting guidance recommends using gross hydrocarbon production at the wellhead for measuring GHG emissions intensity on an operated basis.[26]

The methodology for calculating Upstream GHG Intensity metrics on an operated basis relies on matching boundary for numerator and denominator, which means GHG emissions from flared gas are included in the numerator and respective volumes are included in denominator. The denominator consists of gross (or wellhead) production on BOE basis, and includes volumes associated with flared gas and gas used for fuel onsite by the company. Including flared volumes in the denominator might give a skewed impression of a company's GHG emissions intensity performance because companies with higher flaring volumes could have lower overall Upstream GHG Intensity performance and vice versa. The API Guidance also prompts for reporting Upstream Flaring Intensity, which should be the indicator used to reflect a company's efficiency in reducing associated gas flaring. To ensure more accurate representation of a company's Upstream GHG emissions intensity, companies are encouraged to report intensity metrics on an equity basis, which relies on marketed volumes in denominator and excludes flared volumes.

4.2 Scope 1 Upstream Methane Intensity (Operated)	
Definition	**Numerator:** Upstream methane emissions reported in Section 1 of the API Template, calculated on an operated basis. **Denominator:** Same denominator boundary as in 4.1.
Equation	$\frac{\text{Scope 1 } CH_4}{\text{Gross liquids and gas production in BOE}}$
Units	kilograms CO_2e / BOE

[26] IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry, p. 3.15.

4.3 Scope 1 Upstream Flaring Intensity (Operated)	
Definition	**Numerator:** Upstream Scope 1 Flaring emissions (All GHGs) as reported in Section 1 of the API Template, calculated on an operated basis. **Denominator:** Same denominator boundary as in 4.1.
Equation	$\frac{\text{Scope 1 Flaring (all GHGs)}}{\text{Gross liquids and gas production in BOE}}$
Units	kilograms CO_2e / BOE

4.4 Scope 1 + Scope 2 Liquids Pipelines Transmission GHG Intensity (Operated)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, associated with a company's liquids pipelines and estimated on an operated basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Liquids pipelines throughput measured in barrel-miles. Throughput boundary consistent with FERC Financial Report FERC Form No. 6 definition of barrel- miles throughput or applied analogously for non-U.S. operations.
Equation	$\frac{(\text{Scope 1} - \text{GHG emissions from exported electricity and steam}) + \text{Scope 2}}{\text{Liquids throughput in barrel-mile}}$
Units	million metric tons CO_2e / throughput in barrel-miles
References	The API definition draws from these references: — FERC Financial Report FERC Form No. 6, https://www.ferc.gov/sites/default/files/2020-06/Form-6-6Q.pdf

NOTE The boundary for the Liquids Pipelines Transmission GHG Intensity indicator under the API Template Guidance covers only liquids pipelines. Other midstream segments, associated with liquids transportation (e.g., trucking, rail, maritime), are not covered by this indicator and may be included in future iterations of the Template.

The boundary for the denominator is aligned with the volumes reported by midstream companies on the FERC Financial Report FERC Form No. 6, which is only applicable to companies that are required to report under the said form and that are operating in the United States. A company should apply an analogous boundary to its assets in other jurisdictions and report company-wide Liquids Pipeline Transmission GHG Intensity. API recognizes the challenges associated with applying an analogous boundary in other jurisdictions, which is why it may take time for companies with assets outside the U.S. to report to this indicator on a company-wide basis. If a company does not report all of its operated liquids GHG emissions and/or throughput in this indicator, it should clearly state in the Comments box of the API Template what percentage of its company-wide liquids pipeline GHG emissions is covered by this indicator and explain why.

4.5 Scope 1 Natural Gas Pipelines Transmission & Storage Methane Intensity (Operated)	
Definition	Methane emissions intensity associated with natural gas transmission and storage segment, calculated in consistence with the NGSI Methane Protocol methodology. **Numerator:** Direct Scope 1 methane emissions, aggregated across relevant sources, as reported to GHGRP (for all relevant sources, consult the NGSI Methane Emissions Intensity Protocol, section #6 Protocol for the Transmissions & Storage Segment), calculated on an operated basis. **Denominator:** Natural gas throughput * Methane content Transmission and storage natural gas throughput is natural gas volume transported in transmission pipelines as reported on PHMSA Form F 7100.2-1 Part C (Volume Transported in Transmission Pipelines (Only) in Million Standard Cubic Feet per Year (MMscf)) of the Annual Report for Natural Gas and Other Gas Transmission and Gathering Pipeline Systems to the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration as required by 49 CFR Part 191.
Equation	$\frac{\text{Methane Emissions from Natural Gas}}{\text{Methane Content of Natural Gas Throughput}}$
Units	%
References	The API definition draws from these references: — Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol, — https://www.aga.org/contentassets/c87fc10961fe453fb35114e7d908934f/ngsi_methaneintensityprotocol_v1.0_feb2021.pdf — Instructions for Form PHMSA F 7100.2-1, https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/subdoc/3161/gtggannualinstructionsphmsa-f-71002-1cy-2010-and-2011.pdf

NOTE The boundary of the Natural Gas Pipelines Transmission & Storage Methane Intensity indicator in the API Guidance covers only the transmission and storage segment. While there are other midstream segments that can have significant GHG emissions (including processing, gathering & boosting, distribution), those segments do not fall within the boundary of this indicator and the appropriate methodologies may be evaluated for future updates of the API Guidance. The purpose of the Natural Gas Pipelines Transmission & Storage Methane Intensity indicator is to facilitate comparability among midstream companies with the transmission and storage component, and this indicator should be reported on a company wide basis. API recognizes the challenges associated with applying an analogous boundary to jurisdictions outside the U.S. due to varying approaches to segmenting the midstream natural gas value chain under different regulatory frameworks. It may take time for companies with global assets to report to this indicator on a company-wide basis. If a company does not report all of its operated natural gas pipelines transmission and storage GHG emissions and/or throughput in this indicator, it should clearly state in the Comments box of the API Template what percentage of its GHG emissions is covered by this indicator and explain why.

Methodology: To convert transmission and storage segment throughput to methane, the reporting company will have to make an assumption about the methane content of transported natural gas. The reporting company can use and disclose its own estimate of the methane content of natural gas or can use a default factor of 93.4 percent. To calculate transmission and storage segment intensity, the emissions and throughput estimates must be converted to like units of methane. This can be on a mass basis or a volumetric basis. Companies reporting methane emissions intensity should use a methane density (at standard temperature and pressure) of 0.0192 metric tons per thousand cubic feet, consistent

with the methane density used by EPA in the GHGRP (40 CFR 98.233(v)). For additional details, consult the Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol.[27]

4.6 Scope 1 + Scope 2 Downstream GHG Intensity (Operated)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, associated with a company's refining activity and estimated on an operated basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Refinery processed inputs volume on an operated basis.
Equation	$\frac{\text{(Scope 1} - \text{GHG emissions from exported electricity and steam) + Scope 2}}{\text{Refinery processed inputs}}$
Units	kilograms CO_2e / BOE

NOTE A company may also disclose downstream intensity indicators based on a methodology that accounts for the differences in the complexity of downstream operational activities and facilities, e.g., which accounts for refinery complexity and reflects a carbon-weighted barrel. A future update of the API Guidance will consider the inclusion of such a methodology as it becomes standardized and accepted within the industry.

4.7 Scope 1 + Scope 2 LNG GHG Intensity (Operated)	
Definition	**Numerator:** Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an operated basis, less GHG emissions from exported electricity and steam, if applicable. **Denominator:** Volumes for export as reported to U.S Department of Energy (U.S. DOE) or using an analogous boundary for jurisdictions outside the U.S.
Equation	$\frac{\text{(Scope 1} - \text{GHG emissions from exported electricity and steam) + Scope 2}}{\text{Volumes for export (as reported to U.S. DOE)}}$
Units	million metric tons CO_2e / mmcf

NOTE Volumes for export, as reported to the U.S. DOE, represent volumes of product that is loaded from a company's terminals each year for shipment.

9 Section 5—Indirect GHG Emissions from Consumers' Use of Products (Scope 3)

9.1 Section 5.1—Essential Context and Limitations of Scope 3 Reporting

The API Guidance prompts for an individual company to include reporting on the indirect GHG emissions from consumers' use of products, which falls under Scope 3 Category 11 as categorized by the Greenhouse Gas Protocol.[28] While many of the fifteen categories of Scope 3 emissions from the Greenhouse Gas Protocol are relevant to the oil and natural gas industry and several may be relevant for an individual company, API Guidance prompts for the reporting of GHG emissions from consumers' use of products sold to them by an oil and natural gas company, i.e., Category 11, because they can represent more than 90% of total GHG

[27] Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol, https://www.aga.org/contentassets/c87fc10961fe453fb35114e7d908934f/ngsi_methaneintensityprotocol_v1.0_feb2021.pdf

[28] Greenhouse Gas Protocol. Corporate Value Chain (Scope 3) Standard. 2011. https://ghgprotocol.org/standards/scope-3-standard

emissions associated with the entire value chain of oil and gas from production through to consumer use, as evident from the aggregation of companies' reporting of GHG emissions over time.

The scope of consumer products, and their associated GHG emissions, covered in this Guidance draws from the IPIECA-API document of methodologies, Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions:

> "Use of sold product GHG emissions in the oil and gas sector includes the direct end- use phase emissions of final products such as motor fuels and natural gas. This includes the end-use phase GHG emissions of sold intermediate products such as crude oil.
>
> Category 11 includes the total expected lifetime use emissions for products sold during the accounting year, independent of when the actual use occurs."[29]

GHG emissions from the use of sold products are not within a company's control. Scope 3 emissions on an individual company basis are also not an indicator of whether global GHG emissions are being reduced and do not provide context of how GHG emissions fit within the global energy system.

For instance, the growth of the U.S. natural gas industry increased the Scope 3 emissions of many individual natural gas companies at the same time that this growth also enabled a net GHG emissions country-wide decrease in the U.S. electric power sector from natural gas replacing coal for power generation. This perspective is lost when Scope 3 emissions are not presented in context. Scope 3 Category 11 emissions reporting also leads to multiple-counting because it identifies GHG emissions within the energy value chain that overlap between many different companies.

To draw attention to these important nuances and challenges, the API Guidance and the Template include the following contextual label, urging stakeholders to approach Scope 3 GHG emissions reported under this Guidance with care and caution:

> Attention: Scope 3 emissions from the use of sold products are released when the hydrocarbons produced and marketed by oil and natural gas companies are combusted by consumers. GHG emissions from the use of sold products are not within a company's control, and it should be noted that not 100% of the hydrocarbon products produced/refined/sold by the company may be combusted at the end of the product lifecycle. Scope 3 emissions lead to extensive multiple counting of GHG emissions across the economy. Therefore, it is inaccurate to add together Scope 3 emissions reported by individual companies in order to ascertain GHG emissions from consumers' use of oil and natural gas products. As noted above, API will not be aggregating Scope 3 emissions data reported by individual companies. For example, an oil and natural gas company's Scope 3 emissions represent Scope 1 and/or Scope 2 emissions for fuel consumers (e.g., electric utility combusting natural gas, individuals using gasoline, manufacturers purchasing natural gas to power their operations). Scope 3 emissions on an individual company basis are not an indicator whether global GHG emissions are being reduced and do not provide context of how GHG emissions fit within the global energy system. Scope 3 emissions are also not indicative of a company's strategy to manage potential climate risks and opportunities nor of a company's commercial strategy or viability.

To estimate Scope 3 emissions from the use of sold products, a company should utilize the method(s) appropriate to its business as catalogued by the IPIECA-API document of methodologies, *Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions*:

> "Estimating use-phase GHG emissions first requires companies to determine what constitutes the quantity of products sold. For exploration and production (E&P) companies, products sold include the

[29] IPIECA/API. 2016. Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions, p. 50, https://www.ipieca.org/resources/good-practice/estimating-petroleum-industry-value-chain-scope-3-greenhouse-gas-emissions-overview-of-methodologies/

total crude and natural gas produced; for refiners and retailers, products sold include the refinery and retail products sold, respectively.

However, what constitutes the products sold can be more difficult to identify for integrated oil and gas (IO&G) companies that sell products at several points throughout their operations." [30]

The IPIECA-API overview of methodologies outlines three methods that can be used to estimate Scope 3 (Category 11) GHG emissions based on types and amounts of final products production, refinery throughput, and sales.[31] The applicability of these methods to different types of oil and natural gas companies is as follows:

Type of Natural Gas & Oil Company	Applicable Methodology from IPIECA/API document of approaches
Upstream	Production
Downstream	Refinery Throughput and/or Sales
Integrated (Upstream + Downstream)	Production, Refinery Throughput, and/or Sales

For peer-to-peer comparability purposes, IO&G companies may choose to report Scope 3 (Category 11) using all three methods. [32] However, the API Guidance prompts for reporting Scope 3 (Category 11) GHG emissions using one of the methods, and a company should clearly state in the Comments box of the Template which method(s) was (were) used. A company reporting using multiple methods may state so in the Comments box of the Template and include relevant links.

The three methods require knowing the types and amounts of final products sold[33], which is then multiplied by relevant emissions factors.[34] For greater comparability purposes, it is recommended that a company use the API *Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* to obtain relevant emissions factors.[35] Furthermore, for greater emissions factor accuracy, it is recommended that a company breaks down its production by the type of fuel/product sent to the market. For example:

- Production method: Scope 3 (Category 11) GHG emissions = (crude oil production * crude oil emission factor) + (processed gas production * processed gas emission factor) + (unprocessed gas production * unprocessed gas emission factor) + (natural gas liquids production * natural gas liquids emission factor).[36]

LNG companies should use an analogous methodology for estimating Scope 3 Category 11 GHG emissions, based on the volumes for export (as reported to U.S. DOE for U.S.-based facilities or using an analogous boundary for other jurisdictions). For example:

- LNG Sales Method: Volumes for export * natural gas emissions factor[37]

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[30] IPIECA-API. 2016. Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions, Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions. Overview of methodologies. | IPIECA, p. 50.

[31] For more information about the production, refinery throughput, and sales methods, consult IPIECA- API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions.

[32] IPIECA-API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions, p. 52.

[33] IPIECA-API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions, p. 52.

[34] Some companies may utilize the estimation approach based on carbon content as described in IPIECA-API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions.

[35] API. 2021. Compendium Of Greenhouse Gas Emissions Methodologies For The Natural Gas and Oil Industry, https://www.api.org/-/media/Files/Policy/ESG/GHG/2021-API-GHG-Compendium-110921.pdf?la=en&hash=4B6E056EC663A4DE6133ED2A6F2F9865D7D33FA9

[36] This methodology does not account for various oil assays, which have different emissions factors/carbon content. API will work with its industry partners to further refine the calculation methodology and provide guidance for more granular approach for estimating Scope 3 (Category 11) GHG emissions data.

[37] For emissions factors for LNG, refer to the API Compendium.

Scope 3 (Category 11) reporting is not applicable to oil and gas pipeline companies that transport but do not produce, refine, or sell the product they transport.[38] Therefore, these assets do not fall under any of the methodologies in IPIECA/API *Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions.* Similarly, oil and natural gas field services companies are not expected to report Scope 3 (Category 11) under the API Guidance.

It should be noted that not 100% of the hydrocarbon products produced/refined/sold by the company may be combusted at the end of the product lifecycle; for example, some of the volumes can be used to produce plastics, lubricants that are not combusted, or asphalt.[39] A company that can track its own products and their final use with accuracy may choose to subtract the volumes associated with these non-combusted products. However, any company that has to rely on significant estimates and assumptions about the final use of its products should report Scope 3 (Category 11) GHG emissions under the assumption that 100 % of its product is ultimately combusted.[40] A company should clearly state its approach in the Comments box of the API Template.

9.2 Section 5.2—Scope 3 (Category 11) Indicator—Detailed Definition

5.1 Indirect GHG Emissions from Consumers' Use of Products (Scope 3)	
Definition	Report Scope 3 indirect GHG emissions from consumers' use of products (Category 11) using one or multiple calculation methods (as applicable) in the IPIECA/API Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions (2016). Upstream: Production Method Downstream: Refinery Throughput and/or Sales Methods Integrated (Upstream + Downstream): Production, Refinery Throughput, and/or Sales Methods. [Midstream: N/A -- midstream assets reflect the transmission of products but not their production, manufacturing, or sales] Specify the method in the Comments box, as well as indicate if your company reports Scope 3 (Category 11) using other methods, include relevant links.
Units	million metric tons CO_2e
References	Scope 3 (Category 11) calculation methods: Estimating petroleum industry value chain(Scope 3) greenhouse gas emissions. Overview of methodologies. 2016. IPIECA/API, p. 50. https://www.ipieca.org/resources/good-practice/estimating-petroleum-industry-value-chain-scope-3-greenhouse-gas-emissions-overview-of-methodologies/

10 Section 6—Additional Climate-Related Targets and Reporting

The API Guidance prompts for an individual company to include information on its additional climate-related targets and reporting beyond what is covered in under this Guidance. Indicators 6.1 and 6.2 prompt companies to check a “yes” or “no” box (no number inserted). Companies may add links to its relevant reports/sources (or others that contain the company’s information) in the “Comments” box in the API Template (e.g., a link to the

[38] CDP. 2021. CDP Technical Note: Guidance methodology for estimation of Scope 3 category 11 emissions for oil and gas companies, https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/guidance_docs/pdfs/000/000/469/original/CDP-Scope-3-Category11-Guidance-Oil-Gas.pdf?1479754082

[39] Only combustion emissions, not the embodied emissions associated with the fuel extraction, production and transportation should be included. Source: IPIECA-API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions.

[40] API will work with its members and industry associations (such as IPIECA, OGCI) to refine further the Scope 3 Category 11 GHG emissions estimation methods to provide detailed guidance on the treatment of non-combusted volumes, which may be included in further versions of the API Template.

TCFD-informed report in the Comments box under the Indicator 6.2). Indicator 6.3, Additional Climate Reporting Resources, prompts companies to include additional climate-related reports or publications that were not referenced earlier but which a company believes include relevant and additional information.

10.1 Section 6 Indicators—Detailed Definitions

6.1 GHG Reduction Target(s)	
Definition	Check "yes" if your company has a specific GHG reduction target(s). Provide relevant reference links in the Comments box.
Units	n/a
References	n/a

6.2 TCFD-informed Reporting	
Definition	Check "yes" if your company publishes TCFD-informed report covering four thematic areas identified by TCFD: governance, strategy, risk management, and metrics and targets.
Units	n/a
References	Task Force on Climate-related Financial Disclosures

6.3 Additional Climate Reporting Resources	
Definition	Include links to additional climate-related reports published by your company.
Units	n/a
References	n/a

11 Section 7—Third-party Verification

The API Guidance prompts for an individual company to include information on third-party verification of its GHG emissions reporting:

— Assurance Level: the degree, or level, of the finding from the entity that the individual company engaged for third-party verification. The company should indicate either a "Reasonable" or "Limited" assurance level). Companies should use the "Comments" column in the API Template to indicate what was included in the scope of work for the verifier, and any differentiation in the level of assurance for the indicators reported.

— Assurance Provider: the name of the entity that the individual company engaged for third-party verification.

The Assurance Level conducted may vary across the indicators reported under this Guidance. For some indicators, a different level or a type of assurance may apply, and some indicators might not be assured by a third party. An individual company should include in the comments an explanation of the scope of the Assurance Level indicated as it applies or does not apply to distinct indicators under this Guidance.

11.1 Section 7 Indicators—Detailed Definitions

7.1 Assurance Level

Definition	Describe level(s) of assurance, either: 1) Reasonable assurance engagement: An assurance engagement in which the practitioner reduces engagement risk to an acceptably low level in the circumstances of the engagement as the basis for the practitioner's conclusion. The practitioner's conclusion is expressed in a form that conveys the practitioner's opinion on the outcome of the measurement or evaluation of the underlying subject matter against criteria. OR 2) Limited assurance engagement: An assurance engagement in which the practitioner reduces engagement risk to a level that is acceptable in the circumstances of the engagement but where that risk is greater than for a reasonable assurance engagement as the basis for expressing a conclusion in a form that conveys whether, based on the procedures performed and evidence obtained, a matter(s) has come to the practitioner's attention to cause the practitioner to believe the subject matter information is materially misstated. The nature, timing, and extent of procedures performed in a limited assurance engagement is limited compared with that necessary in a reasonable assurance engagement but is planned to obtain a level of assurance that is, in the practitioner's professional judgment, meaningful. To be meaningful, the level of assurance obtained by the practitioner is likely to enhance the intended users' confidence about the subject matter information to a degree that is clearly more than inconsequential.
Units	n/a
References	International Standard on Assurance Engagements, 2013, *ISAE 3000 (revised 2015), Assurance Engagements Other than Audits or Reviews of Historical Financial Information*

NOTE "Comments" column in the API Template should be used by company to indicate what was included in the scope of work for the verifier, and any differentiation in the level of assurance for the indicators reported.

7.2 Assurance Provider	
Definition	Name of provider
Units	n/a
References	n/a

12 References

12.1 API Compendium

The API *Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry* is the foundational reference used by companies and governments around the world to estimate GHG emissions from oil and gas industry operations. The Compendium is an essential resource as the industry makes efforts to reduce its GHG emissions—without a consistent and well-defined baseline accounting of emissions, an operator cannot credibly commit to any measure of reduction. First published in 2001, with its fourth update completed in 2021, the Compendium provides the methodology details for all oil and natural gas industry segments to consistently estimate direct emissions of greenhouse gases through the entire value-chain. (Additional Information)

12.2 Greenhouse Gas (GHG) Protocol

The API Guidance prompts for an individual company to report the GHG emissions for company-wide assets globally within the reporting boundary for each applicable indicator according to the principle of completeness for a comprehensive and meaningful inventory of GHG emissions as outlined by the GHG Protocol. The API Guidance also draws from the GHG Protocol the definitions for the reporting of Indirect GHG Emissions from Imported Energy (Scope 2) and for the reporting of Offsets within GHG Mitigation. The GHG Protocol establishes comprehensive global standardized frameworks to measure and manage greenhouse gas (GHG)

emissions from private and public sector operations, value chains and mitigation actions. Building on a 20-year partnership between World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), GHG Protocol works with governments, industry associations, NGOs, businesses and other organizations. Greenhouse Gas Protocol provides the world's most widely used greenhouse gas accounting standards for companies. The GHG Protocol standards and guidance enables companies to measure, manage and report greenhouse gas emissions from their operations and value chains. (Additional Information)

12.3 IPCC

The API Guidance prompts for all data to be reported according to the 100-year global warming potential (GWP) values in "AR4," the IPCC Fourth Assessment Report. The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. The IPCC provides regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation. Created in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), the objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies. IPCC reports are also a key input into international climate change negotiations. (Additional Information)

12.4 IPIECA-API-IOGP Sustainability Reporting Guidance for the Oil and Gas Industry

The API Guidance is complementary to the IPIECA-API-IOGP *Sustainability Reporting Guidance*, standardizing the reporting of several indicators prompted for an individual company to report per Module 3 "Climate Change and Energy" of the IPIECA-API-IOGP Guidance. The Sustainability Reporting Guidance for the oil and natural gas industry is a key tool to help companies shape the structure and content of their sustainability reporting. It brings together the collective wealth of technical expertise from the membership of the three associations. The IPIECA-API-IOGP Guidance has existed since 2005, and its 4th update was completed in 2020. It provides direction on the content of a typical industry report by covering 21 sustainability issues and 43 indicator categories. These issues and indicators have been selected based on industry consensus, together with significant insights and suggestions from an independent panel of stakeholders with expertise in the sector and sustainability reporting. The website for the IPIECA-API-IOGP Guidance also includes links to IPIECA's guides, tools and materials that help member companies and the oil and natural gas industry address the sustainability issues and indicators included in the IPIECA-API-IOGP Guidance. (Additional Information)

12.5 IPIECA/API Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions

Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions informs companies on value chain greenhouse gas (GHG) emissions estimation and approaches. Much of the material draws on the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) GHG Protocol Scope 3 Standard. (Additional Information)

12.6 U.S. EPA Greenhouse Gas Reporting Program (GHGRP)

The business asset boundaries for individual indicators under the API Guidance for disaggregated reporting by value chain segments (e.g., Upstream, Midstream, Downstream, and LNG) are based on the United States Environmental Protection Agency GHGRP. Some other parameters for the reporting of GHG indicators under this Guidance, for a company's U.S.-based assets (if applicable), are also drawn from the GHGRP. The GHGRP is the annual compliance reporting program for approximately 8000 facilities, including those of the oil and natural gas industry that meet the requirements.

According to the EPA, "The GHGRP requires reporting of greenhouse gas (GHG) data and other relevant information from large GHG emission sources, fuel and industrial gas suppliers, and CO_2 injection sites in the United States." GHGRP data are made available to the public each October. (Additional Information)

Annex A

API Template

API Template for GHG Reporting

This voluntary Template is intended for individual company use. API will not be aggregating data reported by individual companies or compiling individual company reporting.

General

Date:
IPCC AR GWP: *AR4*
Basis: *Equity*

No.	Indicator	Units	Year	Year	Comments
1. Direct GHG Emissions (Scope 1)					
1.1	**Direct GHG Emissions (Scope 1) - All GHGs**	(million metric tons CO_2e)	-		
1.1.1	**Upstream - All GHGs**	(million metric tons CO_2e)			
1.1.1.1	CH_4	(million metric tons CO_2e)			
1.1.1.2	Upstream Flaring (All GHGs; subset of Scope 1)	(million metric tons CO_2e)			
1.1.1.3	Volume of Flares	(mmcf)			
1.1.2	**Midstream - All GHGs**	(million metric tons CO_2e)			
1.1.2.1	CH_4	(million metric tons CO_2e)			
1.1.3	**Downstream - All GHGs**	(million metric tons CO_2e)			
1.1.4	**LNG - All GHGs**	(million metric tons CO_2e)			
1.1.5	**Oil and Natural Gas Field Services - All GHGs**	(million metric tons CO_2e)			
2. Indirect GHG Emissions from Imported Energy (Scope 2)					
2.1	**Indirect GHG Emissions from Imported Electricity + Heat + Steam + Cooling (Scope 2, *Market-based*)**		-		
2.1.1	**Upstream - All GHGs**	(million metric tons CO_2e)			
2.1.2	**Midstream - All GHGs**	(million metric tons CO_2e)			
2.1.3	**Downstream - All GHGs**	(million metric tons CO_2e)			
2.1.4	**LNG - All GHGs**	(million metric tons CO_2e)			
2.1.5	**Oil and Natural Gas Field Services - All GHGs**	(million metric tons CO_2e)			
3. GHG Mitigation					
3.1	**GHG Mitigation from CCUS, Credits, and Offsets**	(million metric tons CO_2e)			
3.1.1	**Carbon Capture Utilization or Storage (CCUS) - All GHGs**	(million metric tons CO_2e)			
3.1.2	**Renewable Energy Credits - (RECs for Indirect Emissions) - All GHGs**	(million metric tons CO_2e)			
3.1.3	**Offsets - All GHGs**	(million metric tons CO_2e)			
4. GHG Emissions Intensity					
4.1	**Scope 1 + Scope 2 Upstream GHG Intensity**	million metric tons CO2e/MBOE			
4.2	**Scope 1 Upstream Methane Intensity**	million metric tons CO2e/MBOE			
4.3	**Scope 1 Upstream Flaring Intensity**	million metric tons CO2e/MBOE			
4.4	**Scope 1 + Scope 2 Liquids Pipelines Transmission GHG Intensity**	million metric tons CO2e/throughput in barrel-miles			
4.5	**Scope 1 Natural Gas Pipelines Transmission & Storage Methane Intensity**	%			
4.6	**Scope 1 + Scope 2 Downstream GHG Intensity**	million metric tons CO2e/MBOE			
4.7	**Scope 1 + Scope 2 LNG GHG Intensity**	million metric tons CO2e/mmcf			
4.8	**Additional Intensity Metrics, if applicable (e.g., further disaggregated by constituent GHG or by more granular business asset, and/or for additional business assets beyond these categories)**	☐ Yes ☐ No			

5. Indirect GHG Emissions from Consumers' Use of Products (Scope 3)

***Attention:** Scope 3 emissions from the use of sold products are released when the hydrocarbons produced and marketed by natural gas and oil companies are combusted by consumers. GHG emissions from the use of sold products are not within a company's control, and it should be noted that not 100% of the hydrocarbon products produced/refined/sold by the company may be combusted at the end of the product lifecycle. Scope 3 emissions lead to extensive multiple counting of GHG emissions across the economy. Therefore, it is inaccurate to add together Scope 3 emissions reported by individual companies in order to ascertain GHG emissions from consumers' use of oil and natural gas products. As noted above, API will not be aggregating Scope 3 emissions data reported by individual companies. For example, an oil and natural gas company's Scope 3 emissions represent Scope 1 and/or Scope 2 emissions for fuel consumers (e.g., electric utility combusting natural gas, individuals using gasoline, manufacturers purchasing natural gas to power their operations). Scope 3 emissions on an individual company basis are not an indicator whether global GHG emissions are being reduced and do not provide context of how GHG emissions fit within the global energy system. Scope 3 emissions are also not indicative of a company's strategy to manage potential climate risks and opportunities nor of a company's commercial*

5.1	**Indirect GHG Emissions from Use of Sold Products (Category 11)**	(million metric tons CO2e)			

6. Additional Climate-Related Targets and Reporting

6.1	**GHG Reduction Target(s)**	☐ Yes ☐ No			
6.2	**TCFD-informed reporting**	☐ Yes ☐ No			
6.3	**Additional Climate Reporting Resources**	*Include links in the Comments Box*			

7. Third-party Verification

7.1	**Assurance Level**				
7.2	**Assurance Provider**				

Definitions for API Template for GHG Reporting

General		Definition	Reference to Applicable Source
Date published:			
IPCC AR GWP:		*AR4*	*IPCC Fourth Assessment Report (2007), Table 2.14, p. 24 in chapter "Changes in Atmospheric Constituents and in Radiative Forcing," https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf.*
Basis:	*Equity*	Equity is based on asset ownership (or share of financial benefits)…[for] the consolidation of GHG emissions data. Unlike the operational approach, data is generally consolidated from all owned, or partly owned, assets in proportion to the reporting unit's percentage share of equity in the assets. In contrast to the operational approach, this means data are consolidated from assets partially owned, but not operated by, the reporting company, as well as from operated assets that are wholly or partially owned – thus, irrespective of who the operator is, data are consolidated but only in proportion to the reporting company's ownership of each asset.	IPIECA-API-IOGP *Sustainability Reporting Guidance for the Oil and Gas Industry*, 2020, p. 1.34, https://www.ipieca.org/our-work/sustainability-reporting/sustainability-reporting-guidance/
	Operated	Operated is based on the assets that a company operates even if partly owned by other companies. Data is not collected for assets operated by other companies. The operational approach generally collects and consolidates all data from assets that meet either of the following criteria: ▪ the asset is operated by the company, whether for itself, or under a contractual obligation to other owners or participants in the asset (for example, in a joint venture or other such commercial arrangement); or ▪ the asset is owned by a joint venture (or equivalent commercial arrangement), and operated by a joint venture partner, in respect of which the company can determine management and board level operational decisions of the joint venture.	IPIECA-API-IOGP *Sustainability Reporting Guidance for the Oil and Gas Industry*, 2020, p. 1.33

No.	Indicator	Units	Definition	Reference to Applicable Source
1. Direct GHG Emissions (Scope 1)				
1.1	**Direct GHG Emissions (Scope 1) - All GHGs**	(million metric tons CO_2e)	GHG emissions from equipment or other sources of the company	Definition: The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard, https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf. Boundaries for all Direct Emissions (Scope 1) below are from US EPA Greenhouse Gas Reporting Program (GHGRP) Segments for US operations, and applied analagously for non-US operations
1.1.1	Upstream - All GHGs	(million metric tons CO_2e)	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to onshore and offshore oil and natural gas production activities, gathering and boosting, and natural gas processing, aggregated by company.	From US EPA Greenhouse Gas Reporting Program (GHGRP) segments for US operations, and applied analagously for non-US operations. The GHGRP definitions for data reporting requirements are at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1236, with the following boundaries for this indicator: -Onshore petroleum and natural gas production (40 CFR §98.236(a)(1) -Offshore petroleum and natural gas production (40 CFR §98.236(a)(2) -Onshore natural gas processing(40 CFR §98.236(a)(3) -Onshore natural gas transmission compression(40 CFR §98.236(a)(4) -Onshore petroleum and natural gas gathering and boosting: 40 CFR § 98.236(a)(1)-(4), 40 CFR § 98.236(a)(9). It also includes GHGs from Stationary Combustion, if applicable 40 CFR §98.36 https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#sp40.23.98.c

1.1.1.1 CH_4	(million metric tons CO_2e)	As above per CH_4	
1.1.1.2 Upstream Flaring - All GHGs (subset of Direct GHG Emissions - Scope 1)	(million metric tons CO_2e)	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to the destruction of volatile hydrocarbon compounds (including methane) by all flares, aggregated by company.	From US EPA Greenhouse Gas Reporting Program (GHGRP) segments for US operations, and applied analogously for non-US operations. Total GHG emissions from flaring is specified in https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1236 with the following boundaries for this indicator: -Well testing flaring – 40 CFR § 98.236(l) -Associated natural gas flaring - 40 CFR § 98.236(m)(8)(ii)-(iv) -Offshore production - 40 CFR § 98.236(s) based on the most recent data from the BOEM OCS Study at https://espis.boem.gov/final%20reports/BOEM_2019-072.pdf.
1.1.1.3 Volume of Flares	(mmcf)	The volume of gas flared is comprised of the volume of gas routed to flare during well testing; associated gas flaring; and including gas flared during offshore production.	Quantity of gas sent to flare as related to: Well testing - 40 CFR § 98.236(l) Associated gas flaring - 40 CFR § 98.236(m) Offshore production - 40 CFR § 98.236(s). EPA's methodology for calculating GHG emissions at 40 CFR § 98.233(n)(1) https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1233 specifies that flare volume can be determined either by continuous flow measurement devices or by engineering calculations based on process knowledge, company records or best available data.
1.1.2 Midstream - All GHGs	(million metric tons CO_2e)	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to Natural Gas Transmission Pipelines, Liquids Transmissions Pipelines, Natural Gas Transmission Compression Stations, Natural Gas Distribution, and Suppliers of Natural Gas Liquids, aggregated by company.	From US EPA Greenhouse Gas Reporting Program (GHGRP) segments for US operations, and applied analogously for non-US operations. GHGs from Stationary Combustion, if applicable: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#sp40.23.98.c. The GHGRP definition for data reporting requirements are at: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1236, with the following boundaries: -Onshore Natural Gas Transmission Pipelines: 40 CFR § 98.236(a)(10) -Underground Natural Gas Storage 40 CFR § 98.236(a)(5) -Natural Gas Distribution: 40 CFR § 98.236(a)(8) -[Oil] Liquids Transmission Pipeline [not required by GHGRP].
1.1.2.1 CH_4	(million metric tons CO_2e)	As above per CH_4	
1.1.3 Downstream - All GHGs	(million metric tons CO_2e)	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to Petroleum Refining and Hydrogen Production, aggregated by company.	From US EPA Greenhouse Gas Reporting Program (GHGRP) segments for US operations, and applied analogously for non-US operations. Data reporting requirements for Petroleum Refineries are at https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1256, included in the general provisions in 40 CFR §98.3(c), 40 CFR § 98.256, and 40 CFR § 98.30 for Stationary Combustion devices. Refineries that operate a hydrogen plant should also include GHG emissions from Hydrogen Production per 40 CFR §98.166.
1.1.4 LNG - All GHGs	(million metric tons CO_2e)	Direct facility emissions of greenhouse gases (CO_2, CH_4, and N_2O) related to LNG storage and LNG import and export equipment, aggregated by company.	From US EPA Greenhouse Gas Reporting Program (GHGRP) segments for US operations, and applied analogously for non-US operations. The GHGRP definition for data reporting requirements for LNG are at: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=fc08a5fdd6066ccdc97932d15a4b5d20&mc=true&n=pt40.23.98&r=PART&ty=HTML#se40.23.98_1236; with the following boundaries: -LNG Storage: 40 CFR § 98.236(a)(6), and 40 CFR § 98.30 for stationary combustion, if applicable. -LNG Import-Export Equipment: 40 CFR § 98.236(a)(7), and 40 CFR § 98.30 for stationary combustion, if applicable.

1.1.5	**Oil and Natural Gas Field Services - All GHGs**	(million metric tons CO_2e)	Direct emissions from field service company controlled field equipment (e.g., pumps, generators, compressors) and emissions from field service company controlled mobile sources associated with well-site activities. ▪ Emissions from mobile sources, including actual emissions from company trucks for material transport associated with field activities (including well completions and well workovers); company planes/helicopters, vessels, and other vehicles for personnel transport as related to well-site activities (e.g., to and from the field); company forklifts, all-terrain vehicles, company construction equipment, and other off-road mobile equipment associated with well-site activities. ▪ Emissions from engines and equipment used in field operations including direct emissions associated with well-site activities (including well completions and well workovers); gas-driven pneumatic devices, chemical injection pumps, as well as company-owned or leased field power generators (e.g., emissions from gas turbines powering electric vehicles or electric fracturing equipment or instrument air systems); rig engines; and compressors.	The API definition draws from: -API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, August 2009, https://www.api.org/~/media/files/ehs/climate-change/2009_ghg_compendium.ashx -Expertise of API member companies

2. Indirect GHG Emissions from Imported Energy (Scope 2)				
2.1	Indirect GHG Emissions from Imported Electricity + Heat + Steam + Cooling (Scope 2, ***Market-based)***		Indirect GHG Emissions: GHGs emitted to produce purchased energy already transformed into electricity, heat, steam, or cooling Market-based Method: A method to quantify scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own. [vs. Location-based Method: A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries].	Definition for Indirect GHGs: The Greenhouse Gas Protocol. 2015. *A Corporate Accounting and Reporting Standard*, https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf. Definitions for Market- and Location-based Methods: The Greenhouse Gas Protocol. 2015. *Scope 2 Guidance*, p. 104, https://ghgprotocol.org/sites/default/files/standards/Scope%202%20Guidance_Final_Sept26.pdf. See also Chapter 4 and a comparison table of market-based and location-based methods on p. 26. See Chapter 7 and a section on "Dual Reporting" on p. 62.
2.1.1	Upstream - All GHGs	(million metric tons CO_2e)	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.1	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.1
2.1.2	Midstream - All GHGs	(million metric tons CO_2e)	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.2	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.2
2.1.3	Downstream - All GHGs	(million metric tons CO_2e)	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.3	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.3
2.1.4	LNG - All GHGs	(million metric tons CO_2e)	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.4	Indirect GHG emissions (Scope 2) for same activities as above in 1.1.4
2.1.5	**Oil and Natural Gas Field Services - All GHGs**	(million metric tons CO_2e)	Indirect emissions from field service company controlled field equipment (e.g., pumps, generators, compressors) used in field operations and well-site activities (including well completions and well workovers); gas-driven pneumatic devices, chemical injection pumps, as well as company-owned or leased field power generators (e.g., emissions from gas turbines powering electric vehicles or electric fracturing equipment or instrument air systems); rig engines; and compressors.	The API definition draws from: -API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, August 2009, https://www.api.org/~/media/files/ehs/climate-change/2009_ghg_compendium.ashx -Expertise of API member companies

3. GHG Mitigation				
3.1.1	**Carbon Capture Utilization or Storage (CCUS) - All GHGs**	(million metric tons CO_2e)	CO2 captured from anthropogenic sources or from the atmosphere, from company owned (fully or partially) facilities/equipment, for geological storage or utilization using technology-based methods, including only CO2 that without carbon capture would have been emitted to the atmosphere or remained in the atmosphere. For example, CO2 captured during oil and natural gas production and CO2 captured during combustion; can include CO2 captured from hydrogen production and other industrial processes; can also include reservoir CO2 from gas fields; can include CO2 captured by direct air capture (from company owned DAC facilities).	The API definition draws from these references – *Note that the definitions used in this template adopt concepts from several relevant sources in order to support consistency but use of those concepts is not intended to incorporate any regulations or standards.* -IPCC Special Report on Carbon Dioxide Capture and Storage, https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_wholereport-1.pdf -Technology Report: About CCUS, IEA, https://www.iea.org/reports/about-ccus -ISO 27916: Carbon dioxide capture, transportation and geological storage — Carbon dioxide storage using enhanced oil recovery (CO2-EOR), https://www.iso.org/standard/65937.html
3.1.2	**Renewable Energy Credits - (RECs for Indirect Emissions) - All GHGs**	(million metric tons CO_2e)	Renewable Energy Credit (REC): A type of energy attribute certificate, used, for example, in the U.S. and Australia. In the U.S., a REC is defined as representing the property rights to the generation, environmental, social, and other non-power attributes of renewable electricity generation. Conversion of REC MWh to CO2e: To calculate scope 2 emissions, the Corporate Standard recommends multiplying activity data (MWhs of electricity consumption) by source and supplier-specific emission factors to arrive at the total GHG emissions impact of electricity use.	Definition for REC: The Greenhouse Gas Protocol. 2015. Scope 2 Guidance, p. 106, https://ghgprotocol.org/sites/default/files/standards/Scope%202%20Guidance_Final_Sept26.pdf. Definition for Conversion of MWh to CO_2e: The Greenhouse Gas Protocol. 2015. Scope 2 Guidance, p. 6, https://ghgprotocol.org/sites/default/files/standards/Scope%202%20Guidance_Final_Sept26.pdf.
3.1.3	**Offsets - All GHGs**	(million metric tons CO_2e)	Credit instruments resulting from the avoidance or reduction of GHG emissions or the removal of GHGs from the atmosphere that are purchased/developed and retired by the company; can include natural climate solutions (e.g., reforestation/afforestation, wetland restoration, agricultural soil carbon sequestration, coastal or erosion control); can include technology-based solutions (e.g., non-company owned direct air capture); can include other approved protocols to generate offsets.	The API definition draws from these references: -The Greenhouse Gas Protocol. 2015. A Corporate Accounting and Reporting Standard, https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf -Taskforce on Scaling Voluntary Carbon Markets. 2020. Consultation Document, https://www.iif.com/Portals/1/Files/TSVCM_Consultation_Document.pdf
4. Intensity - GHG Emissions				
4.1	**Scope 1 + Scope 2 Upstream GHG Intensity**	million metric tons CO2e/MBOE	Equity: Numerator (Equity): Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an equity basis, less GHG emissions from exported electricity and steam, if applicable. --- Denominator (Equity): Liquids and gas produced for sale as reported in financial disclosures (e.g., Annual Report). // Operated: Numerator (Operated): Scope 1 and Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, estimated on an operated basis, less GHG emissions from exported electricity and steam, if applicable. --- Denominator (Operated): Gross (wellhead) production of oil and gas, consistent with compliance reporting to U.S. EPA GHGRP and the industry guidance. "Gross Production" on an operated basis means wellhead production of crude oil, condensates, natural gas liquids and dry gas (including flared gas and gas used for fuel but excluding gas reinjected into the reservoir).	The API definition draws from these references: - Equity: Title 17 Commodity and Securities Exchanges, Subpart 229.1200, https://www.ecfr.gov/cgi-bin/text-idx?node=sp17.3.229.229_11200&rgn=div6#se17.3.229_11204 - Operated: IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry, p. 3.15. For additional details for reporting on an equity-share and operational control basis, see the Guidance.

4.2	**Scope 1** Upstream Methane Intensity	million metric tons CO2e/MBOE	Equity: Numerator (Equity): Upstream Scope 1 methane emissions reported in Section 1 of the API Template, calculated on an equity basis. ———————————————————— Denominator (Equity): Liquids and gas produced for sale as reported in financial disclosures (e.g., Annual Report). // Operated: Numerator (Operated): Upstream Scope 1 methane emissions reported in Section 1 of the API Template, estimated on an operated basis. ———————————————————— Denominator (Operated): Gross (wellhead) production of oil and gas, consistent with compliance reporting to U.S. EPA GHGRP and the industry guidance. "Gross Production" on an operated basis means wellhead production of crude oil, condensates, natural gas liquids and dry gas (including flared gas and gas used for fuel but excluding gas reinjected into the reservoir).	The API definition draws from these references: - Equity: Title 17 Commodity and Securities Exchanges, Subpart 229.1200, https://www.ecfr.gov/cgi-bin/text-idx?node=sp17.3.229.229_11200&rgn=div6#se17.3.229_11204 - Operated: IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry, p. 3.15. For additional details for reporting on an equity-share and operational control basis, see the Guidance.
4.3	**Scope 1** Upstream Flaring Intensity	million metric tons CO2e/MBOE	Equity: Numerator (Equity): Upstream Scope 1 flaring emissions reported in Section 1 of this Template, calculated on an equity basis. ———————————————————— Denominator (Equity): Liquids and gas produced for sale as reported in financial disclosures (e.g., Annual Report). // Operated: Numerator (Operated): Upstream Scope 1 flaring emissions reported in Section 1 of this Template, estimated on an operated basis. ———————————————————— Denominator (Operated): Gross (wellhead) production of oil and gas, consistent with compliance reporting to U.S. EPA GHGRP and the industry guidance. "Gross Production" on an operated basis means wellhead production of crude oil, condensates, natural gas liquids and dry gas (including flared gas and gas used for fuel but excluding gas reinjected into the reservoir).	The API definition draws from these references: - Equity: Title 17 Commodity and Securities Exchanges, Subpart 229.1200, https://www.ecfr.gov/cgi-bin/text-idx?node=sp17.3.229.229_11200&rgn=div6#se17.3.229_11204 - Operated: IPIECA-API-IOGP Sustainability reporting guidance for the oil and gas industry, p. 3.15. For additional details for reporting on an equity-share and operational control basis, see the Guidance.
4.4	**Scope 1** + **Scope 2** Liquids Pipelines Transmission GHG Intensity	million metric tons CO2e/throughput in barrel-miles	Numerator: Scope 1 and Scope 2 emissions, associated with a company's liquids pipelines, less GHG emissions from exported electricity and steam, if applicable. Reported on an equity or operated basis. ———————————————————— Denominator: Liquids pipelines throughput measured in barrel-miles. Throughput boundary consistent with FERC Financial Report FERC Form No. 6 definition of barrel-mile throughput or applied analogously for non-US operations. Accounted on an equity or operated basis, consistent with the numerator.	FERC Financial Report FERC Form No. 6, https://www.ferc.gov/sites/default/files/2020-06/Form-6-6Q.pdf
4.5	**Scope 1** Natural Gas Pipelines Transmission & Storage Methane Intensity	%	Methane emissions intensity associated with natural gas transmission and storage, calculated consistent with the NGSI Methane Protocol. Reported on an equity or operated basis. Numerator: Direct Scope 1 methane emissions, aggregated across relevant sources, as reported to GHGRP (for all relevant sources, consult the NGSI Methane Emissions Intensity Protocol, section #6 Protocol for the Transmissions & Storage Segment). Reported on an equity or operated basis. ———————————————————— Denominator: Natural gas throughput * Methane content. Accounted on an equity or operated basis, consistent with the numerator.	The API definition draws from these references: - Natural Gas Sustainability Initiative Methane Emissions Intensity Protocol, https://www.aga.org/contentassets/c87fc10961fe453fb35114e7d908934f/ngsi_methaneintensityprotocol_v1.0_feb2021.pdf - Instructions for Form PHMSA F 7100.2-1, https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/subdoc/3161/gtggannualinstructionsphmsa-f-71002-1cy-2010-and-2011.pdf

4.6	**Scope 1 + Scope 2 Downstream GHG Intensity**	million metric tons CO_2e/MBOE	Numerator: Scope 1 + Scope 2 emissions, associated with a company's refining activity, less GHG emissions from exported electricity and steam, if applicable. Estimated on an equity or operated basis. ——————————————————— Denominator: Refinery processed inputs volume. Accounted on an equity or operated basis, consistent with the numerator.	For additional details for reporting on an equity-share and operational control basis, see the Guidance.
4.7	**Scope 1 + Scope 2 LNG GHG Intensity**	million metric tons CO_2e/mmcf	Numerator: Scope 1 + Scope 2 emissions, consistent with Section 1 and Section 2 of the Template, less GHG emissions from exported electricity and steam, if applicable. Reported on an equity or operated basis. ——————————————————— Denominator: Volumes for export as reported to U.S Department of Energy (U.S. DOE) or using an analogous boundary for jurisdictions outside the U.S. Accounted on an equity or operated basis, consistent with the numerator.	For additional details for reporting on an equity-share and operational control basis, see the Guidance.
4.8	Additional Intensity Metrics, if applicable (e.g., further disaggregated by constituent GHG or by more granular business asset, and/or for additional business assets beyond these categories)	*yes/no*	Check "yes" if your company reports additional intensity metrics, including those consistent with other established natural gas and oil industry GHG reporting frameworks (e.g., Oil and Gas Climate Initiative (OGCI), American Exploration & Production Council (AXPC), Energy Infrastructure Council (EIC), OneFuture, and/or the Natural Gas Sustainability Initiative (NGSI), among others). Include relevant notes and links in the Comments box.	N/A

5. Indirect GHG Emissions from Consumers' Use of Products (Scope 3)

Attention: Scope 3 emissions from the use of sold products are released when the hydrocarbons produced and marketed by natural gas and oil companies are combusted by consumers. GHG emissions from the use of sold products are not within a company's control, and it should be noted that not 100% of the hydrocarbon products produced/refined/sold by the company may be combusted at the end of the product lifecycle. Scope 3 emissions lead to extensive multiple counting of GHG emissions across the economy. Therefore, it is inaccurate to add together Scope 3 emissions reported by individual companies in order to ascertain GHG emissions from consumers' use of oil and natural gas products. As noted above, API will not be aggregating Scope 3 emissions data reported by individual companies. For example, an oil and natural gas company's Scope 3 emissions represent Scope 1 and/or Scope 2 emissions for fuel consumers (e.g., electric utility combusting natural gas, individuals using gasoline, manufacturers purchasing natural gas to power their operations). Scope 3 emissions on an individual company basis are not an indicator whether global GHG emissions are being reduced and do not provide context of how GHG emissions fit within the global energy system. Scope 3 emissions are also not indicative of a company's strategy to manage potential climate risks and opportunities nor of a company's commercial strategy or viability.

5.1	Indirect GHG Emissions from Use of Sold Products (**Category 11**)	(million metric tons CO_2e)	Report Scope 3 indirect GHG emissions from consumers' use of products (Category 11) using one or multiple calculation methods (as applicable) in the IPIECA/API Estimating Petroleum Industry Value Chain (Scope 3) Greenhouse Gas Emissions (2016). Upstream: Production Method Downstream: Refinery Throughput and/or Sales Methods Integrated (Upstream + Downstream): Production, Refinery Throughput, and/or Sales Methods. [Midstream: N/A -- midstream assets reflect the transmission of products but not their production, manufacturing, or sales] Specify the method in the Comments box, as well as indicate if your company reports Scope 3 (Category 11) using other methods, include relevant links.	Scope 3 (Category 11) calculation methods: Estimating petroleum industry value chain (Scope 3) greenhouse gas emissions. Overview of methodologies. 2016. IPIECA/API, p. 50. https://www.ipieca.org/resources/good-practice/estimating-petroleum-industry-value-chain-scope-3-greenhouse-gas-emissions-overview-of-methodologies/

6. Additional Climate-Related Targets and Reporting				
6.1	GHG Reduction Target(s)	*yes/no*	Check "yes" if your company has a specific GHG reduction target(s). Provide relevant reference links in the Comments box.	N/A
6.2	TCFD-informed reporting	*yes/no*	Check "yes" if your company publishes TCFD-informed report covering four thematic areas identified by TCFD: governance, strategy, risk management, and metrics and targets.	Task Force on Climate-related Financial Disclosures, https://www.fsb-tcfd.org/
6.3	Additional Climate Reporting Resources		Include links to additional climate-related reports published by your company (e.g., SASB).	N/A
7. Third-party Verification				
7.1	Assurance level		Describe level(s) of assurance, either: 1. Reasonable assurance engagement—An assurance engagement in which the practitioner reduces engagement risk to an acceptably low level in the circumstances of the engagement as the basis for the practitioner's conclusion. The practitioner's conclusion is expressed in a form that conveys the practitioner's opinion on the outcome of the measurement or evaluation of the underlying subject matter against criteria. -OR- 2. Limited assurance engagement—An assurance engagement in which the practitioner reduces engagement risk to a level that is acceptable in the circumstances of the engagement but where that risk is greater than for a reasonable assurance engagement as the basis for expressing a conclusion in a form that conveys whether, based on the procedures performed and evidence obtained, a matter(s) has come to the practitioner's attention to cause the practitioner to believe the subject matter information is materially misstated. The nature, timing, and extent of procedures performed in a limited assurance engagement is limited compared with that necessary in a reasonable assurance engagement but is planned to obtain a level of assurance that is, in the practitioner's professional judgment, meaningful. To be meaningful, the level of assurance obtained by the practitioner is likely to enhance the intended users' confidence about the subject matter information to a degree that is clearly more than inconsequential.	International Standard on Assurance Engagements (ISAE) 3000 (Revised 2015), *Assurance Engagements Other than Audits or Reviews of Historical Financial Information,* https://www.ifac.org/system/files/publications/files/ISAE%203000%20Revised%20-%20for%20IAASB.pdf#page=7. "Comments" column in template should be used by company to indicate what was included in the scope of work for the verifier, and any differentiation in the level of assurance for the indicators reported.
7.2	Assurance provider		Name of provider	