Guidance for companies reporting on climate change on behalf of investors & supply chain members 2017

CDP
respond@cdp.net
www.cdp.net

Version Control

Version Nr.	Revision Date	Released	Revision Summary
0.5	March 2017	March 2017	Version 0.5 of the 2017 CDP climate change guidance has been released to make the following corrections: • An omitted guidance point on what a response to question CC2.2a should cover has been reinserted (guidance point number vii.); and • A reference to '2015' in the guidance for CC13.1a has been updated to say 'the next reporting year'.
0.4	March 2017	March 2017	Version 0.4 of the 2017 CDP climate change guidance has been released to make minor clarifications: • The link to the Scoring Introduction document on page 9 has been updated and links to the 2017 version of that document; and • A scoring note has been added on page 41 regarding responses to the science-based target column in questions CC3.1a and CC3.1b.
0.3	February 2017	February 2017	Version 0.3 of the 2017 CDP climate change guidance has been released to make minor clarifications: • The first two dropdown options of the column entitled "Is this a science-based target?" in questions CC3.1a and CC3.1b have been amended to express that a science-based target has been approved as being science-based (or not), rather than simply having been assessed (or not), by the Science Based Targets initiative (SBTi); and • A link to a technical note on restatements has been added to the guidance for CC12.1.
0.2	January 2017	January 2017	Version 0.2 of the 2017 CDP climate change guidance has been prepared for the disclosure period commencing in February 2017. Please note that minor amendments have been made since the publication of the advance version of this guidance (version 0.1, released in December 2016) for clarification purposes: • Drop down options in CC3.2a column 3 have been specified; • The guidance language for CC5.1/6.1 (and their sub-questions) has been clarified where company specific detail and examples are required, and quantitative financial implications are preferred; • The heading in CC11.4 column 3 (Emissions factor) has been specified to be in units of metric tonnes CO2e per MWh; • A note has been added under CC11.4 stating that, in order for the question to be fully scored, both CC11.2 & CC11.5 must be fully completed; • The guidance text under CC14.4b column 4 (Impact of engagement) has been amended to clarify reporting; • A link to CDP's response amendment policy has been added; and • A link to a technical note on carbon neutrality has been added.

Contents

Introduction to the Guidance 2017

Introduction to this document

This document should be read by anyone responding to CDP in 2017, regardless of whether you have responded to CDP before. It contains important information about this year's disclosure process and key sources of information to assist in the preparation of the CDP response in 2017.

If you are unfamiliar with using our Online Response System, please refer to the Guide to the ORS.

If you have not completed a CDP information request before or you would like more information on the CDP process more broadly, please see our guidance for First Time Responders.

This document has been prepared for companies responding to requests for information on climate change on behalf of investors and CDP's supply chain members. Separate guidance has been prepared to assist companies that are responding to requests for information on Water and Forests.

What has changed for 2017?

Changes to the core (CC1-CC15) Climate Change questionnaire are limited to the following:

- The advised response structure for question CC2.2a has been amended to be aligned with the scoring methodology. In addition, companies are asked how the ratcheting of the Paris Agreement has influenced their business strategy. This is currently a non-scored part of the question, but one in which is of great interest to investors. With the ratification of the Paris Agreement occurring in 2016, governments around the world have signaled their intention to move towards a low carbon economy. As such, investors are requesting that companies disclose information on how their strategy is driving action towards this outcome.
- Furthermore, in alignment with the proposed requirements of the first draft of the TCFD requirement, companies are also asked whether they use forward-looking scenario analyses in CC2.2a.
- The dropdown selection for the column entitled "Is this a science-based target?" in questions CC3.1a and CC3.1b have been amended to differentiate between companies that have a science-based target that has been approved by the Science Based Targets initiative (SBTi), and those that have not yet gone through that process. In addition, a further option has been introduced to allow a company to state that they have not set a science-based target as there is currently no methodology for their sector.
- CC8.3 (2016) has been deleted and replaced to ask about a company's approach to reporting their Scope 2 emissions. The purpose of this question is for a company to disclose whether they are reporting a market-based figure, or if they are not reporting a market-based figure and why this is the case.
- An additional column has been added to CC11.4. This column asks companies to disclose the emissions factor of the electricity calculated in a company's market-based Scope 2 figure.

- Plan Vivo has been added to dropdown in CC13.2a.
- Question CC14.4b has been revised to increase the clarity of the data provided by companies, while CC14.4c (2016) has been deleted. CC14.d (2016) is now CC14.4c (2017). CC14.4b, which previously asked about percentage of total spend has been broadened to include all types of engagement. The comment field in CC14.4b has now been replaced with a field requesting 'Impact engagement'. The new table logic allows a company to disclose what type of engagement they are using with their suppliers, the number of suppliers, the proportion of spend, and finally the impact of that engagement.

Deadline for responses

The start and finish times differ depending on the request that you are responding to:

- The request for information on behalf of investors will be issued in February 2017 and the closing date for submissions is June 29 2017.
- The request for information on behalf of CDP's supply chain members will be issued in April 2017 and the closing date for submissions is July 31 2017.

If you are responding to both requests you can begin your response as soon as the modules become available but you must submit your response prepared for investors in advance of submitting your response to supply chain members.

CDP's Sector Approach – Reimagining Disclosure

Following on from the success of the 2015 Paris Agreement on climate change, which CDP helped 'We Mean Business' to deliver through our call to action program, CDP's 2016-2020 strategy is to build momentum from here to fulfill our mission to incorporate environmental stewardship into the economic system. We have listened to investors and our stakeholders, who want more sector specific information, and we will be implementing the recommendations of the Task Force on Climate-related Financial Disclosure (TCFD) to be finalized in July 2017.

As part of this, CDP is evolving our Climate, Water and Forests questionnaires to be more sector specific, implement TCFD recommendations, and optimize disclosure. We will focus initially on the high impact sectors in Energy, Transport, Materials and Agriculture in our new questionnaires and scoring methodology ready for the 2018 disclosure cycle.

Our goal is to make a step-change improvement in the benefits and process of disclosure for both reporters and users of data (investors, policy makers and supply chain members).

Commit to action

CDP and its partners in the We Mean Business coalition have created a central platform for companies to take action on key climate issues. Hundreds of companies representing every economic sector and geography have taken action to date.

The leadership these companies demonstrated formed a critical part of the package of solutions reached in Paris at COP21 in 2015. As the Paris Agreement moves from agreement to implementation, the We Mean Business "Commit to Action" platform gives companies a clear pathway for building the Paris Agreement into their business strategies.

Companies who have made commitments through We Mean Business can track progress against them via CDP's annual disclosure requests. Please see below for specific information on each commitment and how companies can track them through CDP's questionnaires.

- **Science-based Targets Call to Action**: Commit to adopt science-based emissions reduction targets
    - Overview: The Science Based Targets initiative has provided companies with a clear set of criteria for ensuring that their emissions reduction targets are in line with the 2°C decarbonization pathway laid out in the Paris Agreement.
    - Reporting: There are two levels of sign-on within this commitment, denoting companies who are in the process of developing targets, and companies who have finalized their targets and had them approved by the Science-based Targets Call to Action. Both stages can be reflected in CDP's questionnaire through the sub-question on SBTs laid out in the guidance for question CC3.1. Please refer to that section for full information.
- **RE100**: Commit to 100% renewable electricity
    - Overview: The RE100 campaign, a partnership between The Climate Group and CDP, has established a global movement of companies committing to procure their electricity from renewable sources, helping drive the creation of a thriving global market for renewable power.
    - Reporting: Companies can report this commitment by answering CC3.1d on renewable energy targets in full and providing information about having joined Commit to Action and the RE100 campaign in the comment field.
- **CDSB Statement on Fiduciary Duty and Climate Change Disclosure**: Commit to report climate change information in mainstream reports as a fiduciary duty
    - Overview: CDSB has brought together more than 150 companies who have endorsed including climate change information in mainstream reports and have committed to doing so within their own reporting frameworks. In doing so, they are recognizing that climate change is a mainstream investment issue that has implications for economic activity and corporate performance.
    - Reporting: Companies can report on this commitment in CC4.1 by selecting that they report climate change information "In mainstream reports in accordance with the CDSB Framework" from the dropdown table and providing specific information on where they are reporting this information. Companies can denote that they have signed the CDSB Statement in the "Further Information" section of CC4.1.
- **Climate policy**: Commit to responsible corporate engagement in climate policy
    - Overview: The Guide for Responsible Corporate Engagement in Climate Policy lays out a set of actions for companies to take to ensure their approach to climate policy engagement is aligned, consistent, and accountable.
    - Reporting: Companies can fulfil the reporting component of this initiative by answering CC2.3 and its sub-questions in full. Question CC2.3f allows companies to report that they follow Section 3 of the Guide for Responsible Corporate Engagement in Climate Policy, the document underpinning this commitment.
- **Carbon pricing**: Commit to put a price on carbon
    - Overview: The UN Global Compact's Carbon Pricing Leadership Criteria provides companies with a roadmap for internalizing carbon pricing into their business strategies and supporting smart carbon pricing policies.
    - Reporting: Companies can provide information on their use of an internal price on carbon by answering CC2.2c and CC2.2d in full. Through CC2.3a companies can also report information on any carbon pricing policy advocacy they have been involved in directly.
- **Short-lived climate pollutants**: Commit to reduce SLCPs
    - Overview: BSR, in collaboration with the Climate and Clean Air Coalition, has convened a set of actions for companies to take to reduce so-called "short-lived climate pollutants" (SLCPs)—

including methane, black carbon, tropospheric ozone or hydrofluorocarbons (HFCs)—which can significantly contribute to climate change mitigation and keeping to a 2°C pathway by 2050.

- Reporting: The Climate Change questionnaire currently covers the seven mandated greenhouse gases, which include two SLCPs: methane and HFCs. Black carbon and tropospheric ozone are not covered, but if companies wish to provide information on these they may do so in the "further information" fields of the questionnaire. Companies can provide information on methane and HFCs emissions and their efforts to reduce them, in the following questions:
  - Fugitive emissions, for example to capture agricultural methane emissions, reduce methane emissions from the natural gas value chain, or to reduce HFC refrigerant leakage, can be reported in CC3.3b.
  - A breakdown of Scope 1 emissions of methane and HFCs can be reported in CC9.2c.
  - Companies can provide information on any carbon credits they have originated from projects to address methane or HFCs in CC13.2a.
  - Oil and gas (O&G) companies can provide further information on their methane emissions and efforts to address these in section OG7 of CDP's O&G sector module.
  - Information & communications and technology (ICT) companies can provide information on their efforts to reduce HFC emissions from manufacturing processes, in question ICT3.6 in CDP's ICT sector module.
  - Food, beverage and tobacco (FBT) companies can provide further information on agricultural management practices that reduce methane emissions in section FBT1 of CDP's FBT module.

- **Deforestation**: Commit to remove commodity-driven deforestation from all supply chains by 2020
  - Overview: Deforestation accounts for approximately 10–15% of the world's greenhouse gas emissions and is a critical component of climate change mitigation. The business community is helping lead the agenda on how the commodities requested in CDP's Forest questionnaire can be sustainably produced by committing to remove commodity-driven deforestation from their supply chains.
  - Reporting: This commitment is best tracked in CDP's Forests questionnaire. Companies can answer F8.2 and F8.2a in full to report progress on their deforestation commitment. More information can be found in the Forests guidance.
- **Water**: Commit to improve water security
  - Overview: We Mean Business and the Business Alliance for Water Security are inviting companies to commit to taking a specific set of actions around water use measurement, management, and reporting to ensure they are following best practice on corporate water stewardship.
  - Reporting: Companies are able to report on progress either through CDP's Water questionnaire, via annual sustainability reports, within their Communication on Progress of the CEO Water Mandate, or even their public website. We encourage companies to report via CDP:
    - Analyzing water-related risks (W2.2, W2.3, W2.6 and W2.7) and implementing collaborative response strategies (W1.3a, W3.2c, W3.2d, W4.1, W8.1a and W8.1b)
    - Measuring and reporting water use data (W1.2a, W1.2b, W1.2c, and W8.1a)
    - Reducing impacts on water availability and quality in direct operations and along the value chain (W1.3a, W8.1a, W8.1b, W3.2c, W3.2d and W4.1a)

Response changes

Amendments to responses submitted prior to the deadline

For companies responding to the request for information from investors, responses submitted prior to the disclosure deadline of June 29 may be amended by the company and resubmitted by this date. For companies also completing the Supply Chain module, this module can be resubmitted up to the July 31 deadline. If you need to make amendments to your submitted response prior to the above deadlines, please email respond@cdp.net. Please note that if an amendment is made at a later date, it will erase data relating to lead questions.

Amendments to responses after the response deadline

Amendments to responses after the above deadlines can be made only by CDP staff and may incur an administration fee. CDP will not accept amendments to all questions. Therefore, if you discover an error in your response after the above deadlines, please email respond@cdp.net to investigate whether it is possible to amend the error. Please note that these changes may not be reflected in the CDP annual reports and that CDP reserves the right to use the information already submitted. Read the CDP response amendment policy here.

Assistance in responding to CDP

Additional to the guidance listed at the beginning of this document, there are a number of other sources of assistance for companies when preparing their response to CDP described below.

Other guidance documents

Separate guidance has been prepared to assist companies in responding to the Climate Change questionnaire's five sector modules: Oil & Gas, Electric Utilities, Auto & Auto Component Manufacturers, Information & Communications Technology, and Food, Beverage & Tobacco. For companies responding to the Supply Chain module, there is additional guidance provided here.

Scoring

The 2017 CDP climate change scoring methodology is available here. Please see CDP's Scoring Introduction document for an overview of the scoring methodology and approach.

Discloser Roadmap

A discloser roadmap has been prepared to assist companies with progressing their disclosure.

Glossary

For a list of terms and definitions, please refer to the Glossary.

Workshops and webinars

CDP runs a series of workshops and has webinars available to assist companies with responding to CDP. Please contact respond@cdp.net for more information.

You can avoid mistakes in your response by using CDP Response Check

The Response Check service is a check of completeness prior to final submission and picks up issues that may affect your score, or problems with the information that you are presenting to your stakeholders. The Response Check service is delivered by CDP's accredited consultancy partners who have received training from CDP on the Response Check methodology and process. To find out more visit the CDP Response Check webpage. To arrange your Response Check, please email responsecheck@cdp.net.

CDP Reporter Services Membership
Reporter Services membership is designed to empower your organization to build internal expertise around environmental reporting. It will save you time providing on-going support for your journey through compliance to operational efficiency and ultimately to strategic advantage. The package includes:

- Dedicated account manager to personally guide you through the disclosure process and scoring methodology, answer your technical questions regarding disclosure, and support your use of the CDP data to ensure you get the full value from the membership.
- Enhanced and unlimited access to the CDP data to enable fast and effective benchmarking and analysis to identify best practice in reporting and performance from your peers and other leaders.
- Series of expert webinars and events with exclusive networking and marketing/profile opportunities.

For more information and to see which other companies are already benefitting from this membership please visit our Reporter Services page or email reporterservices@cdp.net to schedule a presentation so you can really understand how this can make a significant difference to your environmental performance.

CDP accredited solution providers
CDP partners with leading service and software providers that can support companies throughout all stages of the measurement, reporting and management of their climate and sustainability data. All CDP solution providers have met specific accreditation criteria. Learn more about the areas our solutions providers can help you with below:

- **Carbon reduction*:*** These solution providers offer technology and services that help reduce carbon emissions across sectors. Learn more about CDP solution providers offering carbon reduction technology and services here.

- **Consultancy services:** CDP-accredited consultancies have a wide range of technical expertise to support companies with establishing and implementing climate change and sustainability strategies. Learn more about CDP solution providers offering consultancy services here.

- **Education & training:** Carbon management training can improve employee awareness and understanding of how climate change affects their organization. Learn more about CDP solution providers offering training programs here.

- **Renewable energy:** CDP works with renewable energy solution providers to provide corporations that want to be leaders in sustainable energy the opportunity to procure, track, and generate new renewable power. Learn more about CDP solution providers offering renewable energy services here.

- **Software solutions:** The tools and services provided by these organizations can help companies switch from complex, Excel spreadsheets to accurately collecting, monitoring and reporting their data using integrated management systems. Learn more about CDP solution providers offering sustainability software here.

- **Verification:** CDP encourages the verification / assurance of information disclosed to us. CDP-accredited third party verification and assurance providers can help companies to disclose accurate data and improve internal processes. Learn more about CDP solution providers offering third party verification services here.

Browsers and Spell Check

The CDP Online Response System (ORS) works best with Internet Explorer (IE). IE10 and IE11 both have built-in spell checking. Earlier versions of IE don't have spell check built in, but there are third party add-ons to do this for you. You can use your favorite search engine to search for a third party add-on for spell checking.

Character Limit in Text Fields

The maximum character allowance for text fields is stated in the question specific guidance throughout this document. Please note that this character limit includes spaces.

Pre-population

If you responded to CDP last year, certain questions are eligible for pre-population. To take advantage of this function, click the "copy from last year" button at the bottom of eligible pages in the ORS, prior to entering any data on the page. Please review any copied over questions and ensure this information is correct.

Further Information

At the bottom of each page in your climate change response you will find a 'Further Information' field. This field allows a company to provide any additional information or context that they feel is relevant to the questions on that page. Please note that this field is not scored.

Contact us

If you are not able to resolve your query using any of the resources listed above, please contact us at respond@cdp.net.

Providing feedback to CDP

The opportunity to provide feedback to CDP on the content of our questionnaires and supporting documents is available through our online Technical Feedback Form. You will not receive a reply to your feedback unless required.

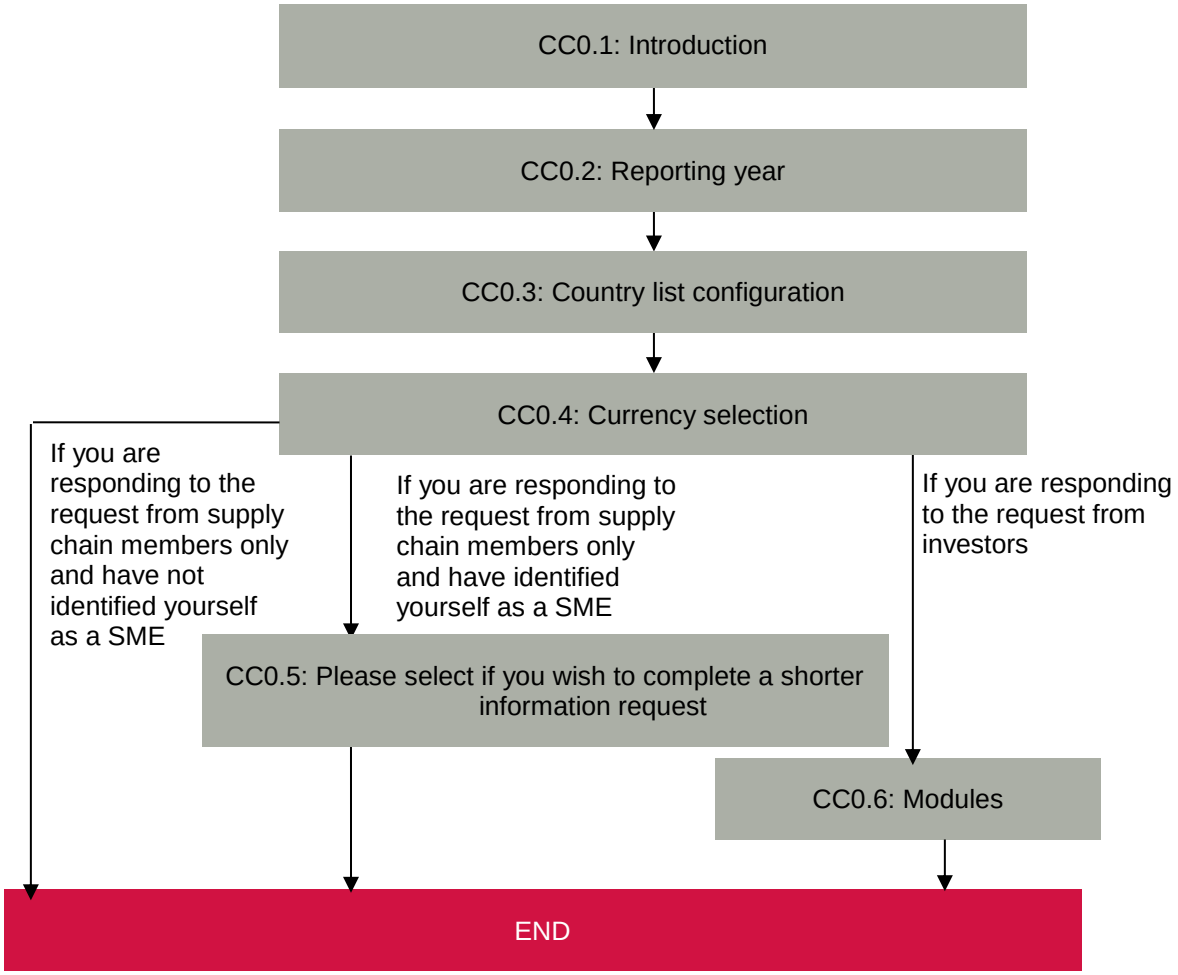
If you represent a responding organization and would like an immediate response, please email respond@cdp.net.

Introduction Module Guidance

CC0. Introduction

Question Pathway

The following questions are shown on the Introduction page.



General Guidance

The information entered on the introduction page determines key aspects of the questionnaire. This is the reason why, until you have successfully saved the introduction page at least once, you will not see the entire set of questions.

If you are responding to the request for information from supply chain members only you may have been given the option of answering a shortened questionnaire because you have identified that you meet the criteria for Small and Medium Sized Enterprises (SMEs) in the ORS portal. Further details are provided in the guidance to question CC0.5.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, questions CC0.1, CC0.3 and CC0.4 on this page are eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page.

SME version

Questions CC0.1, CC0.2, CC0.3, CC0.4, and CC0.5 on this page are included in the SME questionnaire, but not question CC0.6.

Specific Question Guidance

CC0.1: Introduction

Please give a general description and introduction to your organization.

You may wish to provide information about your operations with the aim of helping investors or customers understand your greenhouse gas (GHG) emissions inventory. Particularly if you have chosen not to respond to questions CC9.2a/d and CC10.2a/c, please detail the business divisions and activities that are included in your inventory and provide an indication of their relative scale in terms of contribution to your company’s total Scope 1, 2 and/or 3 emissions. This information helps data users understand your company’s emissions profile and the reasons for differences in emissions figures between peer companies. Your answer should be no more than 5000 characters in length.

CC0.2: Reporting Year

Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. **Enter the dates of this year first.**

This reporting period should be applied to your answers for the entire information request unless the facility is provided to specify other reporting periods, for example, in the sector specific modules. At this point CDP does not require companies to align their reporting year with their fiscal year. When organizations are reporting emissions intensity using a financial metric, however, the emissions information and the financial information provided should align with the reporting year defined in response to this question.

We request data for more than one reporting period for the emission accounting questions on pages CC8, CC9 and CC10 of the questionnaire. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. If this applies to you, please give the dates of those reporting periods here. **All years need to be entered in reverse order, with the current year first.** This will enable you to enter multiple years of data when you reach questions CC8, CC9 and CC10.

You may also choose to restate data previously supplied to CDP, for example to ensure that your historical data reflects your current organizational boundary. If you wish to do this, you should enter the reporting period for the restatement here. When you arrive at the relevant pages in the questionnaire (pages CC8, CC9 and CC10, and OG1-OG6 in the Oil & Gas sector module for the year(s) for which you wish to restate data), please use the further information field to identify that this is a restatement and the reason for it.

If there is a change in your reporting year from years previously supplied to CDP (e.g. from reporting calendar year to financial year, or vice versa) so that the new reporting year overlaps with last year's reporting year, you should note it in the further information field at the bottom of the Introduction page.

If multiple years of data are provided, only data pertaining to the most recent reporting year will be scored.

Please enter dates in the following format: day(DD)/month(MM)/year(YYYY) in full, i.e. 31/01/2015. **Work backwards from the most recent reporting year.**

Companies are recommended to provide a year for which they have complete data if possible. However, if you do not have data for the entirety of your reporting year, you have the following options:

1. Extrapolate your data to cover the entire reporting year. This potential source of inaccuracy can be logged in answer to question CC8.5; or
2. Leave the questions requesting emissions data blank.

CC0.3: Country list configuration

This question should only be completed if you are responding to the Electric Utilities module. If you are not responding to the Electric Utilities module, you may leave this question blank if you wish to do so.

Electric Utilities are expected to complete CC0.3 as the country selections you make in this question will carry through to the Electric Utilities module. If you are responding to the Electric Utilities module, please select all countries in which you operate from the drop down menu provided. Multiple countries can be selected using the "Add Row" button to the bottom right of the country selection table. These countries will be taken forward to structure the pages in this sector module. If you delete a country from this question the country will be removed from the sector module. Furthermore, if you delete the country after having introduced data for that country, the associated data will also be deleted.

The values under "Select country" include a list of countries, "Rest of World", "International Air Space" and "International Waters" but no "Other, please specify" value.

CC0.4: Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response (questions CC3.3b and CC12.2) should be in this currency.

For example, if you select USD($) here, when providing your financial intensity metric in response to question CC12.2, you should provide it as metric tonnes CO2e per USD($).

CC0.5: Please select if you wish to complete a shorter information request

If you are responding to the request for information from supply chain members only you may have been given the option of answering a shortened information request because you have identified that you meet the criteria for Small and Medium Sized Enterprises (SMEs) in the ORS portal. They are a sub set of the full list of questions and they retain their numbering from the full questionnaire. Hence, the question numbers presented in the SME questionnaire will not necessarily be fully sequential. Companies that are eligible for the SME questionnaire are welcome to show their leadership in the field of climate change reporting by answering the full information request. If this is the case, please select "No" here.

SME companies can refer to the SME Guidance document.

CC0.6: Modules

As part of the request for information on behalf of investors, companies in the electric utility, power generation and renewable electricity sectors, the automobile and auto component manufacturing sector, the oil and gas sector, the information and communications technology sector (ICT) and the food, beverage and tobacco sector (FBT) should complete supplementary questions in addition to the core questionnaire. These supplementary questions are contained in 'modules'.

These modules are only for companies with business activities in these sectors. They should not be answered by companies solely on the basis that they use electricity, automobiles, oil or gas, ICT or FBT hardware/services/products in their work.

Businesses in these sectors should answer questions CC1-CC15 for all businesses within their consolidated boundary and provide information specific to businesses in those sectors in their answer to the additional questions.

For relevant sectors a sector specific module (Automotive, Electric Utilities, FBT, ICT, or Oil & Gas) is included in the questionnaire automatically. When this is the case, the corresponding sector modules will not appear among the options of question CC0.6, but the module will appear automatically once you complete the introduction page and go through to the next page. If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please tick to select the module. If you wish to view the module questions first, please refer to the here: Automotive, Electric Utilities, FBT, ICT, and Oil & Gas.

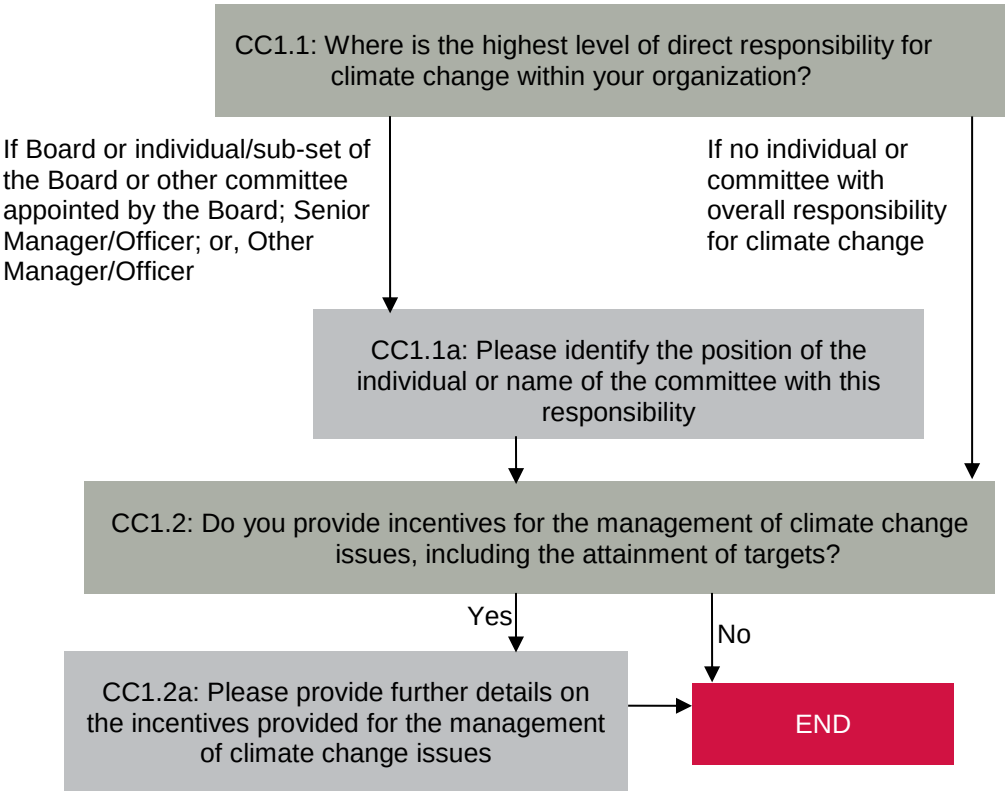
Separate guidance has been prepared to assist companies in responding to these modules: Oil & Gas, Electric Utilities, Auto & Auto Component Manufacturers, Information & Communications Technology, and Food, Beverage & Tobacco.

Management Module Guidance

CC1. Governance

Question Pathway

The following questions are shown on the Governance page.



General Guidance

This page is intended to capture the governance structure of your company with regard to climate change, including how individuals take responsibility for climate change risks, opportunities and actions and how rewards are associated with such actions. In the context of this section the Board (also known as "the Board of Directors" or "the Executive Board") is the group of persons appointed with joint responsibility for directing and overseeing the affairs of the company. All responses made in this section should be based on the most up to date information available within the reporting period.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, questions CC1.1, CC1.1a, CC1.2 and CC1.2a on this page are eligible for pre-population. To take advantage of this function, click "copy from last year" prior to entering any data on the page. Please note that if you selected 'Behaviour change related indicator' from the options in column 3 (Incentivized performance indicator) of question CC1.2a last year (2016), it will copy over into the 'other, please specify' field in column 3 of that table because that option has been amended to 'Behavior change related indicator' (US spelling). Please re-select the 'Behavior change related indicator' option, delete the text in the 'other, please specify' field, and check the rest of the copied information in the table.

Specific Question Guidance

CC1.1: Where is the highest level of direct responsibility for climate change within your organization?

In response to this question please select the appropriate person or group from the following options:

- Board or individual/sub-set of the Board or other committee appointed by the Board;
- Senior Manager/Officer;
    - i.e. the highest person in the organization with direct responsibility for climate change is on the senior management team, but not on the Board
- Other Manager/Officer;
    - i.e. the highest person in the organization with direct responsibility for climate change is a manager/officer that is not on the senior management team or the Board; for example, this could be a team/discipline leader
- No individual or committee with overall responsibility for climate change.

Please note that this question asks for the person with direct responsibility. In practical terms this is the person that would be at the top of the chain specifically managing information on climate change. The CEO is responsible for everything in the company and therefore will ultimately be responsible for climate change, however this question is looking to identify specific responsibility on climate change related issues. Whilst this may be the CEO it is not necessarily the case.

Your response to this question drives question CC1.1a.

CC1.1a: Please identify the position of the individual or name of the committee with this responsibility

This question is only presented if you have selected one of the following options in response to question CC1.1: Board or individual/sub-set of the Board or other committee appointed by the Board; Senior Manager/Officer; or Other Manager/Officer.

Please use the text box to identify (i) the job title of the individual or name of the committee and (ii) a description of their/its position in the corporate structure. Your answer should be no more than 5000 characters in length. Please note that when copying from another document into the ORS, the formatting is not retained.

CC1.2: Do you provide incentives for the management of climate change issues, including the attainment of targets?

Please respond to this question by selecting "yes" or "no" from the drop down menu. Note that incentives can be positive (i.e. give people something) or negative (prevent access to something). Selecting "yes" drives question CC1.2a below.

CC1.2a: Please provide further details on the incentives provided for the management of climate change issues

This question only appears if you answer "yes" to question CC1.2 (see above).

The employee (selected in column 1) should be matched to the incentive type and indicator (columns 2 and 3). Entries in columns 1, 2 and 3 should be selected from the lists shown in the table below. Column 4 is a text box with a character limit of 2400.

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Select from: Board chairman Board/Executive board Director on board Corporate executive team Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Chief Purchasing Officer (CPO) Other C-Suite Officer President Executive officer Management group Business unit managers EHS manager Buyers/purchasers Energy managers Environment/Sustainability managers Facility managers Process operation managers Procurement manager Public affairs managers Risk managers All employees Other, please specify	Select from: Monetary reward Recognition (non-monetary) Other non-monetary reward	Multi-select from: Emissions reduction project Emissions reduction target Energy reduction project Energy reduction target Efficiency project Efficiency target Behavior change related indicator Environmental criteria included in purchases Supply chain engagement Other, please specify	Text field [maximum 2400 characters]

Multiple incentives can be selected using the "Add Row" button to the bottom right of the table.

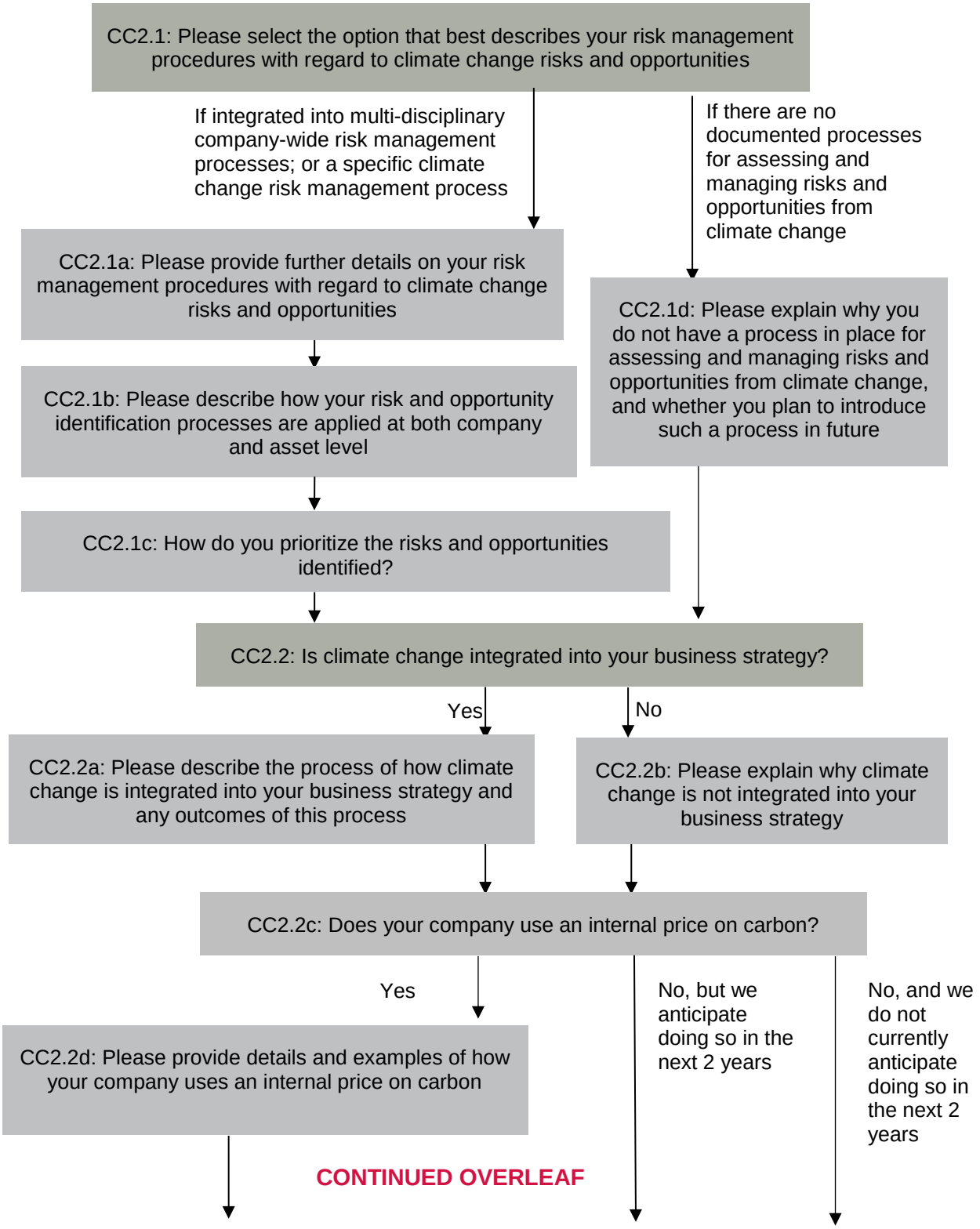
- Types of incentives
    - Please select one of the following.

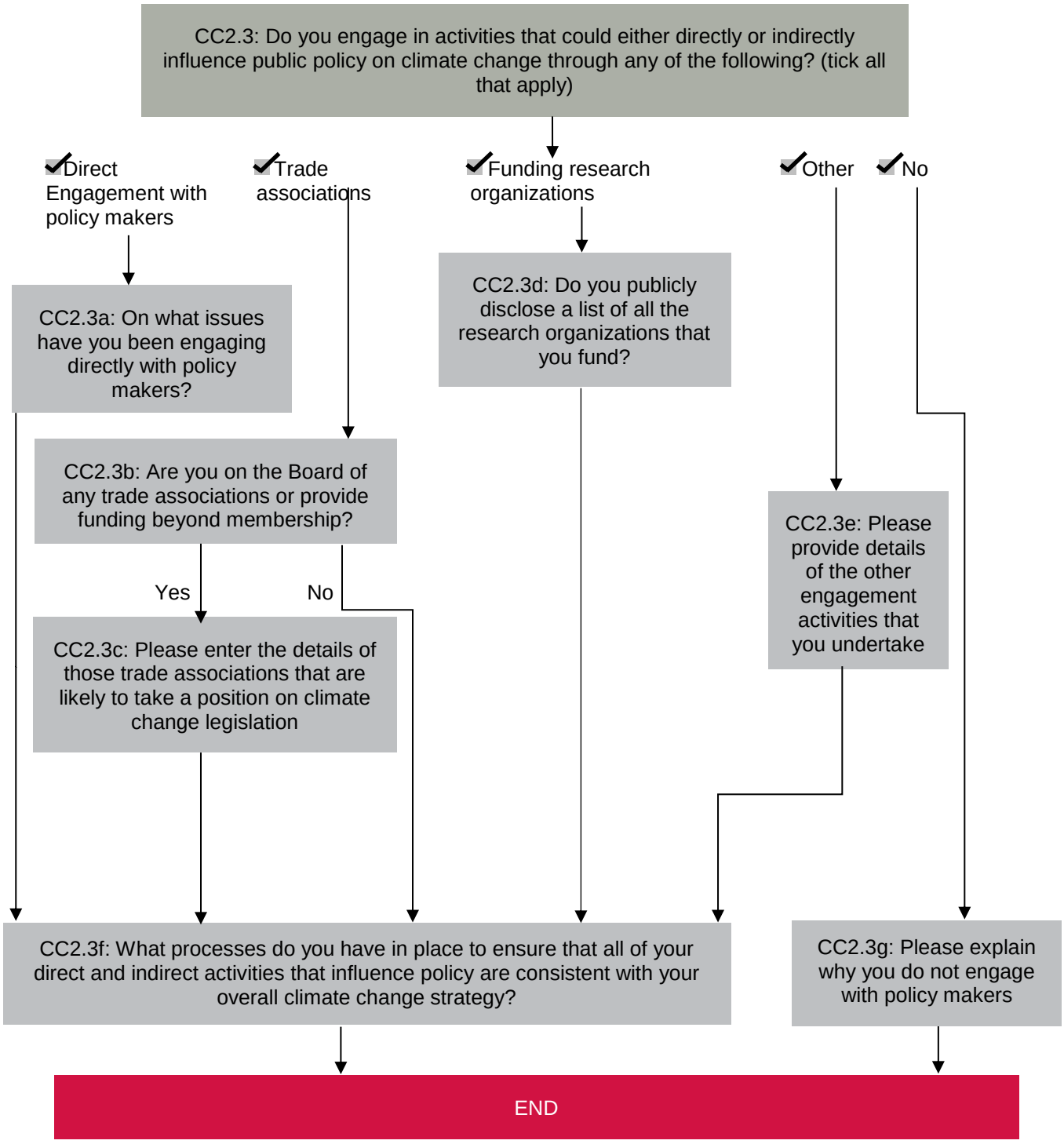
      Incentive types include:
        - Monetary: a bonus or some form of financial remuneration;
        - Recognition (non-monetary): employee award (e.g. employee of the year) or career progression scheme, but not tied directly to any form of financial remuneration;
        - Other non-monetary reward: including increased holiday allowances, special assignment, parking allocations etc.
    - Please note that "Corporate executive team" is the team running the company rather than a team of individuals at the corporate executive level.
- Incentivized performance indicators
    - Multi-selection is available in this column. Please select one or more of the following options by ticking the box next to the value. Incentives performance indicators include
        - The implementation of projects that are actively realizing savings in emissions, energy, and/or that are promoting efficiency.
        - Targets: Performance that is resulting in progress towards your company's target.
        - Behavior change: including indicators such as contribution towards corporate global reputation improvement, rate of participation of employees to environmental activities, educating employees.

CC2. Strategy

Question Pathway

The following questions are shown on the Strategy page.




CC2.3: Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)
Direct Engagement with policy makers
Trade associations
Funding research organizations
Other
No
CC2.3a: On what issues have you been engaging directly with policy makers?
CC2.3b: Are you on the Board of any trade associations or provide funding beyond membership?
Yes
No
CC2.3c: Please enter the details of those trade associations that are likely to take a position on climate change legislation
CC2.3d: Do you publicly disclose a list of all the research organizations that you fund?
CC2.3e: Please provide details of the other engagement activities that you undertake
CC2.3f: What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?
CC2.3g: Please explain why you do not engage with policy makers
END

General Guidance

This section is focused on the processes and strategies that your organization uses to structure its approach to climate change.

Responses given in this section should be relevant to the reporting period, even if revisions have been made to the strategy between the reporting period and the time of submission of your CDP response. Where this is the case you can include more up to date information in further information at the bottom of the page. This will not be scored but will be available to the investors and customers (in the case of those responding on behalf of Supply Chain members) that view your response.

Key Changes from 2016

- The advised response structure for question CC2.2a has been amended to be aligned with the scoring methodology. In addition, companies are asked how the ratcheting of the Paris Agreement has influenced their business strategy. This is currently a non-scored part of the question, but one which is of great interest to investors. With the ratification of the Paris Agreement occurring in 2016, governments around the world have signaled their intention to move towards a low carbon economy. As such, investors are requesting that companies disclose information on how their strategy is driving action towards this outcome.
- Furthermore, in alignment with the proposed requirements of the first draft of the TCFD requirements, companies are also asked whether they use forward-looking scenario analyses in CC2.2a.

Pre-population

If you responded to CDP last year, questions CC2.1, CC2.1a, CC2.1b, CC2.1c, CC2.2, CC2.2a, CC2.2b, CC2.2c, CC2.2d, CC2.3, and CC2.3a-2.3g on this page are eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page.

Specific Question Guidance

CC2.1: Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

This question should be answered by selecting one of the three options available:

- Integrated into multi-disciplinary company-wide risk management processes
    - A documented process where climate change risks and opportunities are integrated into the company's centralized enterprise risk management program covering all possible types/sources of risks and opportunities
- A specific climate change risk management process
    - A documented process which considers climate change risks and opportunities separate from other business risks and opportunities
- There are no documented processes for assessing and managing risks and opportunities from climate change

If you have more than one procedure in operation at your organization, please select the one that is most commonly employed. Where there is a procedure in place you will be given an opportunity to provide further details in response to question CC2.1a - CC2.1c (see below). If you do not have a process in place, you will be asked to explain why not in CC2.1d.

CC2.1a: Please provide further details on your risk management procedures with regard to climate change risks and opportunities

*This question only applies if you have selected "*Integrated into multi-disciplinary company-wide risk management processes" *or* "A specific climate change risk management process" *in question CC2.1 above.*

You are requested to respond to this question in the table provided in the ORS, reproduced below.

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Select from: Six-monthly or more frequently Annually Every two years Sporadically, not defined Never	Select from: Board or individual/sub-set of the Board or committee appointed by the Board Other committee Senior manager/officer Other manager/officer Nobody	This is an open text field with a character limit of 500	Select from: Up to 1 year 1 to 3 years 3 to 6 years > 6 years Unknown	This is an open text field with a character limit of 1000

- **To whom are results reported**
  - Your response in this column should pertain to internal reporting only, and exclude external parties such as investors and clients.

CC2.1b: Please describe how your risk and opportunity identification processes are applied at both company and asset level

*This question only applies if you have selected "*Integrated into multi-disciplinary company-wide risk management processes" *or* "A specific climate change risk management process" *in question CC2.1 above.*

This question is asking about the process of identifying risks and opportunities related to climate change, and not about the specific inherent risks and opportunities that your organization may face - these are disclosed in questions CC5.1 and CC6.1. However, if you wish, you can use examples to illustrate your process description.

In your answer please cover how risks/opportunities are assessed at a company level (e.g. reputational risk can impact on the full corporation), and how risks/opportunities are assessed at an asset level (e.g. physical impacts can affect individual facilities). Please note that asset level is defined as anything below company level such as individual sites and subsidiaries.

You should respond to this question in the text box provided; your answer should be no more than 2000 characters in length. Please note that when copying from another document into the ORS, the formatting is not retained.

CC2.1c: How do you prioritize the risks and opportunities identified?

*This question only applies if you have selected "*Integrated into multi-disciplinary company-wide risk management processes" *or* "A specific climate change risk management process" *in question CC2.1.*

The aim of this question is to identify the criteria for determining priorities with regards to climate change risks and opportunities. In responding to this question, companies should take account of their risk analysis and risk evaluation processes.

You should respond to this question in the text box provided; your answer should be no more than 2000 characters in length. Please note that when copying from another document into the ORS, the formatting is not retained.

CC2.1d: Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

*This question only applies if you have selected "*There are no documented processes for assessing and managing risks and opportunities from climate change" *in question CC2.1 above.*

You are requested to respond to this question in the table provided in the ORS, reproduced below.

Main reason for not having a process	Do you plan to introduce a process?	Comment
Select from: Insufficient resources to complete risk assessment No requirement from management Insufficient data on operations No risk management processes in place Insufficient knowledge of climate change impacts Other, please specify	Select from: Yes No	Text box (maximum 1500 characters)

CC2.2: Is climate change integrated into your business strategy?

Please respond to this question by selecting "yes" or "no" in the drop down menu provided.

You should answer "yes" when the need to reduce carbon emissions, the need to adapt to climate change, the Paris Agreement, and related energy impacts (positive or negative), the need to capitalize on opportunities presented by climate change or the need to communicate on/learn more about climate change is integrated into the company's overall business strategy. As such, it is part of the 'top line growth' strategy of the company, rather than being dealt with solely at the operational level. Answering "yes" will direct you to question CC2.2a where you will have the opportunity to explain further.

You should answer "no" if climate change impacts/opportunities or carbon emissions reductions have no influence on your company's overall strategy for developing your business. Answering "no" will direct you to question CC2.2b where you will have the opportunity to explain further.

CC2.2a: Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

This question only appears if you answer "yes" to question CC2.2.

Please respond to this question in the text box provided, using no more than 7000 characters. Please note that when copying from another document into the ORS, the formatting is not retained.

This question asks about the process by which your strategy was influenced, and the outcomes of that process. If you wish, you may provide a description of your business strategy for information (oil & gas, electric utility and auto/auto component sector companies should see the information requests specific to their sectors below).

This question is intended to focus on the group business strategy, meaning the full corporate body on which you are reporting. However, if it is more appropriate, you may wish to comment on divisional (business unit) strategies. If you are responding to the request from a supply chain member, please also include information specific to your requesting member, i.e. relevant business units.

Your response to CC2.2a should cover the following points:

i. A description of how the business strategy has been influenced (i.e. the internal process for collecting and reporting information to influence the strategy);

ii. At least one example given of how the business strategy has been influenced;

iii. What aspects of climate change have influenced the strategy (e.g. need for adaptation, regulatory changes, or opportunities to develop green business);

iv. How the short term strategy has been influenced by climate change (or if none, this is stated) – 'Short term' can mean 'current';

v. How the long term strategy has been influenced by climate change (or if none, this is stated);

vi. How this is gaining a strategic advantage over your competitors;

vii. What have been the most substantial business decisions made during the reporting year that have been influenced by the climate change driven aspects of the strategy (e.g. investment, location, procurement, mergers and acquisitions (M&A), research and development (R&D). Both the business decision and the aspect of climate change that has influenced the business decision must be made clear in the answer. If there are none to report, this should be stated;

viii. How the Paris Agreement has influenced the business strategy (e.g. the process of transition planning alongside the ratcheting of Intended Nationally Determined Contributions (INDCs)); and

ix. Do you use forward-looking scenario analyses, including a 2ºC scenario, to inform your organization's businesses, strategy, and/or financial planning?

The definition of 'short term' and 'long term' is left to be defined by the company as they mean different things in different industries (say, fashion industry compared to infrastructure). Companies should indicate what they mean by short or long term using dates in the answer. Unless stated otherwise it is assumed that 'short term' and 'long term' are ten or more years apart.

There is a wide range of forward-looking scenarios your company can choose from to inform your businesses, strategy, and/or financial planning. Many of these are 2°C scenarios, although there are of course scenarios which look at 4°C or higher. Despite the Paris Agreement and intention to limit warming to 1.5°C, there remains limited material on such scenarios. Since the ratification of the Paris Agreement and the ratcheting mechanisms it contains, investors are urging companies not to select 4°C scenarios but ensure they use appropriate 2°C scenarios. These include IEA 2DS, IEA 450, DDPP, and IRENA. **For more information about why CDP and investors are asking for this information and why companies are required to select 2°C scenarios, please see Box 1**.

It is preferable, although not essential, that your response is formatted to distinguish between the points set out above, numbering your paragraphs to coincide with the relevant points.

Box 1: The Task Force on Climate-related Financial Disclosures (TCFD)

The TCFD was initiated by the Financial Stability Board (FSB) in December 2015, spurred by the G20 countries' concern about risks to the financial system from climate change. It aims to develop voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders. The work and recommendations of the Task Force will help organizations understand what financial markets want from disclosure in order to measure and respond to climate change risks, and encourage firms to align their disclosures with investors' needs.

An initial report (Phase I) was released on the March 31 2016, setting out the current disclosure landscape, and defining the scope and objectives of the work ahead for the Task Force (Phase II). The recommendations for this are due to be published for consultation in December 2016, and then finalized by the middle of 2017. CDP will be adopting these recommendations by the end of 2017.

In alignment with the details of the first phase report from the TCFD and anticipated final recommendations, companies are asked whether they use forward-looking scenario analyses in their response to CC2.2a. Whilst the final recommendations of the TCFD are not due to be published until the middle of 2017, there is increasing likelihood that companies will be required to disclose whether they have taken 2°C scenarios into consideration, as well as the following information:

- The range of divergent scenarios considered, including a 2°C scenario, and the key assumptions and considerations of each scenario

- A qualitative description of the conclusions of the assessment/analysis of physical and nonphysical climate-related risks and opportunities under the range of scenarios considered
- A qualitative description of the potential implications of the conclusions for the organization's strategy under the range of scenarios considered

By disclosing scenario information in question CC2.2a, companies can be assured of meeting this recommendation when it comes into effect. For more information, please refer to the TCFD website.

CC2.2b: Please explain why climate change is not integrated into your business strategy

This question only appears if you answer "no" to question CC2.2 (see above).

Please respond using the text box provided, detailing (i) why climate change is not integrated into your business strategy and (ii) whether you expect it to be in the future. For example, climate change may have little effect on your business because of the nature of your goods/services. Please give as full an explanation as possible. This response has a character limit of 5000. Please note that formatting copied from another document into the ORS will not be retained.

Guidance for Oil and Gas companies, Electric Utilities, Auto and Auto Component Manufacturers, and companies with coal reserves: Companies in these sectors should read the sector specific guidance for the risks and opportunities questions before answering this question. The guidance contains a number of issues that investor groups want these sectors to consider in answering the risks and opportunities questions and, you may wish to draw together some of these issues in your answers to questions on the integration of climate change into business strategy. Do not cross-refer to the risks and opportunities answers in your response to the questions above. Please provide a complete answer to these questions on business strategy in the input fields provided. Additional issues are also covered below.

Oil and Gas Sector Companies: Companies should discuss, if relevant, your methodology for the integration of regulatory and physical climate change risks into the company strategy, investment decisions and risk management, including the assumptions used. Where possible, provide illustrative examples of the assumptions made in specific investment decisions. You should also discuss - again if relevant - the diversification of your portfolio into lower-carbon and non-fossil fuel products (e.g. natural gas, biofuels, renewable energy) and strategy for development of carbon capture and sequestration technology, including technology areas of focus, and distinctive areas of strength your company believes it holds. Please give the methodology used for the integration of future carbon prices into your hydrocarbon exploration strategy and investment decisions, with the assumptions used. Where possible, provide illustrative examples of the assumptions made in specific investment decisions.

Electric Utility Sector Companies: Please discuss any work to incorporate renewable energy, carbon capture & sequestration, cleaner coal technologies and energy storage into their strategy.

Auto & Auto Component Manufacturers: Companies should discuss links between risks and your targets for your products at group level and, where relevant, for specific markets on fuel economy or GHG emissions reductions per unit distance (expressed as gCO_2e/unit distance) and include a reference to any regulatory drivers and the baseline against which performance is measured; expansion into hybrid/fully electric vehicles and fuel cell technology.

Companies with coal reserves can refer here on how to disclose demand and stranded asset risk.

CC2.2c: Does your company use an internal price on carbon?

This question should be answered by selecting one of the three options available:

- Yes
- No, but we anticipate doing so in the next 2 years
- No, and we do not currently anticipate doing so in the next 2 years

See Box 2 for internal price on carbon guidance.

If you select "Yes" you will be directed to question CC2.2d; if you select "No, but we anticipate doing so in the next 2 years" or "No, and we do not currently anticipate doing so in the next 2 years" you can proceed to the next question (CC2.3).

Box 2: Internal price on carbon

Many countries are exploring effective climate policies and are increasingly looking towards using market signals such as carbon taxes, and cap and trade schemes, as essential elements of climate change action. In the context of this changing and uncertain regulatory landscape, both large and small companies over a number of sectors, including the energy sector, are incorporating the future projection of changes in greenhouse gas emissions regulation into their strategic decision making by using an internal price on carbon, also known as a shadow price or internal carbon fee.

In general, an internal price on carbon is a business assumption that climate change and the associated carbon regulation poses both an inherent risk and opportunity to a company. It can be viewed as a long-term risk management strategy, and a means of quantifying and communicating the potential impact of current or future climate change regulation on your business.

There are many ways in which an internal price on carbon can manifest itself. It can be used as a planning tool, to drive R&D investments, as a method to drive energy efficiencies or emissions reductions and guide capital investment decisions. You can view further examples of how leading companies have already internally priced carbon in CDP's report entitled "Embedding a carbon price into corporate strategy".

Companies operating in one of the 40 national jurisdictions and over 2 cities, states, and/or regions putting a price on carbon, such as Europe, Japan, California, and Quebec, may already have incorporated an internal price on carbon base into their decision making or modeling based on current prices and future price projections. In this case please detail how you have incorporated.
For more information, please read the following documents:

- *Embedding a carbon price into corporate strategy*. CDP, 2016.
- *Emerging Practices in Internal Carbon Pricing: A Practical Guide*. WBCSD Leadership Program, 2015.
- *Executive Guide to Carbon Pricing Leadership*. Caring for Climate, 2015

CC2.2d: Please provide details and examples of how your company uses an internal price on carbon

This question only appears if you answer "Yes" to question CC2.2c (see above).

Please provide details and examples of how your company uses an internal price on carbon. This question has a character limit of 5000 characters.

Please respond using the text box provided, where possible detailing:

- Scope that the emissions pertain to (i.e. Scope 1, Scope 2 and/or Scope 3)
- Where and how the price(s) is used internally
- Rationale for employing a price
- Actual price(s) used and variance (e.g. by time or region, or by the way it is used across the business or in specific business units or corporate divisions)
- Process to determine price(s) and business division responsible

- Examples of how carbon pricing has affected your business (e.g. business strategy, risk assessment or evaluation, emissions reduction, investment decisions)
- Challenges with this process

CC2.3: Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

- ☐ **Direct engagement with policy makers**
- ☐ **Trade associations**
- ☐ **Funding research organizations**
- ☐ **Other**
- ☐ **No**

If you engage in activities that could either directly or indirectly influence climate change policy select at least one of the first four options (direct engagement, trade associations, funding research organizations or other) by ticking the adjacent box. If more than one applies you can select multiple options. This question is focused on external engagement with policy makers, government departments or regulatory bodies on a regional, local, national or international level. Responses should be relevant to the reporting year only, and only be reported if you have engaged in any of the aforementioned activities that could influence policy on climate change.

If you have multiple activities that cannot be described as direct engagement, engagement through trade associations or engagement through funding research organizations, then please select "Other" – you will be given the opportunity to explain all the engagement activities that you have included under "Other" in a subsequent question.

There will be a wide range of activities that could be considered to fall under each of these options. In response to this question please select all that apply regardless of your role and how significant those activities are for your company or a third party. For trade associations and funding research organizations you should identify any relationships where the other party takes an active role in climate change even if your own relationship with them is not climate change focused. You will be given an opportunity to describe the engagement in subsequent questions. **More guidance and examples of the types of activities that could fall under each of the categories is given in Box 3**.

Only select "No" (by ticking the adjacent box) if you do not engage in any engagement with policy makers, direct or indirect. Do not select "No" as well as one of the other options, as this would be a non-logical response.

Your selections made at this question will determine which other questions will appear on this page, as detailed in the page flow chart at the beginning of this section and in the question guidance below.

If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

Box 3: Examples of engagement activity

Direct engagement: This includes all activity where companies (or their representatives such as law firms or public affairs agencies engaged directly by the company) engage with policy makers on the development of law. Examples of such activities include responding to a consultation, sitting on a working group or lobbying activities directed at individuals or groups that are part of the policy-making process. Direct engagement can include any stage in the policy development process, from the selection of options to final consultation comments, but does not include compliance with legislation once it has come into force.

Trade associations: Trade associations (sometimes also referred to as industry associations) are an association of people or companies in a particular business or trade, organized to promote their common interests. Their relevance in this context is that they present an "industry voice" to governments to influence their policy development. The majority of organizations are members of multiple trade associations, many of which take a position on climate change and actively engage with policy makers on the development of policy and legislation on behalf of their members. It is acknowledged that in many cases companies are passive members of the trade associations and therefore do not actively take part in their work on climate change. This will be investigated in subsequent questions and therefore if you are a member of a trade association that engages on climate change, regardless of your own involvement, you should tick "trade associations" at question CC2.3.

Funding research organizations: In this context, research organizations can include research institutions, think tanks and other consultancies that operate in the climate change subject area on projects intended for public dissemination that aim to influence policy. Please note that for the purpose of this question, funding may take the form of membership fees offered to research organizations.
The work that you commission them for or the support that you give them may or may not be climate change related, however if they do engage in work on climate change then you should identify them here.

Other: Examples of "Other" activities include, but are not limited to:

- Engaging directly with government officials or departments on matters other than legislation relating to climate change e.g. green procurement strategies;
- Taking part in climate change projects on behalf of governments;
- Undertaking research or taking part in research projects with the objective to inform policy development or implementation;
- Engaging with policy makers through groups (local, national or international) other than trade associations (either directly or through funding);
- Engaging with governments through special purpose, single issue groups, for example against a particular Bill, or a development project;
- Sponsoring or taking part in events on climate change with a policy maker audience; and
- Producing other media (e.g. video, blog, social media) that aims to influence policy makers on climate change.

For more information please see the *"Guide for Responsible Corporate Engagement in Climate Policy"* produced in 2013 by CDP alongside UN Global Compact, Ceres, The Climate Group, WWF and the World Resources Institute

CC2.3a: On what issues have you been engaging directly with policy makers?

This question only appears if "Direct engagement with policy makers" is ticked in response to question CC2.3.

Please respond to this question by completing the table provided in the ORS and reproduced below.

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Select from: Mandatory carbon reporting Cap and trade Carbon tax Energy efficiency Clean energy generation Adaptation resiliency Climate finance Regulation of methane emissions Other, please specify	Select from: Support Support with minor exceptions Support with major exceptions Neutral Oppose Undecided	Text box (maximum 2400 characters)	Text box (maximum 2400 characters)

You can provide multiple entries by clicking the “Add Row” button to the bottom right of the table. Further guidance on how to complete each column is provided below.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

You can see a worked example of CC2.3a in Box 4.

- **Focus of legislation.** This column relates to the general area to which the legislation that you are engaging on falls. It is to allow investors and other data users to assess comparable legislative developments across multiple geographies. If none of the options apply, select “Other” and enter the focus of the legislation in the text box that appears. Note that you will have an opportunity to provide details of the legislation in subsequent columns. There is no need to provide details on all legislation types – only those on which you have been actively engaging in the reporting year.

- **Corporate position.** This should reflect your overall position on this particular legislation type. For example:
    - Support – select this option if you are engaging in full support of this legislation type across all the geographies in which you are engaging on it.
    - Support with minor exceptions – select this option if you are engaging in support of this legislation type with either minor exceptions to the approach or with minor exceptions to geographies for whom it is proposed and where you are actively engaging. Additionally, if you support the principle of a carbon tax but oppose certain ways in which it is being applied, select this option. You will be given the chance to explain in the next column.
    - Support with major exceptions – select this option if you are engaging in support of this legislation type with either major exceptions to the approach or with major exceptions to geographies for whom it is proposed and where you are actively engaging.
    - Neutral – select this option if you have taken part in engagement activities for this legislation type but have not put forward a view.
    - Oppose – select this option if you have been engaging against this legislation type across all relevant geographies.
    - Undecided – select this option if you have been engaging on this legislation at an early stage in the development process and have yet to give an opinion or attempt to influence the policy development process in any direction.

- **Details of engagement.** This column gives an opportunity to provide more details on the particular legislation on which you are engaging. Use the text field to provide details of how you are engaging (e.g. responding to a consultation, meeting directly with policy makers etc.) and the legislation on which you are engaging. Please give the name of the legislation and the geographies to which it applies. Please only give details of the legislation that you have engaged on in the reporting year. This field has a character limit of 2400 characters.

- **Proposed legislative solution.** This column gives an opportunity to provide more details on the actions you are advocating. If you support the legislation with no exceptions, you can state this. However, if you support it with exceptions, you should provide details of the exceptions and what you would propose in their place. If you oppose the legislation, please provide details of an alternative legislative approach that you feel would more effectively reduce carbon emissions in the corporate sector. This field has a character limit of 2400 characters.

Oil and Gas Sector Companies: You should discuss, as relevant, key policy engagement issues for your sector e.g. carbon pricing policies, in particular carbon tax and cap and trade, mandatory carbon reporting and regulation of methane emissions.

Box 4: Worked example of CC2.3a on direct engagement

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Mandatory carbon reporting	Support	We supported legislators and policy makers on the European Union directive on disclosure of non-financial and diversity information by certain large companies and groups.	We support the EU legislation on mandatory carbon reporting.
Carbon Tax	Support	Engaged with Australian Federal Government to communicate the commercial benefits and risks of a Carbon Tax at various levels, including the business certainty it provided.	We supported the carbon pricing in Australia as it provided stronger regulatory stability than the current environment.

CC2.3b: Are you on the Board of any trade associations or provide funding beyond membership?

This question only appears if "Trade associations" is ticked in response to question CC2.3.

Select "Yes" or "No" from the drop down menu provided in the ORS to respond to this question. If you select "Yes" you will be presented with further questions on your trade association activities (question CC2.3c, see below). If you select "No" you will be presented with no further questions on trade associations. Note that this question is not asking about all the trade associations that you are a member of, only those that you have a more significant influence over due to Board membership or through providing funding beyond membership.

If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

CC2.3c: Please enter the details of those trade associations that are likely to take a position on climate change legislation

This question only appears if "Trade associations" is ticked in response to question CC2.3 and "Yes" is selected in response to question CC2.3b.

Please respond to this question by completing the table provided in the ORS and reproduced below.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Text box: Enter the name of the trade association(s) that you are on the Board of or provide funding	Select from: Consistent Inconsistent Mixed Unknown	Text box: Give details of the trade association position on climate change (and explain where this position differs from your own if it does). Where appropriate give examples of activities the trade association has undertaken in the	Text box: Use this column to describe how you have worked, or are in the process of working with the trade association to promote the current or an

beyond membership		reporting year to influence climate change policy, using no more than 2400 characters.	alternative position, using no more than 2400 characters.

If you have multiple trade association relationships that apply you can use the “Add Row” button to the bottom right of the table.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

Please see Box 5 for more information on the climate change position of trade associations.

Box 5: Climate change position of trade associations

To aid companies in sorting through the climate-related action of trade associations and determining where the groups in which they belong actually stand on climate change, the Center for Science and Democracy at the Union of Concerned Scientists has conducted an analysis focused on the positions that trade and business associations have taken in the public discourse on climate science and policy in recent years. The analysis looks at many of the largest and most influential trade and business associations in the United States and globally. Areas explored include how these groups understand the science of climate change, the positions they have on climate policy, and what actions they have taken with respect to specific climate-related policy proposals in recent years.

CC2.3d: Do you publicly disclose a list of all the research organizations that you fund?

This question only appears if “Funding research organizations” is ticked in response to question CC2.3. Select “Yes” or “No” from the drop down menu provided. This question refers to all research organizations that you fund and not just those related to climate change.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

CC2.3e: Please provide details of the other engagement activities that you undertake

This question only appears if “Other” is ticked in response to question CC2.3.

Please use the text box provided to detail any other activities that you have engaged in the reporting year that could either directly or indirectly influence policy on climate change. For each activity identify the method of engagement (individual or through a group), the topic of engagement (for example a piece of legislation or a tax), the nature of the engagement (i.e. what your activities were) and the actions that you are advocating as part of that engagement. This question has a character limit of 5000 characters.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

CC2.3f: What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

This question only appears if you have selected “Direct engagement with policy makers”, “Trade associations”, “Funding research organizations” or “Other” in response to question CC2.3.

This question appears only once regardless of how many of the first four options you have selected in response to question CC2.3. The intention is to gain an understanding of how you as an organization manage the multiple engagement activities around climate change across business divisions and

geographies to ensure that you have a common approach that is also consistent with your strategy on climate change. Use the text box provided to explain the processes that you have in place, or if you do not have any in place, how you plan to address this potential for conflict in the future. Use no more than 5000 characters.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

CC2.3g: Please explain why you do not engage with policy makers

This question only appears if “No” is ticked in response to question CC2.3.

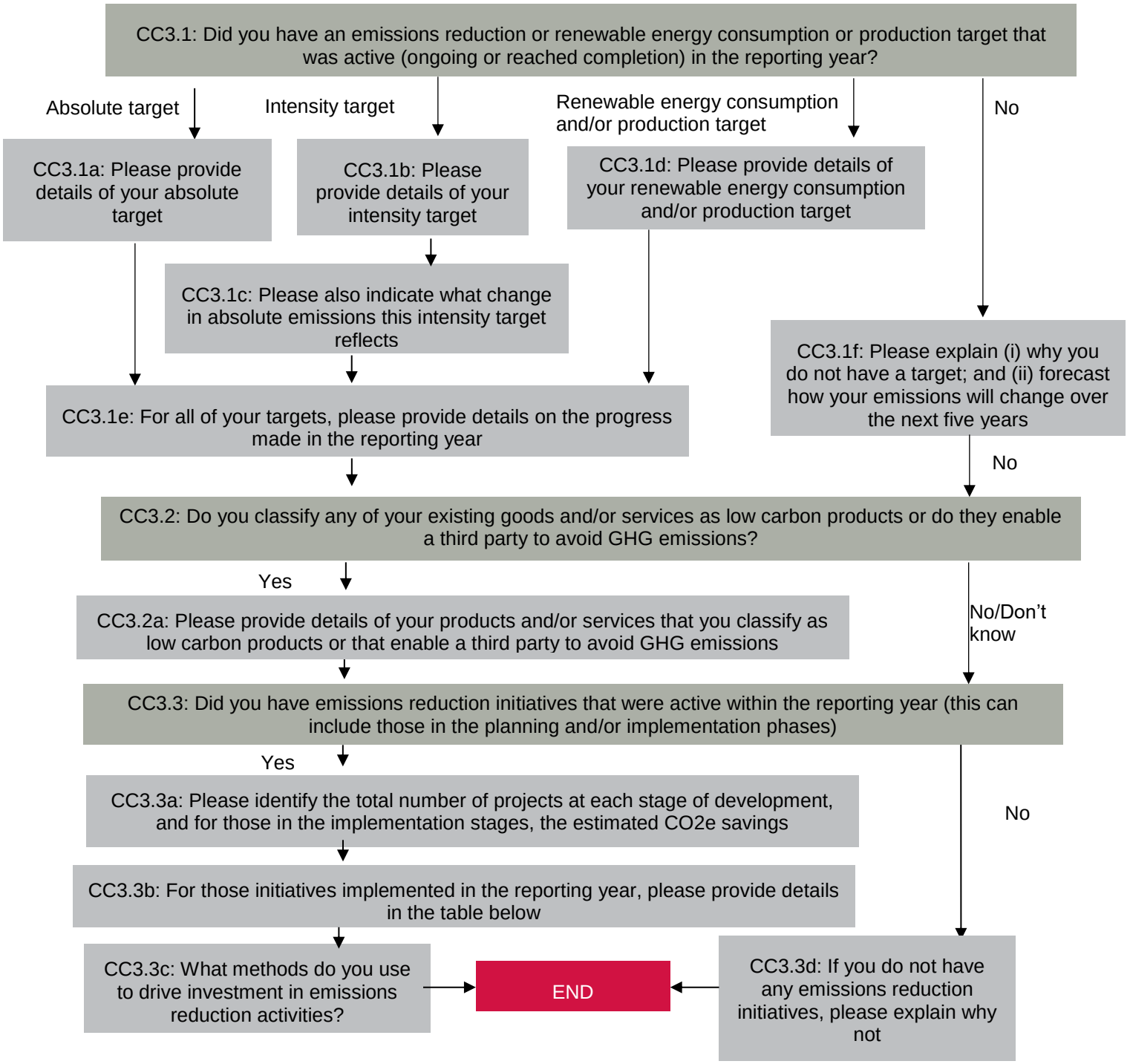
Please use the text box provided to, using no more than 5000 characters, explain why you do not pursue activities that have the potential to influence climate change policy.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

CC3. Targets & Initiatives

Question Pathway

The following questions are shown on the Targets and Initiatives page.



General Guidance

This section focuses on the targets and initiatives you have in place to reduce the emissions derived from your activities, directly or indirectly.

Key Changes from 2016

- The dropdown selection for the column entitled “Is this a science-based target?” in questions CC3.1a and CC3.1b have been amended to differentiate between companies that have a science-based target that has been approved by the Science Based Targets Initiative, and those that have not yet gone through that process. In addition, a further option has been introduced to allow a company to state that they have not set a science-based target as there is currently no methodology for their sector.

Pre-population

If you responded to CDP last year, questions CC3.2, CC3.3 and CC3.3c on this page are eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page. Please note that if you selected ‘price of carbon’ from the drop down options in CC3.3c last year (2016), it will not copy over because the option has been amended to ‘price on carbon’. Please re-select and enter the information.

Specific Question Guidance

CC3.1: Did you have an emissions reduction or renewable energy consumption or production target that was active (ongoing or reached completion) in the reporting year?

In the 2016 disclosure cycle, CDP amended its guidance on what constitutes an active target. After COP21 and the historical Paris Agreement, many companies had begun setting more ambitious climate change targets. To reflect this momentum, CDP allowed companies to report any new targets that they had since the reporting year.

CDP is continuing the same definition of what constitutes an active target for the 2017 disclosure cycle. The purpose for this is that following the ratification of the Paris Agreement, many companies would have the confidence to start setting more ambitious targets to the public. Therefore, for 2017, you have an “active target” if:

- You have a target that began in the reporting year, began before the reporting year and ends after it, or you had a target that ended in the reporting year, or if you have set a target after the reporting year AND
- The target is to reduce emissions or emissions intensity, AND/OR
- The target is to increase renewable energy consumption or production

Note that if you have a target that is expected to be met in part by offsetting (including carbon neutrality targets), only the proportion of the target that relates to emissions reductions (and not offset purchases) should be considered here. If you are uncertain of the proportion that will be achieved through emissions reductions, make an estimation based on the initiatives that you have in place or planned. For further information, please refer to the Technical Note “Carbon Neutrality”.

Targets to reduce emissions in the product use phase or to reduce emissions from the supply chain can be captured as Scope 3 targets.

Targets that are based on a future “business as usual” base year are not equivalent to emissions reduction targets and therefore should not be reported here.

Where your target is related to energy efficiency, you should convert this target into an emissions reduction target. For example, if your target is to increase energy efficiency, this will probably result in emissions reductions and you should use these emissions reductions to report your target.

Please see Box 6 for examples of emissions reduction targets.

You will need to select at least one of the following options:

- Absolute target
    - Select this option if you have or had an active emissions reduction target during the reporting year and it is an absolute target. An absolute target is one that describes a reduction in actual emissions in a future year when compared to a base year. The target can relate to your Scope 1, Scope 2 and/or Scope 3 emissions in full or in part. **Examples of absolute targets are included in Box 7**. If you select this option, you will be directed to question CC3.1a and CC3.1e.
- Intensity target
    - Select this option if you have or had an active emissions reduction target during the reporting year and it is an intensity target. An intensity target is one that describes a future reduction in emissions that have been normalized to a business metric when compared to normalized emissions in a base year. As for absolute targets, an intensity target can relate to your Scope 1, Scope 2 and/or Scope 3 emissions in full or in part. **Examples of intensity targets are included in Box 9**. If you select this option you will be presented with questions CC3.1b, CC3.1c and CC3.1e.
- Renewable energy consumption and/or production target
    - Select this option if you have or had either a renewable energy consumption target or a renewable energy production target active during the reporting year. A renewable consumption target is one that commits to increase the percentage of renewable energy consumed in a future year when compared to a base year. This type of target can relate to both renewable energy produced and consumed on-site, as well as well purchased and consumed energy. A renewable energy production target is one that commits to increase the percentage of renewable energy produced in a future year when compared to a base year. **Examples of renewable energy targets are included in Box 10**. If you select this option, you will be presented with question CC3.1d-CC3.1e.
- No
    - Select this option if you have not had an active emissions reduction target, or renewable energy target, during the reporting year. If you select this option, you will be presented with question CC3.1f.

Please note that if you are reporting a renewable energy consumption or production target, you also need to report an intensity and/or absolute target, otherwise you will be scored as the "Question not answered" route. Please note that if you have a renewable energy target that is a component of an absolute/intensity emissions reduction target, you should disclose both the absolute/intensity emissions reduction target and the renewable energy consumption or production target.

Oil and Gas Sector Companies: Investors request that targets at group and subsidiary/divisional levels are disclosed.

Electric Utility Sector Companies: Investors request that targets are expressed at group level and where applicable at subsidiary/divisional level and that intensity targets are also expressed as absolute targets where possible.

Auto Manufacturing Companies: In addition to any absolute targets, you should disclose your CO2 and/or fuel economy targets for products at group level and, where relevant, for specific markets. Targets should be expressed in grams of CO2 per kilometer.

Box 6: Examples of emissions reduction targets

The following are examples of absolute targets:

- Metric tonnes CO2e or % reduction from base year
- Metric tonnes CO2e or % reduction in product use phase relative to base year
- Metric tonnes CO2e or % reduction in supply chain relative to base year
- Metric tonnes CO2e or % reduction per year
- Metric tonnes CO2e or % reduction relative to 5 year rolling average of emissions
- Cap on emissions in metric tonnes CO2e

The following are examples of intensity targets:

- Metric tonnes CO2e or % reduction per unit revenue (also per unit turnover; per unit gross sales) relative to base year
- Metric tonnes CO2e or % reduction per full-time employee equivalent (also per hours worked; per operating hour; per guest night; per capita; per patient days) relative to base year
- Metric tonnes CO2e or % reduction per unit of product (e.g. metric tonne of paper; metric tonne of aluminum) relative to base year
- Metric tonnes CO2e or % reduction per passenger kilometer (also per km; per nautical mile) relative to base year
- Metric tonnes CO2e or % reduction per square foot relative to base year
- Cap on emissions relative to an activity (e.g. stabilizing emissions at x metric tonnes CO2e per metric tonne of steel produced)
- Metric tonnes CO2e or % reduction per MWh
- Metric tonnes CO2e or % reduction in emissions from business flights per employee

Worked examples on how to convert a target to reduce energy consumption to an emissions reduction target

Companies may have targets to reduce their energy consumption. Reducing energy consumption is likely to lead to reduce emissions and therefore this target can be converted into an emissions reduction target.

The equivalent reductions of an energy target are set based on a consequential approach to accounting. Thus the principles to be followed are the ones set in the GHG Project Protocol, although the rigor required is not the same.

Target for reduction of electricity consumption

A company has an electricity consumption in the base year of the target equal to 1205789MWh. In the base year the company is being supplied by the and is using an average grid emission factor, which we will assume equal to 0.55 metric tonnes CO2e per MWh

Therefore, the emissions in the base year from electricity consumption are (1205789 x 0.55) = 663183 metric tonnes CO2e.

The company has set an energy reduction target of 20% reduction in electricity consumption for the next 10 years. Assuming that the emissions factor remains the same in the target year, a 20% reduction in electricity consumption will result in a 20% reduction in emissions.

Therefore, electricity consumption emissions in the target year are (663183-(663183*(20/100))) 530547 metric tonnes CO2e.

Please note that the fundamental assumption here is that the “grid emissions factor remains the same”. In most cases this is very unlikely to happen, however, for the purposes of responding to this question and the rigor involved, it can be an acceptable assumption. This would be more related to a location-based Scope 2 figure.

From a market-based Scope 2 perspective this target could also be achieved not by reducing consumption of electricity but by purchasing renewable energy. The target would be the same even though the ways to achieve it would be different, although would be reported differently. Because each option has its own consequences, it is important to distinguish how it is proposed to achieve the target.

Please also note that if in the base year the company is already accounting for a certain amount of its electricity consumption as low emission electricity, then following the same principle of using the conditions of the base year of the target, that amount also needs to be reflected for the purpose of the calculation of the emissions reductions.

Thus, if 50% of the electricity was renewable electricity with a 0 t/CO2e emission factor, the emissions in the base year would be:

$$\left(\frac{1205789}{2} * 0.55 + \frac{1205789}{2} * 0\right) = 331591.5\ tCO2e$$

There are two ways of calculating the emissions reductions in the target year then. One assuming that the % of RE will stay the same; another assuming that the amount of RE purchased will stay the same.

In the first case, the corresponding expected emissions in the target year would be:

$$\left[(1 - 0.2) * \left(\frac{1205789}{2} \times 0.55 + \frac{1205789}{2} \times 0\right)\right] = 265273.6\ tCO2e$$

As in the past example, the assumption is that the “average grid factor” of the electricity contracted by the company stays the same.

In the second case, the corresponding expected emissions in the target year would be:

$$\left[\left((0.8 \times 1205789) - \frac{1205789}{2}\right) \times 0.55\right] = 198955.2\ tCO2e$$

Please be aware that in this example a commitment is made to maintain the same purchase amounts of RE power through the entire period of the target.

CC3.1a: Please provide details of your absolute target

This question only appears if you select “Absolute target” in response to question CC3.1.

You are requested to respond to this question in the table provided in the ORS.

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions covered by target (metric tonnes CO2e)	Target year	Is this a science-based target?	Comment

If you have multiple targets, you can enter them into the table by adding add more rows using use the “Add Row” button to the bottom right.

A worked example of reporting an absolute target is provided in Box 7. Guidance on responding to each of the columns is provided below:

- **ID**
    - Where companies that have multiple absolute targets, they should select a unique ID in this field from the drop down menu provided to identify that target in subsequent questions. For absolute targets please select from Abs1-Abs15.
- **Scope**
    - This refers to the scope(s) of emissions to which the target relates to. Note that this does not have to comprise all emissions within a particular scope –this is addressed in the following column. Select one of the following values from the drop down menu provided:
        - Scope 1;
        - Scope 2 (location-based)
        - Scope 2 (market-based)
        - Scope 1+2 (location-based)
        - Scope 1 +2 (market-based)
        - Scope 1+2 (location-based) +3 (upstream)
        - Scope 1+2 (location-based) +3 (downstream);
        - Scope 1+2 (market-based) +3 (upstream)
        - Scope 1+2 (market-based) +3 (downstream)
        - Scope 3: Purchased goods & services
        - Scope 3: Capital goods
        - Scope 3: Fuel- and energy-related activities (not included in Scopes 1 or 2)
        - Scope 3: Upstream transportation & distribution
        - Scope 3: Waste generated in operations
        - Scope 3: Business travel
        - Scope 3: Employee commuting
        - Scope 3: Upstream leased assets
        - Scope 3: Investments
        - Scope 3: Downstream transportation and distribution
        - Scope 3: Processing of sold products
        - Scope 3: Use of sold products
        - Scope 3: End-of-life treatment of sold products
        - Scope 3: Downstream leased assets
        - Scope 3: Franchises
        - Other, please specify

The categories of Scope 3 emissions have been taken from the Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Companies should refer to the standard for information on the sources that each category comprises and additional information on how to calculate these emissions. If you are specifying a Scope 3 source under "Other", please make clear whether it is an upstream or downstream source.

- **% of emissions in scope**
    - Identify the percentage of the total measured emissions of that particular scope in the base year that your target applies to. Please enter a valid percentage (0 to 100) to a

maximum of 2 decimal places. For example, if your target is to reduce Scope 1 emissions arising from your European operations, and these European operations accounted for 80% of your total Scope 1 emissions in the base year, then you should enter 80 into this column. Other examples could be where a target relates to a particular business activity (e.g. production facility, office based operations, etc.). If you have selected a scope sub-category in the previous column (e.g. Scope 3: Business travel) you should specify the percentage emissions in that sub-category rather than the scope as a whole.

- **% reduction from base year**
  - Enter your emissions reduction targets as a percentage reduction of emissions to be achieved in the target year compared with the base year. Please enter a valid percentage (0 to 100) to a maximum of 2 decimal places. For example, if your target is to reduce your Scope 1 emissions by 3000 metric tonnes CO2e and your base year emissions were 150000 metric tonnes CO2e, you should enter 2 into this column. If your target is to cap emissions at the baseline level, you should enter zero in this column.
- **Base year**
  - Please enter a whole number between 1900 and 2016. If you have a year on year rolling target your base year will be the previous reporting year. If you have a target based on financial years, please enter the year that applies to the end of your financial year. If you have a target based on an average (e.g. 5-year average), please enter the year that applies to the end of the average period. For both financial year and average base years, please use the Comment column at the end of the table to identify this. It is not possible to enter base years that are in the future.
- **Base year emissions covered by target (metric tonnes CO2e)**
  - Enter the base year emissions relevant to the target in this column. For example, if your target is to reduce Scope 1 emissions arising from your European operations, enter the base year Scope 1 emissions for the European operations only. Entries into this column should be in metric tonnes CO2e and should be numeric values no longer than 99999999999 and to no more than 2 decimal places.
- **Target year**
  - Please enter a whole number between 2000 and 2100. If you have a year on year rolling target your target year will be the reporting year. If you have a target based on financial years, please enter the year that applies to the end of your financial year. If you have a target based on an average (e.g. 5-year average), please enter the year that applies to the end of the average period. For both financial year and average target years, please use the Comment column at the end of the table to identify this.
- **Is this a science-based target?**
  - **See Box 8 for a brief description of science-based targets and why CDP is asking companies to set them.** In addition, see the Technical Note on Science Based Targets for what qualifies as a science-based target and how to assess your target against CDP's criteria. Guidance on the dropdown options for this column are provided below.
    - Yes, and this target has been approved as science-based by the Science Based Targets initiative**-** Companies are very strongly encouraged to have their targets officially evaluated by the Science Based Targets initiative (SBTi). CDP considers targets approved by the initiative to reflect best practices in science-based target setting. Please select this option only if the target has been approved by the SBTi.
    - Yes, but this target has not been approved as science-based by the Science Based Targets initiative**-** Not all companies have had their target assessed by the SBTi. If your company has set a target and has self-assessed it to be science-based, but has not had it approved by the SBTi, or is currently being reviewed

by the SBTi, please select this option. You should use the “Comment” column to explain why you have stated your target to be science-based.

- No, as there is currently no established science-based targets methodology in this sector**-** Not all sectors currently have established science-based targets methodologies. One example of this would be the Financial Services sector. If there is currently no methodology for your sector, you should select this option.
- No, but we are reporting another target which is science-based- Another target (absolute or intensity-based) disclosed is science-based, either in another row in this table or in the other emissions reduction target table.
- No, but we anticipate setting one in the next 2 years**-** While not necessary, it is recommended that the company publically state this through the Call to Action.
- No, and we do not anticipate setting one in the next 2 years- The target was evaluated and did not pass the Science Based Targets Initiative’s quality check or the company has no plans to set a science-based target in the next 2 years.

Please note that the sum of all responses to "Is this a science-based target?" can only receive a maximum of 1 awareness point in total.

- **Comment**
  - You can use this column to provide any context to your target that you think is relevant. For information related to science-based targets that should be included in this column please see the Technical Note on Science Based Targets. As noted above you can use this column to identify where you have a financial year or average year based target. You may also wish to give the original target, before it was converted into a % reduction format for the purposes of this table, or if your target is part of a wider carbon neutrality goal, a regulatory requirement or a longer term target, you can explain this here. If your target relates to renewable energy purchase (i.e. that your consumption will remain the same or increase but you will purchase more from renewable sources), please state here if the target is also associated with any reductions in the consumption of electricity and if not, why not. **This column can also be used to identify stabilization targets, as demonstrated in Box 7**. This column is a free text field; all entries should be less than 2400 characters.

Box 7: Worked example of absolute target table

The following table shows four absolute target examples:

- A target to reduce total Scope 1 emissions by 2000 metric tonnes CO2e compared with the previous year’s Scope 1 emissions of 830 000 metric tonnes CO2e (ID=A-01);
- A target to stabilize emissions from European operations at 2007 levels by 2018 (ID=A-02);
- A target to reduce total Scope 2 emissions from 10% in 2010 to 25% by 2020 (ID=A-03);
- A target to reduce product-use emissions from the alpha product range by 30% by 2020 relative to 2000 (ID=A-04).

ID	Scope	% of emissions in Scope	% reduction from base year	Base year	Base year emissions	Target year	Is this a science-based target?	Comment
Abs1	1	100	80	2007	830000	2050	Yes, and this target has been	Our organization submitted this

							approved as science-based by the Science Based Targets initiative	target in April 2016. It has been successfully approved by the SBTi.
Abs2	1	80	0	2007	315000	2018	No, but we are reporting another target which is science-based	This is a stabilization target; we aim to stabilize our emissions at 2007 levels by 2016
Abs3	2 (market-based)	100	15	2010	55000	2020	No, but we are reporting another target which is science-based	This will be achieved through reductions in electricity consumption
Abs4	3 – Use of sold products	40	30	2000	47622000	2020	No, but we are reporting another target which is science-based	

Box 8: Science-based targets

The world is on a trajectory leading to a 4°C temperature increase above pre-industrial levels, which will have adverse effects on the planet. Nearly 200 nations at COP21 wrote into the Paris Agreement that globally we will aim to limit warming to below 2°C and even pursue efforts to limit warming to under 1.5°C. However, there is a yawning gap between the level of ambition of the country commitments and targeted temperatures. Companies, which are responsible for a vast majority of the world's emissions, must play a critical role in filling the gap left by country commitments by raising the level of ambition in their target setting and reducing their emissions in line with climate science.

Science-based target setting methods disaggregate the remaining global carbon budget and assign companies their fair share of emissions reductions. A number of factors are taken into consideration in order to determine what is most appropriate for a given company. Please see the Technical Note on Science Based Targets and the 2017 climate change scoring methodology for information on best practices in target setting what CDP considers as a science-based target.

Companies are very strongly encouraged to have their targets officially evaluated by the Science Based Targets initiative (SBTi). CDP considers targets approved by the Initiative to reflect best practices in science-based target setting. Targets submitted to the SBTi for an official evaluation by the April 15 2017 deadline, with all information needed to assess the target, will be used for scoring in CDP's 2017 Climate Change questionnaire. Targets that did not pass the SBTi's review process or that have not been submitted for review prior to the deadline will still be evaluated using information disclosed in CDP's questionnaire. See the Technical Note for more details.

CC3.1b: Please provide details of your intensity target

This question only appears if you select "Intensity target" in response to question CC3.1.

You are requested to respond to this question in the table provided in the ORS, reproduced below.

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions covered by target	Target year	Is this a science-based target?	Comment

If you have multiple targets, you can enter them into the table by adding add more rows using use the "Add Row" button to the bottom right.

Worked examples of reporting intensity targets are provided in Box 9. Guidance on responding to each of the columns is provided below:

- **ID**
  - Where companies that have multiple intensity targets, they should select a unique ID in this field from the drop down menu provided to identify that target in subsequent questions. For intensity targets please select from Int1-Int15.
- **Scope**
  - See guidance for question CC3.1a (absolute targets)
- **% of emissions in scope**
  - See guidance for question CC3.1a (absolute targets)
- **% reduction from base year**
  - Enter your emissions reduction targets as a percentage reduction of the intensity (normalized) emissions to be achieved in the target year compared with the base year. Please enter a valid percentage (0 to 100) to a maximum of 2 decimal places. For example, if your target is to reduce your Scope 1 emissions per full time equivalent (FTE) employee to 7 metric tonnes CO2e per FTE employee and your base year emissions were 9 metric tonnes per FTE employee, you should enter 22 into this column (i.e., ((9-7)/9)=0.22; then multiply by 100 for percentage value).
- **Metric**
  - Select one of the following options from the drop down menu below. Those with an asterisk (*) are the metrics that can be evaluated against science-based target setting methods (see Technical Note on Science Based Targets):
    - Grams CO2e per revenue passenger kilometer*
    - Metric tonnes CO2e per USD($) value-added*
    - Metric tonnes CO2e per square meter*
    - Metric tonnes CO2e per tonne of aluminum*
    - Metric tonnes CO2e per tonne of steel*
    - Metric tonnes CO2e per tonne of cement*
    - Metric tonnes CO2e per tonne of cardboard*
    - Grams CO2e per kilometer*
    - Metric tonnes CO2e per unit revenue
    - Metric tonnes CO2e per unit FTE employee
    - Metric tonnes CO2e per unit hour worked
    - Metric tonnes CO2e per metric tonne of product

- Metric tonnes of CO2e per liter of product
- Metric tonnes CO2e per unit of production
- Metric tonnes CO2e per unit of service provided
- Metric tonnes CO2e per square foot*
- Metric tonnes CO2e per kilometer
- Metric tonnes CO2e per passenger kilometer*
- Metric tonnes CO2e per megawatt hour (MWh)*
- Metric tonnes CO2e per barrel of oil equivalent (BOE)
- Metric tonnes CO2e per vehicle produced*
- Metric tonnes CO2e per tonne of ore processed
- Metric tonnes CO2e per ounce of gold
- Metric tonnes CO2e per ounce of platinum
- Metric tonnes of CO2e per tonne of aggregate
- Metric tonnes of CO2e per billion (currency) funds under management
- Other, please specify

  - If you select “Other, please specify”, you should enter the metric of your target in the text box provided. This should be in the format “mass CO2 per activity”, as in the options above.

- **Base year**
  - See guidance for question CC3.1a (absolute targets).
- **Normalized base year emissions covered by target**
  - See guidance for question CC3.1a (absolute targets). Note that you should enter the intensity (normalized) base year emissions relevant to the target (i.e. total emissions divided by the intensity denominator), not the total scope emissions.
  - For example, if your target is to reduce emissions per FTE employee by 30%, using 2010 as your base year and 2016 as your target year, you should firstly calculate what your emissions were per FTE in 2010 (in this example 10 metric tonnes CO2e) and enter this figure in the field. Your target in 2016 would be 7 metric tonnes CO2e. Up to 7 decimal places can be entered in this field.
- **Target year**
  - See guidance for question CC3.1a (absolute targets)
- **Is this a science-based target?**
  - See guidance for question CC3.1a (absolute targets)
- **Comment**
  - See guidance for question CC3.1a (absolute targets)

Box 9: Worked example of intensity target table

The table below shows four intensity target examples:

1. A target to maintain total emissions (Scope 1 and 2) per Million US$ revenue from US operations at the same level as last year (ID=I-01);
2. A target to reduce the total Scope 1 emissions by 2% per annum per FTE employee (ID=I-02);
3. A target to reduce emissions from 373 metric tonnes CO2e per MWh produced in 2008 to 300 metric tonnes CO2e per MWh produced by 2018 (ID=I-03); and
4. A target to reduce emissions from business flights per FTE employee by 10% by the financial year 2019-2020 from a base year of financial year 2004-2005 (ID=I-04).

ID	Scope	% of emissions in Scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Is this a science-based target?	Comment
Int1	1+2 (location-based)	79	0	metric tonnes CO2e per unit revenue	2014	0.0003	2015	No, and we do not anticipate setting one in the next 2 years	
Int2	1	100	2	metric tonnes CO2e per FTE employee	2014	3.78	2015	No, and we do not anticipate setting one in the next 2 years	This is an annual rolling target
Int3	1	90	20	metric tonnes CO2e per MWh	2008	0.6	2018		
Int4	3 – Business travel	60	10	metric tonnes CO2e per FTE employee	2005	2.6	2020	No, and we do not anticipate setting one in the next 2 years	Relates to FY 2004-2005 (base year) and FY 2019-2020 (target year)

CC3.1c: Please also indicate what change in absolute emissions this intensity target reflects

This question only appears if you select "Intensity target" in response to question CC3.1.

You are requested to respond to this question in the table provided in the ORS, reproduced below.

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment

If you wish to add more rows to the table, please use the "Add Row" button to the bottom right.

Guidance on responding to each of the columns is provided below:

- **ID**
  - Please select the unique ID for your intensity target as defined in CC3.1b. Please select from Int1-Int15.
- **Direction of change anticipated in absolute Scope 1+2 emissions at target completion?**
  - *Complete this column if your target relates to Scope 1 and/or 2 emissions.*
  - Select from the following options in the drop down menu provided: Increase; Decrease; No change. You should determine the direction of change expected in your total absolute emissions if you achieve your intensity target. This will be based on assumptions of changes in the business metrics on which your target is based. For example, if your target is to reduce Scope 1 emissions per employee by 10% by 2020, you will need to predict the number of employees you expect to have in 2020 and, assuming you reach your target, whether this would be an increase, decrease or no change in total emissions compared to the base year of your target.
  - If you have set a target that relates to Scope 1+2+3, please account for Scopes 1 and 2 in this column.
- **% change anticipated in absolute Scope 1+2 emissions**
  - *Complete this column if your target relates to Scope 1 and/or 2 emissions.*
  - This column asks for the percentage change in absolute emissions expected, based on the calculations described for the previous column. This column accepts numeric values up to 999, allowing up to two decimal places. This should reflect the percentage change of the total measured emissions within the scope category chosen for the target (i.e. column 2 of table CC3.1b).
- **Direction of change anticipated in absolute Scope 3 emissions at target completion?**
  - *Complete this column if your target relates to Scope 3 emissions.*
  - Select from the following options in the drop down menu provided: Increase; Decrease; No change. You should determine the direction of change expected in your total absolute emissions if you achieve your intensity target. This will be based on assumptions of changes in the business metrics on which your target is based. For example, if your target is to reduce Scope 3 business travel emissions per employee by 10% by 2020, you will need to predict the number of employees you expect to have in 2020 and, assuming you reach your target, whether this would be an increase, decrease or no change in total emissions compared to the base year of your target.
  - If you have set a target that relates to Scope 1+2+3, please account for Scope 3 in this column.
- **% change anticipated in absolute Scope 3 emissions**
  - *Complete this column if your target relates to Scope 3 emissions.*
  - This column asks for the percentage change in absolute emissions expected, based on the calculations described for the previous column. This column accepts numeric values up to 999, allowing up to two decimal places. This should reflect the percentage change of the total measured emissions within the scope category chosen for the target (i.e. column 2 of table CC3.1b).
- **Comment**
  - This column is a free text field; all entries should be less than 2400 characters.

You should complete a row of this table for each intensity target you describe in answer to question CC3.1b. If your target includes a combination of all scopes, the percentage reduction expected to be accounted for in Scope 1 and/or 2 reductions should be completed in columns 2-3 and that in Scope 3 reductions completed in columns 4-5, based on current estimates/plans.

CC3.1d: Please provide details of your renewable energy consumption and/or production target

This question only appears if you select "renewable energy consumption or production target" in response to question CC3.1.

A worked example of reporting a renewable energy target is provided in Box 10, and information on the RE100 campaign is provided in Box 11.

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment

If you wish to add more rows to the table, please use the "Add Row" button to the bottom right.

Guidance on responding to each of the columns is provided below:

- **ID**
  - Where companies have multiple renewable energy targets, they should select a unique ID in this field from the drop down menu provided to identify that target in subsequent questions. For renewable targets please select from RE1-RE15
- **Energy types covered by target**
  - Select one of the following options from the drop down menu. Please note that you should add separate rows for renewable energy consumption and renewable energy production targets. **For examples of how to select the relevant source for your target, please see Box 10.**
    - All energy consumed
    - Combustion of fuels
    - Electricity consumption
    - Heat consumption
    - Steam consumption
    - Cooling consumption
    - Electricity production
    - Other, please specify
- **Base year**
  - Please enter a whole number between 1900 and 2016. If you have a year on year rolling target your base year will be the previous reporting year. If you have a target based on financial years, please enter the year that applies to the end of your financial year. If you have a target based on an average (e.g. 5-year average), please enter the year that applies to the end of the average period. For both financial year and average base years, please use the Comment column at the end of the table to identify this. It is not possible to enter base years that are in the future.
- **Base year energy for energy type covered (MWh)**
  - Enter the base year energy relevant to the target in this column.
- **% renewable energy in base year**
  - Identify the percentage of renewable energy for your company in the base year. This figure should be consistent with what you reported as low carbon energy (electricity, heat, steam or cooling) for the base year, as a percentage of total energy in that year.
  - You may select a number between 0-100 with up to 2 decimal places.
- **Target year**
  - Please enter a whole number between 2000 and 2100. If you have a year on year rolling target your target year will be the reporting year. If you have a target based on financial

years, please enter the year that applies to the end of your financial year. If you have a target based on an average (e.g. 5-year average), please enter the year that applies to the end of the average period. For both financial year and average target years, please use the Comment column at the end of the table to identify this.

- **% renewable energy in target year**
  - Identify the percentage of renewable energy (i.e. low carbon energy of the energy type as a percentage of total energy) that your company wants to possess in the target year.
  - You may select a number between 0-100 with up to 2 decimal places.
- **Comment**
  - It is important that you provide a clear explanation of whether your target involves energy consumption or production, or both. You should use no more than 2400 characters.
  - For example, a target can be to **produce a certain percentage of renewable energy** by the target year. In this case, the target corresponds to renewable energy production as a percentage of total energy production.
  - In another case (as the example of RE1 below) the target can be to **produce as much renewable energy as the company consumes** every year. In this case, energy consumed – and not produced – is the denominator.
  - See guidance for question CC3.1a (absolute targets)

Box 10: Worked example of renewable energy target table

The following table shows three intensity target examples:

- RE1: a target to increase renewable electricity production from an amount corresponding to 0% of electricity total consumed in 2015 to 100% of total electricity consumed every year, by 2020.
- RE2: a target to transition from fuels combusted on site for energy purposes from bio fuels as 0% of total fuels combusted in 2015 to 40% combustion from biofuel sources in 2020.

ID	Energy types covered by target	Base year	Base year energy for energy type covered (MWh)	% renewable energy in base year	Target year	% renewable energy in target year	Comment
RE1	Electricity production	2015	50000	0	2020	100	Our target is to produce as much electricity from renewable sources as the total electricity we consume, by 2020. To achieve this, we have invested and will operate three wind farms across Denmark, which we target to be operational in 2020.
RE2	Combustion of fuels	2015	50000	0	2020	40	In 2015, 50000MWh were produced from combusting fossil fuel sources. We aim to transition to a higher component from bio fuels.

Box 11: The RE100 campaign and disclosure to CDP in 2017

RE100 is a coalition of influential businesses with a public commitment to achieving 100% renewable electricity. The aim of RE100 is to drive the creation of a thriving, global market for renewable power. RE100 is coordinated by CDP and The Climate Group.

RE100 Corporate Partners will be asked to provide additional information by attaching a document to their CDP response in the Online Response System (ORS). Detailed information on how to provide this information will be made available on CDP's website in January 2017.

More information about RE100 is available here.

CC3.1e: For all of your targets, please provide details on the progress made in the reporting year

This question only appears if you select one of "Absolute target", "Intensity target" or "Renewable energy consumption and/or production target" in response to question CC3.1.

Please note that this question pertains to all targets reported in 3.1a, 3.1b, and CC3.1d.

You are requested to respond to this question in the table provided in the ORS, reproduced below.

ID	% complete (time)	% complete (emissions or renewable energy)	Comment

To add more rows to the table, please use the "Add Row" button to the bottom right.

Guidance on responding to each of the columns is provided below:

- **ID**
  - If you have reported absolute targets in CC3.1a please select the unique IDs for these targets from Abs1-Abs15. If you have reported intensity targets in CC3.1b please select the unique ID for these from Int1-Int15. If you have reported renewable energy consumption and/or production targets in CC3.1d please select the unique ID for these from RE1- RE15. The IDs selected for each target in CC3.1a, CC3.1b, and CC3.1d should be used consistently across the targets questions.
- **% complete (time)**
  - This column accepts numeric entries only (0-100), to two decimal places; there is no need to enter the percentage symbol. You should indicate how far you are in your target by indicating the percentage complete in time. For example, if you have a target base year of 2010, your target year is 2017 (a 7-year target period) and your reporting year is 2015 (5 years into the target period), you are 71% complete in time ((5/7)*100). If you have a year on year target, or if your target period was completed in the reporting year, you will be 100% complete in time.
- **% complete (emissions or renewable energy)**
  - This column accepts numeric entries only (0-100), to two decimal places; there is no need to enter the percentage symbol. You should indicate how far you are in your target by indicating the percentage complete in emissions. For example, if your target is to reduce your Scope 1 emissions by 10% by 2017 compared with a 2010 target base year, and in your reporting year your Scope 1 emissions had reduced by 3% compared to that target base year, you are 30% complete in emissions ((3/10)*100). If you have met your target in the reporting year you will be 100% complete in emissions. Note that it is not possible to put values greater than 100% in this field, however if you have exceeded your target, then you can explain this in the Comment column. If you have reached your target year

(i.e. you are 100% complete in time) but you have not met your target, you should enter the percentage of the target completed.

- If you have an absolute target to stabilize your greenhouse gas emissions against a certain base year, unless you are in the target year, please enter zero. For example, a company states an absolute target to cap emissions using 2008 as their base year using a target year of 2017. For reporting years until 2017 they would enter 0, before entering 100% in 2017 if they have achieved their target.

- **Comment**
  - You can use this text field to enter any other information that you consider relevant. This could include how you expect your emissions trajectory to progress in the future, or if you have exceeded your target you could provide details here. You should use no more than 2400 characters.

You should complete a row of this table for each target you describe in answer to questions CC3.1a, CC3.1b, or CC3.1d using the ID column to identify them.

CC3.1f: Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

This question only appears if you select "No" in response to question CC3.1.

Please respond to this question in the text box provided, using no more than 5000 characters. It is preferable, although not essential, that your response is organized under the points set out above. Formatting tools are available at the top of the text box. Please note however that formatting copied from another document into the ORS will not be retained.

CC3.2: Do you classify any of your existing goods and/or services as low carbon products or do they enable a third party to avoid GHG emissions?

Please select "Yes", "No" or "Don't know" from the drop down menu provided in response to this question. If you select "Yes" you will be directed to question CC3.2a where you will be asked to provide further information (see below); if you respond "No" or "Don't know" you will move on directly to question CC3.3. **For more information about 'low carbon products' please see Box 12.**

There are various circumstances in which a company might consider that the use of its goods and services by others has the potential to reduce GHG emissions. For example, an insulation company might consider that the installation of its insulation in another organization's premises might reduce the consumption of gas to heat the building, with the consequent reduction of GHG emissions from the property. Similarly, a consultancy providing advice services on energy efficiency/emissions reductions or a manufacturer producing a product with lower energy use requirements compared with equivalent products on the market could also consider themselves to reduce the GHG emissions of others. A further example would be in the case of a company generating renewable electricity and selling it to a third party. In this case, the third party would calculate their emissions with a zero emissions factor and, providing that the grid average factor is not zero, this would enable that third party to avoid emissions.

Box 12: Low carbon products

Why is CDP asking about low carbon products?

As the pressing need for reducing greenhouse gas emissions continues, investors are looking at different mechanisms to reduce the carbon intensity of their investments. In response to this, investors are signing up to the "Global Investor Statement on Climate Change", which sets out the contribution that investors can make to increasing low carbon and climate resilient investments. One way in which investors can take action is through the Low Carbon Investment (LCI) Registry, which is a publicly accessed online database of low carbon and clean energy investments globally. In addition, legislation developments in

certain jurisdictions are also accelerating the need for investors to show evidence that they are driving a transition towards a low carbon economy

One of the challenges facing investors calculating their investments in companies which have low carbon products, is that there is no singular database in which companies can register their low carbon products, as well as the percentage of their revenue generated through low carbon products. CDP has expanded its focus of CC3.2 beyond avoided emissions to include low carbon products to address this vacuum, providing valuable information to investors who are seeking to increase the proportion of their portfolio invested in low carbon products.

How do you define a low carbon product?

Despite the increasing focus from investors on low carbon products, there remains a level of ambiguity over the definition of what constitutes a 'low carbon product'. Instead there has been a greater focus on their wider purpose, which is to contribute to the transition of a low carbon economy operating within the limits set out by leading climate scientists to ensure that global average temperature increase above pre-industrial level stays below 2°C.

Taxonomies, such as the Climate Bonds Taxonomy, similarly function within this scientific parameter. At this stage, CDP encourages companies to use this parameter when evaluating whether a product is low carbon or not. Therefore, while CDP encourages the development of common definitions across global markets about what constitutes a 'low carbon product', companies should evaluate their low carbon products in relation to their contribution to a low carbon economy. Different goods and services will have pertinent characteristics in which they can do this. This can include improving the energy efficiency of certain technologies so that they are consistent with avoiding dangerous climate change, or contribute to the adaptation side of dangerous climate change.

While CDP does not want to constrict the definition of low carbon products, they can be loosely defined as a product with low embedded emissions, whilst avoided emissions refers to a product/service that allows a third party to avoid emissions.

More information

- Low Carbon Investment Registry: This is a database of low carbon and emissions reducing investments made by institutional investors.
- Low Carbon Registry Climate Bonds Initiative (CBI): This is a taxonomy of eligible goods and services have been defined as meeting the requirements of low carbon.
- Investor Statement on Climate Change: Initiative by institutional investors to accelerate action on climate change.
- Article 48 of the Energy Transition Law in France**:** An amendment to Article 48 which sets out different requirements for investors, banks, and companies for a transition to a low carbon economy.

CC3.2a: Please provide details of your products and/or services that you classify as low carbon products or that enable a third party to avoid GHG emissions

This question only appears if you select "Yes" in response to question CC3.2

Worked examples of reporting low carbon products and products that allow third parties to avoid GHG emissions, are provided in Box 13.

Level of aggregation	Description of product/ Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment

To add more rows to the table, please use the “Add Row” button to the bottom right.

Guidance on responding to each of the columns is provided below:

- **Level of aggregation**
    - Please select from the drop-down menu what level of aggregation you wish to report on in this row. For example, you may only produce one product that can be classified as ‘low carbon’. In this case you may want to report at the product level of aggregation. Alternatively, if your company produces potentially hundreds of low carbon products, you may wish to report at a company-wide level. Please note that you can add multiple rows to this table and report different levels of aggregation. For each row, please select the level of aggregation that is most appropriate to your stakeholders.
        - Product
        - Group of products
        - Company-wide
- **Description of product/ Group of products**
    - Please use this column to describe the product/s that you are disclosing in this row. This column is a free text field; all entries should be less than 2400 characters.
- **Are you reporting low carbon product/s or avoided emissions?**
    - Please select from the drop down option whether you are reporting on low carbon products and/or avoided emissions in this row. Often a product is either a low carbon product, or allows a third party to avoid emissions. However, in some cases a product has the potential to be both a low carbon product, and allow a third party to avoid emissions. In this case, please select the option ‘Low carbon product and avoided emissions’. Please note that you should only select this option of the product/service fits into both classifications.
        - Low carbon product
        - Avoided emissions
        - Low carbon product and avoided emissions
- **Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions**

    As investors seek to increase the proportion of their portfolio invested in low carbon products there is an effort to establish standardized methodologies. As for avoided emissions, methodologies to calculate avoided emissions are still in the infancy of their development. In the future CDP will refine the list of methodologies to best reflect those that are considered best practice.
        - Low Carbon Investment (LCI) Registry Taxonomy
        - Climate Bonds Taxonomy
        - Addressing the Avoided Emissions Challenge- Chemicals sector
        - Evaluating the carbon reducing impacts of ICT
        - Other, please specify
- **% revenue from low carbon product/s in the reporting year**
    - Please state the proportion of your revenue from your low carbon products during the reporting year. Please note that if you are reporting on avoided emissions you may leave this column blank. Revenue is defined as sales, net of taxes. Please enter a number between 0-100 and up to 2 decimal places.
- **% R&D in low carbon product/s in the reporting year**
    - Please state the proportion of your R&D invested in low carbon products during the reporting year. Please note that if you are reporting on avoided emissions you may leave

this column blank. Due to the potential confidentiality of this information, this data point is requested as a range, rather than a specific number. The purpose of this data point is to allow investors to gain a greater understanding of how their investments are positively influencing the transition to a low carbon economy. Please select from the following ranges.

- Less than or equal to 10%
- More than 10% but less than or equal to 20%
- More than 20% but less than or equal to 40%
- More than 40% but less than or equal to 60%
- More than 60% but less than or equal to 80%
- More than 80% but less than or equal to 100%

- **Comment**
  - You can use this text field to enter any other information that you consider relevant. This could include how you expect to change your investments in low carbon products, the estimated emissions savings from avoided emissions, or how you expect to meet stakeholder expectations. This column is a free text field; all entries should be less than 2400 characters.

Box 13: Worked example of low carbon products and products that allow third parties to avoid GHG emissions

There is a distinction between products that are low carbon and products that allow third parties to avoid GHG emissions. While a product/service is often classified as either a low carbon product or avoided emissions, they are not mutually exclusive concepts and in some cases maybe classified in both, although this is far more uncommon and it is most likely that your product/service will fall into one category. Please use the following examples to determine which category your products/services would fall into.

Example 1: Reporting a product that can be classified as a low carbon product. Company A is a paper production company. It has a range of products that can be classified as low carbon as these products have less carbon embedded in them.

Level of aggregation	Description of product/ Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Group of products	We have manufactured/sold printing paper and packaging materials that consist of 50% recycled material. These products can be classified as low carbon products	Low carbon product	Climate Bonds Taxonomy	30	40	30% of revenue is an estimate based on the ratio of recycled materials

	because manufacturing of them requires less raw materials and therefore very little emissions are embedded in the products.					to raw materials used in our products.

Example 2: Reporting a product that can be classified as a product that allows a third party to avoid GHG emissions. Company B is an automotive manufacturer. Its innovative energy-saving technologies, such as hybrid vehicles, are available throughout its product portfolio, allowing customers to select energy efficient models.

Level of aggregation	Description of product/ Group of products	Are you reporting low carbon product/s or avoided emissions?	Taxonomy, project or methodology used to classify product/s as low carbon or to calculate avoided emissions	% revenue from low carbon product/s in the reporting year	% R&D in low carbon product/s in the reporting year	Comment
Company-wide	Our company has a wide range of eco-efficient automobiles available. We also have a wide variety of energy-saving technologies, such as light-weight construction and low-rolling resistance tires. We also offer a range of products that run on alternative-energy.	Avoided Emissions	Other: ISO 14040, life cycle assessment	80	Between 70-75%	Since 2009, our company has been calculating the carbon footprint of new vehicles associated with their production, use and disposal/ recycling, expressed in CO2-equivalent. The data is then used to achieve further reductions in the carbon footprint in all relevant vehicle models. In 2015 we invested $50 million in 2015 into research and

						development of energy-saving technologies

CC3.3: Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and/or implementation phases)

Please respond to this question by selected "Yes" or "No" from the drop down menu provided. If you select "Yes" you will be directed to questions CC3.3a, CC3.3b and CC3.3c; if you select "No" you will be directed to question CC3.3d.

It is acknowledged that diverse companies often have large number of emissions reduction initiatives operating over varying time periods and scales. Companies should answer this question in the context of the reporting year. This could include initiatives that have become operational within the reporting year (e.g. installation of new equipment, or instigation of new operational practices) or commitments that have been made in the reporting year (e.g. investments made which are yet to become fully operational).

If you are reporting a market-based Scope 2 figure, you can reflect any renewable energy purchasing policies as a component of emissions reduction activities. Please bear in mind, however, that if you are already buying renewable energy instruments and accounting them as a zero emission factor, then emissions reduction activities can only be achieved as "additional purchases" to what you are already doing. Therefore, emissions reduction activities are established by comparing what you have done in the previous year and what you are proposing to do for next year(s).

Measures taken to reduce Scope 3 emissions may be reported here.

Please note that initiatives do not need to relate to specific targets reported in question CC3.1.

C3.3a: Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

This question only appears if you select "Yes" in response to question CC3.3.

You are requested to respond to this question using the table provided in the ORS and reproduced below. Both columns accept numeric entries only. Where there are no projects in a stage of development, please state zero. For the total estimated annual CO2e savings in metric tonnes CO2e, please enter a number up to 99999999999 to a maximum of 2 decimal places. Please ensure that the number does not contain commas.

The purpose of this question is to demonstrate the systematic evaluation of emissions reduction initiatives. Companies should enter the total number of projects in each stage of implementation in column 2 and the aggregate estimated annual emissions savings in metric tonnes CO2e in column 3 for all projects in those stages marked with an asterisk (to be implemented, implementation commenced, and implemented). It is acknowledged that the CO2e savings will be an estimate. More detail is requested on individual activities (or programs of activity) that have been implemented in the reporting year in the subsequent question. Projects do not need to relate to specific targets disclosed in the questionnaire.

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation		
To be implemented*		
Implementation commenced*		
Implemented*		
Not to be implemented		

- **Stage of development**
    - Under investigation: A potential project to reduce emissions that is in the process of being evaluated but has not yet been approved by your company during the reporting year.
    - To be implemented: A project to reduce emissions that has been approved for implementation by your company but its implementation has not yet commenced during the reporting year.
    - Implementation commenced: A project to reduce emissions was started/activated in the reporting year, but by the end of the reporting period it was not yet fully active/functional in realizing emissions reductions.
    - Implemented: A project that has fully come into effect in the reporting year, i.e. in the reporting year it has become fully operational/functional in realizing CO2e savings.
    - Not to be implemented: A potential project to reduce emissions that was evaluated but discarded by your company during the reporting year.

Companies should report on these stages of development in the context of the reporting year. In other words, unless the project was *newly* in one of the stages of development in the reporting year, then they should not be reported again. However, for example, a project that was reported as 'implementation commenced' previously can be reported as 'implemented' this year.

CC3.3b: For those initiatives implemented in the reporting year, please provide details in the table below

This question only appears if you select "Yes" in response to question CC3.3.

You are requested to respond to this question in the table provided in the ORS, reproduced below. Note that this question only applies to initiatives that were implemented in the reporting year. Initiatives that were implemented in a previous reporting year, even if still active during the reporting year, should not be reported here.

Worked examples of reporting emissions reduction activities are provided in Box 14, and worked examples of how to account for low carbon purchases as an emissions reduction activity are provided in Box 15.

To add more rows to the table, please use the "Add Row" button to the bottom right.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency – as specified in CC0.4)	Investment required (unit currency – as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment

There is no need to record every action – initiatives can be recorded on a programmatic level. Companies with large numbers of initiatives should prioritize those that have the potential to provide a meaningful contribution to emissions reductions. It is acknowledged that maintenance activities can have a beneficial impact on carbon emissions. Only where these activities have either been part of a defined program of emissions reduction activities or where additional investment beyond standard maintenance/replacement has been made for the purposes of reducing emissions, should they be reported here. Initiatives do not need to relate to specific targets disclosed in the questionnaire.

Companies are asked to provide information on the return on any emissions reduction initiatives made. This should be done through completing columns 6 (annual monetary savings), 7 (investment required),

8 (payback period), and 9 (estimated lifetime of the initiative). It should be noted, however, that not all emissions reduction initiatives carry with them a significant cost – many activities, such as resource efficiency have fairly negligible investment costs yet offer potentially high monetary savings. These initiatives should be included in the table, with the minimal investment required reflected in the investment made column, and by selecting the payback of less than a year option (if this is the case).

Where initiatives are part of routine maintenance or necessary equipment replacement (e.g. necessary replacement of equipment that has an additional benefit in emissions reduction) please enter the additional (premium) costs and additional monetary savings associated with the lower emissions model (if applicable).

Guidance on responding to each of the columns is provided below:

- **Activity type**
    - Please select from one of the following options. Please note that these are broad categories only – more detailed descriptions should be entered into column 2:
        - Energy efficiency: Building fabric

          Also referred to as building shell or building envelope, e.g. insulation, maintenance program.
        - Energy efficiency: Building services

          E.g. building controls, HVAC, lighting, motors and drives, combined heat and power, etc.
        - Energy efficiency: Processes

          E.g. heat recovery, refrigeration, process optimization, fuel switch, compressed air, combined heat and power, waste water treatment, process water, machine replacement etc.
        - Fugitive emissions reductions

          E.g. agriculture methane capture, agriculture N2O reductions, landfill methane capture, oil/natural gas methane leak capture/prevention, refrigerant leakage reduction, etc.
        - Low carbon energy purchase

          The source could be biomass, fuel cells, geothermal, hydro, solar, solar hot water, biogas, etc. **If low carbon energy purchases have been a component of your emissions reduction activities please also report the other accompanying information in CC8.3, CC10.1a and CC11.4 and read the information provided in Box 29**.
        - Low carbon energy installation

          This includes installation of clean energy generating facilities at your own site or at others on behalf of your clients.
        - Process emissions reductions

          Initiatives to reduce process emissions from manufacturing, e.g. new equipment, changes in operations, process materials selection, etc. Process emissions are emissions from physical or chemical processes such as CO2 from the calcinations step in cement manufacturing, CO2 from catalytic cracking in petrochemical processing, PFC emissions from aluminum smelting, etc.
        - Transportation: fleet

          E.g. electric vehicle, fleet management program, fuel switch, hybrid vehicle, vehicle efficiency improvements.
        - Transportation: use

E.g. business travel, commuting, shipping, etc.

- Product design
- Behavioral change
- Waste recovery
- Green project finance

  E.g. financing green renewable projects including developments of wind and solar.

- Other

- **Description of activity**
  - This is an open text field, with a character limit of 2400 characters. Please use this column to describe the activity you have undertaken or are planning to undertake.
- **Estimated annual CO2e savings**
  - Enter the expected annual CO2e savings, in metric tonnes, occurring with the initiative in place. It is acknowledged that this figure is likely to be an estimate. Please enter a number of no more than 99999999999 and up to 2 decimal places. Where savings occur on a non-annual basis, please average them out so that an annual figure can be provided.
- **Scope**
  - Multi-selection is available in this column. Please select one or more of the following options by ticking the box next to the value:
    - Scope 1
    - Scope 2 (location-based)
    - Scope 2 (market-based)
    - Scope 3
- **Voluntary/Mandatory**
  - Multi-selection is available in this column. Please select one or more of the following options by ticking the box next to the value:
    - Voluntary
    - Mandatory
- **Annual monetary savings (unit currency – as specified in CC0.4)**
  - Please enter the amount of monetary savings per year expected from the initiative (e.g. in reduced energy costs) once it is fully operational. The number entered should be appropriate to the currency selected in question CC0.4 in the Introduction page and should be entered in full and without commas (e.g. one million should be entered as 1000000). Where savings occur on a non-annual basis, please average out so that an annual figure can be provided. Values can be entered up to 999999999999999 with no decimal places.
- **Investment required (unit currency – as specified in CC0.4)**
  - Please enter the total investment required for the initiative over its lifetime. The number entered should be appropriate to the currency selected in question CC0.4 in the Introduction page and should be entered in full and without commas (e.g. one million should be entered as 1000000). Values can be entered up to 999999999999999 with no decimal places.
- **Payback period**
  - The payback period reflects the time it takes for the investment made to be offset by the monetary savings from the initiative (Payback Period = Investment/Annual monetary savings). Please select from one of the following options to describe the payback period for the initiative:

- <1 year
- 1-3 years
- 4-10 years
- 11-15 years
- 16-20 years
- 21-25 years
- >25 years

- **Estimated lifetime of the initiative**
  - This column refers to the duration of cash flow savings from carbon mitigation investments. This data point, in years, allows data users to calculate the Internal Rate of Return of the project, also using the "annual monetary savings", "Investment required" and "payback period" information. If you have multiple emissions reduction activities for each activity type, please select the medium to answer this column. Please select from one of the following options to describe the estimated duration of the initiative:
    - <1 year
    - 1-2 years
    - 3-5 years
    - 6-10 years
    - 11-15 years
    - 16-20 years
    - 21-30 years
    - > 30 years
    - Ongoing
- **Comment**
  - This is an open text field, with a character limit of 1500 characters. You can use this column to provide any context that you think is relevant.

For Electric Utility Sector Companies: For electric utilities, activities to reduce emissions/energy use may include fuel switching at existing plants or investment in lower-emitting methods of generation. Please disclose this information if applicable.

For FBT companies: FBT companies are specifically asked to report on initiatives implemented to reduce emissions from agricultural, processing, distribution and consumption activities.

Box 14: Examples of emissions reduction activities

Example 1: Reporting an emissions reduction activity that was implemented in the reporting year

Company A implemented 35 individual projects focused on improving energy efficiency across production locations in Europe and North America. These projects included lighting retrofits and compressed air optimization and were primarily aimed to reduce Scope 2 emissions (location-based). The projects overall required an investment of around US$5,000,000 and were only implemented in the reporting year.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency – as specified in CC0.4)	Investment required (unit currency – as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building processes	Implemented 35 individual projects focused on improving energy efficiency across production locations in Europe and North America and Asia Pacific. These projects included lighting retrofits and compressed air optimization.	10000	Scope 2 (location-based)	Voluntary	1000000	5000000	4-10 years	11-15 years	The projects were implemented in our North America and European production locations only. The individual project lifetimes range from a couple of years, through to more than 30 years. Therefore, the median was used to calculate this column.

Example 2: Reporting an emissions reduction activity that was re-evaluated in the reporting year
Company B has set a company-wide emissions reduction activity to ensure that 80% of their facilities have some form of low carbon installation by 2018. In 2015, they began the first phase where photovoltaic power generation was implemented on their European facilities. This cost around US$1.2 million, saved approximately 400 metric tonnes CO2e and was reported in their 2016 CDP response. This year, they have expanded the project to their facilities in Eastern Africa, requiring an additional investment of US$700,000, saving an addition 262 metric tonnes CO2e. This is how they reported this project in 2017.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency – as specified in CC0.4)	Investment required (unit currency – as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy installation	Installation of photovoltaic power generation in our facilities in Eastern Africa.	262	Scope 2 (location-based)	Voluntary	40000	700000	16-20 years	>25 years	This installation is part of a wider project to implement low carbon installation across 80% of our facilities. There are pre-existing low carbon installations in our European facilities.

Example 3: Reporting an ongoing emissions reduction activity

Company C implemented a waste heat recovery project, coupled with electricity generation. The project takes the waste heat from the chemical process of producing sulfuric acid. The advanced heat recovery systems convert excess heat to steam for use in mechanical functions and is also used in steam turbo generators, and was reported to CDP in 2012. As this activity was already reported to CDP in 2012, it cannot be reported to CDP in 2017, despite the fact it is still reducing emissions.

Box 15: A worked example of how to account for low carbon purchases as an emissions reduction activity

Example 1

In 2014 company D consumed 15000 MWh for the reporting year, of which 8000MWh were accounted for as low carbon through the purchase of RECs in their Scope 2 (market-based) figure. This year, their overall energy consumption remained stable at 15000MWh, however they purchased 10000MWh through RECs and accounted these purchases in their Scope 2 (market-based) figure. Any purchase of renewable energy that is additional in the reporting year compared to the previous year can be reported as an emissions reduction activity. In this case this would be emissions from 2000 MWh. This is how they accounted for the renewable energy this year in their CDP response as an emissions reduction activity:

Please note that Company D only accounted for the additional purchase of RECs in their 2015 response.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency – as specified in CC0.4)	Investment required (unit currency – as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy purchase	Purchased 2000 MWh of renewable energy through RECs and were retired by our company	1100	Scope 2 (market-based)	Voluntary	0	4000	>25 years	<1 year	Our company has purchased RECs since 2013. RECs purchases now represent two thirds of our annual energy consumption

The estimated savings of 1100 CO2e (column 3) that was attributed to this emissions reduction activity can be used in CC12.1a when calculating the change in global emissions from the previous year due to emissions reduction activities. Company A must also report all 10000MWh in their responses to CC10.1a and CC11.4.

Example 2

Company B operates in Canada where the electricity provided to the grid is sourced from 100% hydro-electricity. As the fuel mix in the grid is from renewable energy, then naturally the carbon emissions per MWh is going to be lower than other countries that have a higher proportion of the grid mix from fossil fuel sources and therefore their Scope 2 emissions will be lower. However, as Company B is not directly purchasing the energy from renewable energy companies tracked by appropriate instruments, they should not report this energy as low carbon in CC10.1a and CC11.4 or as an emissions reduction activity in CC3.3.

CC3.3c: What methods do you use to drive investment in emissions reduction activities?

This question only appears if you select "Yes" in response to question CC3.3.

Please respond to this question by completing the table in the ORS, reproduced below. It is intended to gather information on the ways in which capital is directed towards emissions reduction activities within the company, rather than the drivers for doing so, or the way in which activities are identified. If your company uses an internal carbon price you are encouraged to report this here.

Method	Comment
Compliance with regulatory requirements/standards Dedicated budget for energy efficiency Dedicated budget for low carbon product R&D Dedicated budget for other emissions reduction activities Employee engagement Financial optimization calculations Internal price on carbon Internal incentives/recognition programs Internal finance mechanisms Lower return on investment (ROI) specification Marginal abatement cost curve Partnering with governments on technology development Other	

You can choose more than one method by using the "Add Row" button at the bottom right of the table. If you utilize the "copy from last year" functionality, please review your response to ensure that it is still appropriate to the reporting year and add any additional methods that you have employed.

In the first column you should select the types of methods that you employ to help to channel funds towards emissions reduction activities. In the second column you can provide further detail and examples as necessary. Column 2 is a free text field and has a character limit of 2400 characters. **Box 16 demonstrates how Marginal Abatement Cost Curves (MACC) can assist with identifying the most cost effective emissions reduction initiatives and, as such, direct investment**.

CC3.3d: If you do not have any emissions reduction initiatives, please explain why not

This question only appears if you select "No" in response to question CC3.3.

Please complete your answer in the text box provided, using no more than 5000 characters. Please give a comprehensive answer to this question, explaining why your company is not taking action to reduce emissions.

Box 16: Marginal Abatement Cost Curves

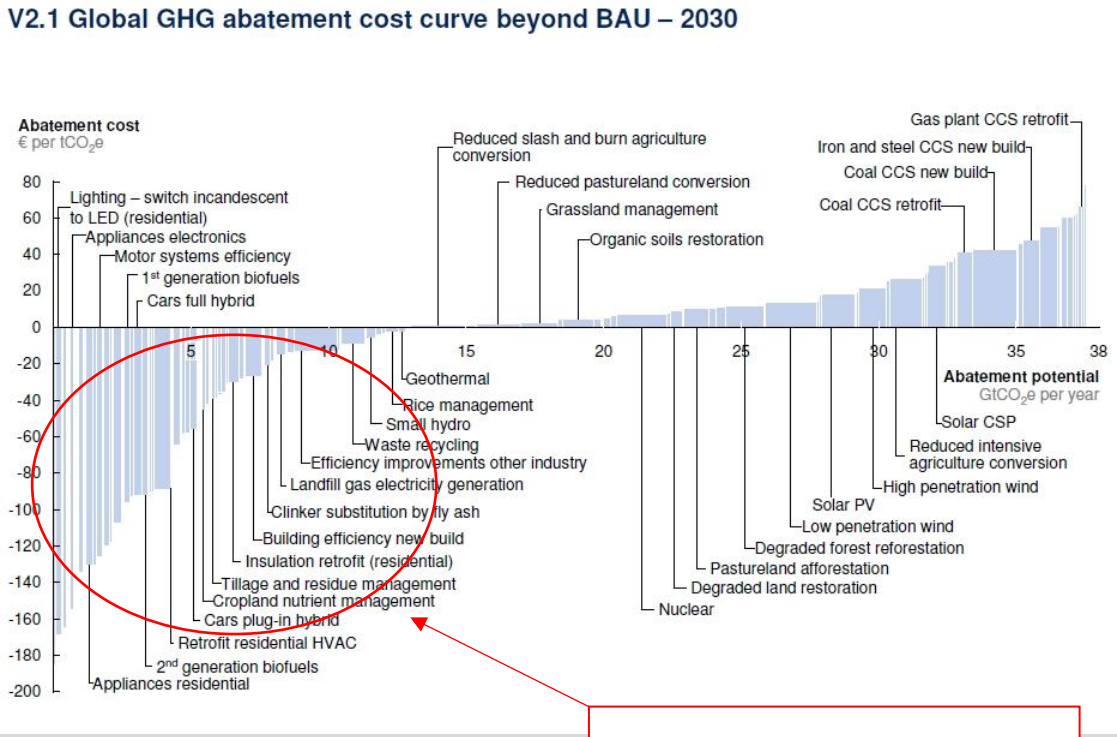
Marginal Abatement Cost Curves, or MACCs, provide a method of evaluating potential emissions reduction activities. They provide a visual comparison of the marginal abatement costs for different projects.

MACCs can be generated to evaluate options at any level of organization – from individual business divisions, to the overall business and to sectors and countries, evaluating individual projects, programs or policies.

Marginal abatement costs are calculated by dividing the costs of the project (calculated from the initial cost minus any savings made as a result of the project) by the greenhouse gas emissions saved over a specified investment timeframe.

$$MAC = \frac{\text{Initial costs – savings generated}}{\text{GHG emissions saved}}$$

These are then arranged with the lowest costs (sometime negative cost) on the left, increasing in cost to the right, creating the curve. An example taken from McKinsey & Company "*Impact of the financial crisis on carbon economics: Version 2.1 of the global greenhouse gas abatement cost curve*"



Those projects/initiatives on the "left hand side" of the MACC are those where there are cost savings to be made over the lifetime of the project as a result of the emissions savings made, and therefore, even without a commitment to carbon reduction investment, should be implemented from a cost saving point of view. Where the bars extend above the line, positive costs are associated with the proposals. Here the MACC curve can be used to suggest the lowest cost options for achieving a particular target. Using the example above, savings of 9.5MtCO2 can be made at costs of less than €40/tonneCO2.

As with all evaluation methods, the accuracy of the MACC will depend on that of the input data.

CC4. Communications

General Guidance

Only one question is included in this section, and this asks about communication of your position on climate change and carbon emissions outside of your CDP response. Even where the relevant information is web based, it is necessary to produce a static document to attach. This is because of the need to maintain a fixed response over time that can be accessed in full at any time in the future; a URL is necessarily dynamic and therefore cannot fulfill this requirement.

Key Changes from 2016

There are no question changes on this page.

Pre-population

The question on this page is not eligible for pre-population if you responded last year.

Specific Question Guidance

CC4.1: Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Please use the table provided in the ORS (reproduced below) to identify your attachment.

Publication	Status	Page/Section reference	Attach the document	Comment
Select from: • No • In mainstream reports (including an integrated report) in accordance with the CDSB Framework • In mainstream reports (including an integrated report) but have not used the CDSB Framework • In other regulatory filings • In voluntary communications	Select from: • Complete • Underway – previous year attached • Underway – this is our first year	Text box	Click on "Browse" to identify the attachment and then "Attach".	

If you wish to enter more than one report, please use the "Add row" button to the bottom right of the table. Please ensure that your attachment is under 5MB.

- **Publication**
    - Mainstream reports: CDP uses the CDSB Framework definition of mainstream reports, i.e. annual reporting packages in which organizations are required to deliver their audited financial results under the corporate, compliance or securities laws of the country in which they operate and are normally publicly available. It is acknowledged that, in some jurisdictions, multiple documents may meet this definition. Please attach only those which reference your organization's response to climate change and GHG emissions performance.
    - Other regulatory filings: These are reports which are required through regional or national legislation, but which do not fall under the definition of mainstream reports stated above.

Examples include reports made under the AB32, ETS regulation submissions or Victorian Energy Efficiency Target (VEET) filings in Australia.

- Voluntary communications: This should include optional sustainability/CSR reports or any other voluntary consumer facing publications, advertising, company websites, executive speeches and/or presentations.

- **Status**
  - The report should relate to the reporting year although it is acknowledged that it may not be published in the reporting year. Where reports are not ready for publication at the time of submission of your CDP response, select one of the options that indicate the report is "underway". Where you can attach the previous year's report to demonstrate that the information is routinely published in this way, select "… (underway) – previous year attached" and complete the remaining two columns of the table with regard to this report. Where this is the first year that you will have published information in this way, select "… (underway) – this is our first year" and leave the other two columns in the table blank. Where the publication is already available, select "… (complete)".
- **Page/Section reference**
  - Identify the page(s) and section(s) of the report attached that refers to climate change and GHG emissions performance. If the whole document relates to climate change and GHG, please state this. If your document is only 1 page long, please still state this.
- **Attach the document**
  - To attach the document to column 4, click the "Browse" button to locate the document and then click the "Attach" button to attach it to the response. The document name will then appear in the column with an empty tick box beside it. To remove the attachment, tick this box and click on "Remove". Please ensure that your attachment is under 5MB.
- **Comment**
  - If your company uses a framework other than the CDSB Framework to report this information in a mainstream report (including an integrated report), in other regulatory filings, or in voluntary communication, you may report this here. You should use no more than 2400 characters.

More information on CDSB can be found in Box 17.

As noted above in the general guidance for this page, it is not possible to include URLs as evidence of reports. The CDP response needs to be complete over time and therefore **web links are not acceptable.** However, if this is the format for your reporting, you can provide the relevant snapshots/screenshots of the pages as the attachment. Also note that attached documents can be in languages other than English.

Box 17: The Climate Disclosure Standards Board

About

The Climate Disclosure Standards Board (CDSB) is a consortium of business and environmental organizations formed at the World Economic Forum's annual meeting in 2007. CDSB is committed to advancing and aligning the global mainstream corporate reporting model to equate natural capital with financial capital.

The CDSB Board shares a vision where:

- Organizations report environmental information with the same rigor as financial information;
- Investors exercise stewardship over the environment as well as financial capital; and
- Natural capital is equated with financial capital as being collectively essential for an understanding of corporate performance and for the continuance of economic, social and environmental systems.

CDSB does this by offering companies a framework for reporting environmental information with the same rigor as financial information. In turn this helps them to provide investors with decision-useful environmental information via the mainstream corporate report, enhancing the efficient allocation of capital. Regulators also benefit from compliance-ready materials.

Recognizing that information about natural capital and financial capital is equally essential for an understanding of corporate performance, CDSB's work builds the trust and transparency needed to foster resilient capital markets. Collectively, CDSB aims to contribute to more sustainable economic, social and environmental systems.

The CDSB Framework draws on existing reporting frameworks, standards and related disclosure requests that specify the principles and characteristics on which reporting outcomes should be based. The Framework is designed to help organizations prepare and present environmental information in mainstream reports for the benefit of investors by connecting environmental matters with the organization's strategy, performance and prospects. The development of the CDSB Framework is overseen by a Technical Working Group.

The first CDSB Climate Change Reporting Framework, released in 2010, focused on the risks and opportunities that climate change presents to an organization's strategy, financial performance and condition. In response to developments in environmental and corporate reporting, including adoption of the EU Non-Financial Reporting Directive, the CDSB Framework was updated in 2015 to provide guidance on reporting environmental information and natural capital.

In its Phase I report, the Task Force on Climate-related Financial Disclosures (TCFD) has stated that it will develop "recommendations for voluntary disclosures within mainstream financial reports." The CDSB Framework is aligned with the principles for disclosures on climate-related financial risk and risk management by the Task Force and CDSB is working on further guidance for implementing the TCFD's recommendations. Information disclosed to CDP can be integrated into mainstream reports using the CDSB Framework.

Further information on the CDSB Framework can be found on its website.

Why does CDP support the CDSB Framework?

CDP works to transform the way the world does business to prevent dangerous climate change and protect our natural resources, particularly by providing relevant environmental information to investors. Given that an essential way that investors utilize data is through mainstream financial reports, it is integral to CDP's mission that companies use the CDSB Framework to provide natural capital information to investors through their mainstream financial report.

Therefore, the CDSB Framework provides an important tool for formalizing and advancing the significant progress CDP has made in developing climate change-related and natural capital reporting by bringing it into mainstream financial reporting.

CDP acts as secretariat to CDSB, managing its work program on behalf of the Board members.

Integrated reporting

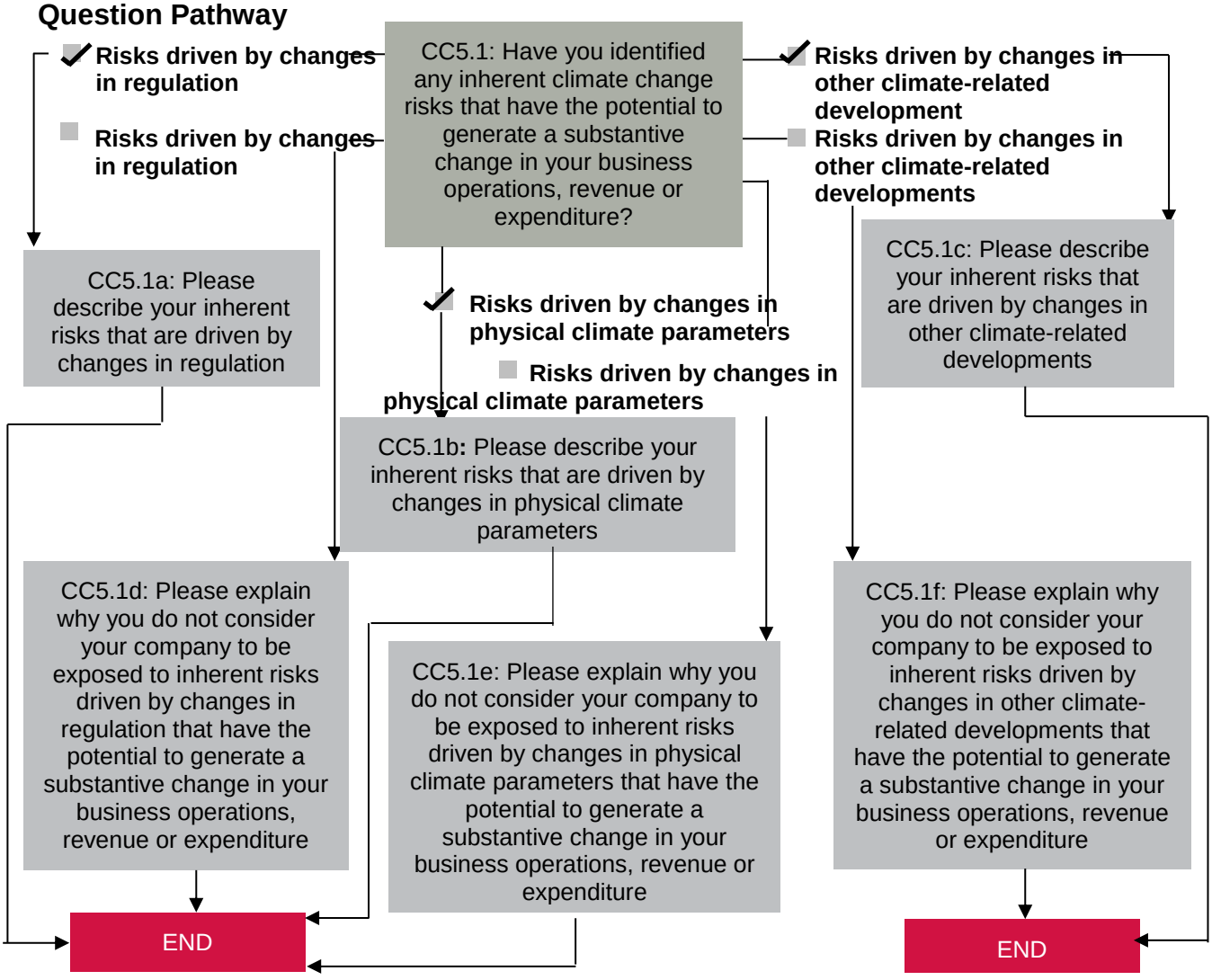
The primary purpose of an integrated report is to explain to providers of financial capital how an organization creates value over the short, medium and long term. An integrated report aims to communicate a clear, concise, integrated story that explains how all of an organization's resources are creating value.

The International <IR> Framework takes a principles-based approach. The intent is to strike an appropriate balance between flexibility and prescription that recognizes the wide variation in individual circumstances of different organizations while enabling a sufficient degree of comparability across organizations to meet relevant information needs. It does not prescribe specific key performance indicators, measurement methods, or the disclosure of individual matters, but it does include a small number of requirements that are to be applied before an integrated report can be said to be in accordance with the <IR> Framework.

Risks & Opportunities Module Guidance

CC5. Climate Change Risks

Question Pathway



General Guidance

Many of the challenges you face when reporting on climate change issues are common to other aspects of corporate reporting, requiring you to provide statements about your prospective condition. Some organizations, particularly accountancy firms and their governing bodies, have published guidance about how to prepare statements that contain forward-looking information.

Before completing the questions covering risks you may wish to consult with your financial, legal, and/or compliance departments for advice on your company's general approach to the provision of forward-looking statements and information concerning risks. Note that the questions relate to "inherent" risk and not the "residual" risk after management measures have been taken into account.

The process of identifying and prioritizing risks is the subject of question CC2.1 on the Strategy page of the information request. This page asks companies to describe the risks that they have identified where there is the potential for substantive changes in business operations, revenue or expenditure to arise. There is no need to report all risks identified – your response should focus on those which have the potential to generate a **substantive** change in your business operations, revenue or expenditure. **The way in which risks are classified are common to all types of risk in this section and are described in Box 18**. More details on the different types of risk are provided in the specific question guidance.

Guidance for Oil and Gas companies, Electric Utilities, Auto and Auto Component Manufacturers, FBT companies and companies with coal reserves: At the end of the sections of the guidance on the risks and opportunities questions, there is in many cases guidance specifically for companies in these sectors. This specifies issues that investor groups would particularly request that these sectors consider in answering these questions. If your company considers that an issue listed under "other opportunities" is related to regulation in your case and would be more appropriately considered under the "regulatory opportunities" question, please do so and do not be constrained by the risk and opportunity questions under which the issues are listed.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, question CC5.1, and questions CC5.1a, CC5.1b, and CC5.1c on this page are eligible for pre-population. To take advantage of this function, click "copy from last year" prior to entering any data on the page. Please note that if you selected 'Product labelling regulations and standards' and/or 'Changing consumer behaviour' from the drop down options in column 1 (Risk driver) of questions CC5.1a and/or CC5.1c last year (2016), they will not copy over because these options have been amended to 'Product labeling regulations and standards' and 'Changing consumer behavior' (US spelling). Please re-select 'Product labeling regulations and standards' and/or 'Changing consumer behavior' and check the rest of the copied information in the table.

Box 18: Describing Risk

This box provides more detail on the different aspects of the description of risk. It should be noted that all risks should be considered as **"inherent" risk**, i.e. without taking into account any potential mitigation/management measures that have been or could be implemented.

Substantive change – What constitutes a substantive change will vary between companies. For example, a 1% reduction in profits will have different effects on different companies depending on their respective profit margins. Companies are therefore asked to determine substantive in the way that they would use for their business decision-making. Factors to consider might include: (a) The proportion of business units affected; (b) The size of the impact on those business units, and (c) The potential for shareholder or

customer concern. A substantive risk of relatively high magnitude could occur because of a large change in one of these aspects, or small changes in all three combining to create a larger impact.

Risk Driver – the risk driver describes the source of the risk and will depend on the risk type (regulatory, physical, other) chosen. More detail is provided in the Specific Question Guidance for the relevant risk types.

Potential Impact – the potential impact is the effect that the risk could have on your business. This could be through increased costs, decreased revenue or through more limited access to capital. A more detailed list of options is available in the ORS and is described in the Specific Question Guidance.

Timeframe – the timeframe you considered for the impact materializing with the likelihood and magnitude reported in columns 6 and 7. It is acknowledged that risks further into the future are likely to have a higher degree of uncertainty associated with them. In this questionnaire, time periods are defined as: Up to 1 year; 1 to 3 years; 3 to 6 years; >6 years; or, Unknown.

Direct/Indirect – some risks will have a direct impact on your business, e.g. where sea level rise or storm surge events have the potential to impact your coastal facilities. However, others will only affect your business indirectly, because they either affect your customers (which in turn affects their need for your product/services) or because it affects your supply chain (and therefore their ability to supply goods/services to you at an appropriate price). You will be asked to define whether your risks relate to Direct, Indirect (Supply chain) or Indirect (Client) impacts.

Likelihood of impact – the likelihood of the impact occurring, along with the magnitude (see below) are the building blocks of a risk/opportunity matrix – a common method of identifying and prioritizing risk and opportunities. The likelihood refers to the probability of the impact to your business occurring within the timeframe provided, which in the case of an inherent risk might be similar to the probability of the climate event itself. For example, if the risk relates to a piece of new legislation which has already been prepared in draft form, the likelihood of the impact associated with that risk occurring will be relatively high. The terms used to describe likelihood are taken from the Intergovernmental Panel on Climate Change's (IPCC) 2013 reports. They are associated with probabilities, indicating the percentage likelihood of the event occurring. It is not necessary for respondents to have calculated probabilities for the risks they are considering, however they can give an indication as to the meaning of the terms. The likelihood terms are: Virtually certain (greater than 99% probability); Very likely (greater than 90% probability); Likely (greater than 66% probability); More likely than not (greater than 50% probability); About as likely as not (between 33% and 66% probability); Unlikely (less than 33% probability); Very unlikely (less than 10%); Exceptionally unlikely (less than 1% probability); Unknown.

Magnitude of impact – the magnitude describes the extent to which the impact, if it occurred, would affect your business. This should consider the business as a whole and therefore the magnitude can reflect both the damage that can be caused and the exposure to that potential damage. For example, two companies may have identical facilities located on the coast in an area which is vulnerable to sea level rise. However, if company A relies on that facility for 90% of its production capacity and company B relies on it for only 40% of its production capacity, the magnitude of a sea level rise impact on company A will be much higher. It is not possible to accurately define terms for magnitude as they will vary from company to company. For example, a 1% reduction in profits will have different effects on different companies depending on the profit margins they work on. Therefore, companies are asked to determine magnitude on a qualitative scale of high, medium-high, medium, low-medium, low and unknown. Factors to consider include (a) the proportion of business units affected; (b) the size of the impact on those business units, and (c) the potential for shareholder or customer concern. An impact of relatively high magnitude could occur because of a large effect in one of these aspects, or small effects in all three combining to create a larger impact.

Estimated financial implications - quantitative estimates of the inherent financial impacts of the risks before taking into consideration any controls you may have in place to mitigate the impacts. An example

would be the cost of destruction of facilities from extreme weather before taking into consideration how much insurance coverage you have. It is acknowledged that these will be estimates.

Management method – methods you are using or plan to use to manage the risk could include diversification of product/service offering, research and development in new product lines or lobbying of decision makers. In all cases please identify how this action has affected (or is expected to affect) the likelihood and/or magnitude of the risk and over what timeframe the risk is expected to or has been reduced.

Cost of management - the costs associated with the management actions you have described and whether they are annual (and if so, how many years they will be incurred) or capital costs. Where there is no additional cost for action, please explicitly state this is the case. Where the cost is integrated into existing budgets, please provide some estimate of the scale of those costs.

Box 19: Climate change adaptation

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as "The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects."

For companies, the principal purpose of adaptation is to build resilience to climate change for the continuity of service across the whole organization. Additional benefits of adaptation (and reporting on adaptation) can include the following:

- The Stern Review on the economics of climate change recognized the need to act now to minimize costs and maximize future benefits arising from climate change. For example, it can be more expensive to retrofit buildings than design them appropriately from the outset.
- Going through an established process of reporting may result in a more planned and cost-effective response to climate change.

Through reporting, organizations will be able to engage with other sectors upon which their functions may indirectly depend, and ensure that there are no gaps in or barriers to their adaptation.

Companies are encouraged to report on their adaptation plans in the “Management method” column of questions CC5.1a - CC5.1c where relevant. In addition, if companies are able to take advantage of any effects of climate change, then these should be reported in the Climate Change Opportunities section in questions CC6.1a – CC6.1c where appropriate. As recommended by Defra, when reporting on adaptation, companies should provide a statement of the proposals and policies for adapting to climate change and the time-scales for introducing those proposals and policies.

Source of information: Defra (2011) Adaptation Reporting Power.
For more information on climate change adaptation, please refer to the following websites:
Defra: Adapting to climate change
IPCC Fifth Assessment Report: Impacts, adaptation and vulnerability

Specific Question Guidance

CC5.1: Have you identified any inherent climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- **Risks driven by changes in regulation**
- **Risks driven by changes in physical climate parameters**
- **Risks driven by changes in other climate-related developments**

Tick all categories of risks that apply to your business. Risks can be:

- Currently being experienced or expected to arise in the future
- Already managed and therefore not expected to generate negative residual impacts (e.g. because of an insurance policy)
- Newly identified
- Risks which cannot be managed
- Well understood or with high levels of uncertainty with regard to the likelihood of the risk materializing and the extent to which it will impact the business

Regulatory risks arise from current and/or expected city, state, regional, national or global governmental policy related to climate change. Risks include, but are not limited to, the imposition of emissions limits, energy efficiency standards and carbon trading schemes. Further details are provided in the guidance for question CC5.1a.

Physical risks may arise from dramatic extreme weather events or subtle changes in weather patterns. Further details are provided in the guidance for question CC5.1b.

Other climate-related risks include reputation, changing consumer behavior, induced changes in human and cultural environments, fluctuating socio-economic conditions, increasing humanitarian demands, amongst others. Further details are provided in the guidance for question CC5.1c.

For the purposes of this response, the risks identified should only be those which may currently or potentially pose inherently substantive business impacts, regardless of whether or not the company has taken action to mitigate the risk(s). Please note that there is no need to report all risks, covering only substantive risks identified will be sufficient for responding to questions on this page.

The selections made in response to this question determine the questions that will appear on the remainder of the ORS page. Note that if you enter details in the subsequent questions and then change your selection at question CC5.1, your data will be lost.

If you are using the “copy from last year” functionality, please ensure that you review the data to ensure that it remains appropriate.

CC5.1a: Please describe your inherent risks that are driven by changes in regulation

This question only appears if you tick "Risks driven by changes in regulation" in answer to question CC5.1.

You are asked to complete your response in the table provided in the ORS. The table is reproduced below and guidance on completing the columns follows. If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

You can make multiple entries into the table, using the "Add row" button to the bottom right.

- **Risk driver**

  See Box 18. Select from the following options:

  - International agreements - This can include internationally binding agreements negotiated within the frame of United Nations international conventions (e.g. the Paris Agreement under the United Nations Framework Convention on Climate Change, Kyoto Protocol) or any other internationally recognized protocol
  - Air pollution limits - A type of regulation that imposes specific air pollution concentration limits on emissions (command and control); an example is the Oregon Clean Air Act Implementation Plan
  - Carbon taxes - A type of regulation that imposes specific economic incentives for polluters. The control of the pollutant is achieved by the internalization of its cost (in the form of a tax) by the regulated entity; examples include the Carbon Tax in France and the UK Climate Change Levy (CCL).
  - Cap and trade schemes - Regulation that caps the amounts of release of a product/pollutant. Also known as emissions trading schemes. Permits are issued to trade in the ability to release the product/pollutant. Acts as an economic incentive by creating a specific market where the permits are traded. Examples include the EU Emissions Trading System, South Korea Emissions Trading Scheme and the Japan Mandatory Cap and Trade Scheme.
  - Emission reporting obligations - Regulations that demand the disclosure of data to authorities and/or to the public. Includes pollutant release and transfer registers. May include energy reporting obligations as well as emissions reporting. Examples include the Australian National Greenhouse and Energy Reporting Act 2007 and the New Mexico Mandatory GHG Reporting Regulation.
  - Fuel/energy taxes and regulations - Regulations aimed mainly at the consumption of fuel and/or other energy types but not specifically GHG emissions; an example is the UK CRC Energy Efficiency Scheme.
  - Product efficiency regulations and standards - Regulations or standards that require specific efficiency in the production or commercialization of a given product, e.g. buildings regulations concerning energy efficiency such as the EU Energy Performance of Buildings Directive.
  - Product labeling regulations and standards - Regulations or standards that impose specific labeling requirements on products, e.g. EU directive on electricity appliance labeling.
  - Voluntary agreements - Voluntary agreements are a particular type of environmental instrument where contracts between state authorities and companies are agreed and

specific targets are negotiated between the parties; an example is the UK Climate Change Agreements.

- General environmental regulations, including planning - Include wider regulations, such as Environmental Protection Acts (or Laws), planning and other regulations. Examples include the Environmental Protection Law of the People's Republic of China and the UK Climate Change Act.
- Renewable energy regulation – National and regional renewable energy policy targets or renewable energy support policies are some of the principal drivers in the growth of renewable energy use.
- Uncertainty surrounding new regulation – Although regulation can bring with it risks to business activities through additional costs needed for compliance, an uncertainty surrounding regulations can create difficulties in developing new products or initiatives for fear of future incompatibilities.
- Lack of regulation – As above, the lack of a clear policy framework can create risks with regard to future direction and an unbalanced market for business to operate in.
- Other regulatory drivers – If the regulatory drivers you experience are not included in this list, select this option and provide further details in the description column.

- **Description**
  - Use this text field to provide further contextual information on the risk driver, including providing more detail on the exact regulation and any notable geographic/regional examples. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.
- **Potential impact**

  See Box 18. Select from the following options. Please note that if you expect to experience more than one of the impacts listed, you should select the most significant one.
  - Increased operational cost – an increase in the day to day costs of running the business
  - Increased capital cost – an increase in the capital expenditure needed to maintain the company's competitiveness, e.g. it might be needed to buy equipment more frequently which implies a higher capital expenditure or the business might need to relocate to a new location which could imply investment in land, building and construction
  - Reduced demand for goods/services – a decline in customer demand for your goods/services
  - Reduction/disruption in production capacity – an inability to maintain maximum production levels
  - Reduction in capital availability – you may need to do certain investments but you do not have access to capital or you only have access to capital with higher interest rates
  - Reduced stock price (market valuation) – declining interest from investors in your goods/services
  - Inability to do business – barriers to market participation may arise, for example, an insurance company may find that they are unable to offer insurance policies due to extremely high levels of uncertainty
  - Wider social disadvantages – disadvantages which lie outside of the core financial objectives of a company
  - Other, please specify
- **Timeframe**
  - **See Box 18**. Select from the following options:
    - Up to 1 year
    - 1 to 3 years

        - 3 to 6 years
        - >6 years
        - Unknown
- **Direct/Indirect**
    - **See Box 18**. Select from the following options:
        - Direct
        - Indirect (Supply chain)
        - Indirect (Client)
- **Likelihood**
    - **See Box 18**. Select from the following options:
        - Virtually certain
        - Very likely
        - Likely
        - More likely than not
        - About as likely as not
        - Unlikely
        - Very unlikely
        - Exceptionally unlikely
        - Unknown
- **Magnitude of impact**
    - **See Box 18**: Select from the following options:
        - High
        - Medium-high
        - Medium
        - Low-medium
        - Low
        - Unknown
- **Estimated financial implications**
    - **See Box 18**. Use this text field to provide information on estimated financial implications of the risks. Quantitative financial implications are preferred (open or closed ranges or % relative to a stated or publicly available figure), however qualitative financial implications are accepted where this is not possible. If there are no financial implications, this should be made clear. Please use no more than 1000 characters in your answer.
- **Management method**
    - **See Box 18 on describing risk as well as Box 19 on climate change adaptation**. Use this text field to provide information on the methods you are using to manage the risks. Make sure to include an example of company specific activities, projects, products and/or services which are aiming to manage the risk. Please use no more than 1500 characters in your answer.
- **Cost of management**
    - **See Box 18**. Use this text field to provide information on the cost of your risk management actions. Where possible, please provide numerical financial descriptions (open or closed ranges or % relative to a stated or publicly available figure). If there are no costs to managing the risk, this should be made clear. Please use no more than 1000 characters in your answer.

For Oil and Gas Sector Companies: In answering the questions above, please consider the impact of national and international emissions targets and how those could affect demand for oil and gas products. Will they lead to your company having a less carbon-intensive fuel mix? Will fuel efficiency standards affect the demand for fuel? Are there other instances where demand is likely to reduce due to regulation?

Is your company affected by other types of regulation such as restrictions on flaring or by requirements for a certain level of climate-related performance in order to receive permission to operate and/or as a condition of accessing new oil & gas resources e.g. a requirement for carbon sequestration?

Companies are encouraged to explain how their portfolio of reserves is evolving in response to these drivers.

For Electric Utility Sector Companies: Electric utilities are asked to consider among other issues:

- *How national and international targets on demand management might affect demand for electricity;*
- *The impacts of related policies such as building regulations specifying more energy-efficient buildings;*
- *Policies to increase renewable electricity supply or to support developments that may result in GHG emissions reductions, e.g. CO2 capture and storage, clean coal technologies and energy storage;*
- *The impacts of any emissions trading schemes and any emissions reduction targets you have set or with which you have to comply, including the analysis of possible scenarios of their effect on the company;*
- *The effects on wholesale and retail power prices of carbon prices in the different markets in which you operate and the extent to which carbon prices are passed through, or may in the future be passed through, into electricity prices in the markets, based on current and anticipated regulatory requirements.*

For Auto and Auto Component Manufacturers: Please consider the financial and strategic implications of current and planned national, regional, and international policies for increasing automobile fuel efficiency and developing "clean" engines for each of the markets in which you operate. You should also consider how other related environmental policies, such as regulations and standards regarding air quality, use of alternative fuels and sustainable mobility could further impact your business.

Specifically, you should take into account how climate change policy could impact you in terms of sales, the financial cost of any loss or potential loss of market share, additional costs of complying with regulation and, if applicable, how you have or will pass increased costs down the value chain.

For FBT Companies: FBT companies should report on risks that are driven by changes in regulation pertaining to agricultural, processing, transportation and consumption activities.

Companies with coal reserves can refer here for more information on disclosing demand and stranded asset risk.

CC5.1b: Please describe your inherent risks that are driven by changes in physical climate parameters

This question only appears if you tick "Risks driven by changes in physical climate parameters" in answer to question CC5.1.

You are asked to complete your response in the table provided in the ORS. The table is reproduced below and guidance on completing the columns follows. If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

You can make multiple entries into the table, using the "Add row" button to the bottom right.

- **Risk driver**

  See Box 18 on risk drivers, and Box 20 on physical climate change. Select from the following options:

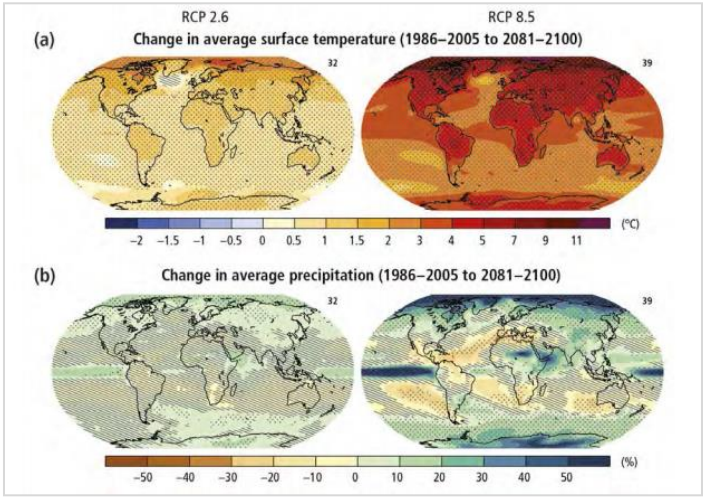
  - Change in mean (average) temperature
  - Change in temperature extremes
  - Change in mean (average) precipitation
  - Change in precipitation pattern
  - Change in precipitation extremes and droughts
  - Snow and ice
  - Sea level rise
  - Tropical cyclones (hurricanes and typhoons)
  - Induced changes in natural resources
  - Uncertainty of physical risks – many physical changes are still considered speculative as the potential problems are interlinked. In a business context uncertainty can cause difficulties for forward planning and investment.
  - Other physical climate drivers – select this option if the type of physical climate driver you are experiencing or expect to experience is not included in the list above, and provide further details in the description column. Note that other types of risk are also included under regulatory risk (question CC5.1a) and other climate-related developments (question CC5.1c).

- **Description**
  - Use this text field to enter further details on the risk driver, e.g. the nature and location of the physical effect concerned. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.

- **Potential impact; Timeframe; Direct/Indirect; Likelihood; Magnitude of impact; Estimated financial implications; Management method; Cost of management**
  - **See Box 18** and guidance for question CC5.1a

Box 20: Physical Climate Change

The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) presents the results of an extensive climate modeling effort to make predictions of changes in the global climate based on a range of development/emissions scenarios. The text below summarizes the changes in the global climate system expected to develop during the current century based on this report.



Change in mean (average) temperature: Increases in global mean surface air temperature are expected to continue over the 21st century. Average warming for the period 2016-2030 is likely (>66%) to be between +0.3°C and +0.7°C, compared with the period 1986-2005; and potentially as high as +4.8°C by the end of the century. This is consistent with the four representative concentration pathways outlined in the AR5, whereby RCP2.6 outlines a scenario where there is a likely outcome of avoiding a 2°C global rise, while RCP8.5 on the other end of the scale projects a 'business as usual' outcome. Longer-term predictions in changes in surface temperature are largely dependent on the relevant scenario. Greatest temperature increases are expected over land (in the range of 1.4-1.7°C) and large regional variability exists as shown in the figure below, with the Arctic predicted to warm the most (Figure SMP 7: AR5 Synthesis Report showing the multi-model average projected surface temperature and precipitation changes for the late 21st century time period for two development/emissions scenario.

Change in temperature extremes: It is very likely that heat waves will be more intense, more frequent and longer lasting in a future warmer climate and cold episodes are projected to decrease significantly. Almost everywhere, daily minimum temperatures are projected to increase faster than daily maximum temperatures, leading to a decrease in diurnal temperature range. Decreases in frost days are projected to occur almost everywhere in the middle and high latitudes. The AR5 states that it is likely that human influence has more than doubled the probability of heat waves in some locations.

Change in mean (average) precipitation: Changes in precipitation will not be unified**.** For a future warmer climate, the current generation of models indicates that precipitation generally increases in the areas of regional tropical precipitation maxima (such as the monsoon regimes) and over the tropical Pacific in particular, with general decreases in the subtropics, and increases at high latitudes. In many mid-latitude and subtropical dry regions, mean precipitation will likely decrease, while in many mid-latitude wet regions, mean precipitation will likely increase under the RCP8.5 scenario. Globally, averaged mean water vapor, evaporation and precipitation are projected to increase. However, it should be noted that there is more inter-model variability in predicting precipitation compared with temperature changes.

Change in precipitation patterns: Predicted changes in mean precipitation have the potential to mask changes in patterns of precipitation which could be argued to be more important than the overall change. For example, in areas where mean precipitation decreases (most subtropical and mid-latitude regions), precipitation intensity is projected to increase but there would be longer periods between rainfall events. Inter-annual variability of the Asian monsoon is also projected to increase.

Change in precipitation extremes and droughts: Intensity of precipitation events is projected to increase, particularly in tropical and high latitude areas that experience increases in mean precipitation. There is a tendency for drying of the mid-continental areas during summer, indicating a greater risk of droughts in those regions. There are complications with predicting future monsoonal patterns, however current

expectations are for an increase in the Asian, West African (in part) and Australian monsoons and a decrease in the Mexican and Central American monsoons.

Snow and Ice: Greenland and Antarctic ice sheets have been losing mass between 1992 and 2011, which has been complimented by the continuing shrinking of glaciers worldwide. Snow cover in the Northern Hemisphere has also continued to decrease.

Looking forward, there is a projected reduction of sea ice in the 21st century in both the Arctic and Antarctic. The projected reduction is accelerated in the Arctic, where some models project summer sea ice cover to disappear entirely in the latter part of the 21st century. Widespread increases in thaw depth over much of the permafrost regions are projected to occur in response to warming over the next century.

Sea level rise: AR5 provides more detailed and accurate modeling projections for global sea level rise. Confidence in the modeling has increased because of "the improved physical understanding of the components of sea level, the improved agreement of process-based models with observations, and the inclusion of ice-sheet dynamical changes."

Using the more accurate data, the AR5 states that over the period 1901 to 2010, global mean sea level rose by 0.19 [0.17 to 0.21] m. However, the report states that due to increasing amounts of heat being captured in the oceans, it has revised sea level predictions to be higher than originally modeled. This revision was formed following data showing that the ocean has been expanding due to the transfer of land ice, such as glaciers, to the ocean, as well as a physical response to absorbed heat. Observations indicate the largest increase in the storage of heat in the climate system over recent decades has been in the oceans and thus sea level rise from ocean warming is a central part of the Earth's response to increasing greenhouse gas.

Changes in tropical cyclones (hurricanes and typhoons): Results from embedded high-resolution models and global models project a likely increase of peak wind intensities and increased near-storm precipitation in future tropical cyclones. Based on process understanding and agreement in 21st century projections, it is likely that the global frequency of occurrence of tropical cyclones will either decrease or remain essentially unchanged.

Induced changes in natural resources: As the physical climate parameters listed above change they interact and induce changes in natural resources such as crops, forestry and insect vectors, for example causing changes in growing seasons, and species distributions.

Companies are encouraged explain how their portfolio of reserves is evolving in response to these drivers.

For Electric Utility Companies: Electric utilities are asked to specifically consider:

- *How extreme weather events have affected or may affect generating capacity, production, transmission and distribution;*
- *The impacts of flooding, drought, heat waves or storms on hydroelectric plants, water-cooling systems, wind farms, etc.;*
- *How long-term changes in temperature have affected or may affect peak load, seasonal fluctuations in demand or impact network carrying capacity; and*
- *Measures in place for dealing with changing weather conditions e.g. insurance, hedging, investments in new technologies.*

For FBT Companies: A significant part of the FBT sector's risk exposure to climate change is related to its reliance on agricultural inputs, regardless of whether these raw materials are produced within a company's direct operations or elsewhere in agricultural value chains. More specifically, the degree of exposure to risk and consequent impacts are heavily dependent on agricultural production, which requires essential natural ecosystem inputs and conditions such as adequate water quantity and quality, soil nutrients, biodiversity, temperature and atmospheric carbon dioxide. The ecosystem services that provide these natural inputs

*and conditions are directly and indirectly affected by physical climate change parameters (**see Box 20 on physical climate change**), which exacerbates the risk in agricultural production systems.*

FBT companies are specifically encouraged to report on the risks driven by change to physical climate parameters pertaining to agricultural activities, whether within their direct operations or their agricultural value chain. FBT companies should also explain any risks resulting from changes to physical climate parameters in processing, transportation and consumption activities.

Companies with coal reserves can refer here for more information on disclosing demand and stranded asset risk.

CC5.1c: Please describe your inherent risks that are driven by changes in other climate-related developments

This question only appears if you tick "Risks driven by changes in other climate-related developments" in answer to question CC5.1.

You are asked to complete your response in the table provided in the ORS. The table is reproduced below and guidance on completing the columns follows. If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

You can make multiple entries into the table, using the "Add row" button to the bottom right.

- **Risk driver**

  See Box 18. Select from the following options:

  - Reputation – there are potential impacts associated with negative perceptions experienced by the public (including lobby groups) as well as suppliers and customers around an organization's carbon performance.
  - Changing consumer behavior – climate change can induce changes in customer preferences for products/services.
  - Induced changes in human and cultural environment – for example, migration and cultural changes.
  - Fluctuating socio-economic conditions – changes in social and economic prosperity changing a local or regional scale in response to regulatory or physical climate impacts.
  - Increasing humanitarian demands – as climate change effects start to become evident, in particular in the developing world, there is the potential for funds to be diverted to address humanitarian needs.
  - Uncertainty in social drivers – it may become difficult to operate effectively under the uncertainty surrounding the reputational, behavioral and socio-economic risks listed above.
  - Uncertainty in market signals – as markets respond to climate change impacts and predictions, volatility can be induced.
  - Other drivers – select other if you experience any other risk driver that is not listed above and is not a result of changes in regulation or physical climate, and provide further details in the description column.

- **Description**
  - Use this text field to enter further details on the risk driver, e.g. the exact nature and location of the effect concerned. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.

- **Potential impact; Timeframe; Direct/Indirect; Likelihood; Magnitude of impact; Estimated financial implications; Management method; Cost of management**
    - **See Box 18** and guidance for question CC5.1a

For Oil and Gas Sector Companies: You should consider the potential for changing consumer behavior as awareness increases about the effect of fossil fuels on the climate and the relative carbon intensities of different fuels, and as efforts increase to reduce energy consumption.

Please also consider the effect of increased competition from renewable energy and from the commercialization of hybrid and fully electric vehicles.

For Auto and Auto Component Manufacturers: In answering the questions above, you are asked to consider the impact of higher fuel costs on demand and sales mix and the implications for sales volumes, operating margins and company reputation.

Actions on increasing fuel economy and reducing GHG emissions should be included in CC5.1c. These may include:

- *Research and development investments;*
- *Mass production of cleaner technologies e.g. hybrids, electric cars, fuel cells (please include timelines);*
- *Alternative business models e.g. car rental, car sharing, 2/3 wheelers; and*
- *Partnerships between car manufacturers, equipment manufacturers and energy providers, e.g. oil and gas companies, electricity producers.*

You could set your actions into the context of your company's targets at a group or, where relevant, for specific markets for GHG emissions per unit distance or for fuel economy. This could also form part of your answer to CC2.2a on strategy.

For FBT Companies: FBT companies should report on risks that are driven by changes in other climate-related developments *pertaining to agricultural, processing, transportation and consumption activities.*

Companies with coal reserves can refer here for more information on disclosing demand and stranded asset risk.

CC5.1d: Please explain why you do not consider your company to be exposed to inherent risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

This question only appears if you do not tick "Risks driven by changes in regulation" in answer to question CC5.1.

Please respond to this question in the text box provided in the ORS using no more than 2400 characters. If no risks have been identified, you should state this unambiguously and explain why this is the case.

If risks have been identified, you should explain why the risks are not considered to have the potential to generate a substantive change in your business operations, revenue or expenditure. Possible reasons might be that the risk is considered small, or is likely to occur very far into the future or will materialize slowly allowing for adaptation within existing business processes.

While information that relates to your company's sector in general is useful, company specific information is preferred.

If you consider that you do face risks with the potential to generate substantive changes in your business operations, revenue or expenditure but have taken action to manage them, then you should tick the box at question CC5.1 and answer the subsequent questions on those inherent risks rather than this question.

CC5.1e: Please explain why you do not consider your company to be exposed to inherent risks driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

This question only appears if you do not tick "Risks driven by changes in physical climate parameters" in answer to question CC5.1.

Please see the guidance above for CC5.1d, and respond to this question in the text box provided in the ORS using no more than 2400 characters. If no risks have been identified, you should state this unambiguously and explain why this is the case.

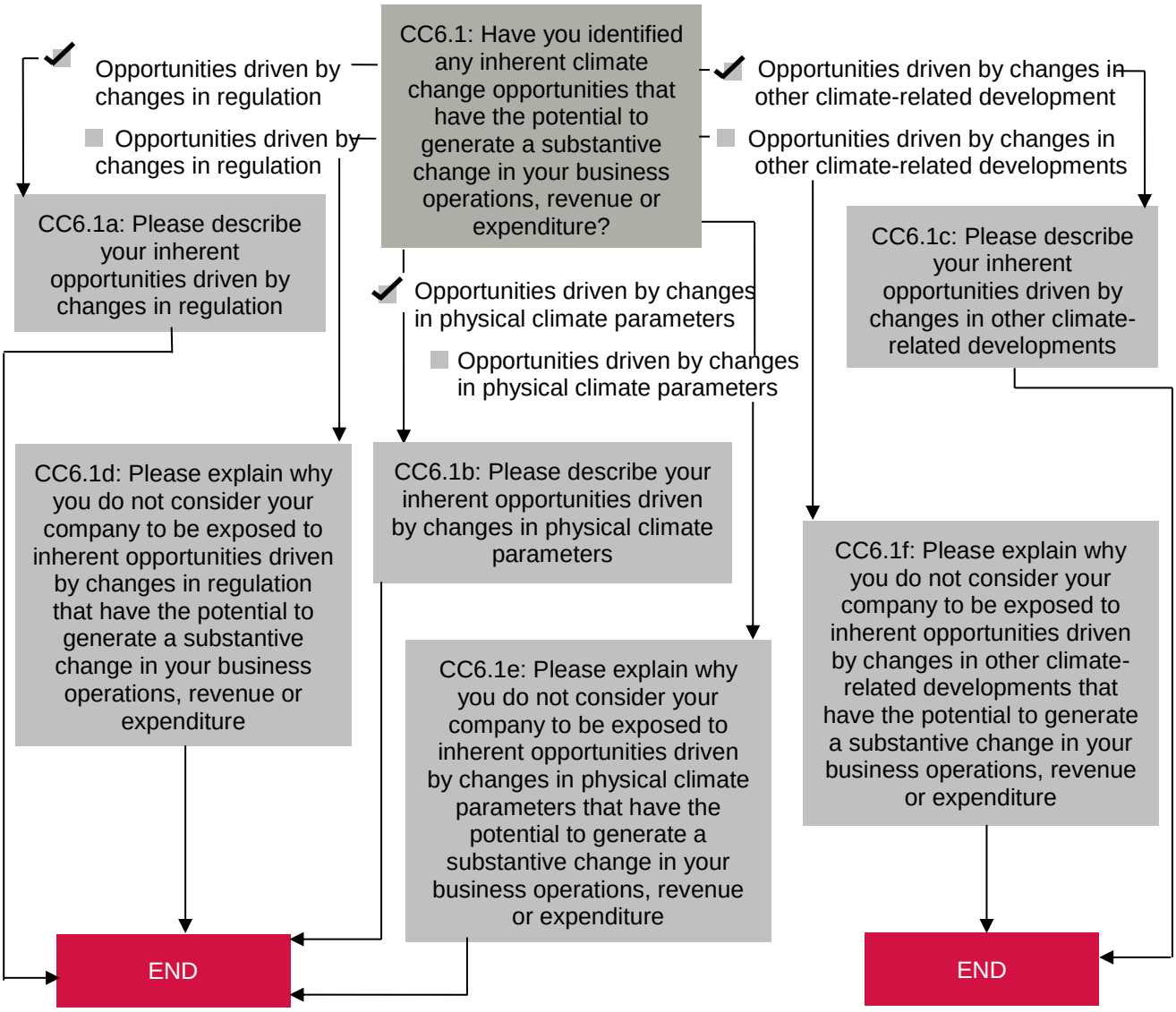
CC5.1f: Please explain why you do not consider your company to be exposed to inherent risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

This question only appears if you do not tick "Risks driven by changes in other climate-related developments" in answer to question CC5.1.

Please see the guidance above for CC5.1d, and respond to this question in the text box provided in the ORS using no more than 2400 characters. If no risks have been identified, you should state this unambiguously and explain why this is the case.

CC6. Climate Change Opportunities

Question Pathway



General Guidance

Where a company faces risks associated with climate change (reported under question CC5.1) it is possible that they may also experience opportunities. Both arise from changes in the operating environment for a company and as some changes can represent additional costs, others (or even the same changes) can present opportunities to exploit new markets or products.

Many of the challenges you face when reporting on climate change issues are common to other aspects of corporate reporting, requiring you to provide statements about your prospective condition. Some organizations, particularly accountancy firms and their governing bodies, have published guidance about how to prepare statements that contain forward-looking information.

Before completing the questions covering opportunities you may wish to consult with the financial, legal, and/or compliance departments for advice on your company's general approach to the provision of forward-looking statements and information concerning opportunities.

The process of identifying and prioritizing opportunities is the subject of question CC2.1 on the Strategy page of the information request. This page asks companies to describe the opportunities that they have identified where there is the potential for substantive changes in business operations, revenue or expenditure to arise. **The ways in which opportunities are classified are common to all types of opportunity in this section and are described in Box 21**. More details on the different types of opportunity are provided in the Specific Question Guidance.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, questions CC6.1, and questions CC6.1a, CC6.1b, and CC6.1c are eligible for pre-population. To take advantage of this function, click "copy from last year" prior to entering any data on the page. Please note that if you selected 'Product labelling regulations and standards' and/or 'Changing consumer behaviour' from the drop down options in column 1 (Opportunity driver) of questions CC6.1a and/or CC6.1c last year (2016), they will not copy over because these options have been amended to 'Product labeling regulations and standards' and 'Changing consumer behavior' (US spelling). Please re-select 'Product labeling regulations and standards' and/or 'Changing consumer behavior' and check the rest of the copied information in the table.

Box 21: Describing Opportunities

This box provides more detail on the different aspects of the description of opportunities

Opportunity Driver – the opportunity driver describes the source of the opportunity and will depend on the opportunity type (regulatory, physical, other) chosen. More detail is provided in the Specific Question Guidance for the relevant opportunity types.

Potential Impact – the potential impact is the effect that the opportunity could have on your business. This could be through reduced costs, increased revenue or through an enhanced access to capital. A more detailed list of options is available in the ORS and is described in the Specific Question Guidance.

Timeframe – the timeframe you considered for likelihood and magnitude reported in columns 6 and 7. It is acknowledged that opportunities further into the future are likely to have a higher degree of uncertainty associated with them. The time periods defined are the same as for risk, namely Up to 1 year; 1 to 3 years; 3 to 6 years; >6 years; or, Unknown.

Direct/Indirect – some opportunities will be directly associated with your business, e.g. reduced heating costs. However, others materialize indirectly because they either affect your customers (which in turn then increases their need for your product/services) or because it affects your supply chain (and therefore allows

you to purchase goods and services more easily or cheaply). You will be asked to define whether your opportunities relate to Direct, Indirect (Supply chain) or Indirect (Client) impacts.

Likelihood of impact – the likelihood of the impact occurring, along with the magnitude (see below) are the building blocks of a risk/opportunity matrix – a common method of identifying and prioritizing risks and opportunities. The likelihood refers to the probability of the impact to your business occurring within the timeframe provided, which in the case of an inherent risk might be similar to the probability of the climate event itself. For example, if the opportunity relates to a piece of new legislation which has already been prepared in draft form, the likelihood of the opportunity occurring will be relatively high. As for opportunity, the terms used to describe likelihood are taken from the Intergovernmental Panel on Climate Change's (IPCC) 2013 reports. They are associated with probabilities, indicating the percentage likelihood of the event occurring. It is not necessary for respondents to have calculated probabilities for the opportunities they are considering, however they can give an indication as to the meaning of the terms. The likelihood terms are: Virtually certain (greater than 99% probability); Very likely (greater than 90% probability); Likely (greater than 66% probability); More likely than not (greater than 50% probability); About as likely as not (between 33% and 66% probability); Unlikely (less than 33% probability); Very unlikely (less than 10%); Exceptionally unlikely (less than 1% probability); Unknown

Magnitude of impact – the magnitude describes the extent to which the impact, if it occurred, would affect your business. This should consider the business as a whole and therefore the magnitude can reflect both the opportunity created and the extent to which it applies throughout the organization. The same potential factors that can affect the magnitude of the risk can affect the magnitude of the opportunity, namely (a) the proportion of business units affected; (b) the size of the impact on those business units, and (c) the potential for shareholder or customer response (positive). The terms are again the same as risk and are qualitative: High, Medium-high, Medium, Low-medium, Low and Unknown. It is for companies to determine what these terms represent in the context of their business activities.

Estimated financial implications – the financial implications of the opportunity should, where possible, be expressed quantitatively. It is acknowledged that these will be estimates and, where possible, assumptions made in arriving at a financial impact figure should be stated.

Management method – methods you are using or plan to use to exploit the opportunity and maximize its potential realization could include diversification of product/service offering, research and development in new product lines or lobbying of decision makers. In all cases please identify how this action has (or is expected) to affect the likelihood and/or magnitude of the opportunity and over what timeframe the opportunity is expected to or has been enhanced.

Cost of management – the costs associated with the actions you have described and whether they are annual (and if so, how many years they will be incurred) or capital costs. Where there is no cost for action, please explicitly state this is the case.

Specific Question Guidance

CC6.1: Have you identified any inherent climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

- **Opportunities driven by changes in regulation**
- **Opportunities driven by changes in physical climate parameters**
- **Opportunities driven by changes in other climate-related developments**

Tick all categories of opportunities that apply to your business. Opportunities can be:

- Currently being experienced or expected to arise in the future
- Being managed or newly identified
- Well understood or with high levels of uncertainty with regard to the likelihood of the opportunity materializing and the extent to which it will impact the business

Regulation on climate change related issues may present opportunities for your organization if it is better suited than its competitors to meet those regulations, or better equipped to help others to do so. Possible scenarios would include a company whose products already meet anticipated standards designed to curb emissions, those whose products will enable its customers to meet mandatory requirements or those companies who provide services assisting others in meeting regulatory requirements. Regulation may also create new markets such as emission trading markets leading to new opportunities. Further details are provided in the guidance for question CC6.1a.

Physical changes related to climate change may present opportunities in a variety of ways. Reduced sea ice may allow access to new areas for vessels. Changing temperature and rainfall may extend growing seasons for farmers. Alternatively, your organization may have goods and services that enable others to adapt to physical changes. Further details are provided in the guidance for question CC6.1b.

Other climate-related opportunities include those posed by changes in consumer attitude or improved standing due to your organization's stance or action on climate change. Further details are provided in the guidance for question CC6.1c. Please note that there is no need to report all opportunities, covering only the substantive opportunities identified will be sufficient in responding to questions on this page.

The selections made in response to this question determine the questions that will appear on the remainder of this page. Note that if you enter details in the subsequent questions then change your selection at question CC6.1, your data will be lost.

If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

CC6.1a: Please describe your inherent opportunities that are driven by changes in regulation

This question only appears if you tick "Opportunities driven by changes in regulation" in answer to question CC6.1.

You are asked to complete your response in the table provided in the ORS. The table is reproduced below and guidance on completing the columns follows. If you are using the "copy from last year" functionality, please ensure that you review the data to ensure that it remains appropriate.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

You can make multiple entries into the table, using the "Add row" button to the bottom right.

- **Opportunity driver**

  See Box 21. Select from the following options:

  - International agreements – This can include internationally binding agreements negotiated within the frame of United Nations international conventions (e.g. the Paris Agreement under the United Nations Framework Convention on Climate Change, Kyoto Protocol) or any other internationally recognized protocol.
  - Air pollution limits - A type of regulation that imposes specific air pollution concentration limits on emissions (command and control); an example is the Oregon Clean Air Act Implementation Plan.

- Carbon taxes - A type of regulation that imposes specific economic incentives for polluters. The control of the pollutant is achieved by the internalization of its cost (in the form of a tax) by the regulated entity; examples include the Carbon Tax in France and the UK Climate Change Levy (CCL).
- Cap and trade schemes - Regulation that caps the amounts of release of a product/pollutant. Also known as emissions trading schemes. Permits are issued to trade in the ability to release the product/ pollutant. Acts as an economic incentive by creating a specific market where the permits are traded. Examples include the EU Emissions Trading System, South Korea Emissions Trading Scheme and the Japan Mandatory Cap and Trade Scheme.
- Emission reporting obligations - Regulations that demand the disclosure of data to authorities and/or to the public. Includes pollutant release and transfer registers and can include non-state regulatory obligations. May include energy reporting obligations as well as emissions reporting. Examples include the Australian National Greenhouse and Energy Reporting Act 2007 and the New Mexico Mandatory GHG Reporting Regulation.
- Fuel/energy taxes and regulations - Regulations aimed mainly at the consumption of fuel and/or other energy types but not specifically GHG emissions; an example is the UK CRC Energy Efficiency Scheme.
- Product efficiency regulations and standards - Regulations or standards that require specific efficiency in the production or commercialization of a given product, e.g. buildings regulations concerning energy efficiency such as the EU Energy Performance of Buildings Directive.
- Product labeling regulations and standards - Regulations or standards that impose specific labeling requirements on products, e.g. EU directive on electricity appliance labeling.
- Voluntary agreements - Voluntary agreements are a particular type of environmental instrument where contracts between state authorities and companies are agreed and specific targets are negotiated between the parties; an example is the UK Climate Change Agreements.
- General environmental regulations, including planning - Include wider regulations, such as Environmental Protection Acts (or Laws), planning and other regulations. Examples include the Environmental Protection Law of the People's Republic of China and the UK Climate Change Act.
- Renewable energy regulation – National and regional renewable energy policy targets or renewable energy support policies are some of the principal drivers in the growth of renewable energy use.
- Other regulatory drivers – select other if the type of regulatory driver you are experiencing or expect to experience is not included in the list above. Note that other types of opportunity are also included under changes in physical climate (question CC6.1b) and other climate-related developments (question CC6.1c).

- **Description**
  - Use this text field to enter further details on the opportunity driver, e.g. the exact regulation concerned. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.
- **Potential impact**

  See Box 21. Select from the following options. Please note that if you expect to experience more than one of the impacts listed, you should select the most significant one.
  - Reduced operational costs – a reduction in the day to day costs of running the business
  - Reduced capital costs – a reduction in the need to make capital expenditure to maintain competitiveness

- Increased demand for existing products/services
- Premium price opportunities – an opportunity to gain more profit on existing goods/services
- Increased production capacity
- Increase in capital availability – opportunities to attract capital investment
- Increased stock price (market valuation) – an increase in the attractiveness of your organization to investors
- New products/business services – opportunities to make new offerings to the market to address climate change issues
- Investment opportunities – opportunities to make capital investments
- Wider social benefits
- Other, please specify

- **Timeframe**
  - **See Box 21**. Select from the following options:
    - Up to 1 year
    - 1 to 3 years
    - 3 to 6 years
    - >6 years
    - Unknown
- **Direct/Indirect**
  - **See Box 21**. Select from the following options:
    - Direct
    - Indirect (Supply chain)
    - Indirect (Client)
- **Likelihood**
  - **See Box 21**. Select from the following options:
    - Virtually certain
    - Very likely
    - Likely
    - More likely than not
    - About as likely as not
    - Unlikely
    - Very unlikely
    - Exceptionally unlikely
    - Unknown
- **Magnitude of impact**
  - **See Box 21**. Select from the following options:
    - High
    - Medium-high
    - Medium
    - Low-medium
    - Low
    - Unknown

- **Estimated financial implications**
    - **See Box 21**. Use this text field to provide further information on estimated financial implications of the opportunities. Quantitative financial implications are preferred (open or closed ranges or % relative to a stated or publicly available figure), however qualitative financial implications are accepted where this is not possible. If there are no financial implications, this should be made clear. Please use no more than 1000 characters in your answer.
- **Management method**
    - **See Box 21**. Use this text field to provide further information on methods you are using or plan to use to exploit the opportunity and maximize its potential realization. Make sure to include an example of company specific activities, projects, products and/or services which are aiming to exploit the opportunity and maximize its potential realization. Please use no more than 1500 characters in your answer.
- **Cost of management**
    - **See Box 21**. Use this text field to provide further information on the cost of your opportunity. Where possible, please provide numerical financial descriptions (open or closed ranges or % relative to a stated or publicly available figure). If there are no costs to managing the risk, this should be made clear. Please use no more than 1000 characters in your answer.

For Electric Utility Sector Companies: In answering the questions above, please consider:

- *Opportunities that may arise from emissions trading;*
- *The opportunities that national or international targets on energy efficiency and demand management might present for your company e.g. revenue implications from energy services business units;*
- *Your company's views on any opportunities that may result from policies on renewable energy or low emissions technologies e.g. current or planned investments in these areas; and*
- *The extent to which you received financial incentives to reduce the electricity use of customers.*

For FBT Companies: FBT companies should report on opportunities that are driven by changes in regulation pertaining to agricultural, processing, transportation and consumption activities.

CC6.1b: Please describe your inherent opportunities that are driven by changes in physical climate parameters

This question only appears if you tick "Opportunities driven by changes in physical climate parameters" in answer to question CC6.1.

These are opportunities driven by physical changes related to climate change. You are asked to complete your response in the table provided in the ORS. The table is reproduced below and guidance on completing the columns follows.

Please ensure that you review the data to ensure that it remains appropriate.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

You can make multiple entries into the table, using the "Add row" button to the bottom right.

- **Opportunity driver**

  See Box 21. **A wide range of physical climate impacts are also described in Box 20**. Select from the following options:

  - Change in mean (average) temperature
  - Change in temperature extremes
  - Change in mean (average) precipitation
  - Change in precipitation pattern
  - Change in precipitation extremes and droughts
  - Snow and ice
  - Induced changes in natural resources
  - Other physical climate opportunities - select other if the type of physical climate driver you are experiencing or expect to experience is not included in the list above. Note that other types of opportunity are also included under regulatory opportunity (question CC6.1a) and other climate-related developments (question CC6.1e).

- **Description**
  - Use this text field to enter further details on the opportunity driver, e.g. the exact nature and location of the physical effect concerned. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.
- **Potential impact; Timeframe; Direct/Indirect; Likelihood and Magnitude of impact; Estimated financial implications; Management method; Cost of management**
  - **See Box 21** and guidance for question CC6.1a.

For FBT companies: FBT companies should report on opportunities that are driven by changes in physical climate parameters, specifically pertaining to agricultural, processing, transportation and consumption activities.

CC6.1c: Please describe your inherent opportunities that are driven by changes in other climate-related developments

This question only appears if you tick "Opportunities driven by changes in other climate-related developments" in answer to question CC6.1.

You are asked to complete your response in the table provided in the ORS. The table is reproduced below and additional guidance on completing the columns follows. Please ensure that you review the data to ensure that it remains appropriate.

You can make multiple entries into the table, using the "Add row" button to the bottom right.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

- **Driver**

  See Box 21. Select from the following options:

  - Reputation – there are potential impacts associated with positive perceptions around an organization's carbon performance by clients, suppliers, partners and the public in general.
  - Changing consumer behavior – customer preferences for products/services can change.

- Induced changes in human and cultural environments – for example, migration and cultural shifts.
- Fluctuating socio-economic conditions – changes in social and economic prosperity changing a local or regional scale in response to regulatory or physical climate impacts.
- Increasing humanitarian demands – as climate change effects start to become evident, in particular in the developing world, there is the potential for funds to be diverted to address humanitarian needs.
- Other drivers – select other if you experience any other opportunity driver that is not a result of changes in regulation or physical climate.

- **Description**
  - Use this text field to enter further details on the opportunity driver, e.g. the exact nature and location of the effect concerned. Make sure to include company specific detail. Please use no more than 2400 characters in your answer.
- **Potential impact; Timeframe; Direct/Indirect; Likelihood and Magnitude of impact; Estimated financial implications; Management method; Cost of management**
  - **See Box 21** and guidance for question CC6.1a.

For Electric Utility Sector Companies: Please disclose any investment in research and development that may result in GHG emissions reductions, e.g. CO2 capture and storage, clean coal technologies and energy storage.

For Auto and Auto Component Manufacturers: Please disclose any actions or plans to introduce of hybrid/electric vehicles and fuel cells.

For FBT companies: FBT companies should report on opportunities that are driven by changes in other climate-related parameters, specifically pertaining to agricultural, processing, transportation and consumption activities.

CC6.1d: Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

This question only appears if you do not tick "Opportunities driven by changes in regulation" in answer to question CC6.1.

Please respond to this question in the text box provided in the ORS using no more than 2400 characters. If no opportunities have been identified, you should state this unambiguously and explain why this is the case.

If opportunities have been identified, you should explain why the opportunities are not considered to have the potential to generate a substantive change in your business operations, revenue or expenditure. Possible reasons might be because the potential market or cost savings or advantage over competitors is considered small, or is likely to occur very far into the future.

While information that relates to your company's sector in general is useful, company specific information is preferred.

If you consider that you do face opportunities with the potential to generate substantive changes in your business operations, revenue or expenditure but have taken action to manage them, then you should tick the box in question CC6.1 and answer the subsequent questions on those opportunities rather than this question.

CC6.1e: Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

This question only appears if you do not tick "Opportunities driven by changes in physical climate parameters" in answer to question CC6.1.

Please see the guidance above for CC6.1d, and respond to this question in the text box provided in the ORS using no more than 2400 characters. If no opportunities have been identified, you should state this unambiguously and explain why this is the case.

CC6.1f: Please explain why you do not consider your company to be exposed to inherent opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

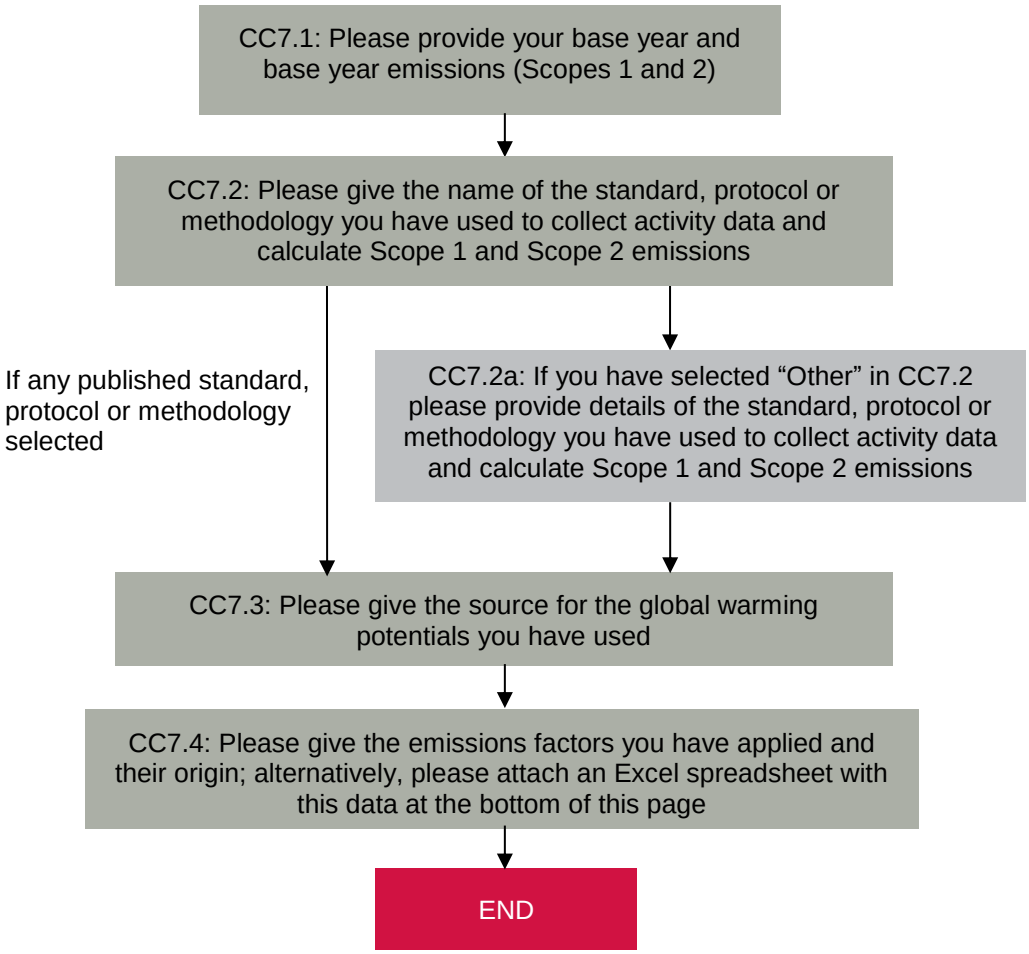
This question only appears if you do not tick "Opportunities driven by changes in other climate-related developments" in answer to question CC6.1.

Please see the guidance above for CC6.1d, and respond to this question in the text box provided in the ORS using no more than 2400 characters. If no opportunities have been identified, you should state this unambiguously and explain why this is the case.

Emissions Module Guidance

CC7. Emissions Methodology

Question Pathway



General Guidance

The abbreviation “CO2e” refers to “Carbon dioxide equivalent”, a common unit used to describe any quantity and type of greenhouse gas in terms of the amount of CO2 that would have the same global warming potential. To express a quantity of GHG in terms of CO2e, multiply the amount of GHG by its global warming potential.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, questions CC7.1, CC7.2, CC7.2a, CC7.3, and CC7.4 on this page is eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page. Please ensure that you check your response thoroughly and make updates to your response if necessary.

Specific Question Guidance

CC7.1: Please provide your base year and base year emissions (Scopes 1 and 2)

Please use the table provided in the ORS to complete your answer – this is reproduced below. This question is asking about the base year for your greenhouse gas inventory. This may be the same as the base year for your targets (reported on Page 3 of the ORS) but this is not necessarily the case. If your organization has changed through acquisitions and/or divestments, the methodology or boundary used to calculate your emissions has changed, or if there have been changes to your excluded sources, you should recalculate your base year emissions so that they can be directly compared with your current emissions.

Please see Chapter 5 of the GHG Protocol Corporate Standard for information on setting and recalculating a base year. Setting a base year is an essential GHG accounting step that a company must take to be able to observe trends in its emission information. According to the GHG Protocol Corporate Standard, a base year is “a historic datum (a specific year or an average over multiple years) against which a company’s emissions are tracked over time”.

If a company has measured its emissions in the past, it can use the oldest year for which it has available emissions information, preferably verified or assured, as its base year. If a company is measuring its emissions for the first time, it may choose the current reporting year as the base year.

The GHG Protocol Corporate Standard suggests that structural changes in an organization should trigger a recalculation of base year emissions. A company may, however, decide not to do this if the new emissions are not material or significant to it. It is up to the company to determine the threshold for what it considers as significant or material.

Companies should ensure that the base-year inventory includes both a location-based and market-based Scope 2 total, if applicable and feasible. This ensures “like with like” comparison over time. If the Scope 2 base year chosen was calculated only according to the location-based method, you should also recalculate a market-based total if contractual information or residual mix totals are available for the base year. If not, you should state that the location-based result has been used as a proxy since a market-based result cannot be calculated.

Scope	Base year	Base year emissions (metric tonnes CO2e)
Scope 1	Use the calendar button or enter dates manually in the format DD/MM/YYYY in the “From” and “To” fields.	Enter your Scope 1 base year emissions. Enter values (without commas) up to 99999999999 and with up to 2 decimal places. If your Scope 1 emissions are 0, please enter this here.

Scope 2 (location-based)	Use the calendar button or enter dates manually in the format DD/MM/YYYY in the “From” and “To” fields.	Enter your Scope 2 location-based base year emissions. Enter values (without commas) up to 99999999999 and with up to 2 decimal places. If your location-based Scope 2 emissions are 0, please enter this here.
Scope 2 (market-based)	Use the calendar button or enter dates manually in the format DD/MM/YYYY in the “From” and “To” fields.	Enter your Scope 2 market-based base year emissions. Enter values (without commas) up to 99999999999 and with up to 2 decimal places. If your market-based Scope 2 emissions are 0, please enter this here.

CC7.2: Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

There are a variety of standards, methodologies and protocols available which you may use to aid in the collection and reporting of GHG data, but the large majority refer to the GHG Protocol as their basic reference. CDP encourages companies to review the GHG Protocol Corporate Standard, where national standards are not specified. In the ORS you will be asked to select the standard, protocol or methodology you have used from a list of some of the published protocols in use, and reproduced below. If the one you have used is not included in the list, or if you have used a combination of methodologies, please select “Other”; you will be given an opportunity to provide more details in response to question CC7.2a (see below).

CDP makes no judgments on standards or methodologies applied by companies to produce their inventories. As such, it is impossible for CDP to explicitly accept/reject a specific calculation methodology. We expect that any tool used to calculate emissions for an inventory will follow the best practice and that it will adhere to good practice, and observe important aspects such as the accuracy and completeness principles of standards like the GHG Protocol. Any methodology needs to be evaluated for each specific case to understand if its application is appropriate, considering cost and the principles of GHG accounting. Thus, evaluating whether or not a certain practice is appropriate for a given purpose is best completed by verifiers/assurers. We expect companies that follow best practice to verify/assure their inventories, namely the methods used to estimate the emissions and the underlying data. Verifiers/assurers will have the necessary training and skills to establish if the methodologies used were the appropriate ones or not, for each case.

From a scoring perspective, at present CDP's scoring methodology does not differentiate between calculation methodologies applied by companies to produce their inventories.

The options available in the ORS as are follows:

- ABI Energia Linee Guida
- Act on the Rational Use of Energy
- American Petroleum Institute Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry, 2009
- Australia - National Greenhouse and Energy Reporting Act
- Bilan Carbone
- Brazil GHG Protocol Programme
- Canadian Association of Petroleum Producers, Calculating Greenhouse Gas Emissions, 2003
- China Corporate Energy Conservation and GHG Management Programme
- Defra Voluntary Reporting Guidelines

- ENCORD: Construction CO2e Measurement Protocol
- Energy Information Administration 1605B
- Environment Canada, Sulphur hexafluoride (SF6) Emission Estimation and Reporting Protocol for Electric Utilities
- Environment Canada, Aluminum Production, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Base Metals Smelting/Refining, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Cement Production, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Primary Iron and Steel Production, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Lime Production, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Primary Magnesium Production and Casting, Guidance Manual for Estimating Greenhouse Gas Emissions
- Environment Canada, Metal Mining, Guidance Manual for Estimating Greenhouse Gas Emissions
- EPRA (European Public Real Estate Association) guidelines, 2011
- European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations
- European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for aircraft operators
- Hong Kong Environmental Protection Department, Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings, 2010
- ICLEI Local Government GHG Protocol
- India GHG Inventory Programme
- International Wine Industry Greenhouse Gas Protocol and Accounting Tool
- IPCC Guidelines for National Greenhouse Gas Inventories, 2006
- IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2003
- IPIECA's Petroleum Industry Guidelines for reporting GHG emissions, 2nd edition, 2011
- ISO 14064-1
- Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superceded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)
- Korea GHG and Energy Target Management System Operating Guidelines
- New Zealand - Guidance for Voluntary, Corporate Greenhouse Gas Reporting
- Philippine Greenhouse Gas Accounting and Reporting Programme (PhilGARP)
- Programa GEI Mexico
- Regional Greenhouse Gas Initiative (RGGI) Model Rule
- Smart Freight Centre: GLEC Framework for Logistics Emissions Methodologies
- Taiwan - GHG Reduction Act
- Thailand Greenhouse Gas Management Organization: The National Guideline Carbon Footprint for organization
- The Climate Registry: Electric Power Sector (EPS) Protocol
- The Climate Registry: General Reporting Protocol

- The Climate Registry: Local Government Operations (LGO) Protocol
- The Climate Registry: Oil & Gas Protocol
- The Cool Farm Tool
- The GHG Indicator: UNEP Guidelines for Calculating Greenhouse Gas Emissions for Businesses and Non-Commercial Organizations
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- The Greenhouse Gas Protocol Agricultural Guidance: Interpreting the Corporate Accounting and Reporting Standard for the Agricultural Sector
- The Greenhouse Gas Protocol: Public Sector Standard
- The Tokyo Cap-and Trade Program
- US EPA Climate Leaders: Direct Emissions from Iron and Steel Production[1]
- US EPA Climate Leaders: Direct Emissions from Municipal Solid Waste Landfilling[1]
- US EPA Climate Leaders: Direct HFC and PFC Emissions from Manufacturing Refrigeration and Air Conditioning Equipment[1]
- US EPA Climate Leaders: Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment[1]
- US EPA Climate Leaders: Indirect Emissions from Purchases/ Sales of Electricity and Steam[1]
- US EPA Climate Leaders: Direct Emissions from Stationary Combustion[1]
- US EPA Climate Leaders: Direct Emissions from Mobile Combustion Sources[1]
- US EPA Mandatory Greenhouse Gas Reporting Rule
- WBCSD: The Cement CO2 and Energy Protocol
- World Steel Association CO2 emissions data collection guidelines
- Other

You can make multiple entries, using the “Add row” button to the bottom right.

CC7.2a: If you have selected “Other” in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please use the text box provided to give a description of the methodology or methodologies that you have used to collect activity data and calculate your Scope 1 and Scope 2 emissions. Please give the name of the published methodology that is not on the list in question CC7.2 or give a description of an in-house methodology or a combination of in-house and published methodologies. Use no more than 5000 characters in your response.

If you have selected any other option from question CC7.2, please leave this question blank.

CC7.3: Please give the source for the global warming potentials you have used

The GHG Protocol Corporate Standard defines a global warming potential (GWP) as “a factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO2.” By using GWPs, GHG emissions from multiple gases can be standardized to a carbon dioxide equivalent (CO2e).

For example, in the Intergovernmental Panel on Climate Change Fifth Assessment Report (SAR) the impact on the atmosphere of one unit of methane over a 100-year time span is 28 times greater than one unit of CO2. Hence, methane’s global warming potential (GWP) over a 100-year period is 28. Carbon dioxide has

[1] This program has now ended but its methodologies may still be in use.

a GWP of 1 in all the IPCC reports as it is used as a standard against which the GWP of other GHGs are measured.

Estimates of GWPs have changed over time as scientific understanding has developed. GWP factors are reassessed every few years in the IPCC Assessment Reports and accordingly, CDP recommends that companies use the latest GWPs given in the Fifth Assessment Report (AR5). This approach is aligned with the GHG Protocol, which states that the company "shall use 100-year GWP values from the IPCC and should use GWP values from the most recent Assessment Report, but may choose to use other IPCC Assessment Reports."

If you have used a calculation tool and do not know which GWPs have been applied to your data, consult the tool documentation or reference sources.

Use the table provided in the ORS and reproduced below for your answer to this question for the Kyoto greenhouse gases, which are methane (CH4), nitrous oxide (N2O), hydrofluorocarbon family of gases (HFCs), perfluorocarbon family of gases (PFCs) and sulfur hexafluoride (SF6). Nitrogen trifluoride (NF3) has been included in the basket of mandated GHGs. NF3 is now considered a potent contributor to climate change and is therefore mandated to be included in national inventories under the United Nations Framework Convention on Climate Change (UNFCCC). Following an amendment issued by the Greenhouse Gas Protocol on May 2013, NF3 should also be included in GHG inventories under the Corporate Standard, and the Corporate Value Chain (Scope 3) Standard. CDP closely aligns its reporting requirements with these organizations and requests that companies start reporting on NF3. There is no need to enter a value for the Kyoto gas carbon dioxide (CO2) unless this has been copied from last year. Furthermore, whilst only the 7 gases are requested, you may enter others if you wish by selecting the "Other" option from the drop down menu and entering the name of the gas in the text box provided.

Gas	Reference
Select from: CO2 CH4 N2O HFCs PFCs SF6 NF3 Other, please specify	Select from: IPCC Fifth Assessment Report (AR5 – 100 year) IPCC Fourth Assessment Report (AR4 - 100 year) IPCC Third Assessment Report (TAR - 100 year) IPCC Second Assessment Report (SAR - 100 year) IPCC Fourth Assessment Report (AR4 - 50 year) IPCC Third Assessment Report (TAR - 50 year) IPCC Second Assessment Report (SAR - 50 year) IPCC Fifth Assessment Report (AR5 – 20 year) IPCC Fourth Assessment Report (AR4 - 20 year) IPCC Third Assessment Report (TAR - 20 year) IPCC Second Assessment Report (SAR - 20 year) Other, please specify

You can make multiple selections by using the "Add Row" button at the bottom right of the table.

CC7.4: Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

As noted on page 44 of the GHG Protocol Corporate Standard, "direct measurement of GHG emissions by monitoring concentration and flow rate is not common." Normally, direct measurement takes place only in facilities with Continuous Emission Monitoring Systems (CEMS), such as power plants. Instead of direct measurement, many companies calculate GHG emissions by applying documented emission factors to activity data (e.g. tonnes of coal consumed or cubic meters of natural gas burnt).

Emission factors are sometimes referred to as conversion factors. Activity data (e.g. cubic meters of natural gas) is multiplied by an emission factor to estimate the GHG emissions from the activity (e.g. combustion of natural gas). This question is only asking for your Scope 1 and 2 emissions factors. You are not required to give the emissions factors used in your Scope 3 inventory. If you still wish to provide the emissions

factors used in your Scope 3 inventory, you may report them in the methodology column in question CC14.1, or attach the figures in the Further Information field at the bottom of the page.

Identifying the most appropriate and accurate emission factors to use is one of the most challenging issues in GHG accounting. Therefore, it is beyond the scope of CDP's work to provide advice on specific factors and how they should be applied. Emission factors vary with the precise nature of the material involved. For example, an emission factor will vary with the type of coal combusted and the type of technology used to burn the coal. The GHG Protocol Corporate Standard encourages you to calculate your own emission factors based on specific materials used and processes adopted. When this is not possible, you should refer to emissions factors published by governmental and other bodies such as the EPA in the US, DEFRA in the UK and the IEA for international coverage. **Companies that have used IEA's emissions factors may not have the permissions to share these publicly. In these instances, companies should not provide the emissions factor number and leave the column "Emission Factor" blank. However, all other columns can be completed. In "Reference" please name IEA as the source.**

You may also find it useful to refer to emissions factor databases compiled by organizations offering carbon calculation services. For additional advice on emissions factors, you may want to contact one of CDP's partners. Emission factors may also be incorporated in the calculation tools that you use. Please note that emission factors should apply to the reporting year.

Energy from fuel combustion can be measured by the higher heating value (HHV) or lower heating value (LHV) of the combusted fuel. For gaseous fuels the LHV/HHV ratio is typically 0.9, while for liquid and solid fuels the ratio is typically 0.95. As there is no global standard for the use of either, the company should take care to be consistent with the use of LHV or HHV. For clarity it is recommended that you state which measure has been used, in the "Reference" column

Emissions factors will also vary depending for what purpose they have been calculated for. This is particularly an issue in accounting for electricity. You can check the Technical Note "Accounting of Scope 2 emissions" for more information on electricity emission factors. In response to this question it is preferable that you enter the data in the table provided in the ORS and reproduced below. If you have a large number of emission factors, you may find it easier to attach an Excel spreadsheet instead at the bottom of the page. If you choose this option, please ensure that the spreadsheet contains only this information, it is presented in the same way as the table below, and that the attachment is clearly named. **A template spreadsheet is available here. Please ensure that your attachment is under 5MB**.

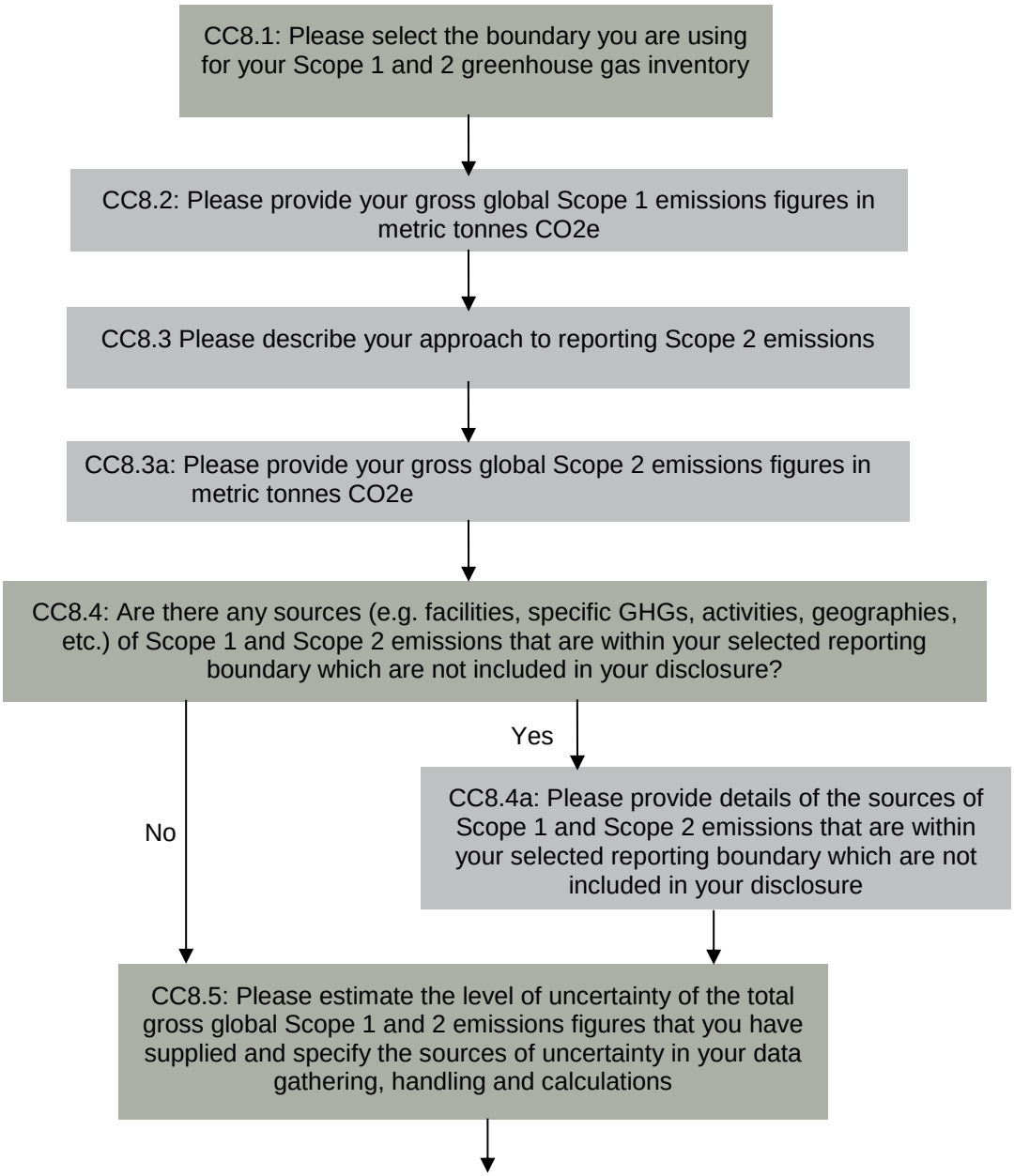
Fuel/Material/Energy	Emission Factor	Unit	Reference
Select from: Anthracite; Asphalt/ bitumen; Aviation gasoline; Biodiesels; Biogas; Biogasoline; Bituminous coal; BKB; Blast furnace gas; Brown coal; Brown coal briquettes; Butane; Charcoal; Coke breeze; Coke oven coke; Coke oven gas; Coking coal; Cooling; Crude oil; Diesel/Gas oil; Distillate fuel oil No 1; Distillate fuel oil No 2; Distillate fuel oil No 3; Distillate fuel oil No 4; Distillate fuel oil No 5; Distillate fuel oil No 6; Electricity; Ethane; Gas works gas; Heat; Jet gasoline; Jet kerosene; Kerosene; Landfill gas; Lignite; Lignite coke; Liquefied Natural	Enter a numeric value up to 99999999999 into this field, using no commas and no more than 5 decimal places.	Select from: metric tonnes CO2e per m3 metric tonnes CO2 per m3 metric tonnes CO2e per liter metric tonnes CO2 per liter metric tonnes CO2e per MWh metric tonnes CO2 per MWh kg CO2e per liter kg CO2 per liter kg CO2e per MWh kg CO2 per MWh metric tonnes CO2e per GJ metric tonnes CO2 per GJ metric tonnes CO2e per metric tonne	Enter the reference you have used for the emission factor into this text field. Where you have selected electricity please also specify the relevant country in this column as well as the reference. Use no more than 2400 characters.

Gas (LNG); Liquefied petroleum gas (LPG); Lubricants; Metallurgical coke; Methane; Motor gasoline; Municipal waste; Naphtha; Natural gas; Oil shale and bitumen (oil sands); Orimulsion; Oxygen steel furnace gas; Patent fuel; Peat; Petroleum coke; Pitch; Propane; Refinery feedstocks; Refinery gas; Refuse-derived fuel; Residual fuel oil; Semi-coke; Shale oil; Sludge gas; Steam; Sub bituminous coal; Sulphite lyes (Black liquor); Tar; Town gas or city gas; Turpentine; Vegetable oils; Waste oils; Waste plastics; Waste tire derived fuels; Waxes; White spirit/ SBP; Wood or wood waste, Other, please specify		metric tonnes CO2 per metric tonne lb CO2e per 1000 ft3 lb CO2 per 1000 ft3 lb CO2e per gallon lb CO2 per gallon lb CO2e per barrel lb CO2 per barrel lb CO2e per million BTU lb CO2 per million BTU lb CO2e per short ton lb CO2 per short ton lb CO2e per MWh lb CO2 per MWh Other, please specify	

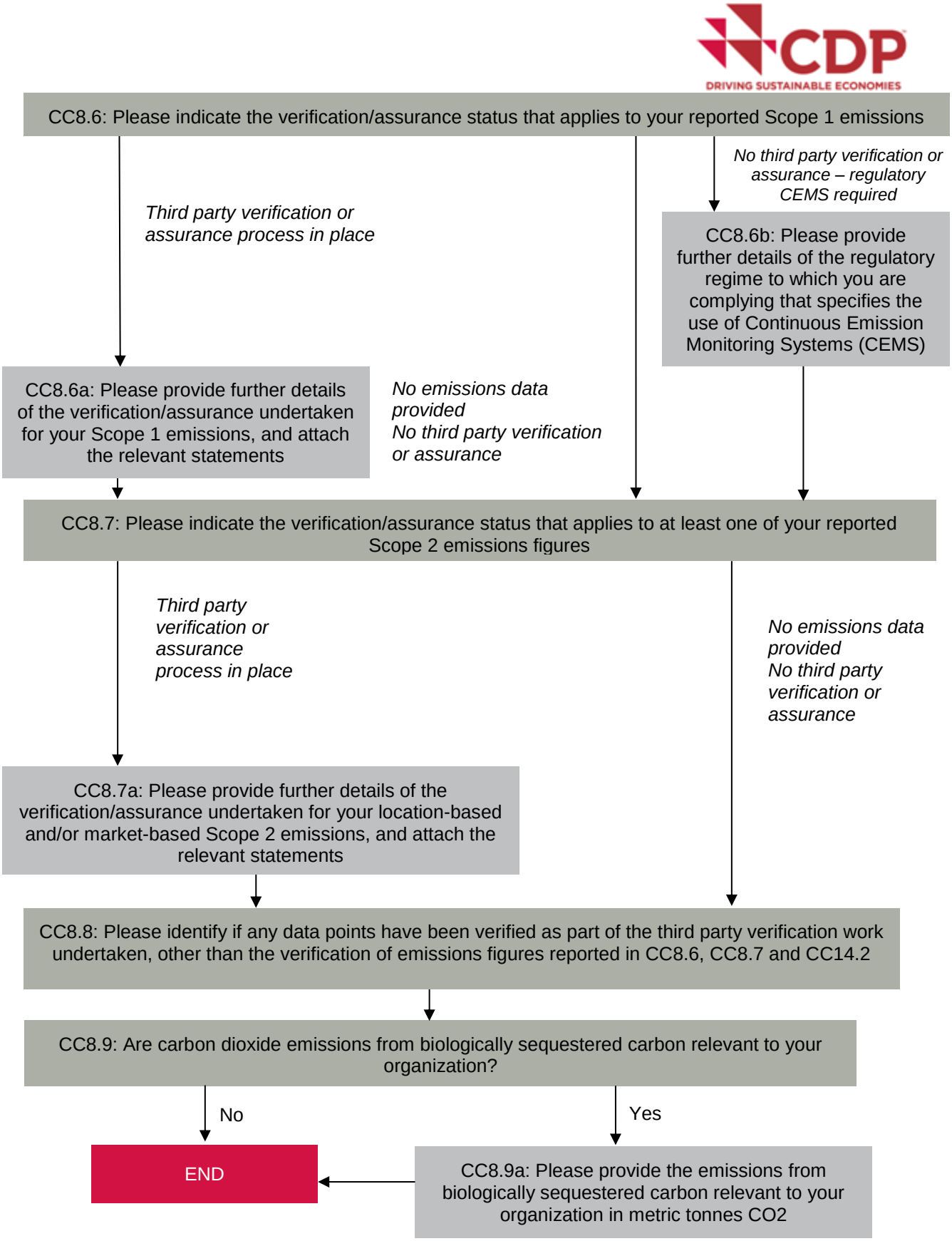
If using the table in the ORS, use the “Add Row” button to the bottom right of the table to make multiple entries.

CC8. Emissions Data

Question Pathway



CONTINUED OVERLEAF


CC8.6: Please indicate the verification/assurance status that applies to your reported Scope 1 emissions
Third party verification or assurance process in place
No third party verification or assurance – regulatory CEMS required
CC8.6b: Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)
CC8.6a: Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements
No emissions data provided
No third party verification or assurance
CC8.7: Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures
Third party verification or assurance process in place
No emissions data provided
No third party verification or assurance
CC8.7a: Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements
CC8.8: Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2
CC8.9: Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?
No
Yes
END
CC8.9a: Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

General Guidance

Key Changes from 2016

- CC8.3 (2016) has been deleted and replaced to ask about a company's approach to reporting their Scope 2 emissions. The purpose of this question is for a company to disclose whether they are reporting a market-based figure, or if they are not reporting a market-based figure and why this is the case.

Pre-population

None of the questions on this page are eligible for pre-population if you responded last year.

Specific Question Guidance

CC8.1: Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

The way in which companies are identified for inclusion within the reporting boundary is known as the "consolidation approach" because, unless stated otherwise, the information you provide in response to the CDP 2017 Climate Change questionnaire should be presented as one "consolidated" result covering all of the companies, entities, businesses, etc. within your reporting boundary. When determining reporting boundaries, CDP recommends that you consult your legal or accounting advisors.

In the drop down menu provided in the ORS, please select from one of the following options:

- Financial control
    - i.e. companies etc. over which you have financial control
- Operational control
    - i.e. companies etc. over which you have operational control
- Equity share
    - i.e. companies etc. in which you have a share in the operation
- Other, please specify

Further clarification of these terms is provided below.

The consolidation approach you identify for your company in answer to question CC8.1 should be used consistently to respond to all questions except in question CC13.1 where you are asked to report on emission trading schemes in which you participate. In this case we request that in accordance with the GHG Protocol Corporate Standard: "*Although some emission trading schemes may apply solely to the operators of facilities, the financial position of facility owners is also affected indirectly by the operation of the scheme.* This question therefore applies to both owners and operators of facilities covered by trading schemes. *Even if your company does not wholly own facilities, please give the total number of emissions and allowances*."

The first three options presented above are based on the GHG Protocol Corporate Standard, and are described in more detail below (text adapted from the GHG Protocol Corporate Standard):

- An organization has **financial control** over an operation if it has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities. Generally, an organization has financial control over an operation for GHG accounting purposes if the operation is treated as a group company or subsidiary for the purposes of financial consolidation;
- An organization has **operational control** over an operation if it or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation; and
- Under the **equity share** approach, a company accounts for GHG emissions from operations according to its share of equity in the operation. The equity share reflects the economic interest,

which is the extent of rights a company has to the risks and rewards flowing from an operation. Typically, the share of economic risks and rewards in an operation is aligned with the company's percentage ownership of that operation, 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 operation always overrides the legal ownership form to ensure the equity share reflects the percentage of economic interest. The principle of economic substance taking precedence over legal form is consistent with international financial reporting standards.

Companies using the CDSB Framework should select financial control as their boundary at CC8.1

In the case of leasing arrangements, please see the GHG Appendix: Categorizing GHG Emissions from Leased Assets and the International Accounting Standard (IAS) 17 on Leases, published by the International Financial Reporting Standards (IFRS) to determine the appropriate scope for those emissions.

To support the use, tracking and comparability of reported GHG information, respondents are encouraged to adopt the consolidation approaches based on the GHG Protocol Corporate Standard.

CC8.2: Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

You should respond by entering a total figure into the number field below the question. Answers should be no more than 99999999999 (without commas) and using no more than 2 decimal places. Negative numbers are not allowed as emissions need to be reported in gross, not net figures. Emission figures should be for the reporting year only. If you do not have an emissions figure, you should leave the question blank. Putting in zero would suggest that you have measured your emissions and that they are equal to zero. **Important guidance on reporting Scope 1 emissions is provided in Box 22.**

For FBT companies: Direct emissions from agricultural, processing and/or transportation activities should be reported as part of Scope 1 emissions in this question.

Box 22: Guidance on reporting Scope 1 emissions

Gross emissions are requested so that users of the information can account for the GHG emissions from sources owned or controlled by your organization, before any reductions for offsets are made, as per the GHG Protocol Corporate Standard. This transparency is meant to provide users with the most accurate portrayal of the emissions created within your company boundary.

Scope 1 emissions should be reported in metric tonnes of CO2e. Common conversion factors are included in the Technical Note "Units of Measure Conversions". Special requirements for carbon sequestration, captured & stored and transferred CO2, transfer in – transfer out, and enhanced oil recovery are explained in the Technical Note "Special conditions for reporting Scope 1 emissions".

Carbon dioxide emitted from the combustion of biomass/biofuel or fermentation should not be included in your response to question CC8.2 but should be reported in answer to question CC8.9. This is particularly relevant considering the use of gas derived from bio sources. Projects, such as the Green Gas Certification Scheme aim to provide a certified means of tracking gas injected into the gas grid and purchasing similar to many renewable electricity schemes such as RECs, although the gas does then get converted into energy within the purchaser's facilities rather than upstream. CDP recommends that a company report their gas/certified biogas usage as following:

- Fossil gas and non-certified biogas need to be accounted for and reported as Scope 1. The formula is the usual Activity data * Emissions factor, where the factor is emissions at the point of generation;
- Certified biogas will be reported under question CC8.9a; and
- In question CC11.3 companies shall report total MWh of energy, including certified biogas.

Therefore, the use of certified biogas will be considered to be equivalent to "zero" Scope 1 emissions for the purpose of reporting to CDP.

It is important that companies be aware that all of this hinges on the tracking system for biogas being robust. CDP doesn't have specific requirements or recommendations in this respect, except to follow the Quality Criteria (page 63) the GHG Protocol recommends for contractual instruments in the GHG Protocol Scope 2 Guidance.

CC8.3: Please describe your approach to reporting Scope 2 emissions

Please use the table provided in the ORS (reproduced below).

Scope 2, location-based	Scope 2, market-based	Comment
We are reporting a Scope 2, location-based figure We are not reporting a Scope 2, location-based figure	We are reporting a Scope 2, market-based figure We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure We have operations where we are able to access electricity supplier emissions factors or residual emissions factors, but are unable to report a Scope 2, market-based figure	Use no more than 2400 characters.

The final version of the GHG Protocol Scope 2 Guidance was published in January 2015. Part of the requirements of the guidance is that companies shall account for their Scope 2 emissions using two methodologies: a location-based method, and a market-based method. This is for those companies who have any operations in markets providing product- or supplier-specific data in the form of contractual instruments. If this is not applicable to your company, you only need to provide one location-based figure.

According to the GHG Protocol Corporate Standard, a contractual instrument is "any type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims." Different markets will have different contractual instruments, which can include energy attribute certificates and supplier specific emissions rates.

The purpose of this question is to allow companies to disclose their approach to calculating their Scope 2 emissions. This is particularly relevant when considering market-based Scope 2 emissions, as it is important to differentiate between companies that have not reported a market-based figure as they do not have operations where there are those contractual instruments, and those companies that do have operations where there are contractual instruments but have chosen not to disclose a market-based figure.

It is important to consider the definition of contractual instruments when determining whether your company needs to calculate a market-based figure. **If your company is able to access emissions factors from your electricity supplier for any of your operations, you are required to calculate and report a market-based figure.** Therefore, when responding to this question, if you do have operations where there are contracts such as RECS and Guarantees of Origin, supplier specific emissions factors, or a residual emissions factor such as in the US and Europe, then you should **not** select "We have no operations where we are able to access electricity supplier emissions factors or residual emissions factors and are unable to report a Scope 2, market-based figure". For full details please view the GHG Protocol Scope 2 Guidance.

CC8.3a: Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

Please use the table provided in the ORS (reproduced below).

Scope 2, location-based	Scope 2, market-based (if applicable)	Comment
		Use no more than 2400 characters.

You should respond by entering a total figure into each relevant column. If you answered in CC8.3 that you are not reporting a Scope 2 location-based figure and/or you answered that you are unable to report a Scope 2 market-based figure, please leave the correspoinding column(s) in CC8.3a blank. Answers should be no more than 99999999999 (without commas) and using no more than 2 decimals places. Negative numbers are not allowed as reporting needs to be gross, not net figures. If you do not have an emissions figure, you should leave the question blank. Putting in zero would suggest that you have measured your emissions and that they are equal to zero. Emission figures should be for the reporting year only. **Important guidance on reporting location-based and market-based Scope 2 emissions is provided in Box 23.**

For FBT Companies: Scope 2 emissions from the use of electricity for agricultural, processing and/or transportation activities should be reported as part of Scope 2 emissions in this question.

Box 23: Guidance on reporting Scope 2 emissions

In many industries, indirect GHG emissions mostly occur from the generation of purchased electricity (and purchased heat, steam and cooling) consumed by the company, as per the GHG Protocol Corporate Standard. “Electricity” is used here in accordance to the way it is defined in the GHG Protocol [page 25/33, footnote 2], this is “The term “electricity” is used … as shorthand for electricity, steam, and heating/cooling.” Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.

Non-energy-intensive companies are likely to have more significant Scope 2 figures than Scope 1 figures. The GHG Protocol highlights that “accounting for Scope 2 emissions allows companies to assess the risks and opportunities associated with changing electricity and GHG emissions cost.”

Emissions estimates are acceptable, as long as there is transparency with regards to the estimation approach (what is estimated and how) and the data used for the analysis is adequate to support the objectives of the inventory.

For more information about CDP’s current recommendations on what emission factor to use for electricity accounting, where you can find emission factors and the different types there are, please check the Technical Note “Accounting of Scope 2 emissions”. Please also note that electricity produced by either CH4 and N2O is to be included in the emission factor.

If you are unsure about the answers provided in this guidance and technical annexes to your questions, you should consult your electricity suppliers, carbon advisor or verifier/assurer. CDP recognizes that companies are in the process of transitioning to new Scope 2 accounting methods due to the publication of the GHG Protocol Scope 2 Guidance in January 2015 and that accounting for Scope 2 emissions associated with energy purchase and consumption can present many conceptual and technical challenges. More information on changes to Scope 2 accounting can be found below.

For further information, please see CDP’s Technical Note “Accounting of Scope 2 emissions” and the GHG Protocol Scope 2 Guidance.

CC8.4: Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

You are asked to identify sources that would normally be within the consolidation boundary you have identified for your disclosure (i.e. financial control, operational control, equity share or other) but for which greenhouse gases are not reported in this disclosure. Excluded sources may be in a particular country or represent a number of very small facilities making it difficult to gather data. Alternatively, it may be that you are reporting data only for carbon dioxide emissions rather than all the gases covered by the GHG Protocol. Exclusions should be reported where they are potentially relevant to the disclosure (either singularly or collectively).

General reasons for exclusions can include the following:

- Incomplete information for the period in question;
- Structural changes to the organization including:
    - Mergers,
    - Acquisitions,
    - Divestments;
- Outsourcing and/or insourcing of activities; and
- Unreliable information.

You are encouraged to review the above list when identifying which sources, including but not limited to facilities, specific GHGs, activities, and geographies, may be excluded from your consolidation boundary.

The GHG Protocol comments on the reporting of exclusions and highlights that "*any acknowledgement should be made in the report each year in order to enhance transparency; otherwise new users of the report in the two or three years after the change may make incorrect assumptions about the performance of the company."*

Please answer this question by selecting "yes" or "no" from the drop down menu provided in the ORS. If you answer "yes" you will be directed to question CC8.4a where you will provide more details of the exclusions; if you answer "no" you will be directed to the next question, question CC8.5. If you have not measured your Scope 1 or Scope 2 emissions, leave this question blank.

CC8.4a: Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

This question only appears if you answer "yes" to question CC8.4.

Please provide details of the exclusions in the table provided in the ORS, reproduced below.

Please review the example answer provided for this question in Box 24.

The principle of 'Relevance' in GHG reporting is described in Box 25.

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Please use this text field to name and briefly describe the source	No emissions excluded No emissions from this source Emissions are not relevant	No emissions excluded No emissions from this source Emissions are not relevant	No emissions excluded No emissions from this source Emissions are not relevant	Please use this text field to describe why the source is excluded and its significance. If possible, provide an estimate of the percentage of total emissions contained within

you are excluding. Use no more than 2400 characters.	Emissions are relevant but not yet calculated Emissions are relevant and calculated, but not disclosed Emissions excluded due to recent acquisition Emissions are not evaluated	Emissions are relevant but not yet calculated Emissions are relevant and calculated, but not disclosed Emissions excluded due to a recent acquisition Emissions are not evaluated	Emissions are relevant but not yet calculated Emissions are relevant and calculated, but not disclosed Emissions excluded due to a recent acquisition Emissions are not evaluated	the reported boundary that the exclusion represents. If a recent acquisition has taken place, please include the time of acquisition in this text field. Use no more than 2400 characters.

You can enter multiple sources of exclusions into the table, using the using the "Add Row" button at the bottom right of the table.

- **Relevance of Scope 1 emissions from this source**
  - No emissions excluded – please select this option if you have excluded Scope 2 emissions from this source and reported this exclusion in the relevant table column, but you have not excluded Scope 1 emissions from this source.
  - No emissions from this source – please select this option if you have excluded Scope 2 emissions from this source and reported this exclusion in the relevant table column, but you do not have Scope 1 emissions from this source.
  - Emissions are not relevant – please select this option if you have excluded Scope 1 emissions which you have identified as not relevant from this source.
  - Emissions are relevant but not yet calculated – please select this option if you have excluded Scope 1 emissions from this source, you have identified these emissions as relevant, but you have not calculated them.
  - Emissions from this source are relevant and have been calculated, but are not disclosed – please select this option if you have excluded from your CDP response Scope 1 emissions from this source that you have calculated and identified as relevant.
  - Emissions excluded due to a recent acquisition – please select this option if you have excluded Scope 1 emissions from this source due to an acquisition that has taken place in the last 12 months.
  - Emissions are not evaluated – please select this option if you have excluded Scope 1 emissions from this source but have not evaluated the relevance of these emissions.
- **Relevance of Scope 2 (location-based or market-based) emissions from this source**
  - No emissions excluded – please select this option if you have excluded Scope 1 emissions from this source and reported this exclusion in the relevant table column, but you have not excluded Scope 2 emissions from this source.
  - No emissions from this source – please select this option if you have excluded Scope 1 emissions from this source and reported this exclusion in the relevant table column, but you do not have Scope 2 emissions from this source.
  - Emissions are not relevant – please select this option if you have excluded Scope 2 emissions which you have identified as not relevant from this source.
  - Emissions are relevant but not yet calculated – please select this option if you have excluded Scope 2 emissions from this source, you have identified these emissions as relevant, but you have not calculated them.
  - Emissions from this source are relevant and have been calculated, but are not disclosed – please select this option if you have excluded from your CDP response Scope 2 emissions from this source that you have calculated and identified as relevant.

- Emissions excluded due to a recent acquisition – please select this option if you have excluded Scope 2 emissions from this source due to an acquisition that has taken place in the last 12 months.
- Emissions are not evaluated – please select this option if you have excluded Scope 2 emissions from this source but have not evaluated the relevance of these emissions.

Oil and Gas Sector Companies, and companies with coal mining assets: You are particularly asked to state if you are not disclosing methane emissions in general, for any specific facilities or for particular types of equipment.

Box 24: Worked example of CC8.4a on exclusions

In this instance presume that the company has selected 'Operational control' in CC8.1.

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
We are excluding emissions from our direct operations in Asia where we have four manufacturing facilities.	Emissions are not evaluated	Emissions are relevant but not yet calculated	Emissions are relevant but not yet calculated	At present, we are only able to disclose our emissions from our European operations, but not our Asian operations. In terms of Scope 1 emissions, we are aware that our manufacturing operations may be associated with leakage of refrigerants, however we have not yet had the capacity to investigate and evaluate this thoroughly. In terms of Scope 2 emissions, we do have records of how much electricity we purchase in our four Asian facilities, but we have not yet adopted an approach to account for the associated Scope 2 emissions. As we have operations in Europe, where there are contractual instruments, we have also calculated a market-based figure. While there are no contractual instruments for our Asian operations, we are still unable to provide a location-based figure for those operations.

Box 25: 'Relevance' in GHG reporting

The GHG Protocol provides the following definition of relevance for GHG reporting:

"A relevant GHG report contains the information that users – both internal and external to the company – need for their decision making. Companies should use the principle of relevance when determining whether to exclude any activities from the inventory boundary. Companies should also use the principle of relevance as a guide when selecting data sources. Companies should collect data of sufficient quality to ensure that the inventory is relevant (i.e., that it appropriately reflects the GHG emissions of the company and serves the decision-making needs of users) (...) and should not exclude any activities from the inventory that would compromise the relevance of the reported inventory."

A practical rule of thumb sometimes applied to evaluate the relevance of an emissions source or activity, is to consider the sources that contribute to 95% of the emissions inventory once sources are listed by the size of emissions. This rule is of practical value, in particular when sources follow an "80-20 rule" whereby a low number of sources contribute to a large proportion of the total emissions, while a large number of sources contribute to a small percentage of emissions. In order to utilize the 95% threshold, the emissions from all sources or activities need to be quantified (or estimated) to ensure they meet this threshold. However, once emissions are quantified, most of the benefits of having a threshold are arguably lost. Nonetheless, relevance should apply not only to the size of emissions, but also other criteria, such as the potential to drive emissions reductions, the cost-benefit of gathering the data, stakeholder expectations and potential uses of the data.

Relevance of emissions should not be limited to sustainability topics that have a significant financial impact on your organization, despite the fact that these can often be more aligned with financial definitions of "materiality".

Examples of circumstances where the reasons for excluding known emissions sources from the GHG statement may not be reasonable, include cases where:

- The entity has relevant Scope 1 emissions but only includes Scope 2 emissions in its CDP disclosure.
- The boundary has been defined, but particular geographies within the boundary are not being reported although they represent relevant emissions;
- The emissions reported exclude business divisions/areas of business with relevant emissions, but are only a small proportion of the total emissions included in the GHG statement.

CC8.5: Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Uncertainty can arise from data gaps, assumptions, metering/measurement constraints, published emissions factors, data management, etc. Within your response to CDP you are likely to encounter three possible types of uncertainty when calculating your emissions figures:

- Uncertainty surrounding the calculation of global warming potentials (GWPs);
- Uncertainty surrounding the calculation of published emissions factors; and
- Uncertainty in your activity data or direct measurement of emissions.

As you cannot control the uncertainty surrounding the calculation of GWPs or published emissions factors, you should not report these sources in response to this question.

As an example, measuring equipment will always be limited by how accurately it can measure. Additionally, the ways in which gas sampling and techniques for statistical treatments of data are deployed may affect GHG estimates. These limitations may be known and could potentially have a significant bearing on the

accuracy of your organization's GHG calculations. You may refer to the guidance tool provided by the GHG Protocol for further assistance.

Please use the table provided in the ORS (as reproduced below) to complete your answer. If you have evaluated your emissions sources and do not have emissions in one or the other scope, for that scope please select "less than or equal to 2%" for uncertainty range, for main sources of uncertainty select "No Sources of Uncertainty" and state in the text field that you do not have emissions in that scope. If you have not measured either your Scope 1 or Scope 2 emissions, leave this question blank. Guidance on completing each column of the table is provided below.

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1			
Scope 2 (location-based)			
Scope 2 (market-based)			

- **Uncertainty range** (Scope 1 emissions and Scope 2 emissions): Select from the following uncertainty ranges, rounding your uncertainty value to the nearest whole number (+ or -) if appropriate:
    - Less than or equal to 2%
    - More than 2% but less than or equal to 5%
    - More than 5% but less than or equal to 10%
    - More than 10% but less than or equal to 20%
    - More than 20% but less than or equal to 30%
    - More than 30% but less than or equal to 40%
    - More than 40% but less than or equal to 50%
    - More than 50% but less than or equal to 60%
    - More than 60% but less than or equal to 70%
    - More than 70% but less than or equal to 80%
    - More than 80% but less than or equal to 90%
    - More than 90% but less than or equal to 100%
    - Greater than 100%
- **Main sources of uncertainty** (Scope 1 emissions and Scope 2 emissions): Multi-select the ones that apply:
    - Data Gaps
    - Assumptions
    - Extrapolation
    - Metering/ Measurement Constraints
    - Sampling
    - Data Management
    - No Sources of Uncertainty
    - Other, please specify
- **Please expand on the uncertainty in your data** (Scope 1 emissions and Scope 2 emissions): Use this text field to expand on the identified sources of uncertainty and how they are specific to your company. Please use no more than 2400 characters in your answer.

Electric Utility Companies: Investors request that if data accuracy varies with type of installation, the different degrees of accuracy are given. The fourth column of the table can be used for that purpose.

CC8.6: Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Please respond to this question by selecting one of the options from the list below, which will be available as a drop down menu in the ORS.

- No emissions data provided
- No third party verification or assurance
- No third party verification or assurance – regulatory CEMS required
- Third party verification or assurance process in place

Note that this question applies to Scope 1 emissions only. CDP regards verification/assurance as a process undertaken by an independent third party accredited to perform verification/assurance of the GHG emissions data. Please only state that you have had or are having verification/assurance carried out if it is by an independent third party accredited to perform verification/assurance of the GHG data. CDP does not prescribe companies' choice of specific verification/assurance providers. However, companies searching for a provider may want to consult our list of accredited verification partners: Learn more about CDP solution providers offering third party verification services here.

If you have had a proportion of your Scope 1 emissions verified, please select the option that applies to these emissions; you will be given an opportunity in question CC8.6a to provide further details on this.

Note if verification/assurance is underway, or part of a biennial or triennial process: It is recognized that for some companies, the verification/assurance schedule is out of synchronization with the CDP disclosure process and therefore it is difficult to complete the verification/assurance process before the CDP deadline. In addition, verification/assurance processes may occur every two years (biennial verification) or every three years (triennial verification). Where this is the case, you should select "Verification or assurance process in place" and provide further information on your situation in CC8.6a or CC8.6b.

In subsequent questions companies will be asked to provide evidence of the third party verification or regulatory CEMS that they select here. Companies are advised to verify that their evidence can demonstrate all of the requirements set by CDP before answering this question to confirm that their activities comply (e.g. by consulting with their verifier/assurer). Full details are provided in the guidance for questions CC8.6a and CC8.6b. If certain information requirements set by CDP are not available in the standard assurance statement provided by your verifier, CDP has produced a template that can be used in conjunction with the original assurance statement.

If you select "Verification or assurance process in place", you will be directed to question CC8.6a. If you select "No third party verification or assurance – regulatory CEMS required" you will be directed to question CC8.6b. If you select "No emissions data provided", "No third party verification or assurance", you will be directed to the next question, question CC8.7.

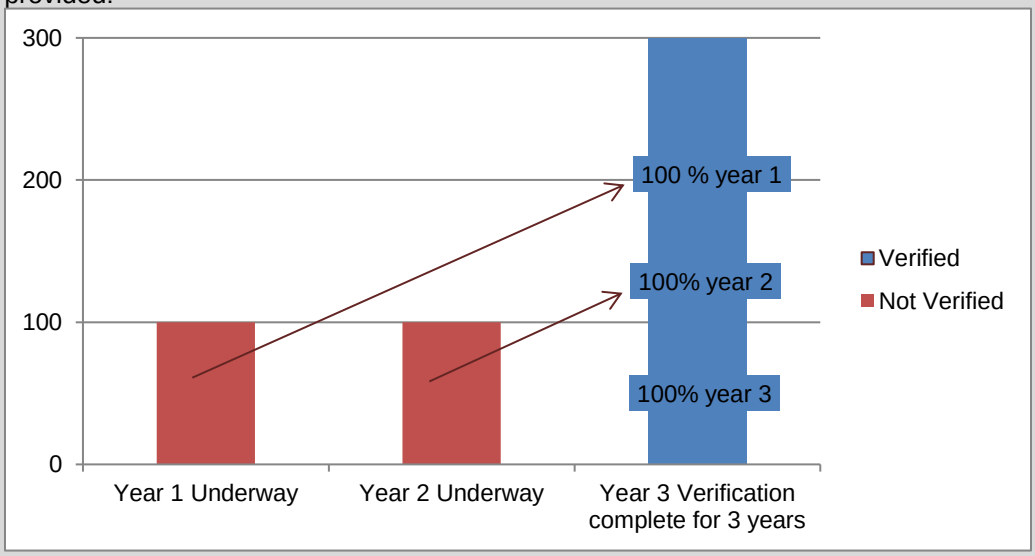
Please ensure that your attachment is under 5MB and is not protected with a password.

Box 26: Annual, biennial and triennial processes

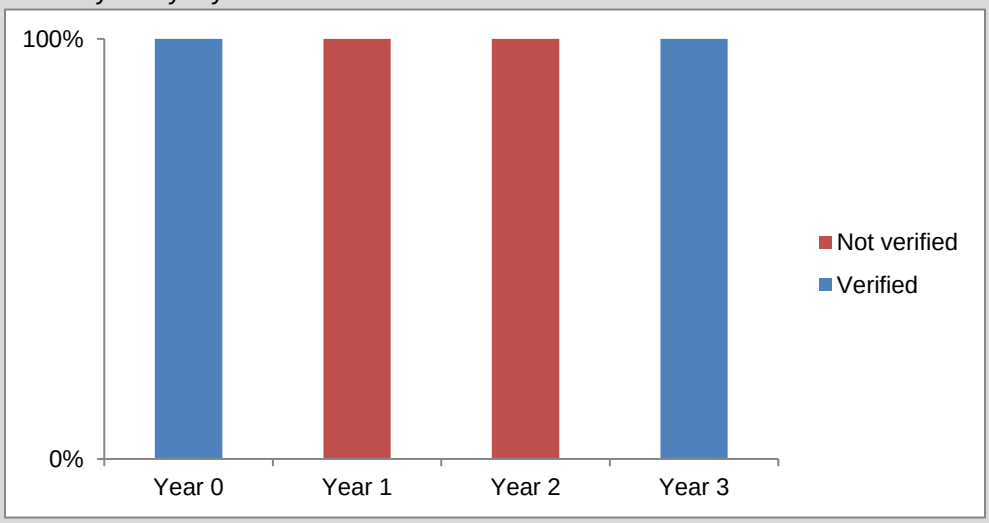
The graphs below give two examples of a triennial process and two examples of an annual process, to illustrate the differences between the two:

Triennial Processes

- If in the year the verification is completed (for example, Year 3), the data for all sources during the full cycle is verified (for example year 1, 2 and 3) the company can report 100% verification and should attach the verification statements that cover the exercise for all the sources. This would be considered a triennial process where full points will be awarded if attachments are provided:



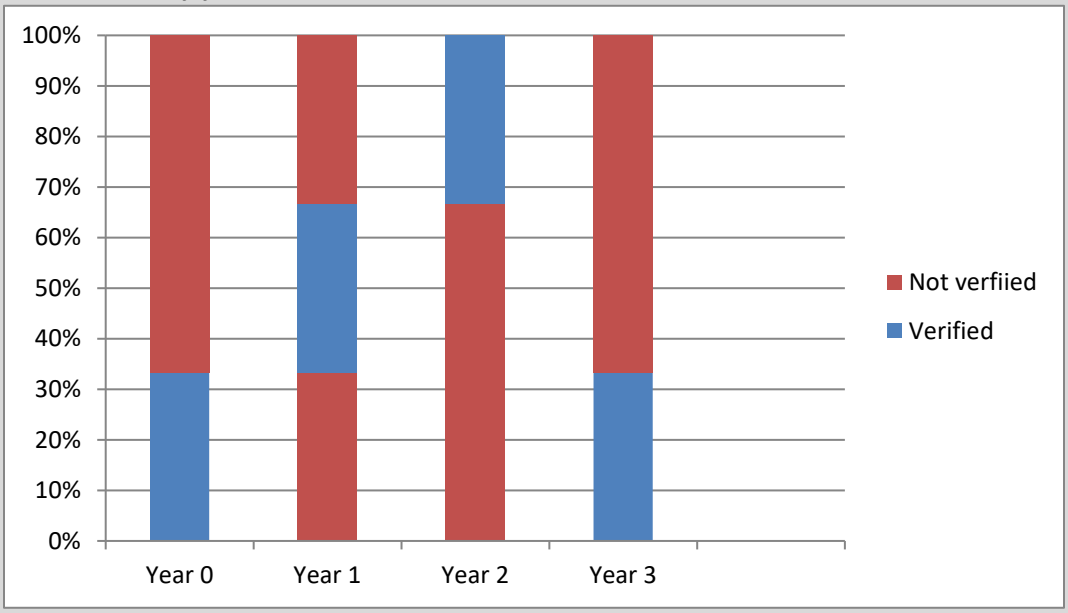
- If a company verifies 100% of its sources and emissions every 3 years, then it will get full points only every 3 years:



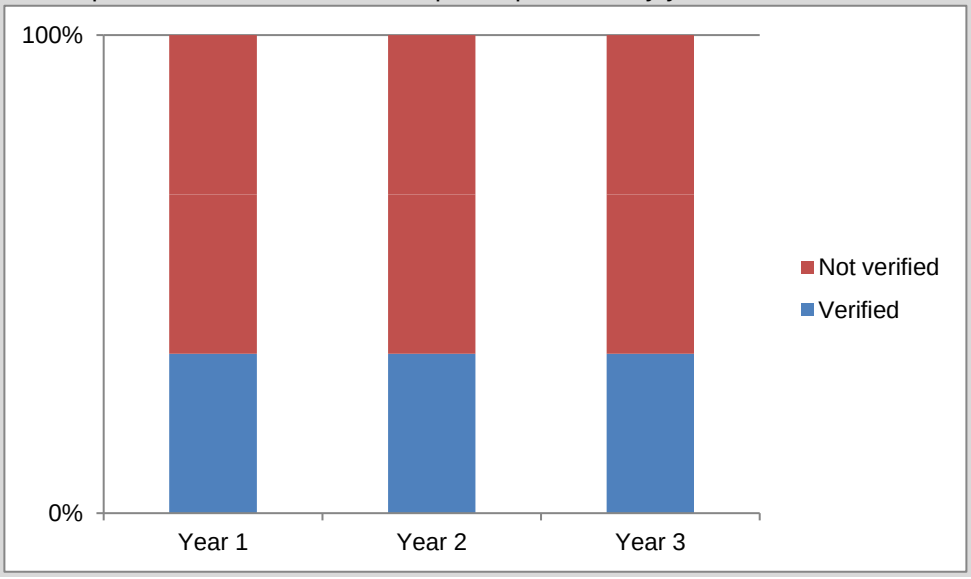
Annual processes

Not all processes taking place over three years will be considered a triennial process. The graphs below illustrate annual processes, which should not be confused with triennial

- If in the year the verification is completed (for example, Year 3) only the data for that year is verified (for example, only Year 3 is verified for 1/3 of the sources, the second third was verified in year 2 and the remaining third in year 1), then the company should report only 33% verified. This is a yearly process for which 1/3 of the sources are verified every year. Partial points will be awarded every year:



- Likewise, where a company has 1/3 of that year's emissions verified every year this is an annual process and will be awarded partial points every year:



Guidance for proportion verified in 2017:
To increase the accuracy of the emissions data disclosed to CDP, and thereby improve the decision-making processes of data-users, CDP incentivizes companies to verify at least 70% of their Scope 1 and 2 emissions. Below is a summary of how points are allocated for the 2017 disclosure cycle. Please note that you are only required to verify one of your Scope 2 figures, however are still encouraged to verify both figures if possible. More details can be found in the 2017 scoring methodology.

Annual process	X% emissions verified every year. Full points awarded (if over 69% of emissions verified and statement attached).
Biennial process	1) 70-100% emissions for year 1 and year 2, all verified in year 2. Full points awarded each year (if statement attached).
	2) Less than 70% emissions from year 1 and less than 70% emissions from year 2, all verified in year 2. Partial points awarded in each year (if statement attached).
	3) 70-100% emissions from year 1 is verified but no verification in year 2. Full points awarded in year 1 (if the statement attached) but no points in year 2
	4) Less than 70% emissions verified in year 1 but no verification in year 2. Partial points in year 1, no points in year 2
Triennial process	1) 70-100% emissions from years 1, 2 and 3 all verified once every three years. Full points awarded in each year (if statement attached).
	2) Less than 70% emissions from year 1, year 2 and year 3 all verified once in year 3. Partial points awarded in each year (if statement attached).
	3) 70-100% emissions from year 1 verified in year 1, but no verification in year 2 or 3. Partial points awarded in year 1 (if the statement attached) but no points awarded in year 2 and 3.
	4) Less than 70% emissions verified in year 1 but no verification in year 2 and 3. Partial points awarded in year 1 (if the statement attached) but no points in year 2 and 3.

CC8.6a: Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

This question only appears if you have selected "Third party verification or assurance process in place" *in answer to question CC8.6.*

Please complete your response to this question in the table provided in the ORS and reproduced below. The information required should be available on your verification/assurance statement or, if verification/assurance is still underway, should be available from your verifier/assurer.

If you are reporting third party verification or assurance underway, your entries into the table should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year, with the exception of the statement.

CDP understands that you may seek verification for reasons other than reporting to CDP and that confidential information may be included within your detailed verification statement. In the event that this is the case, it is sufficient for your verifier/assurer to attest to the scope and level of assurance/verification through correspondence, such as an abbreviated statement, as long as this covers the data points outlined below (see guidance for the column to which the statement is attached).

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/ section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Select from: Annual process Biennial process Triennial process	Select from: No verification or assurance of current reporting year First year it has taken place Underway but not complete for reporting year – previous statement of process attached Complete	Select from: Not applicable Limited assurance Moderate assurance Reasonable assurance High assurance Third party verification/ assurance underway	Attach your document here, see below for further details.	Text box. Please see the guidance for this column below	Select from the options given below in the guidance to this column	Enter a numeric value from 1 to 100, using no commas and no decimal places

If you wish to complete multiple rows, use the “Add Row” button to the bottom right of the table. See below for instructions on how to complete the columns.

- Verification or assurance cycle in place: A biennial verification/assurance process is where Scope 1 emissions are verified once every two years and triennial verification/assurance process where Scope 1 emissions are verified once every three years. **You may refer to Box 26 for further information on annual, biennial and triennial processes, and how these selections will be scored**. Please select from the following
    - Annual process
    - Biennial process
    - Triennial process
- Status in the current reporting year: Please select the option that is most appropriate to your company
    - No verification or assurance of current reporting year
    - First year it has taken place
    - Underway but not complete for reporting year – previous statement of process attached
    - Complete
- Type of verification or assurance: This column relates to the type of verification or assurance that has been awarded. The option that is relevant will depend on the verification standard to which the verification process has been completed and the level of assurance agreed between the verifier and the company. Companies can select from the following options: (Note that the examples of standards that apply to each level of assurance are not exhaustive and are provided for illustrative purposes only)
    - Not applicable
        - In very few cases, usually in program based compliance, the verification standard does not include a level of assurance; in this case select this option.

- Limited assurance
  - This is one of the most common levels of assurance and, for example, is appropriate to verification undertaken in accordance with ISO14064-3, ISAE3000, ASAE3000 and The Climate Registry.
- Moderate assurance
  - For example, this level of assurance is appropriate to verification undertaken in accordance with AA1000 and AT101.
- Reasonable assurance
  - For example, this is appropriate to verification undertaken under ISO14064-3, ISAE3000, ASAE3000 and The Climate Registry; all verification undertaken for EU ETS compliance is to a level of "reasonable assurance" (according to the requirements of EA-6/03).
- High assurance
  - For example, this is appropriate to verification undertaken in accordance with AA1000 and AT101.
- Third party verification/assurance underway
  - Select this option if verification/assurance is underway and you do not yet know the level of assurance that you are intending to achieve.

- Attach the statement: click on "Browse" to locate the appropriate file and then "Attach" to attach the document to the response. Please ensure that your attachment is under 5MB. Note the requirements for the statement detailed below and the option to use the CDP template. If you have multiple documents for a single verification (e.g. if you have multiple facility verification reports all covered under a single verification standard) you should attach these as a zip file. All companies should attach a verification statement here unless they have selected "No verification or assurance of current reporting year" or "First year it has taken place" in response to question CC8.6a column 2 'Status in the current reporting year' – in this case companies should leave this column blank. The statement should:

  i. Clearly state that GHG emissions have been verified or assured as part of the process. If the statement refers to other documents that have been verified (such as Sustainability Report, Financial Report, GRI etc.) where items verified are specified, please attach those to the question as well;

  ii. Relate to the relevant scope;

  iii. Clearly state the opinion and type of verification/assurance that has been given and the verification standard used. These should match the selections made in columns 1 and 2; and

  iv. Covers the current reporting year, or covers the 12-months prior if "Underway but not complete for reporting year – previous statement of process attached" is selected in "Status in the current reporting year" column in CC8.6a.

- Page/section reference: Please identify the page and the section that contains details of your verification/assurance of Scope 1 emissions. Use no more than 500 characters.

- Relevant standard: This column captures the verification standard against which the verification process has been undertaken. It does not refer to the reporting or calculation standard. CDP has produced criteria for what constitutes an acceptable verification standard. All accepted verification standards, and exceptions to their use, are listed here. The verification standard should be stated on the verification statement. If the response is submitted before the official CDP deadline, CDP will then review the standard used and add it to the website under "accepted" or "not accepted" depending on the outcome of the standard review. If the response is submitted after the official deadline CDP cannot commit to review the standard used in time for scoring. Select from the following accepted standards; use "Other" if the standard you are using is not included:

- AA1000AS
- Advanced technologies promotion Subsidy Scheme with Emission reduction Target (ASSET)
- Airport Carbon Accreditation (ACA) des Airports Council International Europe
- Alberta Specified Gas Emitters Regulation (SGER)
- ASAE3000
- Attestation standards established by AICPA (AT101)
- Australian National GHG emission regulation (NGER)
- California Mandatory GHG Reporting Regulations (CARB)
- Canadian Institute of Chartered Accountants (CICA) Handbook: Assurance Section 5025
- Certified emissions measurement and reduction scheme (CEMARS)
- Chicago Climate Exchange (CCX) verification standard
- Compagnie Nationale des Commissaires aux Comptes (CNCC)
- Corporate GHG verification guidelines from ERT
- DNV Verisustain Protocol/ Verification Protocol for Sustainability Reporting
- Earthcheck Certification
- ERM GHG Performance Data Assurance Methodology
- European Union Emissions Trading System (EU ETS)
- IDW PS 821: IDW Prüfungsstandard: Grundsätze ordnungsmäßiger Prüfung oder prüferischer Durchsicht von Berichtenim Bereich der Nachhaltigkeit
- IDW AsS 821: IDW Assurance Standard: Generally Accepted Assurance Principles for the Audit or Review of Reports on Sustainability Issues
- ISAE3000
- ISAE 3410
- ISO14064-3
- Japan voluntary emissions trading scheme (JVETS) guideline for verification
- Korean GHG and energy target management system
- NMX-SAA-14064-3-IMNC: Instituto Mexicano de Normalización y Certificación A.C
- RevR6 procedure for assurance of sustainability report
- Saitama Prefecture Target-Setting Emissions Trading Program
- SGS Sustainability Report Assurance
- Spanish Institute of Registered Auditors (ICJCE)
- Standard 3810N Assurance engagements relating to sustainability reports of the Royal Netherlands Institute of Registered Accountants
- State of Israel Ministry of Environmental Protection, Verification of GHG and emissions reduction in Israel Guidance Document
- Swiss Climate CO2 Label for Businesses
- Thai Greenhouse Gas Management Organisation (TGO) Greenhouse Gas (GHG) Verification Protocol
- The Climate Registry's General Verification Protocol
- Tokyo cap-and-trade guideline for verification
- Verification as part of Carbon Trust standard certification
- Other, please specify

- Proportion of reported Scope 1 emissions verified (%): It may be the case that only a sub-section of your emissions have been verified/assured due to, for example, regulatory requirements. Please identify what proportion of your total reported gross global Scope 1 emissions have been subject to the verification/assurance process described by entering the proportion of your Scope 1 emissions verified/assured using no decimals.

Please add rows to the table to report any verification practices that were in place during the reporting year that covered any parts of the reported GHG emissions.

If you have attained verification covering all your reported Scope 1 emissions (for example GHG emissions reported in your sustainability report) and also other verification covering smaller proportion of your

business (for example only Californian operations or facilities under EU ETS regulation) you only should report the verification in place covering all reported Scope 1 emissions.

If you have multiple verification practices covering different business divisions (for example Californian operations and facilities under EU ETS) you should report all of them by adding rows to the table, completing all columns, and attaching the appropriate documents for each verification practice.

Note that this question refers to the proportion of your total reported gross global Scope 1 emissions over which you have sought verification, not the sampling regime that the verifier employed. For example, if you have only sought verification over your US operations then you should report the percentage of your total reported gross global Scope 1 emissions that these US facilities represent. Alternatively, if you have sought organization wide verification, then you should enter 100%. If you have reported your full GHG inventory in your corporate communications material which has been verified, please enter 100%.

If you are reporting third party verification or assurance underway, your answer should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year.

CC8.6b: Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emission Monitoring Systems (CEMS)

This question only appears if you have selected "No third party verification or assurance – regulatory CEMS required" in answer to question CC8.6.

Please complete your response to this question in the table provided in the ORS and reproduced below.

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission
Select from: CFR 40 Part 75 Other, please specify	Enter a numeric value from 1 to 100, using no commas and no decimal places.	Date field	Attach your document here, see below for further details.

If you wish to complete multiple rows, use the "Add Row" button to the bottom right of the table. See below for instructions on how to complete the columns.

- Regulation: This should be the regulation under which the use of CEMS is mandated for the purpose of measuring greenhouse gases. Select from:
    - CFR 40 Part 75 – this refers to the US Code of Federal Regulations Title 40, Part 75 on Continuous Emission Monitoring, administered by the US Environmental Protection Agency
    - Other, please specify – if you select this option please provide the name of the regulation in the text box that appears
- % of emissions covered by the system: Report the percentage of your emissions that are covered under this regulation and for which you collect CEMS data.
- Compliance period: Please enter the compliance period that relates to the submitted data. Use the calendar button or enter dates manually in the format DD/MM/YYYY in the "From" and "To" fields. If the regulator accepts data at specific frequencies enter the relevant period, e.g. 1 April 2012 – 31 March 2013 for an annual process, 1 April 2012 – 30 September 2013 for a bi-annual process etc. If it is a continuous process enter the period under which you are reporting to CDP and for which you have appropriate documentation to show compliance during that period.
- Evidence of submission: Click on "Browse" to locate the appropriate file and then "Attach" to attach the document to the response. Please ensure that your attachment is under 5MB. If you have multiple documents for a single verification (e.g. if you have multiple facilities under one regulatory regime) you should attach these as a zip file. The document should provide evidence of the following:
    - That the date of data submission overlaps with the reporting period;
    - The regulation under which the CEMS data has been submitted;

- Acceptance of the data by the regulatory authority;
- That the data submitted includes GHG emissions.

CC8.7: Please indicate the verification/assurance status that applies to at least one of your reported Scope 2 emissions figures

Please respond to this question by selecting one of the options from the list below, which will available as a drop down menu in the ORS.

- No emissions data provided
- No third party verification or assurance
- Third party verification or assurance process in place

Note that this question applies to Scope 2 emissions only. If you operate in a region where you need to calculate both a location-based and a market-based figure to meet Scope 2 requirements, at this stage **CDP only requires for you to verify one of these figures**. However, in the interest of transparency, you are asked to disclose which of the two figures you have verified. If you are verifying your market-based Scope 2 emissions figure, and your verification engagements cover >70% of your Scope 2 activity, but less than 70% of your Scope 2 emissions, this will be acceptable for full points providing you attach the relevant statement.

CDP regards verification/assurance as a process undertaken by an independent third party accredited to perform verification/assurance of the GHG emissions data. Please only state that you have had or are having verification/assurance carried out if it is by an independent third party accredited to perform verification/assurance of the GHG data. If you have had a proportion of your Scope 2 emissions verified, please select the option that applies to these emissions; you will be given an opportunity in question CC8.7a to provide further details on this.

Note if verification/ assurance is underway, or part of a biennial or triennial process: It is recognized that for some companies, the verification/assurance schedule is out of synchronization with the CDP disclosure process and therefore it is difficult to complete the verification/assurance process before the CDP deadline. In addition, verification/assurance processes may occur every two years (biennial verification) or every three years (triennial verification). Where this is the case, you should select “Verification or assurance process in place” and provide further information on your situation in CC8.7a.

In the subsequent question companies will be asked to provide evidence of the third party verification that they select here. Companies are advised to verify that their evidence can demonstrate all of the requirements set by CDP before answering this question to confirm that their activities comply, e.g. by consulting with their verifier/assurer. Full details are provided in the guidance for question CC8.7a. If certain information requirements set by CDP are not available in the standard assurance statement provided by your verifier, CDP has produced a template that can be used in conjunction with the original assurance statement.

If you select “Verification or assurance process in place” you will be directed to questions CC8.7a.

If you select “No emissions data provided”, or “No third party verification or assurance” you will be directed to the next question, question CC8.8.

Please ensure that your attachment is under 5MB and is not password protected.

CC8.7a: Please provide further details of the verification/assurance undertaken for your location-based and/or market-based Scope 2 emissions, and attach the relevant statements

This question only appears if you have selected "Third party verification or assurance process in place" *in answer to question CC8.7.*

Please complete your response to this question in the table provided in the ORS and reproduced below. The information required should be available on your verification/assurance statement or, if verification/assurance is still underway, should be available from your verifier/assurer.

If you are reporting verification or assurance underway, your entries into the table should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year, with the exception of the statement.

CDP understands that you may seek verification for reasons other than reporting to CDP and that confidential information may be included within your detailed verification statement. In the event that this is the case, it is sufficient for your verifier/assurer to attest to the scope and level of assurance/verification through correspondence such as an abbreviated statement as long as this covers the minimum details required (see scoring methodology).

Location-based or market-based figure?	Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/ section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Select from: Location-based Market-based	Select from: Annual process Biennial process Triennial process	Select from: No verification or assurance of current reporting year First year it has taken place Underway but not complete for reporting year – previous statement of process attached Complete	Select from: Not applicable Limited assurance Moderate assurance Reasonable assurance High assurance Third party verification/ assurance underway	Attach your document here, see below for further details	Text box. Please see the guidance for this column below	Select from the options given below in the guidance to this column	Enter a numeric value from 1 to 100, using no commas and no decimal places

If you wish to complete multiple rows, use the "Add Row" button to the bottom right of the table. See below for instructions on how to complete the columns.

- Location-based or market-based figure: Please select whether you are verifying your location-based or market-based figure Scope 2 figure. For the 2017 Climate Change questionnaire, CDP only requires your company to verify one of your Scope 2 figures.
- Verification or assurance cycle in place: Please see guidance CC8.6a
- Status in the current reporting year: Please see guidance CC8.6a
- Type of verification or assurance: Select from one of the following options (see question CC8.6b for further guidance)
    - Not applicable
    - Limited assurance
    - Moderate assurance

- Reasonable assurance
- High assurance
- Third party verification/assurance underway

- Attach the statement: Use the browse and attach buttons to attach the relevant statement. See question CC8.6a for guidance. Please ensure that your attachment is under 5MB.
- Page/section reference: Please identify the page and the section that contains details of your verification/assurance of Scope 2 emissions. Use no more than 500 characters.
- Relevant standard: See CC8.6a for guidance. Note that some standards from CC8.6a are not listed among the options for CC8.7a because they are not applicable to Scope 2 verification/assurance.
- Proportion of reported Scope 2 emissions verified (%): It may be the case that only a sub-section of your emissions have been verified/assured due to, for example, regulatory requirements. Please identify what proportion of your total reported gross global Scope 2 emissions have been subject to the verification/assurance process described by entering the proportion of your Scope 2 emissions verified/assured using no decimals.

Please add rows to the table to report any verification practices that were in place during the reporting year that covered any parts of the reported GHG emissions.

If you have attained verification covering all your reported Scope 2 emissions (for example GHG emissions reported in your sustainability report) and also other verification covering smaller proportion of your business (for example only US operations or facilities in Europe) you should only report the verification in place covering all reported Scope 2 emissions.

If you have multiple verification practices covering different business divisions (for example US operations and facilities in Europe) you should report all of them by adding rows to the table, completing columns and attaching the appropriate documents for each verification practice.

Note that this question refers to the proportion of your total reported gross global Scope 2 emissions over which you have sought verification, not the sampling regime that the verifier employed. For example, if you have only sought verification over your US operations then you should report the percentage of your total reported gross global Scope 2 emissions that these US facilities represent. Alternatively, if you have sought organization wide verification, then you should enter 100%. If you have reported your full GHG inventory in your corporate communications material which has been verified, please enter 100%.

If you are reporting third party verification or assurance underway, your answer should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year.

CC8.8: Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Please respond to this question by completing the table in the ORS, reproduced below.

Additional data points verified	Comment
Select from: • Year on year change in emissions (Scope 1) • Year on year change in emissions (Scope 2) • Year on year change in emissions (Scope 1 and 2) • Year on year change in emissions (Scope 3) • Year on year emissions intensity figure • Financial or other base year data points used to set a science-based target • Progress against emissions reduction target	Text box (maximum 1500 characters)

• Change in Scope 1 emissions against a base year (not target related) • Change in Scope 2 emissions against a base year (not target related) • Change in Scope 3 emissions against a base year (not target related) • Product footprint verification • Emissions reduction activities • Renewable energy products • No additional data verified • Don't know • Other, please specify	

Use the "Add Row" button to the bottom right of the table to enter multiple rows.

CC8.8 aims to gain an understanding of what other additional data points companies are verifying. This question gives data-users further confidence of the information provided in the company's response.

CC8.9: Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Please respond to this question by selecting "Yes" or "No" from the drop down menu provided. If you select "Yes" you will be directed to question CC8.9a (below); if you select "No" you will move onto the next page of the questionnaire.

You should respond "Yes" to this question if carbon dioxide emissions from biologically sequestered carbon are relevant regardless of whether you have the data available to provide a total emissions figure (this is the subject of question CC8.9a below). In this context "relevant" is as defined in the GHG Protocol, meaning that it contains the information that users—both internal and external to the company—need for their decision making.

Companies should include carbon dioxide emissions from the combustion of biologically sequestered carbon (i.e. carbon dioxide emission from burning biomass/biofuels) and carbon dioxide emissions from fermentation. The GHG Protocol states that this must be reported separately from the three scopes.

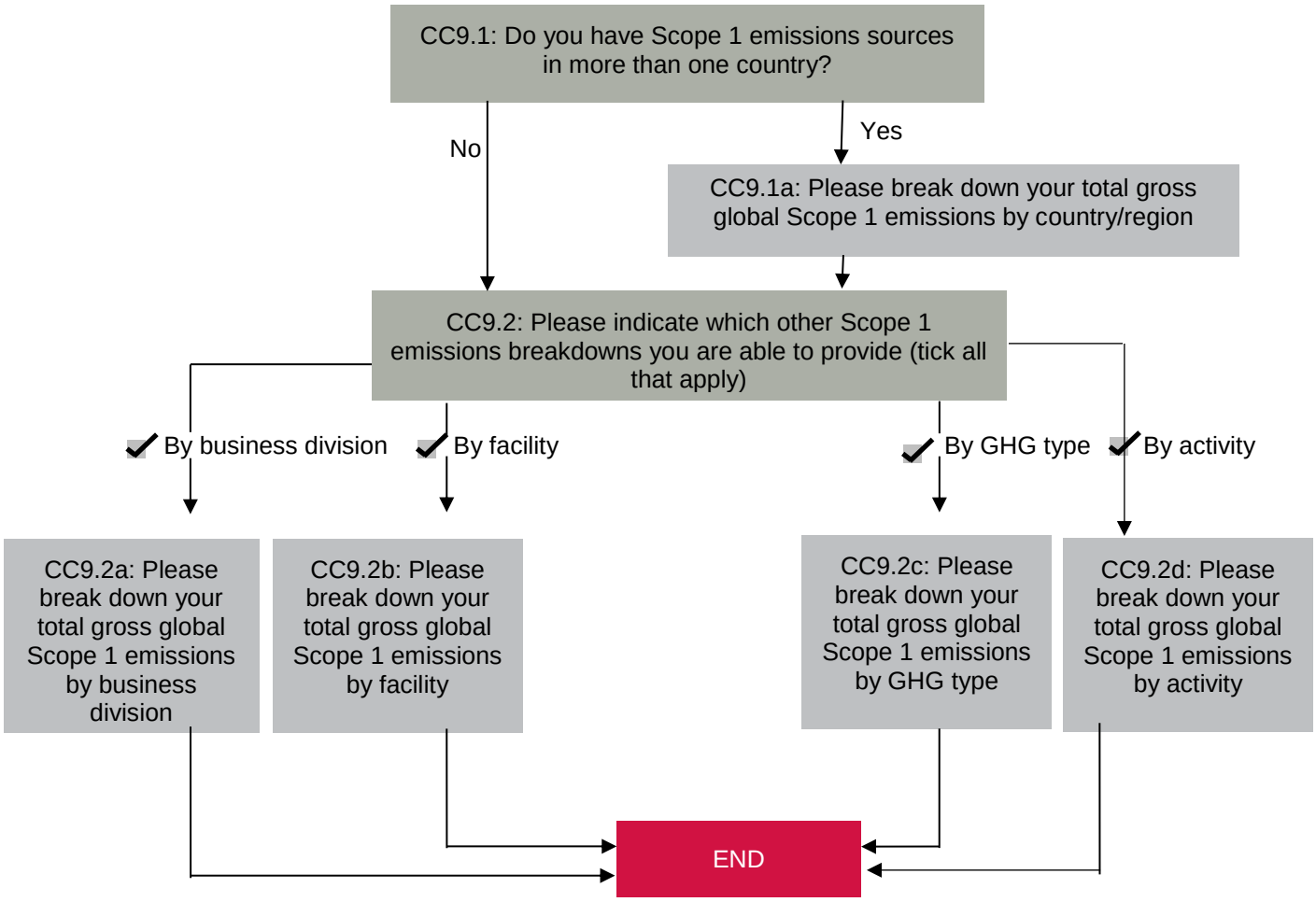
CC8.9a: Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

This question only appears if you answer "Yes" to question CC8.9 (see above).

Please enter your total emissions of CO2 from biologically sequestered carbon in the data field provided, using a value of no more than 99999999999 (without commas) and up to 2 decimal places. Please do not include other GHGs emitted from the combustion of biologically sequestered carbon or fermentation (e.g. nitrous oxide and methane are emitted from the combustion of biomass/biofuel). These should be reported within Scope 1, 2 or 3 (whichever is relevant to your company).

CC9. Scope 1 Emissions Breakdown

Question Pathway



General Guidance

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, questions CC9.1 and CC9.2, and column 1 in questions CC9.1a, CC9.2a, CC9.2b, CC9.2c, and CC9.2d on this page are eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page. For questions CC9.1a, CC9.2a, CC9.2b, CC9.2c, and CC9.2d, please note that the country/region, business division, facility, GHG type, and/or activity structure you supplied last year will be populated into column 1 but that you will need to manually enter the relevant emissions data for this year into the respective tables you have selected to copy from last year.

Specific Question Guidance

CC9.1: Do you have Scope 1 emissions sources in more than one country?

Please respond to this question by selecting “Yes” or “No” from the drop down menu provided in the ORS.

Please note that this question applies to Scope 1 emissions only.

If you select “Yes” you will be directed to question CC9.1a; if you select “No” you will continue on to question CC9.2.

CC9.1a: Please break down your total gross global Scope 1 emissions by country/region

This question only appears if you answer “Yes” to question CC9.1.

Please use the table provided in the ORS (and reproduced below) to give details of the countries/regions in which you operate and their Scope 1 emissions in metric tonnes CO2e.

Breaking down emissions to the level of country is useful to investors as this is often the level at which emissions-related legislation is introduced. Please note that, emissions should be attributed to individual countries wherever possible. Reporting country breakdown is considered best practice by CDP.

Where states (or other sub-national bodies) have the right to introduce emissions-related legislation, companies operating in these states (or other sub-national bodies) may consider that breaking down emissions to a sub-national level is more informative. A limited number of companies have made use in the past of the “Other: please specify” function that was previously available in this question to disclose emissions at sub-national level. These companies are invited to provide this breakdown as an attachment in further information, as this will no longer be possible in current system.

Where emissions are sufficiently small, or for parts of your business where your inventory does not allow a country level of granularity, use the available region options or the “Rest of world” option from the drop down menu to group emissions from a number of countries. Also, if your operations cannot be attributed to a single country you can use “International Waters” or “International Air Space”. Please see the Technical Note “Country Regions” for details around the available regions and their constituent countries.

If you disclose the value for a region that overlaps with a country you are also disclosing, you should report the value for the region minus the emissions of that country. This implies, that if all emissions breakdowns are added, they should add to your Scope 1 total.

For Electric Utility Sector Companies: Electric utilities may choose to direct data users and scorers to EU2 in response to this question. Do this by selecting "We are an Electric Utilities company – please see our response to EU2 instead of CC9.1a" from the drop down menu in column 1 and leave column 2 blank.

Country/Region	Scope 1 metric tonnes CO2e
Select from a drop down list of countries and regions. Please see the Technical Note "Country Regions" for details around the available regions and their constituent countries.	Enter the total Scope 1 emissions for that country or region in metric tonnes CO2e. This field accepts numbers up to 99999999999 (without commas) and up to 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

You can make multiple entries into the table, using the "Add row" button to the bottom right.
Please note that due to the difficulties of delineating Asia, CDP has not provided a single 'Asia' category. Companies may choose either Asia Middle East (AME) or Asia Pacific (or JAPA). Please see the Technical Note "Country Regions" for more information.

CC9.2: Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

You should identify those that are relevant to your business/sector and as such, investors would find interesting. Identify those that are relevant by ticking the boxes provided in the ORS adjacent to each of the four options – this will drive questions CC9.2a-e, where further details will be requested. The options available are:

- By business division
    - This figure can give an indication of the relative GHG performance of your company's divisions. When reported over time, your company and the information users will be able to review improvements or declines in division performance. This breakdown can be used alongside revenue segments found in company annual filings to understand companies' emissions profiles in greater detail. It is recommended that companies match the divisions reported here with those found in company filings and financial statements to facilitate this process.
- By facility
    - The GHG Protocol stationary combustion tool document states that a "*facility includes all buildings, equipment, structures and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person or entity (or by any person or entity which controls, is controlled by or is under common control, with such person or entity)*".
    - Facilities may also be referred to as installations. More than one business activity may take place at a facility and a facility may include more than one combustion unit, such as a boiler. It is preferable that the facility type is included. Some examples of facility type are: gas works, refinery, coal mine, integrated steelworks, cement plant, and office buildings.
    - Reporting at this level can provide a useful indicator for making comparisons between facilities. In some cases, individual facilities may come within the scope of particular legislation, requiring baselining and subsequent reduction of GHG emissions through improvements in energy efficiency. This is particularly the case for industrial plants. Therefore, providing facility-level emission figures may give data-users insight into your organization's current/potential exposure to regulation in this area.

- By GHG type
    - There are various types of greenhouse gases, but the Kyoto Protocol focuses on seven internationally recognized GHGs comprised of the following: Carbon dioxide (CO2); Methane (CH4); Nitrous oxide (N2O); Hydrofluorocarbons (HFCs) family of gases; Perfluorocarbons (PFCs) family of gases; Sulphur hexafluoride (SF6); and nitrogen trifluoride (NF3). NF3 is the most recent addition to this list as it is now considered a potent contributor to climate change and is therefore mandated to be included in national inventories under the United Nations Framework Convention on Climate Change (UNFCCC), and is also to be included in GHG inventories under the Greenhouse Gas Protocol Corporate Standard, and Corporate Value Chain (Scope 3) Standard. CDP closely aligns its reporting requirements with these organizations and requests that companies start reporting on NF3. (Note: emissions of GHGs within a "family" of gases should be summed). Only these gases are requested but companies can provide other GHGs if they want, using the "Other" option.
- By activity
    - Relevant activities should be defined by the reporting company but could include stationary combustion, mobile combustion (transport), fugitive emissions, process activities, office activities, etc. These activities can take place over multiple business divisions, countries or facilities. Reporting by activity allows a more in depth understanding of business risk to future regulation. To facilitate comparability of data between companies, you are asked report a breakdown of your activities using language that would be clear to someone outside of your organization and avoid using company-specific terminology. Furthermore, the level of aggregation of activities should be set so it is meaningful to investors or customers viewing your response. Each activity should be broken down to a level granular enough to provide a data user with a relevant and complete understanding of your company's activities and how these contribute to your emissions profile. Each activity should be broken down to a level sufficient for understanding the complete activity emissions profile and where further disaggregation would not add value for data users to understand the associated GHG emissions.
    - Integrated companies should attempt, where possible, to provide a breakdown of emissions associated with each stage of their owned value chain.
    - Any companies that generate their own electricity should include it here as a separate activity, preferably with separation by fuel type.
    - Companies involved in extracting and/or processing/refining natural resources should consider reporting these activities separately for each product type.

For Oil and Gas Sector Companies: Oil and gas sector companies are requested to provide breakdowns of Scope 1 emissions by value chain segment in question OG2.3 and by activity in question OG3.3 of the oil & gas module. You can direct data-users to the answers to these questions from column 1 of the tables below, identifying the relevant question in the sector module, and leaving column 2 blank.

For ICT sector companies: Companies responding to the ICT sector module can complete question CC9.2c by identifying their significant business activity areas in the ICT sector module and then responding to the subsequent questions on emissions for each relevant business activity. Companies responding in this way should redirect data users by referencing the ICT sector module in column 1 of the relevant table.

For FBT Companies: Companies responding to the FBT sector module can respond to question CC9.2c by reporting Scope 1 emissions from agricultural, processing and distribution activities in questions FBT1.3, FBT2.3a and FBT3.3a in the FBT module.

CC9.2a: Please break down your total gross global Scope 1 emissions by business division

This question only appears if you have ticked "By business division" in response to question CC9.2.

Please use the table provided in the ORS (and reproduced below) to complete your response.

Business division	Scope 1 emissions (metric tonnes CO2e)
Use this text field to enter the name of your business division	Enter the total Scope 1 emissions for that division, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Use the "Add Row" button to the bottom right of the table to enter multiple rows.

CC9.2b: Please break down your total gross global Scope 1 emissions by facility

This question only appears if you have ticked "By facility" in response to question CC9.2.

Please use the table provided in the ORS (and reproduced below) to complete your response.

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude
Use this text field to enter the name of your facility	Enter the total Scope 1 emissions for that facility, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.	Enter the latitude of your facility here using numbers between 90.000000 and -90.000000, e.g. 51.524810.	Enter the longitude of your facility using numbers between 180.000000 and -180.000000, e.g. -0.106958

Use the "Add Row" button to the bottom right of the table to enter multiple rows.

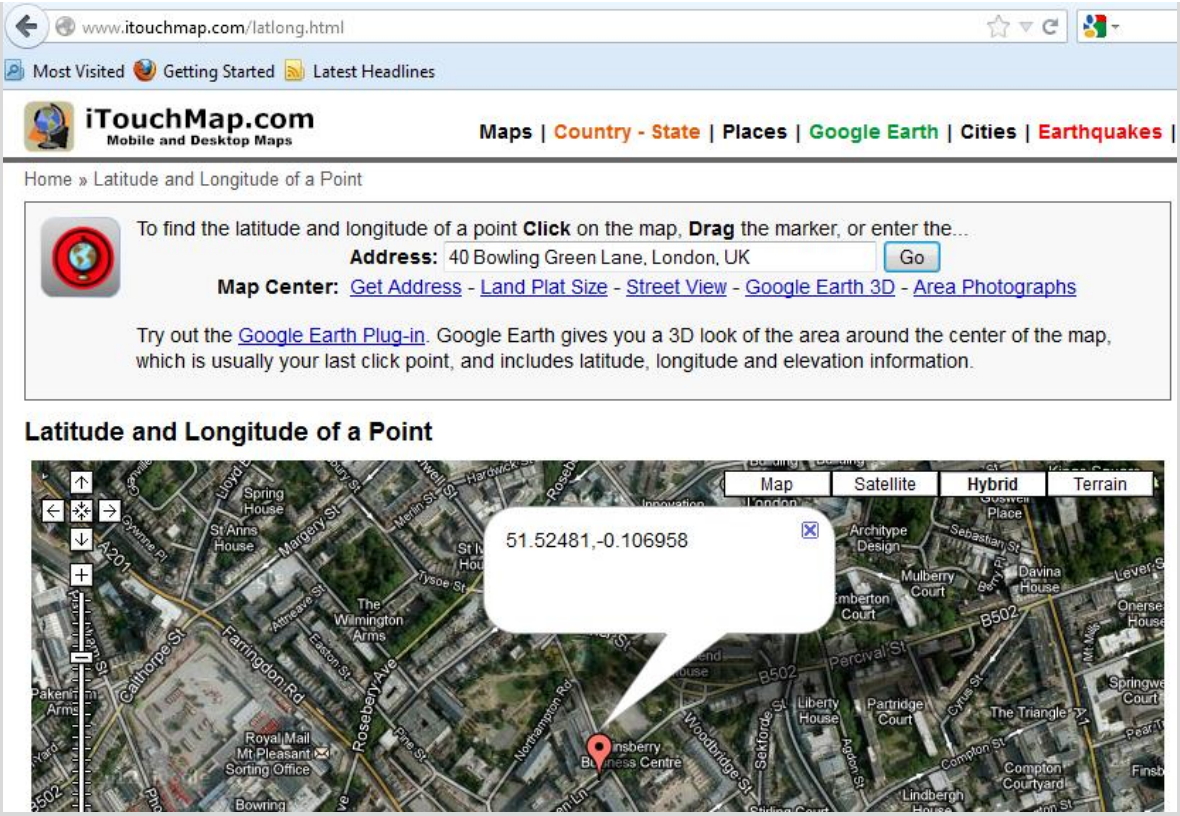
CDP now provides a place for companies to provide basic data for the geo-location of their facilities. Please be aware that this information will not be scored. This information will be useful to link CDP data with other sources of information and can be useful for investors trying to assess physical risks of climate change and exposure of assets. It will also be useful for CDP in order to link the information requested by investors to cities preparing their inventory for CDP. **Please see Box 27 for details on the latitude and longitude requirements**. If companies prefer, they can attach an Excel spreadsheet with location (longitude and latitude) data for their facilities at the bottom of the page.

Box 27: Latitude and Longitude

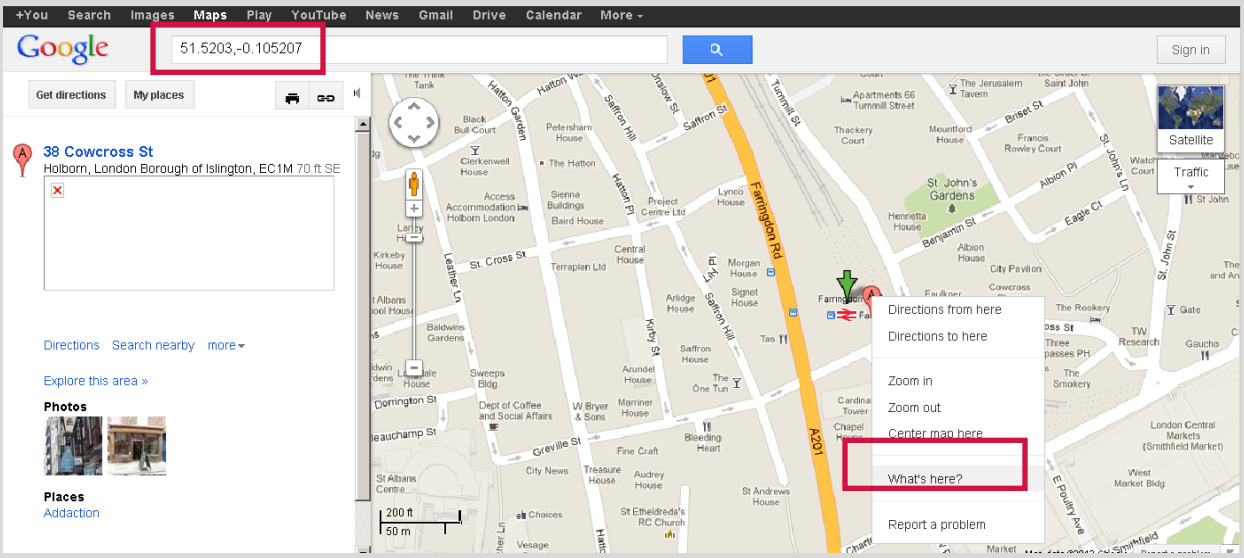
Latitude and longitude are geographic coordinates that specify, respectively, the north-south and east-west position, of a point on the Earth's surface. They are expressed as angular measures and thus, latitude can vary from +90 to -90 and longitude from 180 to -180.

The geodetic system that should be used is the WGS 84, which is the system used by GPS (Global Positioning System), Google maps, Google Earth and all major web applications providing coordinates to users. In case you want to report information to CDP but have the coordinates in another geodetic system (or datum) we ask you to please attach the information in "Further Information". Please ensure that your attachment is under 5MB.

In case you don't have this information and want to locate your facilities using the internet, there are various web tools available to assist companies getting latitude and longitude coordinates according to WGS84. For example, iTouch Map allows you to enter an address or identify a location on a map and will return the latitude and longitude coordinates.

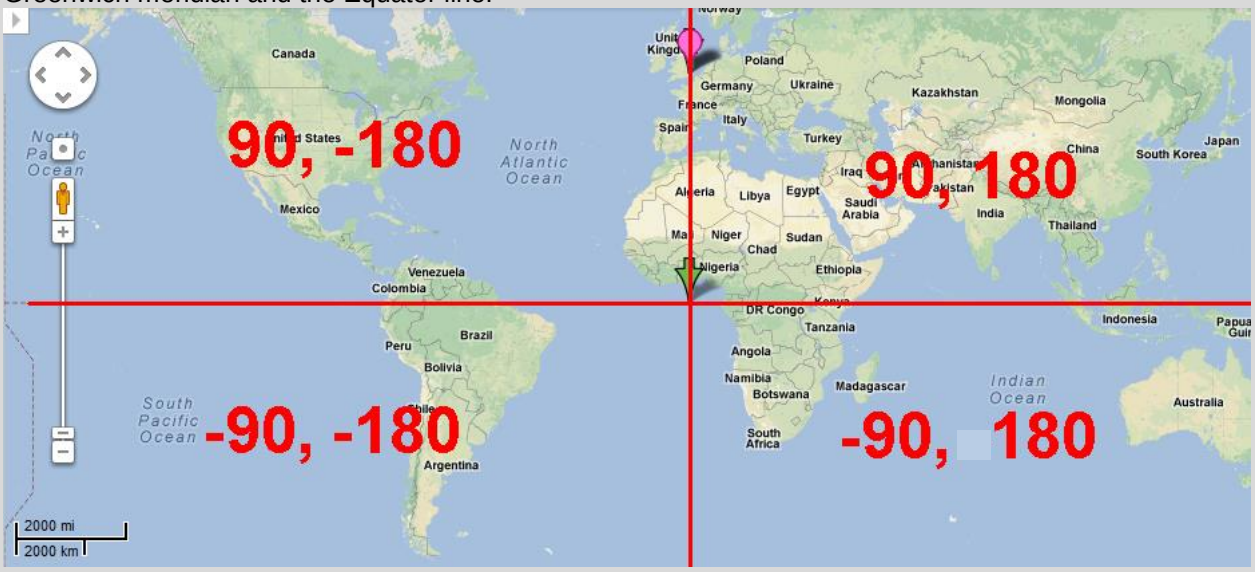


Google Maps also allows you to find the latitude and longitude of any point. When you are in Google Maps, if you right click your mouse in any place of the map, you will find an option “What’s here?”. If you click that option, the latitude and longitude will be displayed in the Google search bar.



In this example (Farringdon tube station, in London) the latitude would be 51.5203 and the longitude -0.105207. Please be aware that a negative value means a place west of the Greenwich Meridian and a positive value a place to the east.

You can find in the picture below how latitude and longitude vary according to the quadrants relative to Greenwich meridian and the Equator line.



CC9.2c: Please break down your total gross global Scope 1 emissions by GHG type

This question only appears if you have ticked "By GHG type" in response to question CC9.2.

Please use the table provided in the ORS (and reproduced below) to complete your response.

GHG type	Scope 1 emissions (metric tonnes CO2e)
Select from: CO2 CH4 N2O HFCs PFCs SF6 NF3 Other, please specify	Enter the total Scope 1 emissions for that GHG type, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Use the "Add Row" button to the bottom right of the table to enter multiple rows.

CC9.2d: Please break down your total gross global Scope 1 emissions by activity

This question only appears if you have ticked "By activity" in response to question CC9.2.

Please use the table provided in the ORS (and reproduced below) to complete your response.

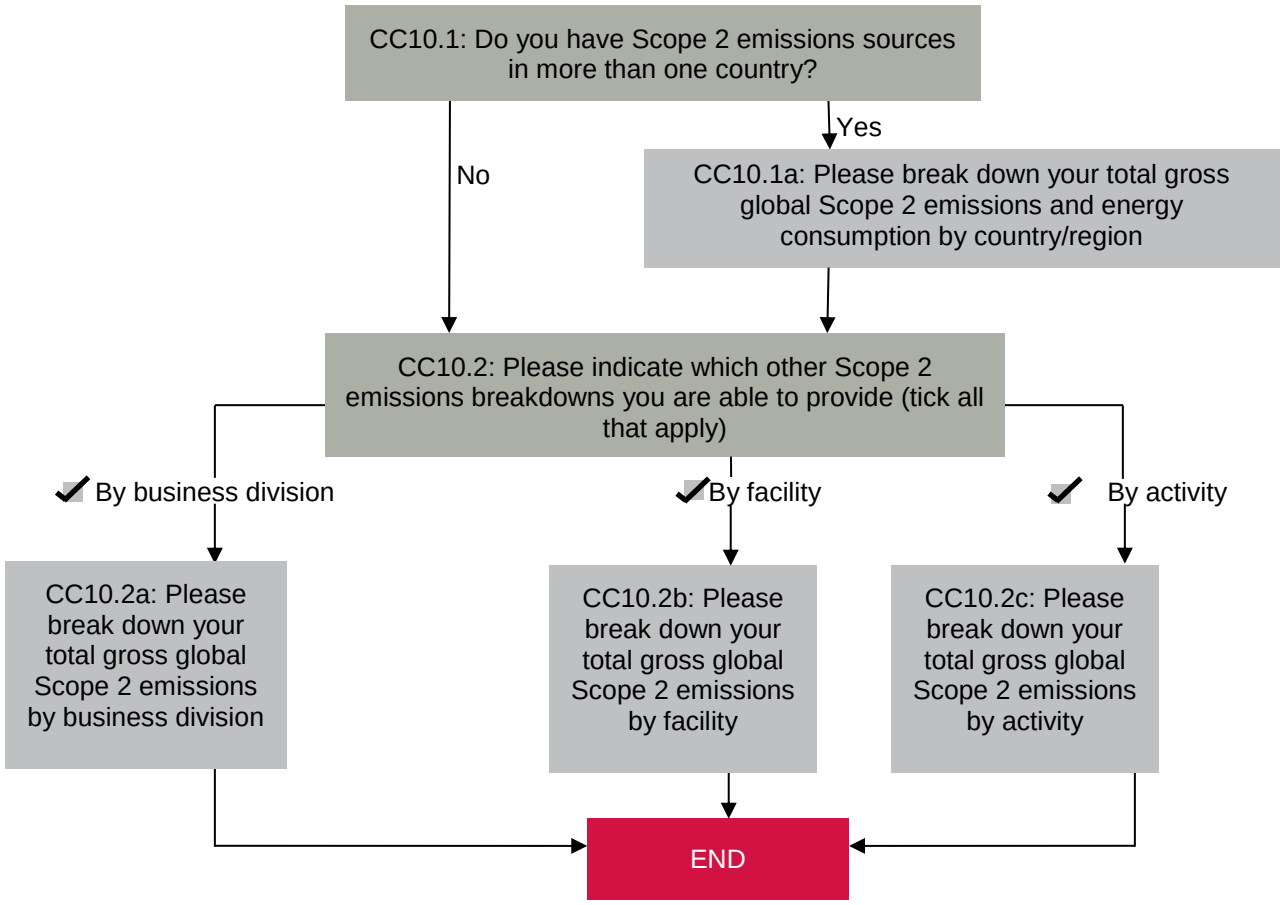
Activity	Scope 1 emissions (metric tonnes CO2e)
Use this text field to enter the name of your activity	Enter the total Scope 1 emissions for that activity, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Use the "Add Row" button to the bottom right of the table to enter multiple rows.

FBT companies can use the sector module to provide a breakdown of their emissions by activity

CC10. Scope 2 Emissions Breakdown

Question Pathway



General Guidance

Refer to Box 23 when calculating Scope 2 emissions.

Key Changes from 2016

There are no question changes on this page.

Pre-population

If you responded to CDP last year, question CC10.1 and CC10.2, and column 1 in questions CC10.1a, CC10.2a, CC10.2b, and CC10.2c on this page are eligible for pre-population. To take advantage of this function, click “copy from last year” prior to entering any data on the page. For questions CC10.1a, CC10.2a, CC10.2b, and CC10.2c please note that the country/region, business division, facility, and/or activity structure you supplied last year will be populated into column 1 but that you will need to manually enter the relevant emissions data for this year into the respective tables you have selected to copy from last year.

Specific Question Guidance

CC10.1: Do you have Scope 2 emissions sources in more than one country?

Please respond to this question by selecting “Yes” or “No” from the drop down menu provided in the ORS.

Please note that this question applies to Scope 2 emissions only.

If you select “Yes” you will be directed to question CC10.1a; if you select “No” you will continue on to question CC10.2.

CC10.1a: Please break down your total gross global Scope 2 emissions and energy consumption by country/region

This question only appears if you answer “Yes” to question CC10.1.

Please use the table provided in the ORS (and reproduced below) to give details of the countries/regions in which you operate and their Scope 2 emissions in metric tonnes CO2e.

Breaking down emissions to the level of country is useful to investors as this is a common source of legislation regarding GHGs.

Where emissions are sufficiently small, or for parts of your business where your inventory does not allow a country level of granularity, you can use one of the aggregated regions pre-defined by CDP. Also, if your operations cannot be attributed to a single country you can use “International Waters” or “International Air Space”. Please see the Technical Note “Country Regions” for details around the available regions and their constituent countries.

Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Country/Region	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Select from a drop down list of countries and regions. Please see the Technical Note “Country Regions”, for details around the available regions and their constituent countries.	Enter the total Scope 2 location-based emissions for that country or region in metric tonnes CO2e. This field accepts numbers up to 99999999999 (without commas) and up to 2 decimal places.	Enter the total Scope 2 market-based emissions for that country or region in metric tonnes CO2e. This field accepts numbers up to 99999999999 (without commas) and up to 2 decimal places.	Enter the amount of purchased and consumed electricity, heat, steam or cooling in MWh. This field accepts numbers up to 999999999999 (without commas) and up to 2 decimal places.	Enter the amount of purchased and consumed low carbon electricity, heat, steam or cooling in MWh. This field accepts numbers up to 999999999999 (without commas) and up to 2 decimal places.

You can make multiple entries into the table, using the “Add row” button to the bottom right.

The columns “Purchased and consumed electricity, heat, steam or cooling (MWh)” and “Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)” provide further transparency around companies accounting on Scope 2. “Purchased and consumed electricity, heat, steam or cooling (MWh)” relates to the total amount of energy consumed and that constitutes the “activity data” for your Scope 2 figure. Electricity consumed is usually the big portion of the emissions under Scope 2. However, if your company has also included purchased and consumed steam, heating and cooling, that activity data should also be reported in here.

"Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)" should be used to disclose the amounts of electricity (and heat, steam or cooling) that was accounted at a zero emission factor (0 metric tonnes CO2e/MWh) or that can be considered "low carbon" (**please see Box 28 for criteria on what to consider as "low carbon"**) and that are supported by appropriate tracking instruments (please refer to the Technical Note "Accounting of Scope 2 emissions" for criteria on what are considered "appropriate tracking instruments"). This means that any proportion of electricity (and heat, steam or cooling) that comes from renewable/low carbon sources and is incorporated into a distribution grid average/residual mix, and that is not backed by some kind of instrument retired by the company, or by someone on their behalf should not be counted.

Please note that it is logically expected that "Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)" will be a subset of "Purchased and consumed electricity, heat, steam or cooling (MWh)" that is, the former figure should be equal or lower than the later.

The reason for providing this information at the region/country breakdown is one of practical order. Scope 2 emissions from electricity are usually calculated using some type of country/regional level emission factors[2]. For countries like USA, Canada or Brazil where several grids can exist within a country and emission factors are calculated at state/sub-region, companies are welcome to provide further breakdown details in attachment, if they wish. Please notice that further disclosures related with the amounts accounted at zero, is required at the energy section, with the aim to provide full transparency on Scope 2 accounting claims.

Box 28: Low carbon energy

Unfortunately, there is no precise, generally accepted definition of what "low carbon energy" is. No definition is found in either the GHG Protocol standards or ISO. Nevertheless, it can be reasonably established that "low carbon energy" will be any type of energy that will have no direct emissions and which the indirect emissions can usually be considered as negligible considering the life cycle of the given technology. It is generally accepted as such power technologies like wind, solar, tidal, geothermal and most hydro power. Nuclear power is also usually considered low carbon, although other considerations make it a more contentious technology. Natural gas, combined cycle gas turbine and Combined Heat and Power (cogeneration), despite being less carbon intensive than other means of electricity production like coal, are not considered here in the definition of low carbon.

Certain jurisdictions might have electricity tracking instruments for all types of power, including technologies such as CHP, gas or coal. In this case (which is expected to occur exceptionally) companies can also disclose the use of those instruments in question CC11.4, but should not consider that power as low carbon for purpose of question CC10.1a, in accordance with the guidance given here on "low carbon energy".

CC10.2: Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

You should identify those that are relevant to your business/sector and as such, investors would find interesting. Identify those that are relevant by ticking the boxes provided in the ORS adjacent to each of the four options – this will drive questions CC10.2a-d, where further details will be requested.

The options available are:

- By business division

[2] E.g. the USA (one country) will have several distinct grids and typically companies report using eGRID sub-region emission factors. In Europe each country usually belongs to one single grid and the emission factor is calculated for the country, irrespective of the grid.

- This figure can give an indication of the relative GHG performance of your company's divisions. When reported over time, your company and the information users will be able to review improvements or declines in division performance. This breakdown can be used alongside revenue segments found in company annual filings to understand companies' emissions profiles in greater detail. It is recommended that companies match the divisions reported here with those found in company filings and financial statements to facilitate this process.

- By facility
  - The GHG Protocol stationary combustion tool document states that a "*facility includes all buildings, equipment, structures and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person or entity (or by any person or entity which controls, is controlled by or is under common control, with such person or entity)*".
  - Facilities may also be referred to as installations. More than one business activity may take place at a facility and a facility may include more than one combustion unit, such as a boiler.

  Reporting at this level can provide a useful indicator for making comparisons between facilities. In some cases, individual facilities may come within the scope of particular legislation, requiring baselining and subsequent reduction of GHG emissions through improvements in energy efficiency. This is particularly the case for industrial plants. Therefore, providing facility-level emission figures may give data-users insight into your organization's current/potential exposure to regulation in this area.
- By activity
  - Relevant activities should be defined by the reporting company but could include process activities, office activities etc. These activities can take place over multiple business divisions, countries or facilities. Reporting by activity allows a more in depth understanding of business risk to future regulation. To facilitate comparability of data between companies, you are asked report a breakdown of your activities using language that would be clear to someone outside of your organization and avoid using company-specific terminology. Furthermore, the level of aggregation of activities should be set so it is meaningful to investors or customers viewing your response. Each activity should be broken down to a level granular enough to provide a data user with a relevant and complete understanding of your company's activities and how these contribute to your emissions profile. Each activity should be broken down to a level sufficient for understanding the complete activity emissions profile and where further disaggregation would not add value for data users to understand the associated GHG emissions.

For Oil and Gas Sector Companies: Please provide a breakdown of Scope 2 emissions by value chain segment in question OG2.4 of the oil & gas module.

For ICT sector companies: Companies responding to the ICT sector module can complete question CC10.2c by identifying their significant business activity areas in the ICT sector module and then responding to the subsequent questions on emissions for each relevant business activity. Companies responding in this way should redirect data users by referencing the ICT sector module in column 1 of the relevant table.

CC10.2a: Please break down your total gross global Scope 2 emissions by business division

This question only appears if you have ticked "By business division" in response to questionCC10.2.

Please use the table provided in the ORS (and reproduced below) to complete your response. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Business division	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Use this text field to enter the name of your business division	Enter the total Scope 2, location-based emissions for that division, using numbers without commas, up to 99999999999 and 2 decimal places.	Enter the total Scope 2, market-based emissions for that division, using numbers without commas, up to 99999999999 and 2 decimal places.

Use the “Add Row” button to the bottom right of the table to enter multiple rows.

CC10.2b: Please break down your total gross global Scope 2 emissions by facility

This question only appears if you have ticked “By facility” in response to question CC10.2.

Please use the table provided in the ORS (and reproduced below) to complete your response.

Facility	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Use this text field to enter the name of your facility	Enter the total Scope 2, location-based emissions for that facility, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.	Enter the total Scope 2, market-based emissions for that facility, using numbers without commas, up to 99999999999 and 2 decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

Use the “Add Row” button to the bottom right of the table to enter multiple rows.

CC10.2c: Please break down your total gross global Scope 2 emissions by activity

This question only appears if you have ticked “By activity” in response to question CC10.2.

Please use the table provided in the ORS (and reproduced below) to complete your response. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.

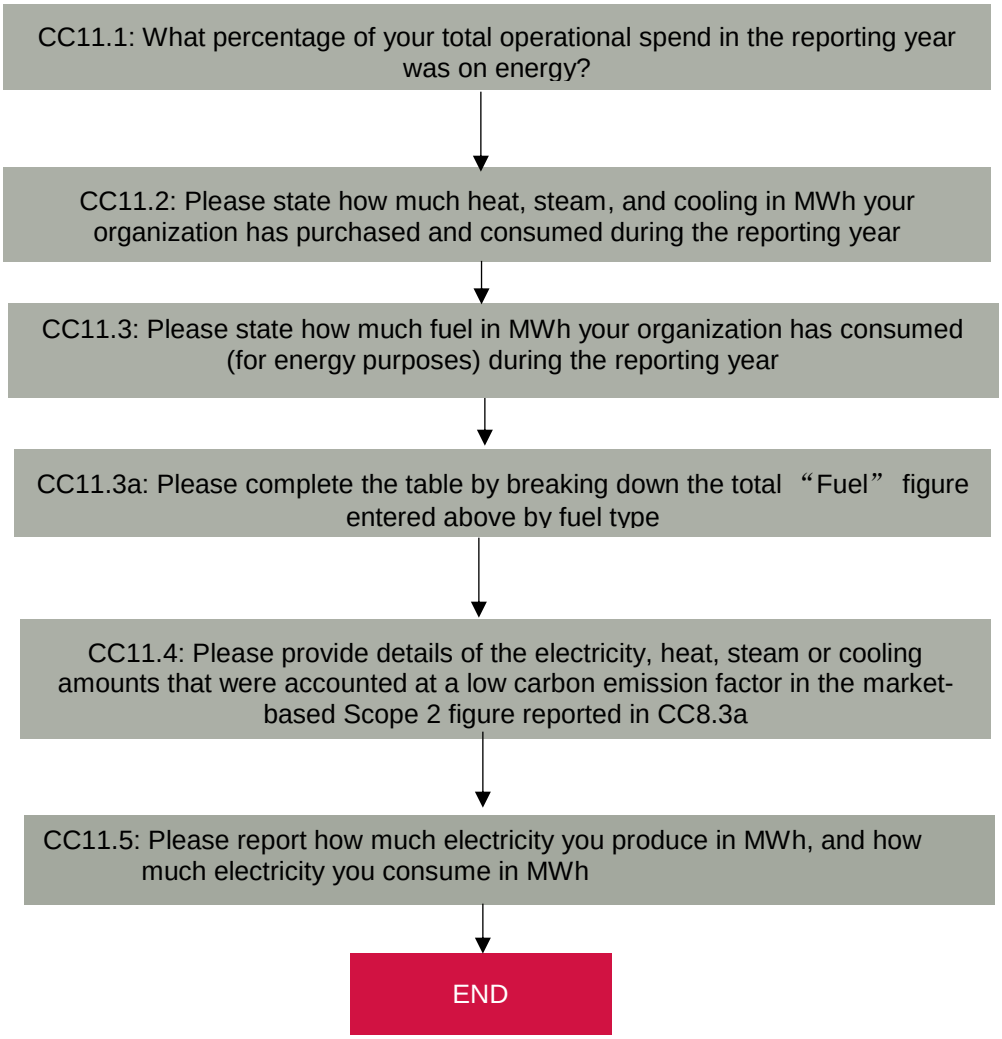
Activity	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)
Use this text field to enter the name of your activity	Enter the total Scope 2, location-based emissions for that activity, using numbers without commas, up to 99999999999 and 2 decimal places.	Enter the total Scope 2, market-based emissions for that activity, using numbers without commas, up to 99999999999 and 2 decimal places.

Use the “Add Row” button to the bottom right of the table to enter multiple rows.

For FBT Companies: Companies responding to the FBT sector module can respond to question CC10.2c by reporting Scope 2 emissions from agricultural, processing and distribution activities in questions FBT1.3a, FBT2.3a and FBT3.3a in the FBT module.

CC11. Energy

Question Pathway



General Guidance

The energy data provided in this section should be consistent with the organizational boundary (and any exclusions) defined in CC8 of the questionnaire.

Key Changes from 2016

- An additional column has been added to CC11.4. This column asks companies to disclose the emissions factor of the electricity calculated in a company’s market-based Scope 2 figure.

Pre-population

None of the questions on this page are eligible for pre-population if you responded last year.

Specific Question Guidance

CC11.1: What percentage of your total operational spend in the reporting year was on energy?

The aim of this question is to identify the degree to which your organization's activities are sensitive to energy costs and energy supply. For this purpose, the definition of "operational spend" should be the sum of the costs on energy for following two types of costs to the business:

- Cost of goods sold - also known as 'direct costs'. This generally refers to the raw material, energy and labor costs directly identified in the cost of the end product. These costs fluctuate and vary depending on the number or volume of goods sold; and
- Operating costs - also known as 'indirect costs' or 'overheads'. This generally refers to the essential expenses incurred in order to maintain the business including wages, rent, transport, energy (electricity, fuel, etc.), maintenance, and so on. These expenses cannot be attributed to the manufacture of a particular job or the provision of a particular service - they are standard costs that apply regardless of the volume of goods produced.

"Operational spend" should exclude extraordinary expenses - such as gains or losses on the sale of assets. The calculation should also exclude the cost of interest or taxes on profits.

Please respond to this question by selecting one the options provided below:

- 0%
- More than 0% but less than or equal to 5%
- More than 5% but less than or equal to 10%
- More than 10% but less than or equal to 15%
- More than 15% but less than or equal to 20%
- More than 20% but less than or equal to 25%
- More than 25% but less than or equal to 30%
- More than 30% but less than or equal to 35%
- More than 35% but less than or equal to 40%
- More than 40% but less than or equal to 45%
- More than 45% but less than or equal to 50%
- More than 50% but less than or equal to 55%
- More than 55% but less than or equal to 60%
- More than 60% but less than or equal to 65%
- More than 65% but less than or equal to 70%
- More than 70% but less than or equal to 75%
- More than 75% but less than or equal to 80%
- More than 80% but less than or equal to 85%
- More than 85% but less than or equal to 90%
- More than 90% but less than or equal to 95%
- More than 95% but less than or equal to 100%

Please ensure that the boundary used for calculating your operational spend is the same as that for your energy spend (i.e. it includes the same facilities, geographies etc.).

CC11.2: Please state how much heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Not all of the energy types requested – fuel (CC11.3), electricity (CC11.4-CC11.5), heat steam and cooling (CC11.2) – may be relevant to your company. You are requested to complete your response in the table provided in the ORS, as reproduced below. If you do not purchase and consume any of a particular energy type, then enter 0 (zero) into the 2nd column; if you purchase and consume that energy type but have not measured it, leave column 2 blank. Further information on the energy types specified, use of terminology related to "purchase and consumption" and the conversion to MWh is provided below.

GHG emissions are closely linked with energy consumption. Energy related activities represent, for many sectors, the most significant GHG emitting activity sources. Thus tracking GHG emissions together with energy consumption is of vital importance to understand the GHG emission profile of companies.

In this question, CDP aims to characterize the energy consumption profile of companies, in a way that closely matches with current GHG accounting guidelines, as proposed by the GHG protocol, and at the same time requiring minimal amounts of energy information from companies.

All energy should be accounted as "secondary energy" - this is, accounted by the energy content of the energy carriers that are effectively used – and should relate to consumption or purchase and consumption of the energy carrier. The distinction between "consumption" and "purchase and consumption" is an important one and deserves further explanation.

For Scope 1 emissions, a company will account all energy activities that lead to the consumption of fossil fuels for energy purposes, irrespectively of whether the company has bought the energy carrier (fuel oil, gas, etc.) or has produced it itself. Most importantly, it will account for the energy content at the point of its first transformation. This is, if a company burns natural gas to produce steam, it is clear that the consumption of energy is in the form of steam, however, what it should actually account for is for the energy content of the natural gas that it used to produce the steam. Only in this way, will the reporting of energy be consistent with the GHG Protocol, given that these emissions will be accounted as Scope 1. Likewise, this steam should not be accounted as a Scope 2 figure, since it is not "purchased and consumed steam", but simply "consumed steam".

Please note that if your company produced a given energy carrier (e.g. steam) and sells it to other companies, you should not account or report that energy carrier (steam) as consumed, but you should account for the emissions generated for its production (e.g. by burning natural gas) in your Scope 1 figure and the energy content of natural gas, as consumed fuel. If you wish to make comments about similar situations of transfer of energy carriers between companies, please do it in further information, or attach a document with further information. Please ensure that your attachment is under 5MB.

For Scope 2 emissions, the company will account for the amount of energy carriers (electricity, steam, heat, cool) that it has purchased and consumed (or wasted through losses). As with Scope 1 energy sources, it should account for the energy content of the carriers when they are bought, before any transformation and, in most cases, in accordance to billing information. This means that the following cases will not be accounted for in the energy figures provided in this question:

- Electricity consumed and generated from own sources either, for example, by using combined heat and power facilities or by renewable sources. In this case, this electricity is only consumed and is part of the energy intensity of the company, but is not bought and as such, should not be accounted under Scope 2.
- Electricity purchased and re-sold to others – in this case there is no effective consumption of the energy carrier which is passed to others, so no emissions should appear in the Scope 2 figures - besides any due to losses which will be considered equivalent to an involuntary consumption. Thus no energy reported.

CDP will be looking to strengthen the robustness of its energy-related concepts, in order to better establish the link between energy consumption and emissions. In CC11.4 and CC11.5 companies are asked to report their electricity consumption in MWh because this is the most common unit for measuring electricity. CDP also asks companies to report all other energy types - fuel combustion, and consumption of heat, steam and cooling- in MWh because it allows comparability between these different components, which in turn facilitates the analysis of the responses. So for instance, if a cement factory consumes 10,000,000 MWh of electricity and 500,000,000 MWh of primary energy for combustion purposes, by having these two measures in the same unit the two can be added up to produce a total energy consumption figure. The use of a common unit can also allow the comparison between different companies' energy consumption figures. For instance, if a similar installation generated its own electricity in a combined heat and power plant and the electricity consumed was also reported in MWh, this would be easily comparable with the cement factory's energy consumption figures.

Energy type	MWh
Heat	In this column enter the total energy figure for each energy type in MWh, up to 999999999999 without commas and up to two decimal places. Please state zero if you do not consume this energy type.
Steam	As above
Cooling	As above

Heat and steam: Heat and steam may be bought in British thermal units (Btu), joules (J), and therms, which can be converted to MWh using a calculation tool such as www.onlineconversion.com. Heat is also sometimes bought in kWh, making conversion to MWh straightforward.
Steam may also be bought in units of pounds. Conversion is more difficult as the energy content of the steam varies with temperature and pressure. We would refer organizations to The Climate Registry's General Reporting Protocol. Chapter 15, section 15.2, step 1 explains how to calculate the energy content of steam.

Cooling: This is frequently bought in refrigeration-ton hours. 1 ton-hour=12,000 Btu=0.003516 MWh.

CC11.3 Please state how much fuel in MWh your organization has consumed (for energy purposes) during the reporting year

You should respond by entering a total figure into the number field below the question. Answers should be no more than 999999999999 (without commas) and using no more than 2 decimals places. Negative numbers are not allowed. Your fuel consumption figure should be for the reporting year only. If you do not have a fuel consumption figure, you should leave the question blank. Putting in zero would suggest that you have measured your fuel consumption and that it is zero.

If your organization produces fuel, then you will likely use some of this fuel to meet your own needs either in your core operations (e.g. using this fuel to generate electricity for sale) or in ancillary operations (e.g. for use in on site buildings or vehicles). This question pertains to purchased and self-produced fuels that your organization has used. Please add the figures to generate a total figure for consumed fuel.

Fuel can be measured, for example, in terms of:

- Energy content: kilojoules (KJ), British thermal units (Btu), or therms;
- Volume: m^3 or liters; and
- Mass: metric tonnes or short tons

CDP requires fuel inputs to be standardized to megawatt hours (MWh), which is commonly used for measuring electricity consumption. More guidance is available in the following Technical Notes: "Conversion of fuel data to MWh" and "Fuel Definitions" . If you do not have exact consumption data, you may alternatively estimate your company's consumption by reviewing fuel and energy purchasing orders.

CC11.3a: Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Please enter your response to this question in the table provided in the ORS and reproduced below.

Fuels	MWh
Select from: No fuel consumed; Anthracite; Asphalt/ bitumen; Aviation gasoline; Biodiesels; Biogas; Biogasoline; Bituminous coal; BKB; Blast furnace gas; Brown coal; Brown coal briquettes; Butane; Charcoal; Coke breeze; Coke oven coke; Coke oven gas; Coking coal; Crude oil; Diesel/Gas oil; Distillate fuel oil No 1; Distillate fuel oil No 2; Distillate fuel oil No 3; Distillate fuel oil No 4; Distillate fuel oil No 5; Distillate fuel oil No 6; Ethane; Gas works gas; Jet gasoline; Jet kerosene; Kerosene; Landfill gas; Lignite; Lignite coke; Liquefied Natural Gas (LNG); Liquefied petroleum gas (LPG); Lubricants; Metallurgical coke; Methane; Motor gasoline; Municipal waste; Naphtha; Natural gas; Oil shale and bitumen (oil sands); Orimulsion; Oxygen steel furnace gas; Patent fuel; Peat; Petroleum coke; Pitch; Propane; Refinery feedstocks; Refinery gas; Refuse-derived fuel; Residual fuel oil; Semi-coke; Shale oil; Sludge gas; Sub bituminous coal; Sulphite lyes (Black liquor); Tar; Town gas or city gas; Turpentine; Vegetable oils; Waste oils; Waste plastics; Waste tire derived fuels; Waxes; White spirit/ SBP; Wood or wood waste; Other, please specify	In this column enter the total figure for each fuel type in MWh, up to 999999999999 without commas and up to two decimal places

To add more rows to the table, please use the "Add Row" button to the bottom right.

If a fuel is not listed, please select the "Other, please specify" option and provide the name of fuel. Additionally, all fuels (with definitions) are available in the Technical Note "Fuel definitions". This list comprises those fuels given in the GHG Protocol Stationary Combustion Tool and other fuels common to mobile combustion.

CC11.4: Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the market-based Scope 2 figure reported in CC8.3a

Please enter your response to this question in the table provided in the ORS and reproduced below.

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor (in units of metric tonnes CO2e per MWh)	Comment
Select from: • No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor • Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company • Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), supported by energy attribute certificates • Direct procurement contract with a grid-connected generator or	In this column enter the total figure for each low carbon basis, up to 999999999999 without commas and up to two decimal places	In this column enter the emissions factor, up to 99999 without commas and up to six decimal places	Use no more than 2400 characters in each line.

Power Purchase Agreement (PPA), where electricity attribute certificates do not exist or are not required for a usage claim • Contract with suppliers or utilities, supported by energy attribute certificates • Contract with suppliers or utilities, with a supplier-specific emission rate, not backed by electricity attribute certificates • Energy attribute certificates, Guarantees of Origin • Energy attribute certificates, Renewable Energy Certificates (RECs) • Energy attribute certificates, I-RECs • Other (specify in Comment column)			

Use the “Add Row” button to the bottom right of the table to enter multiple rows.

Data on purchased electricity can readily be converted into MWh from kWh or GWh:

- 1000 kWh = 1 MWh - to convert from kWh to MWh, divide the figure by 1000;
- 1 GWh = 1000 MWh - to convert from GWh to MWh, multiply the figure by 1000.

With this question, CDP aims to provide full transparency on accounting of renewable or low carbon electricity practices by companies, while keeping data at a fairly aggregate level in order not to increase the reporting burden. The question documents the reasons/cases that have led companies to account electricity (heat, steam and cooling) as zero or low carbon energy.

The first column “Scope 2 accounting case” captures the most common cases in real practice and that lead companies to account electricity (heat, steam and cooling) at a zero emission rate. The meaning of each of the values is as follows:

- No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor: If your company doesn’t purchase specifically low carbon electricity (or heat, steam and cooling) and just sources them from the grid.

- Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company: This is the direct transfer of power from a generation facility that is off-grid and where consumption of power by the company happens with no grid transfers. The emissions factor of the source (the off-grid power generator) is to be used for calculation.

- Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), supported by energy attribute certificates: In direct procurement, a contract is signed between the company consuming the energy and a power producer. The contract ensures the purchase of electricity generated by a specific project and delivered through the local grid. Physical Power Purchase Agreements (PPAs), tied to renewable capacity, can be a form of contract of this kind that defines revenue for the electricity delivered by the project, the schedule for the delivery of electricity and other terms. In this case the company retains or retires energy attribute certificates generated by the power producer that is the other party in this contract.

- Direct procurement contract with a grid-connected generator or Power Purchase Agreement (PPA), where electricity attribute certificates do not exist or are not required for a usage claim: In direct procurement, a contract is signed between the company consuming the energy and a power producer. The contract ensures the purchase of electricity generated by a specific project and delivered through the local grid. Physical Power Purchase Agreements (PPAs), tied to renewable capacity, can be a form of contract of this kind that defines revenue for the electricity delivered by the project, the schedule for the delivery of electricity and other terms. In this case, attribute certificates do not exist, or they are not created or sold, or they exist but are not applicable to the fuel/technology represented by the contracts (e.g. for fossil-fuel contracts in the U.S.). In this case, contracts that specify attributes can still be a valid contractual instrument. If the purchase if from on-site generation that is owned or operated by a 3rd party and certificates are not created or sold, then that still counts as a supply-specific factor.

- Contract with suppliers or utilities, supported by energy attribute certificates: In this case the power consumer signs a contract with power suppliers or utility companies to buy a specific power tariff or electricity product that blends electricity (or other forms of energy) with electricity attribute certificates or other contractual instruments with the power generating facilities. The company buys the blend as a unique product and does not deal directly with any of the issues related with the certificates. The emission factor is based fully on attribute tracking certificates or other contractual instruments for attribute trading.

- Contract with suppliers or utilities, with a supplier-specific emission rate, not backed by electricity attribute certificates: In this case the power consumer signs a contract with power suppliers or utility companies to buy a specific power tariff or electricity product that blends electricity (or other forms of energy) with electricity from low carbon sources. Supplier specific, including electricity tariffs or products, not backed by instruments: In the case the emission factor that has been provided by suppliers is not supported by attribute tracking certificates or other contractual instruments for attribute trading.

- Energy attribute certificates, Guarantees of Origin: In this case the company buys energy attribute certificates, also known as electricity tracking instruments, through its supplier or other intermediaries, either bundled or as a separate stream from its electricity. The sources are not owned by the company and they generate instruments in accordance with the European Guarantee of Origin system.

- Energy attribute certificates, Renewable Energy Certificates (RECs): In this case the company buys energy attribute certificates, also known as electricity tracking instruments, through its supplier or other intermediaries, as a separate stream from its electricity. The sources are not owned by the company and they generate instruments in accordance with the USA Renewable Energy Certificate (REC) system.

- Energy attribute certificates, International REC Standard (I-REC): In this case the company buys instruments through its supplier or other intermediaries, as a separate stream from its electricity. The sources are not owned by the company and they generate and track electricity instruments in accordance with the International REC Standard (I-REC). I-REC is intended for countries without an existing or reliable energy attribute tracking certificates outside the US, EU/EEA, or Australia.

- Other: Any other instruments not mentioned above and that have been used by the user to account for electricity, heat, steam or cooling at a zero emission factor. In Scope 2 emissions accounting, instruments must comply with the Scope 2 Quality Criteria of the GHG Protocol Scope 2 guidance 2015.

The second column “MWh consumed associated with low carbon electricity, heat, steam or cooling)” asks you to quantify how much electricity, heat, steam or cooling (in MWh) has been used that corresponds to the case selected in column 1.

The third column “Emissions factor (in units of metric tonnes CO2e per MWh)” asks you to provide the emissions factor associated with the answer provided in the first column, in units of metric tonnes CO2e per MWh. In many cases the answer to this column will be zero (i.e. 0 metric tonnes CO2e/MWh). However, if you are using an emissions factor that is lower than the grid average, but greater than zero, it can be reported here. One example of this occurring would be when a company has a contract with a supplier where the blend of electricity may have a high proportion of renewables mixed with a small amount of fossil fuels. In this case, the supplier specific emissions factor would not be zero, but could still be possibly lower than the grid average factor.

The fourth column “Comment” provides you with the ability to provide some accompanying narrative to your disclosure. For example, you can include here any other relevant information about the low carbon electricity you have used in each of the cases, for instance the type of low carbon electricity source (wind, solar, biomass, hydro, geothermal, etc.) or any particular information related to eligibility criteria for that source that might be particularly relevant for your company policy or your company.

A worked example of green power accounting can be found in Box 29 and further examples are given in the Technical Note “Accounting of Scope 2 emissions”. You can also find there a discussion on the role of eligibility criteria in the selection of renewable energy tracking instruments and CDP’s recommendation on their use.

Box 29: A worked example of green power accounting

Question CC11.4 provides further transparency to data reported in question CC10.1a. A worked example, below, shows how the two questions are linked and should be completed.

In question CC10.1a:

Country	Scope 2, location-based (metric tonnes CO2e)	Scope 2, market-based (metric tonnes CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling (MWh)
United States of America	190000	0	350000	35000
Canada	10000	10000	80000	0
United Kingdom	30000	30000	70000	0
Turkey	500	0	10000	10000

For the amounts of electricity, heat, steam and cooling identified in column 4 of 10.1a further details are provided in question 11.4:

Basis for applying a low carbon emission factor	MWh consumed associated with low carbon electricity, heat, steam or cooling	Emissions factor	Comments
Tracking instruments, I-RECs	10000	0	Our operations in Turkey have purchased I-REC's to cover their entire electricity consumption during the reporting year.
Tracking instruments, RECs (North America)	35000	0	Our operations in USA have purchased REC's to cover part of the electricity consumption during the period. All RECs are Green-e certified.

Please note that if renewable energy has been accounted for in question CC12.1, question CC11.4 must have been completed. Please note that in order for CC11.4 to be fully scored, both CC11.2 & CC11.5 must be fully completed.

CC11.5: Please report how much electricity you produce in MWh, and how much electricity you consume in MWh

Please enter your response to this question in the table provided in the ORS and reproduced below.

Total electricity consumed (MWh)	Consumed electricity that is purchased (MWh)	Total electricity produced (MWh)	Total renewable electricity produced (MWh)	Consumed renewable electricity that is produced by company (MWh)	Comment

CC11.5 provides transparency on accounting of all electricity practices by companies, while keeping data at a fairly aggregate level, in order to limit the reporting burden. As electricity becomes more decentralized, and companies approach their electricity consumption using different means, it is becoming increasing significant that companies be transparent about their electricity profile including their renewable energy consumption and production.

Guidance on responding to each of the columns is provided below:

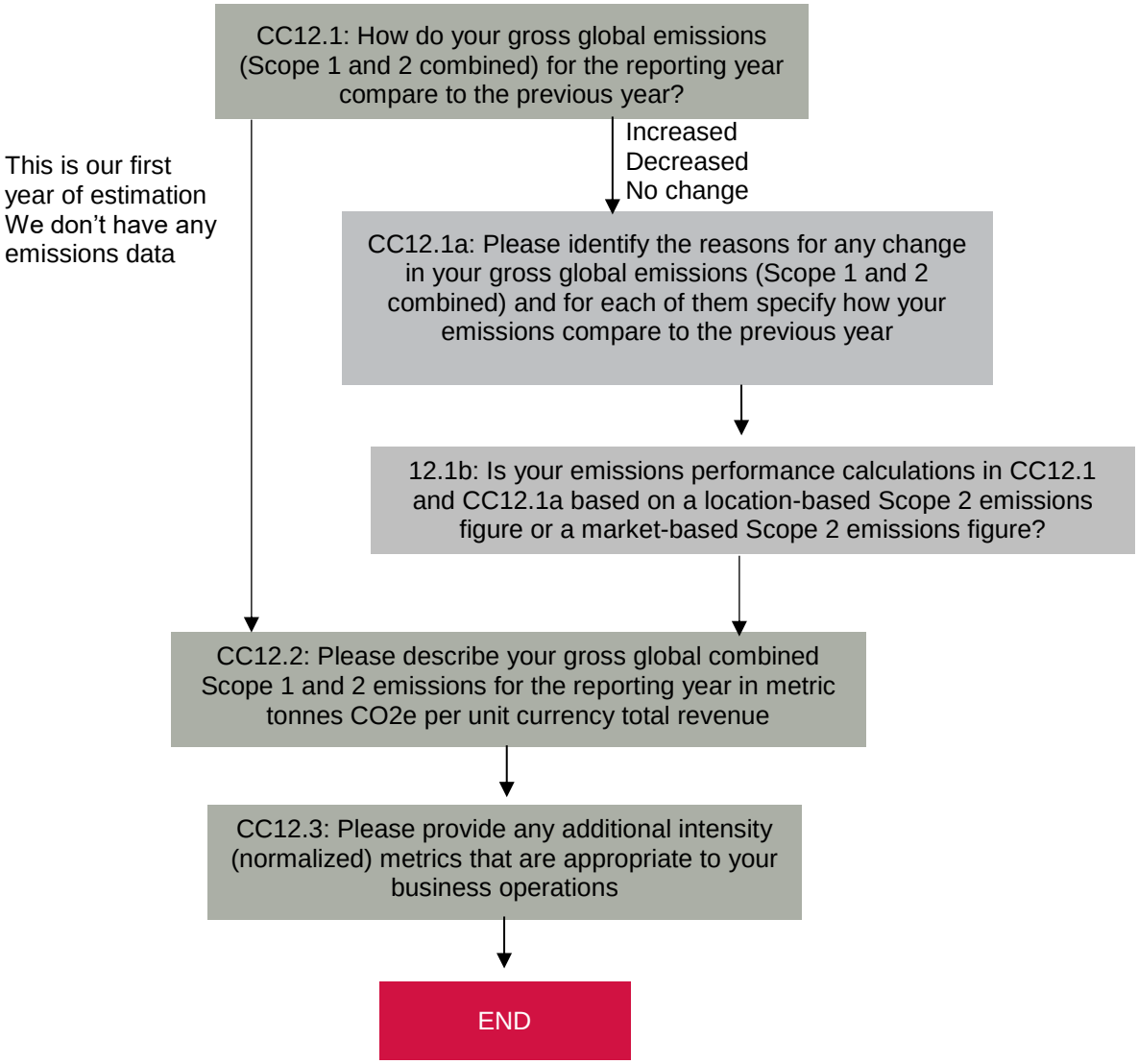
- Total electricity consumed (MWh)
    - Please enter the amount of electricity consumed during the reporting year. This includes both the electricity you purchased and consumed, and the amount you produced and consumed. Values can be entered up to 999999999999 with two decimal places.
- Consumed electricity that is purchased (MWh)

- Please enter the amount of electricity purchased and consumed during the reporting year. This value is a subset of the number you calculated in the first column in CC11.5. You should include purchased and consumed electricity from both renewable/low carbon and non-renewable/non-low carbon sources. Values can be entered up to 999999999999 with two decimal places.

- Total electricity produced (MWh)
    - Please enter the amount of electricity produced by facilities or installations owned and operated by your company during the reporting year. This includes both the electricity you produced from both renewable/low carbon and non-renewables/non-low carbon sources. In this figure, please also include the electricity that you produced and did not consume, as well as the amount you did consume. Values can be entered up to 999999999999 with two decimal places.
- Total renewable electricity produced (MWh)
    - Please enter the amount of renewable electricity produced by facilities or installations owned and operated by your company during the reporting year. This value is a subset of the number you calculated in the third column in CC11.5 In this figure, please also include the electricity that you produced and did not consume, as well as the amount you did consume. Values can be entered up to 999999999999 with two decimal places.
- Consumed renewable electricity that is produced by company (MWh)
    - Please enter the amount of renewable electricity consumed during the reporting year that was also produced by facilities or installations owned and operated by your company. This value is a subset of the number you calculated in the third column in CC11.5 Values can be entered up to 999999999999 with two decimal places.
- Comment
    - This is an open text field, with a character limit of 1500 characters. You can use this column to provide any context that you think is relevant.

CC12. Emissions Performance

Question Pathway



General Guidance

Key Changes from 2016

- There are no changes for 2017.

Pre-population

None of the questions on this page are eligible for pre-population if you responded last year.

Specific Question Guidance

CC12.1: How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

This question requires you to select the option from the drop down menu that best describes how your combined Scope 1+2 emissions have changed compared with the previous year.

The change in emissions can be calculated using the following formula:

Total gross Scope 1+2 emissions for the current reporting year – previous year's total gross Scope 1+2 emissions = total change in emissions

If the resulting figure is negative, then your company's overall emissions decreased compared to the previous year. If the resulting figure is positive, overall emissions have increased compared to the previous year. If the resulting figure is equal to zero, overall emissions have not changed compared to the previous year.

In this context your Scope 1 emissions are the figure supplied in response to question CC8.2, and your Scope 2 emissions are the figure supplied in response to question CC8.3a. Even if your inventory base year is the previous year, you should still complete this question. If the previous year's figures have been restated, please refer to this technical note on whether to use the emissions figures originally reported to CDP or the restated figures for the calculation. **The previous year compared should apply to the 12-month period directly prior to the reporting period, even if it does not completely overlap with the period previously reported to CDP.**

The drop down menu options available are:

- Increased
- Decreased
- No change
- This is our first year of estimation
- We don't have any emissions data

If you select "Increased", "Decreased" or "No change" you will be directed to question CC12.1a (below); if you select any other option you will proceed to the next question (question CC12.2).

CC12.1a: Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

This question only appears if you answer "Increased", "Decreased" or "No change" in response to question CC12.1.

Please answer this question by categorizing the changes that have occurred in your emissions, using the table provided in the ORS and reproduced below. You are asked to break down all the different factors that have influenced your overall change in Scope 1+2 emissions, either positively or negatively. You are asked to break down all these different factors, describe them each in a separate row, and provide the value for the change in overall emissions that is attributed to each of the factors.

Please note that even if companies have experienced no change overall or an increase in absolute emissions for Scopes 1 and 2, CDP still wants companies to disclose reduction activities. In the unlikely event that companies have genuinely not experienced any change in any of the categories, they should complete the row "Other", specifying "No change" in the text box provided and then enter 0 in column 2 and either of the options from column 3 (to ensure that they are not penalized on disclosure scoring). Emission reduction activities could arise from a number of different sources including reductions in energy consumption or lower emission equipment/processes. If your emissions have changed compared to the previous reporting year due to several emissions reduction activities, you should aggregate the emissions change that occurred due to these activities and provide this information in one row in CC12.1a. However, different reasons for change should be completed in separate rows and not aggregated in response to this question.

Guidance on completing each of the rows and columns is provided below the table.

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Emissions reduction activities			
Divestment			
Acquisitions			
Mergers			
Change in output			
Change in methodology			
Change in boundary			
Change in physical operating conditions			
Unidentified			
Other			

Reason: This column is fixed however if a row does not apply to you, for example your company did not experience any mergers or acquisitions during the reporting year, then please leave the row blank. Further details on each of the options is provided below:

- Emissions reduction activities
    - This refers to changes in emissions that have occurred as a result of proactive emissions reduction initiatives or activities, such as those detailed in response to question CC3.3. Note that due to the change in accounting practices around Scope 2 and low carbon energy, companies may see their Scope 2 emissions decrease. Where this is due to the change in accounting, only this should be reported under "Change in methodology" (see below). Where companies have increased the amount of low carbon energy purchased on a year on year basis they can report that here.
    - In cases where you have purchased renewable energy, you may include them as an emissions reduction activity in this row. This is on the provision that you have accounted for those renewable energy purchases in your market-based Scope 2 figure reported in CC8.3a and the purchases reported here were additional purchases in the reporting year. **Please see Box 23 for more information on how renewable energy can be accounted in your Scope 2 figure**. Please note that CDP focuses on gross emissions. Gross means total emissions before any deductions or other adjustments are made to take account of offset credits, avoided emissions from the use of goods and services and/or reductions attributable to the sequestration or transfer of GHGs.

- Divestment
    - This refers to changes that occur as a result of divestment of certain aspects of the businesses.
- Acquisitions
    - This refers to changes that occur as a result of acquiring another company/subsidiary/facility.
- Mergers
    - This refers to changes that occur as a result of business mergers.
- Change in output
    - This refers to changes that occur as a result of changes (increases or decreases) in your business output (i.e. a product or service); this could be, for example, organic growth, declines in sales due to the global recession, or release of a new product.
- Change in methodology
    - This refers to changes that occur due to alterations in the way that the inventory is calculated, for example changes in emissions factors used or changes in methodology protocol followed. Companies that have amended their Scope 2 emissions figure as a result of the changes in Scope 2 accounting practices for low carbon energy should report that here.
- Change in boundary
    - This refers to changes in the boundary used for your inventory calculation, i.e. changing from financial control to operational control. This option could also apply if you have incorporated facilities into your inventory that were excluded in previous years.
- Change in physical operating conditions
    - This refers to changes in weather that have a significant influence on how the company operates, but that cannot be accounted for under the other options available, e.g. increase production of hydroelectricity because of increased rainfall.
- Unidentified
    - Complete this row if you are not able to identify the reason for the change in emissions from year to year.
- Other
    - Complete this row if there is an alternative reason(s) for the change. Where you have used this option, please provide details of the reason(s) for the change in the comment column.
- **Emissions value (percentage)**
    - Enter the change in emissions attributed to the reason (factor) provided in column 1 as a percentage of the Scope 1 and 2 combined emissions. This value should not be greater than 999 and should not have more than two decimal places. There is no need to enter the % symbol. This value should be calculated as follows:

$$\left[\frac{\text{Change in Scope 1+2 emissions attributed to the reason described in column 1}}{\text{Previous year Scope 1+2 emissions}}\right] \text{x } 100$$

See worked example in Box 30 for additional guidance.

- **Direction of change:** Select from
    - Increase
    - Decrease
    - No change
- **Please explain and include calculation:** If the first row has an emissions value, then please present the figures that were used in the calculation for the figure in the 'emissions value %' column. **Please see Box 30 for further guidance on CC12.1a**. You may also use this text box to provide any additional explanation that is relevant to capture the full complexity of the emissions changes, using no more than 2400 characters.

Electric Utility Companies

Variations in emissions may be attributable to changes in capacity (that translated into changes in output), plant outages (which can also translate into changes in output) and weather events (changes in physical operating conditions). If so, this should be included in your answer to 12.1a. You can specify the specific drivers (e.g. changes in output due to the utilization of additional capacity coming in operation) in the comment box.

12.1b: Is your emissions performance calculations in CC12.1 and CC12.1a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

This question only appears if you answer "Increased", "Decreased" or "No change" in response to question CC12.1.

- Location-based
- Market-based
- Don't know

Please note that in alignment with the GHG Protocol Scope 2 Guidance, companies are only required to compare their Scope 2 emissions for either their location-based or market-based figure, but are required to be transparent about which figure they use. Please note that you should only select one figure, as your market-based figure may inherently be a combination of location-base and market-base calculations if you have operations in regions where there are contractual instruments, and other operations in regions where there are not contractual instruments.

Box 30: Worked examples of questions CC12.1, CC12.1a and CC12.1b

Example 1: The total emissions (Scope 1+2) of company X for this reporting year are 208 metric tonnes of CO2e. The total emissions for the previous reporting year were 200 metric tonnes of CO2e. This means that the total change in emissions is 8 metric tonnes of CO2e, which is equal to a 4% increase. The change from 200 to 208 metric tonnes is attributed to an increase in 12 metric tonnes of CO2e emissions due to increased production. However due to emissions reduction activities, an estimated reduction of 4 metric tonnes of CO2e has been achieved.

The value for each individual factor can be calculated using the following formula:

(Emissions change due to any single factor/previous year's emissions) * 100 = **percentage change in emissions due to that factor.**

The percentage change in emissions due to increased production: (12/200)*100= 6%

This represents a 6% increase in emissions due to increased production.

The percentage change in emissions due to emissions reduction activities:

(-4/200)*100= -2%

This represents a 2% decrease in emissions due to emissions reduction activities.

This company should respond in the following way to questions CC12.1 and CC12.1a:

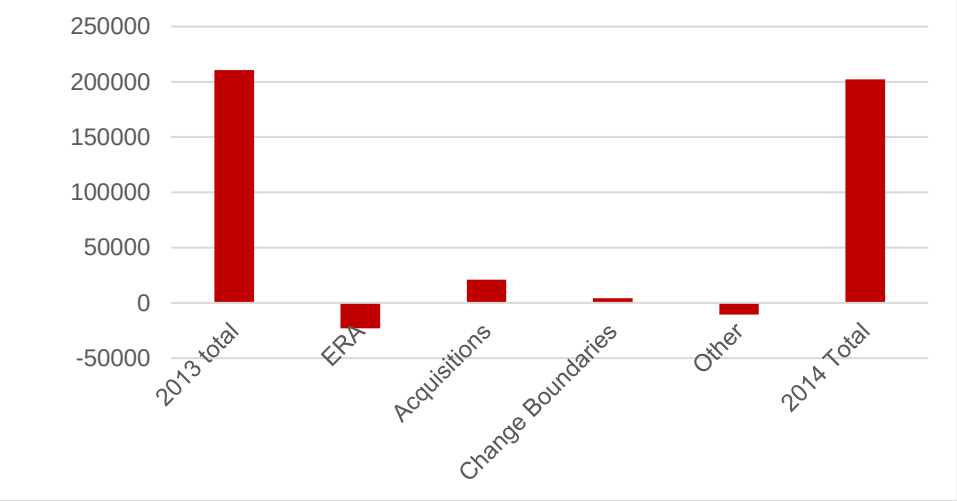
CC12.1 How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Please explain and include calculation
Change in output	6	Increase	If no measures had been introduced, increased demand leading to increase output would have generated an extra 6% more of emissions.
Emissions reduction activities	2	Decrease	Due to emissions reduction activities implemented during the year, despite an increase in production, emissions have not grown as high as could be expected. Last year 4 tCO2e were reduced by our emissions reduction projects, and our total S1 and S2 emissions in the previous year was 200 tCO2e, therefore we arrived at 2% through (4/200)*100= 2%

Example 2: Companies may be used to seeing this information presented graphically where reductions appear below the horizontal axis. A further worked example shows how this data can be used to complete question CC12.1a.



	2013 Total	What happened during reporting year				2014 Total
		ERA	Acquisitions	Change Boundaries	Other	
% change		-0.11	0.10	0.02	-0.0501	-0.04
tCO2e	210573	-23163	21057.3	4211.5	-10542.8	202136

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	11	Decrease	Gross Scope 1+2 emissions decreased by 11%, due to energy efficiency activities undertaken, mainly for our electricity consumption. We have achieved 14% in New Zealand, 9% in Australia and 8% reductions in USA. These are due to energy efficiency measurements in all our main buildings, which have obtained maximum GreenStar certification, a tri-generation plant which increased the efficiency of our largest data center, and improved metering and monitoring of energy consumption. All have led to an overall reduction of electricity consumption across our offices. Changes due to variation of emission factors associated with the grid mix have also contributed to a decrease of emissions, although that is not considered here. Last year 23 163 tCO2e were reduced by our emissions reduction projects, and our total S1 and S2 emissions in the previous year was 210573 tCO2e, therefore we arrived at 11% through (23163/ 210573)*100= 11%
Acquisitions	10	Increase	In the United States, the acquisition of a major business competitor resulted in a circa 36% increase of the emissions in the USA and a 10% increase of our overall emissions. This is mainly the result of additional buildings being included as new sources of GHG emissions.
Change in boundary	2	Increase	Emissions increased by 2% due to the inclusion of additional inventory items for our minority positions in Asia. As an example the Hong Kong office reported for the first time the emissions due to vehicle fleet and business travel.
Other	5	Decrease	Scope 1 emissions for our USA operations decreased 25% compared to previous year inventory. This is equivalent to a decrease of 3100 tCO2e. This decrease is due to the new gas powered tri-generation plant, substituting previous fuel oil boiler.

CC12.2: Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Please enter your response to this question in the table provided in the ORS and reproduced below. Further guidance on completing each of the columns can be found beneath the table. **A worked example demonstrating how to calculate intensity metrics is included in Box 31**. If you did not disclose to CDP last year, or did not use this data point, please use last year's inventory and financial data to provide a calculation of percentage change. If you did not measure your emissions last year, complete column 1 and explain why you do not have the data available in column 7.

If the previous year's figure has been reported but recalculated since, please use the recalculated figure for the calculation and note this in the last column. The previous year compared should apply to the 12-month period directly prior to the reporting period, even if it does not completely overlap with the period previously reported to CDP.

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator: Unit total revenue	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
	metric tonnes CO2e					

- Intensity figure
    - Use this column to enter the intensity figure, calculated by your total Scope 1 and 2 emissions (see the next bullet point) divided by your revenue, making sure that the revenue figure used applies to the same organizational boundary as your emissions data. Enter a value of up to 99999999999. Up to 15 decimal places are allowed for this column.
- Metric numerator
    - This column is fixed and specifies that the emissions should be in metric tonnes CO2e, derived from your gross global Scope 1 emissions figure (question CC8.2) plus your gross global Scope 2 emissions figure (question CC8.3a).

- Metric denominator
    - Enter a value of up to 10000000000000000 and up to 2 decimal places. The denominator units are "unit total revenue"; i.e. per single unit (1) of the currency specified in question CC0.4 on the Introduction page of the ORS. Please do not report your revenue in multiples of your currencies (e.g. do not report in multiples of Yen).
    - Revenue is sometimes also described as turnover or gross sales; for the purposes of this information request, these terms are considered synonymous. Revenue is defined as sales, net of taxes. Sales refer to the money received by your company for goods and services provided, after tax but before subtracting costs. If you are a bank, you might refer to this figure as the total operating income.
- Scope 2 figure used
    - Please indicate which Scope 2 figure has been used in your Metric numerator. Select one of the following options from the drop down menu
        - Location-based
        - Market-based

- % change from previous year
    - Enter a value of no more than 999 and up to two decimal places to describe the change in your emissions intensity figure. There is no need to use negative figures to identify a reduction as this will be covered in the next column. If you have experienced no change, please enter 0 (zero) in this column.
- Direction of change from previous year
    - Select from one of the following options:
        - Increase
        - Decrease
        - No change
        - N/A – select this option if you do not have sufficient data to calculate the change from the previous year
- Reason for change
    - Use this column to describe why your emissions intensity has changed. Companies should explain the primary reasons behind the change and the degree to which different factors have influenced the figures. The degree should be expressed as a percentage. This is a free text field and you can enter up to 2400 characters.

CC12.3: Please provide any additional intensity (normalized) metrics that are appropriate to your business operations

Question CC12.2 requests data on emissions intensity per unit of revenue, which is one the most common and easy means to calculate emissions intensity. However, this is not necessarily the most appropriate to individual businesses and therefore question CC12.3 gives you the opportunity to report an additional intensity or normalized metric that is most appropriate to your company's own operations.

Please enter your response to this question in the table provided in the ORS and reproduced below. Further guidance on completing each of the columns can be found beneath the table. **A worked example demonstrating how to calculate intensity metrics is included in Box 31**. If you did not disclose to CDP last year, or did not use this data point, please use last year's inventory and other relevant company data to provide a calculation of percentage change. If you did not measure your emissions last year, compete column 1 and explain why you do not have the data available in column 8.

If the previous year's figure has been reported but recalculated since, please use the recalculated figure for the calculation and note this in the last column. The previous year compared should apply to the 12-month period directly prior to the reporting period, even if it does not completely overlap with the period previously reported to CDP.

For ICT companies: Companies responding to the ICT sector module can provide activity based intensity metrics for their significant business activities in the sector module instead of providing an additional organization wide intensity metric here. If this is the case, companies should redirect data users by indicating the relevant sector module question numbers in column 6 of the table.

Intensity figure =	Metric numerator (Gross global combined Scope 1 and 2 emissions)	Metric denominator	Metric denominator: Unit total	Scope 2 figure used	% change from previous year	Direction of change from previous year	Reason for change
	metric tonnes CO2e						

To add more rows to the table, please use the "Add Row" button to the bottom right.

- Intensity figure
    - Use this column to enter the intensity figure, calculated by your total Scope 1 and 2 emissions, divided by your chosen denominator, making sure that the denominator chosen has the same organizational boundary as the emissions data. Enter a value of up to 99999999999. Up to 15 decimal places are allowed for this column.
- Metric numerator
    - See guidance for question CC12.2.
- Metric denominator
    - Select one of the following options from the drop down menu:
        - full time equivalent (FTE) employee
        - unit hour worked
        - metric tonne of product
        - liter of product
        - unit of production
        - unit of service provided
        - square foot
        - square meter
        - kilometer
        - passenger kilometer
        - room night produced
        - megawatt hour (MWh)
        - barrel of oil equivalent (BOE)
        - vehicle produced
        - tonne of aluminum
        - tonne of ore processed
        - ounce of gold
        - ounce of platinum
        - tonne of aggregate
        - tonne of steel
        - billion (currency) funds under management
        - Other, please specify
    - If you select “Other, please specify” you should enter your preferred metric denominator in the text box provided.
- Metric denominator: Unit total
    - Enter a value of up to 10000000000000000 and up to two decimal places to provide the metric denominator. For example, if your chosen metric in the previous column was FTE, you should input here how many FTE you had during the reporting year.
- Scope 2 figure used
        - Please indicate which Scope 2 figure has been used in your metric numerator. Select one of the following options from the drop down menu
            - Location-based
            - Market-based
- % change from previous year

- See guidance for question CC12.2

- Direction of change from previous year
  - See guidance for question CC12.2
- Reason for change
  - See guidance for question CC12.2.

Box 31: Measuring CO2e intensity

Intensity measures describe an organization's CO2e emissions in the context of another business metric. In this way, the emissions are normalized to account for growth etc.

Intensity is calculated by dividing the CO2e emissions figure (the numerator) by an alternative business metric (the denominator), such as the number of full time equivalent employees, the revenue or tonnes of aggregate produced.

$$\text{Intensity} = \frac{\text{Emissions (metric tonnes CO2e) (Numerator)}}{\text{Business metric (e.g. revenue) (Denominator)}}$$

Important points to remember when calculating intensity are:

- **Numerator units**: the intensity metrics requested in questions CC12.2-CC12.3 should have emissions in metric tonnes CO2e as the numerator. They should include Scope 1 and Scope 2 emissions combined. This figure can be obtained by summing the figures given in answer to questions CC8.2 and CC8.3a
- **Denominator units**: When calculating your intensity, you should ensure that the units of your data match those specified in the intensity metric. For example, question CC12.2 requests for intensity in metric tonnes CO2e per unit currency revenue. This means that your revenue figure (the denominator) should be in the currency you specified in the Introduction and in single units, i.e. if your revenue is 5 Million US$ your unit revenue is 5000000. Another example would be metric tonnes CO2e per MWh – if your data is in kWh you must convert it to MWh before using it in the calculation.
- **Boundary and Exclusions:** You should ensure that the organizational boundary and any exclusions specified for your numerator is the same as for your denominator. For example, when entering your emissions per FTE employee you should ensure that you only include those FTE employees that are within the sections of the organization covered by the organizational boundary of your emissions and take into account any exclusions (as specified in question CC8.4).

Worked examples of calculating CO2e intensity

A company has gross total combined Scope 1 and 2 emissions of 300000 metric tonnes CO2e, revenue of 5 Million US$ and 3000 FTE employees. In this case, the company should calculate its emission intensity figures in CC12.2 (by revenue) and CC12.3 (in this example electing by FTE) as follows:

Metric 1 (CC12.2): Emissions intensity in metric tonnes CO2e per unit currency total revenue

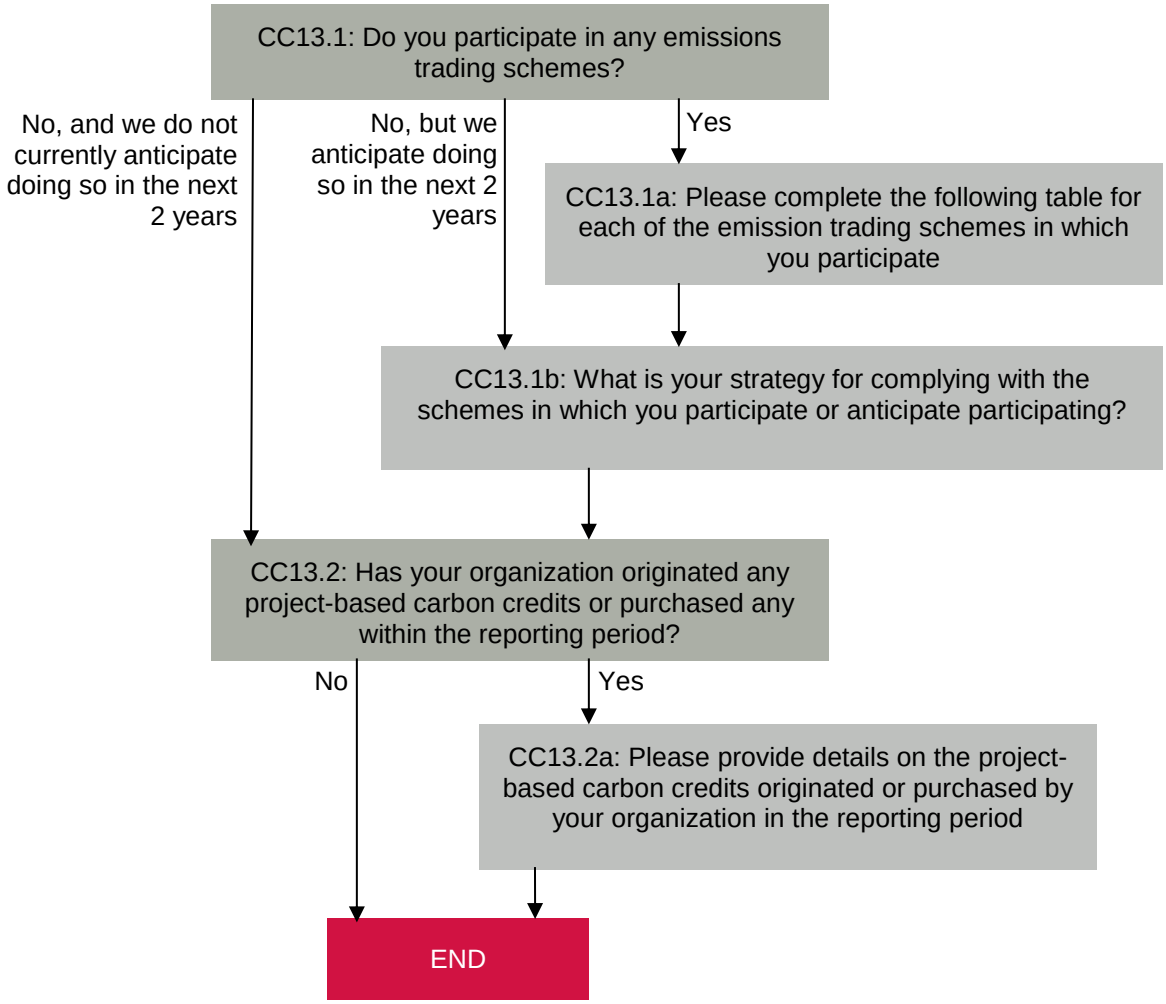
$$\text{Intensity} = \frac{\text{300000 (metric tonnes CO2e)}}{\text{5000000 (US\$)}} = 0.06$$

Metric 2 (CC12.3): Emissions intensity in metric tonnes CO2e per full time equivalent (FTE) employee

$$\text{Intensity} = \frac{\text{300000 (metric tonnes CO2e)}}{\text{3000 (FTE employee)}} = 100$$

CC13. Emissions Trading

Question Pathway



General Guidance

As regulation passes into law, companies will increasingly be brought into mandatory emissions trading schemes such as the EU ETS, Tokyo Cap-and-Trade and the Regional Greenhouse Gas Initiative (RGGI). Those wishing to reduce their environmental impact may also participate in a voluntary emissions trading scheme such as the Japan Voluntary Emissions Trading Scheme. Schemes like this are generally voluntary to join and reductions/trading become requirements in order to remain compliant. One of the ways companies remain compliant is through the origination and/or purchase of carbon credits.

Emissions trading scheme allowance purchases are treated separately to other carbon credits as companies participating in a mandatory scheme face different levels of risk to companies that are voluntarily committing to offset emissions. Therefore, we believe that it is appropriate to differentiate between allowances allocated or used for compliance within a mandatory scheme and generation or use of credits within the voluntary market.

Please note that some emission trading schemes may apply solely to the operators of facilities, but the financial position of the facility owner will also be affected indirectly by the operation of the scheme. Thus this question is applicable to both owners and operators of facilities covered by trading schemes. Even if your company does not wholly own facilities, please give the total number of emissions and allowances.

Key Changes from 2016

- Plan Vivo has been added to the dropdown options in CC13.2a.

Pre-population

None of the questions on this page are eligible for pre-population if you responded last year.

Specific Question Guidance

CC13.1: Do you participate in any emissions trading schemes?

Please respond to this question by selecting the most appropriate option from the drop down menu in the ORS. The options provided are:

- Yes
- No, but we anticipate doing so in the next 2 years
- No, and we do not currently anticipate doing so in the next 2 years

See Box 32 for more information on Emissions Trading Schemes (ETS).

Please note that to "participate" means that you are undertaking (or intend to undertake) activities for which you will be required to purchase or be allocated credits.

If you select "Yes" you will be directed to questions CC13.1a and CC13.1b; if you select "No, but we anticipate doing so in the next 2 years" you will be directed to question CC13.1b; and, if you select "No, and we do not currently anticipate doing so in the next 2 years" you can proceed to the next question (question CC13.2).

CC13.1a: Please complete the following table for each of the emission trading schemes in which you participate

This question only appears if you select "Yes" in response to question CC13.1.

Please complete the question in the table provided in the ORS and reproduced below. As noted above, although some emission trading schemes may apply solely to the operators of facilities, the financial position of facility owners is also affected indirectly by the operation of the scheme. This question therefore applies to both owners and operators of facilities covered by trading schemes. Even if your company does not wholly own facilities, please give the total number of emissions and allowances.

If this is the first time you are responding to CDP you are requested to provide 3 years of historical data if applicable by adding rows to the table. Companies are also requested to provide forward-looking data for the next reporting year. Further guidance on completing each of the columns is provided beneath the table (below).

Companies in the UK should note that the Carbon Reduction Commitment (CRC) although originally proposed as a cap and trade scheme is not operating in this way and is a reporting scheme only.

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership

You can enter multiple rows using the "Add Row" button at the bottom right of the table, to enter data for individual schemes and/or individual years.

- Scheme name
    - Select from one of the following options
        - Alberta Emissions Trading Regulation
        - California's Greenhouse Gas Cap and Trade Program
        - European Union ETS
        - Japan Voluntary ETS
        - Korea ETS
        - New Zealand ETS
        - Regional Greenhouse Gas Initiative
        - Tokyo Cap-and-Trade
        - Other, please specify
- Period for which data is supplied
    - Enter the start date and finish date that applies to the data in the row, using the text box by entering dates in the format DD/MM/YYYY or by using the calendar. Please note that the period reported should overlap with the reporting year.
- Allowances allocated
    - Enter the number of allowances allocated for free, entering whole numbers only, up to 99999999999. Please ensure that the number does not contain commas or decimals.
- Allowances purchased
    - Enter the number of allowances purchased, entering whole numbers only, up to 99999999999. Please ensure that the number does not contain commas or decimals.
- Verified emissions in metric tonnes CO2e
    - Enter the amount of emissions that have been verified under the scheme identified, in metric tonnes CO2e. This field accepts numbers only, up to 99999999999 and up to two decimals places; commas are not permitted.
    - Due to the difficulty of timing, and the fact that CDP does not wish to penalize companies for something out of their control, companies participating in California's Greenhouse Gas Cap and Trade Program are recommended to make an estimate on what percentage were verified. You can use the further information field to correct any previous submissions that were estimated incorrectly.
- Details of ownership
    - Select the option that best describes your ownership arrangements for the facilities subject to the scheme identified from the following:
        - Facilities we own and operate
        - Facilities we own but do not operate
        - Facilities we operate but do not own
        - Other, please specify

Box 32: Emissions Trading Schemes (ETS)

European Union (EU) Emissions Trading System*:* The EU ETS is currently the largest and most well developed ETS in place. It covers medium and large emitters and is expanding with regard to industries included. Allowances are allocated to companies on the basis of National Allocation Plans determined by individual countries. Since 2013 allowances have been centrally coordinated by the European Commission. Companies that emit more than their allocated allowances need to purchase allowances from companies that wish to sell or purchase offset credits from the Kyoto Protocol's flexible mechanisms.

As directed above, companies should use question CC13.1a to report the allowances that they have been allocated and those that they have needed to purchase in the reporting year.

***Alberta Emissions Trading Scheme**:* Alberta's emission trading scheme is slightly different to others such as the EU ETS as it is based on emissions intensity targets. Companies in the scheme are given a target for their emissions (based on emissions intensity) each year. If they do not reach this target they have to purchase project based credits, allowances from over-achieving participants or pay into a fund.

In the context of the CDP response, the target emissions must be converted into absolute emissions, and can then be reported as the "allowances allocated". The emissions that are accounted for through project based credits, allowances from over-achievers or by paying into the fund must again be converted into absolute emissions and can then be reported as "allowances purchased".

Further information on current and proposed emissions trading schemes can be found in the following paper: Ecofys & The World Bank Group, Carbon pricing watch 2015

CC13.1b: What is your strategy for complying with the schemes in which you participate or anticipate participating?

This question only appears if you select "Yes" or "No, but we anticipate doing so in the next 2 years" in response to question CC13.1.

Please give your answer in the text box provided in the ORS, using no more than 5000 characters.

Some of the options for compliance include efficiency upgrades, purchase of allowances and the purchase of carbon credits. Depending on how long your company has participated in trading schemes, efficiency upgrades may not provide the amount of reductions necessary to comply with regulations. If that is the case your company may consider including this information. You are also encouraged to detail your company's long-term compliance strategy.

You may also want to identify whether all of the business must be compliant or whether trading schemes only apply to certain portions of the business.

CC13.2: Has your organization originated any project-based carbon credits or purchased any within the reporting period?

Please respond to this question by selecting "Yes" or "No" from the drop down menu provided in the ORS. If you select "Yes" you will be directed to question CC13.2a; if you select "No" you can proceed to the next page of the ORS.

This question only applies to companies that have originated the carbon credits or who have purchased them for the purposes of compliance or as voluntary carbon offsets. It is not intended to capture trading desk activity and therefore if your only reason for purchasing credits is to re-sell them, you should answer "No" to this question.

CC13.2a: Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

This question only appears if you select "Yes" in response to question CC13.2.

Credits can be originated by a variety of projects and for several markets, which configures several project-based carbon credit types. Examples of project-based carbon credits include:

- Certified Emission Reductions (CERs) generated by activities under the Clean Development Mechanism (CDM);
- Emission Reduction Units (ERUs) generated by activities under the Joint Implementation mechanism; and

- Voluntary Emission Reductions (VERs) generated by activities that reduce emissions, but do not result in the creation of compliance-grade carbon units.

Please complete your response in the table provided in the ORS and reproduced below. Further guidance on completing each of the columns is provided beneath the table.

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits canceled	Purpose, e.g. compliance

You can enter multiple rows by selecting the "Add Row" button to the bottom right.

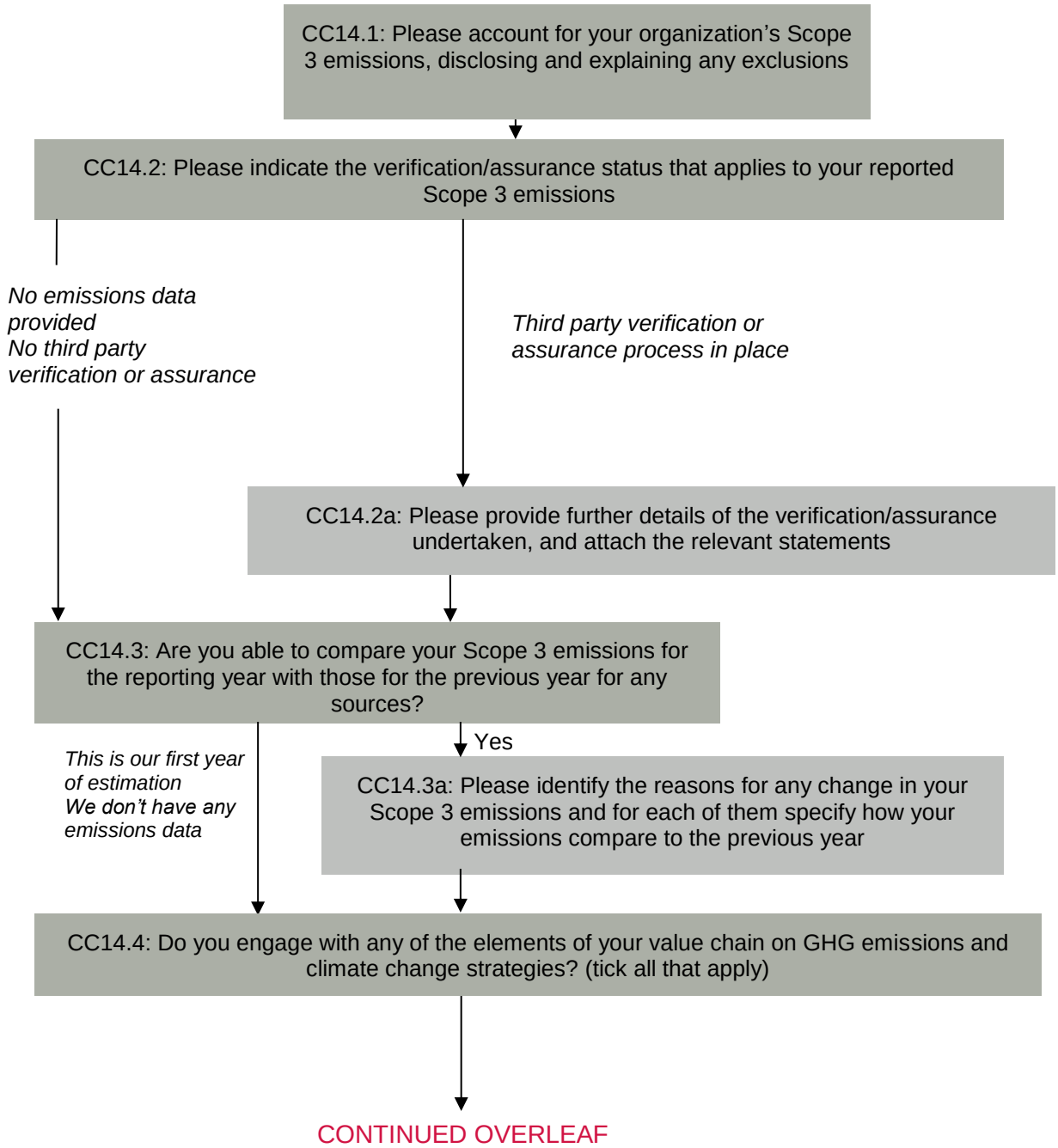
- Credit origination or credit purchase
    - If you are the company to which the credits are originally issued (e.g. you are one of the participating entities of a Clean Development Mechanism (CDM) project and you are entitled to a share of the credits issued by the CDM registry) then you should select credit origination. Otherwise, if you have bought the credits from another company, you should select credit purchase.
- Project type
    - Select from one of the following[3]:
        - Agriculture
        - Biomass energy
        - Cement
        - CO2 usage
        - Coal mine/bed CH4
        - Energy distribution
        - Energy efficiency: households
        - Energy efficiency: industry
        - Energy efficiency: own generation
        - Energy efficiency: service
        - Energy efficiency: supply side
        - Forests
        - Fossil fuel switch
        - Fugitive
        - Geothermal
        - HFCs
        - Hydro
        - Landfill gas
        - Methane avoidance
        - N2O
        - PFCs and SF6
        - Solar
        - Tidal
        - Transport
        - Wind
        - Other, please specify
- Project identification: Please enter the project name. Use no more than 2400 characters.

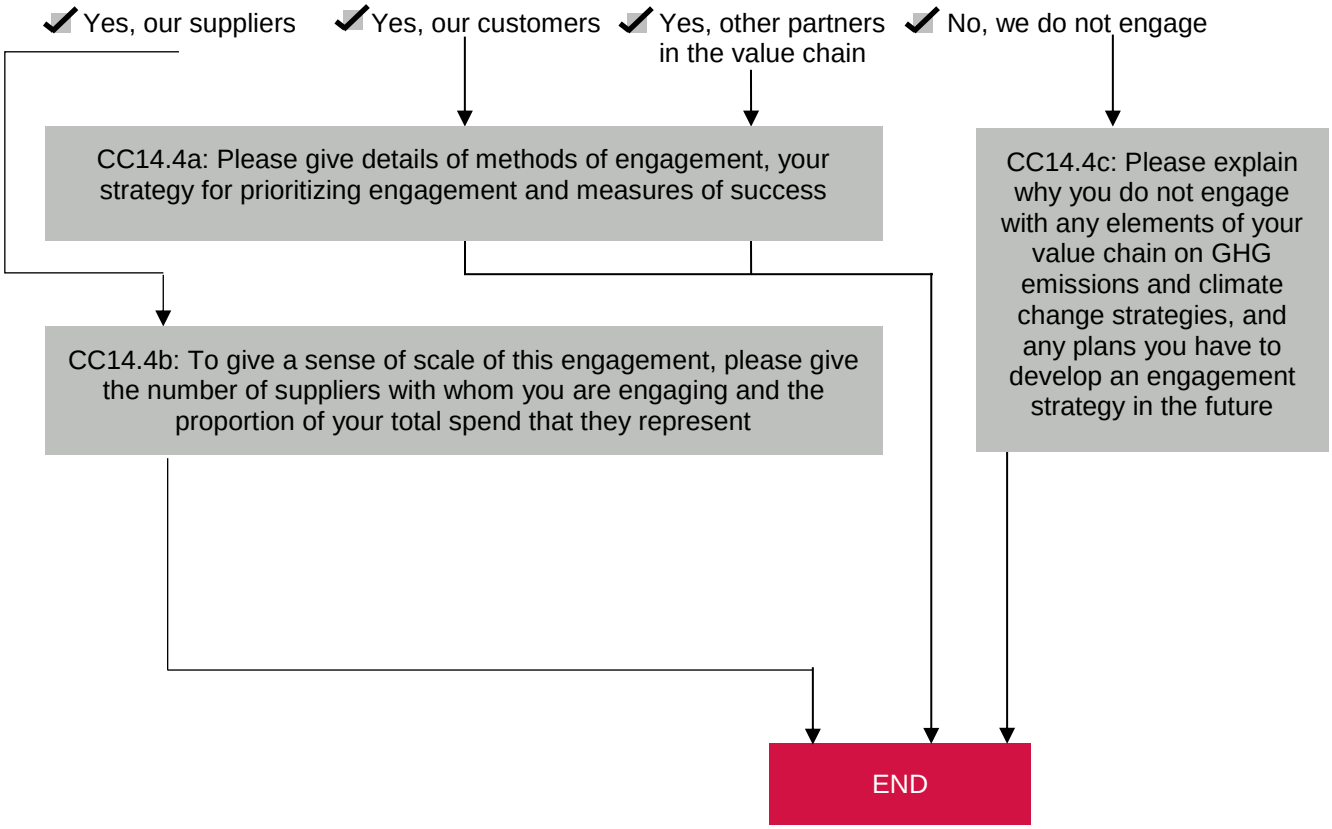
[3] List sourced from http://www.cdmpipeline.org/cdm-projects-type.htm#1

- Verified to which standard
    - Select from one of the following options; if the appropriate standard is not in the list, please select “Other” and enter the name of the standard in the text box provided.
        - CDM (Clean Development Mechanism)
        - JI (Joint Implementation)
        - Gold Standard
        - VCS (Verified Carbon Standard)
        - VER+ (TÜV SÜD standard)
        - CAR (The Climate Action Reserve)
        - CCBS (developed by the Climate, Community and Biodiversity Alliance, CCBA)
        - Plan Vivo
        - Not yet verified
        - Other, please specify
- Number of credits (metric tonnes CO2e)
    - Enter the total number of annual credits that you have originated or purchased in metric tonnes CO2e based on the figures supplied in the agreements. The number of credits reported should be the credits that were originated for the reporting period identified on the Introduction page of the ORS, irrespective of whether you have already sold them and of whether they have been canceled or not. Numbers up to 99999999999 are allowed (without commas) and up to 2 decimal places.
- Number of credits (metric tonnes CO2e): Risk adjusted volume
    - Credits are sold at different stages in the life cycle of a project and therefore the volume of credits predicted will be adjusted, according to different criteria, such as sector of project, stage of project, etc. Use this column to enter the number of annual credits that you are originating (in the pipeline) or when you have purchased projects/credits that are still in the pipeline and provide a risk adjusted figure (in metric tonnes CO2e) according to the level of risk. Numbers up to 99999999999 are allowed (without commas) and up to 2 decimal places.
    - For the most part this column applies to CDM projects that are in the pipeline and are not yet approved. Often the actual GHG reductions from a project are lower than initially forecasted, largely due to the materialization of risks associated with the project. This uncertainty means that these credits can usually be purchased at significantly lower price than credits pertaining to more advanced stages of a project. Credits that are not yet produced in the CDM register, or in other words those that pertain to a project that is in its initial stages, are adjusted according to the risk factors and measured in “risk adjusted volume”. If companies have no risks associated with their credit portfolio, then risk adjusted volume can be equal to “number of credits”.
- Credits canceled
    - “Canceled” means that the certificate cannot be used again. For further information, please check the Technical Note “Retirement vs. cancellation of instruments”. Select from:
        - Yes
        - No
        - Not relevant
- Purpose, e.g. compliance. Select from:
        - Compliance
        - Voluntary Offsetting
        - Not applicable
        - Other, please specify

CC14. Scope 3 Emissions

Question Pathway





General Guidance

Scope 3, like Scope 2, is a category of indirect emissions that arise as a consequence of an organization's activities, but from GHG sources that are owned or controlled by others. Scope 2 covers emissions that an organization indirectly causes to be emitted through its import – usually by purchase – of electricity, heat, cooling and steam for its own consumption. Scope 3 covers all other indirect emissions from sources that are not owned or controlled by a company but which occur as a result of its activities.

The World Resources Institute and World Business Council for Sustainable Development have produced a Corporate Value Chain (Scope 3) Accounting and Reporting Standard (hereafter referred to as the GHG Protocol Scope 3 Standard) as a supplement to the GHG Protocol Corporate Accounting and Reporting Standard. Along with the Scope 3 Standard, the GHG Protocol have also produced an extensive document for calculating value chain emissions. CDP has produced sector-specific guidance for estimating Scope 3 category 11 (use of sold products) emissions for the Oil & Gas and Coal sectors.

Key Changes from 2016

- Question CC14.4b has been revised to increase the clarity of the data provided by companies, while CC14.4c (2016) has been deleted. CC14.d (2016) is now CC14.4c (2017). CC14.4b, which previously asked about percentage of total spend has been broadened to include all types of engagement. The comment field in CC14.4b has now been replaced with a field requesting 'Impact engagement'. The new table logic allows a company to disclose what type of engagement they are using with their suppliers, the number of suppliers, the proportion of spend, and finally the impact of that engagement.

Pre-population

None of the questions on this page are eligible for pre-population if you responded last year.

Specific Question Guidance

CC14.1: Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Please complete your response in the table provided in the ORS and reproduced below.

According to the new Scope 3 standard (Corporate Value Chain (Scope 3) Accounting and Reporting Standard): "*Any estimates of avoided emissions must be reported separately from a company's Scope 1, Scope 2, and Scope 3 emissions, rather than included or deducted from the Scope 3 inventory*". In the context of your CDP response, you can provide information on actions you take to reduce your Scope 3 emissions in question CC14.3a on emissions reduction activities. In this table you may refer to the reason for a change in emissions for each Scope 3 category. Please reference the name of the relevant Scope 3 category in the "comments" column of the table.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services					
Capital goods					
Fuel-and-energy-related activities (not included in Scope 1 or 2)[4]					
Upstream transportation and distribution					
Waste generated in operations					
Business travel					
Employee commuting					
Upstream leased assets					
Downstream transportation and distribution					
Processing of sold products					
Use of sold products					
End of life treatment of sold products					

[4] Please note that the GHG Protocol Scope 2 Guidance states that a 'company shall disclose whether a market-based or location-based Scope 2 total is used as the basis for calculating Scope 3, category 3 (fuel- and energy related emissions not included in Scope 1 or Scope 2).' To meet this requirement, please state in the 'Emissions calculation methodology' column which method you have used to calculate your figure for this Scope 3 category

Downstream leased assets					
Franchises					
Investments					
Other (upstream)					
Other (downstream)					

You should complete every row of the table (with the exception of the last two rows (Other (upstream) and Other (downstream) which are optional) but not necessarily all columns. **Instructions on which columns to complete is provided in Box 33** and further guidance on how to complete the relevant columns is provided in the bullet points below. CDP has produced sector-specific guidance for estimating Scope 3 category 11 (use of sold products) emissions for the Oil & Gas and Coal sectors

Box 33: Summary of which columns to complete in CC14.1

The columns that you need to complete in response to question CC14.1 will depend on your selection made in the Evaluation status column and are summarized below.

Evaluation status	metric tonnes CO2e	Methodology	Percentage of emissions calculated using primary data	Explanation
Relevant, calculated	Yes	Yes	Optional	Optional
Relevant, not yet calculated	No	No	No	Optional
Not relevant, calculated	Yes	Yes	Optional	Optional
Not relevant, explanation provided	No	No	No	Yes
Not evaluated	No	No	No	Optional

- Sources of Scope 3 emissions: This column is already completed in the ORS and all sources will appear. The categories of Scope 3 emissions have been taken from the Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard, published in September 2011. Companies should refer to the standard for information on the sources that each category comprises and additional information on how to calculate these emissions.
- Evaluation status: This column should be completed for all Scope 3 sources, with the exception of Other (upstream) and Other (downstream) – these latter two categories should only be used if companies have a source of Scope 3 emissions that is not provided above. The evaluation status includes two components: whether a Scope 3 source is relevant to your business and what you have done to investigate that source. Relevance should be determined with reference to the GHG Protocol Scope 3 standard – **see Box 34 for the Scope 3 relevance criteria**. Select from:
    - Relevant, calculated: Select this option if the Scope 3 category is relevant and you have calculated emissions from at least part of this source.

- Relevant, not yet calculated: select this option if you are aware that the Scope 3 source is relevant to your business but you have not yet calculated the emissions associated with it.
- Not relevant, calculated: Select this option if you know that this source is not one of the most important for your business but as part of your Scope 3 work, you have been able to calculate the emissions associated with it.
- Not relevant, explanation provided: Select this option if you have investigated this source of Scope 3 emissions and have been able to determine that it is not relevant. This could be based on quantitative or qualitative investigations.
- Not evaluated: Select this option if you have not yet investigated this Scope 3 source and therefore do not know whether it is relevant or not relevant for your business.

- Metric tonnes CO2e: Complete this column for all sources that you have identified as "Relevant – calculated" or "Not relevant – calculated" in the Evaluation status column. Enter the emissions appropriate to each source identified in metric tonnes CO2e, entering numbers only up to 99999999999 without commas and up to two decimal places. Negative numbers are not allowed as reporting needs to be gross, not net figures. Emission figures should be for the reporting year only.
- Emissions calculation methodology: Complete this column for all sources that you have identified as "Relevant, calculated" or "Not relevant, calculated" in the Evaluation status column. Your response should include a short description of the types and sources of data used to calculate emissions (e.g. activity data, emission factors and GWP values), and a short description of the methodologies, assumptions and allocation methods used to calculate emissions. Please use no more than 2400 characters to complete this response.
- Percentage of emissions calculated using data obtained from suppliers or value chain partners: This column is optional for all sources that you have identified as "Relevant, calculated" or "Not relevant, calculated" in the Evaluation status column. Enter the percentage value in this column; there is no need to enter the percentage symbol. Values up to 100 are accepted and up to 2 decimal places.
- Explanation: Complete this column for all sources that you have identified as "Not relevant, explanation provided" in the Evaluation status column. You should provide details of how you have reached the conclusion that the source is not relevant and include any qualitative or quantitative reasoning. If you wish to provide additional context to any of the other rows in the table, including any exclusions within a source, you can also do that in this column. Use no more than 2400 characters in your response.

For Oil & Gas and Coal sector companies: It is recommended that companies operating in the oil & gas industry and companies with coal mining assets refer to CDP's guidance documentation for estimating Scope 3 category 11 (use of sold products) for each Oil & Gas and for Coal.

For Electric Utility sector companies: Electric utilities are directed to the standard referenced above for guidance on deciding which emissions should be reported under Scope 3. In particular, see the section on "Fuel- and Energy-Related Emissions Not Included in Scope 1 or 2" starting on page 41.

For Auto and Auto Component Manufacturers: Auto manufacturers may wish to refer to information on methodology given in answer to the auto module question AU2.2 in their answer to CC14.1. This information will be scored provided that the data-users are directed from the methodology column of CC14.1 to AU2.2.

For FBT Companies: FBT companies are encouraged to provide emissions data for all the categories relevant to them, specifically pertaining to agricultural, processing, distribution and consumption activities. Categories that are likely to be of particular importance for the FBT sector are "Purchased goods and services", "Processing of sold products", "Upstream transportation and distribution", "Downstream transportation and distribution", "Use of sold products" and "End of life treatment of sold products". If you are not able to report emissions figures for these activities, please provide an explanation as to why not in the column 'Explanation'.

Box 34: Relevance criteria for Scope 3 emissions sources: extract from the Corporate Value Chain (Scope 3) Accounting and Reporting Standard (WRI/WBCSD)

Table [6.1] Criteria for identifying relevant scope 3 activities

Criteria	Description
Size	They contribute significantly to the company's total anticipated scope 3 emissions (see section 7.1 for guidance on using initial estimation methods)
Influence	There are potential emissions reductions that could be undertaken or influenced by the company (see box 6.2)
Risk	They contribute to the company's risk exposure (e.g., climate change related risks such as financial, regulatory, supply chain, product and customer, litigation, and reputational risks) (see table 2.2)
Stakeholders	They are deemed critical by key stakeholders (e.g., customers, suppliers, investors, or civil society)
Outsourcing	They are outsourced activities previously performed in-house or activities outsourced by the reporting company that are typically performed in-house by other companies in the reporting company's sector
Sector guidance	They have been identified as significant by sector-specific guidance
Other	They meet any additional criteria for determining relevance developed by the company or industry sector

To help facilitate the adoption of the Scope 3 Standard, and assists companies in determining the relevance of Scope 3 emissions sources, the GHG Protocol, in collaboration with Quantis, have released a free Scope 3 screening tool. This tool asks a number of relatively simple questions to approximate your Scope 3 inventory, and can be used by companies of all size and all sectors.

Please note that this tool is not a data collection tool and should only be used to make a first approximation of your Scope 3 emissions. Having used the tool to help determine the relevance of Scope 3 categories, companies should then develop more accurate approaches for categories shown to be a relevant source of emissions.

CC14.2: Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Please respond to this question by selecting one of the options from the list below, which will available as a drop down menu in the ORS.

- No emissions data provided
- No third party verification or assurance
- Third party verification or assurance process in place

Note that this question applies to Scope 3 emissions only. CDP regards verification/assurance as a process undertaken by an independent third party accredited to perform verification/assurance of the GHG

emissions data. Please only state that you have had or are having verification/assurance carried out if it is by an independent third party accredited to perform verification/assurance of the GHG data. If you have had a proportion of your Scope 3 emissions verified, please select the option that applies to these emissions; you will be given an opportunity in question CC14.2a to provide further details on this.

Note if verification/ assurance is underway, or part of a biennial or triennial process: It is recognized that for some companies, the verification/assurance schedule is out of synchronization with the CDP disclosure process and therefore it is difficult to complete the verification/assurance process before the CDP deadline. In addition, verification/assurance processes may occur every two years (biennial verification) or every three years (triennial verification). Where this is the case, you should select "Verification or assurance process in place" and provide further information on your situation in CC14.2a.

Please select biennial verification/assurance process where Scope 3 emissions are verified once every two years and triennial verification/assurance process where Scope 3 emissions are verified once every three years. **Please refer to Box 26 for further information on annual, biennial and triennial processes, and how these selections will be scored**.

In the subsequent question companies will be asked to provide evidence of the third party verification that they select here. Companies are advised to verify that their evidence can demonstrate all of the requirements set by CDP before answering this question to confirm that their activities comply, e.g. by consulting with their verifier/assurer. Full details are provided in the guidance for question CC14.2a. If certain information requirements set by CDP are not available in the standard assurance statement provided by your verifier, CDP has produced a template that can be used in conjunction with the original assurance statement.

If you select either "Verification or assurance process in place" you will be directed to question CC14.2a.

If you select "No emissions data provided", "No third party verification or assurance", you will be directed to the next question, question CC14.3.

CC14.2a: Please provide further details of the verification/assurance undertaken, and attach the relevant statements

This question only appears if you have selected "Third party verification or assurance process in place" *in answer to question CC14.2.*

Please complete your response to this question in the table provided in the ORS and reproduced below. The information required should be available on your verification/assurance statement or, if verification/assurance is still underway, should be available from your verifier/assurer.

If you are reporting third party verification or assurance underway, your entries into the table should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year, with the exception of the statement that will relate to a previous year.

CDP understands that you may seek verification for reasons other than reporting to CDP and that confidential information may be included within your detailed verification statement. In the event that this is the case, it is sufficient for your verifier/assurer to attest to the scope and level of assurance/verification through correspondence such as an abbreviated statement as long as this covers the data points outlined below (see guidance for the column to which the statement is attached).

Verification or assurance cycle in place	Status in the current reporting year	Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 3 emissions verified (%)
Select from: Annual process Biennial process Triennial process	Select from: No verification or assurance of current reporting year First year it has taken place Underway but not complete for reporting year – previous statement of process attached Complete	Select from: Not applicable Limited assurance Moderate assurance Reasonable assurance High assurance Third party verification/ assurance underway	Attach your document here, see below for further details	Text box. Please see the guidance for this column below	Select from the options given below in the guidance to this column	Enter a numeric value from 1 to 100, using no commas and no decimal places

If you wish to complete multiple rows, use the "Add Row" button to the bottom right of the table. See the bullet points below for instructions on how to complete the columns.

- Verification or assurance cycle in place: Please see guidance CC8.6a
- Status in the current reporting year: Please see guidance CC8.6a
- Type of verification or assurance: This column relates to the level of verification or assurance that has been awarded. The option that is relevant will depend on the verification standard to which the verification process has been completed and the level of assurance agreed between the verifier and the company. Companies can select from the following options: (Note that the examples of standards that apply to each level of assurance are not exhaustive and are provided for illustrative purposes only)
    - Not applicable
        - In very few cases, usually program related compliance, the verification standard does not include for a level of assurance; in this case select this option.
    - Limited assurance
        - This is one of the most common levels of assurance and, for example, is appropriate to verification undertaken in accordance with ISO14064-3, ISAE3000, ASAE3000 and The Climate Registry.
    - Moderate assurance

      For example, this level of assurance is appropriate to verification undertaken in accordance with AA1000 and AT101.
    - Reasonable assurance
        - For example, this is appropriate to verification undertaken under ISO14064-3, ISAE3000, ASAE3000 and The Climate Registry; all verification undertaken for EU ETS compliance is to a level of "reasonable assurance".
    - High assurance
        - For example, this is appropriate to verification undertaken in accordance with AA1000 and AT101.
    - Third party verification/assurance underway

- Select this option if verification/assurance is underway and you do not yet know the level of assurance that you are intending to achieve.

- Attach the statement: Click on “Browse” to locate the appropriate file and then “Attach” to attach the document to the response. Please ensure that your attachment is under 5MB. Note the requirements for the statement detailed below and the option to use the CDP template. If you have multiple documents for a single verification (e.g. if you have multiple facility verification reports all covered under a single verification standard) you should attach these as a zip file. All companies should attach a verification statement here unless they have selected “No verification or assurance of current reporting year” or “First year it has taken place” in response to question CC14.2a column 2 (Status in the current reporting year) – in this case companies should leave this column blank. The statement should:
  (i) Clearly state that GHG emissions have been verified or assured as part of the process. If the statement refers to other documents that has been verified (such as Sustainability Report, Financial Report, GRI etc.) where items verified are specified, please attach those to the question as well;
  (ii) Relate to the relevant scope;
  (iii) Clearly state the opinion and type of verification/assurance that has been given and the verification standard used. These should match the selections made in columns 1 and 2; and
  (iv) Covers the current reporting year or covers the previous reporting year for which verification has been completed, i.e. if “Underway but not complete for reporting year – previous statement of process attached” is selected in “Status in the current reporting year” column in CC14.2a.
- Page/section reference: Please identify the page and the section that contains details of your verification/assurance of Scope 3 emissions. Use no more than 500 characters.
- Relevant standard: See question CC8.6a for guidance. Note that some standards from CC8.6a are not listed among the options for CC14.2a because they are not applicable to Scope 3 verification/assurance.
- Proportion of reported Scope 3 emissions verified (%): It may be the case that only a sub-section of your emissions have been verified/assured due to, for example, regulatory requirements. Please identify what proportion of your gross global Scope 3 emissions have been subject to the verification/assurance process described by entering the proportion of you Scope 3 emissions verified/assured using no decimals. Please note that this is referring to the percentage of emissions which you reported in CC14.1. Therefore, if you have calculated emissions for four Scope 3 categories (Purchased goods and services, employee commuting, business travel, and waste generated in operations) which was a combined total of 20,000 metric tonnes CO2e. And you verified 15,000 metric tonnes CO2e, then your proportion of reported Scope 3 emissions verified is 75%. If you are reporting third party verification or assurance underway, your answer should reflect the proportion of emissions that are being subject to verification/assurance for the current reporting year.

CC14.3: Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

This question requires you to identify whether, for any of the Scope 3 emissions that you are evaluating, you are able to determine the change in emissions that has occurred from the previous year.

The drop down menu options available are:

- Yes
- No, this is our first year of estimation

- No, we don't have any emissions data

If you select "Yes" you will be directed to question CC14.3a (below). If you select "No" you will be directed to question CC14.4.

CC14.3a: Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

This question only appears if you answer "Yes" in response to question CC14.3.

Please answer this question by categorizing the changes that have occurred in your emissions, using the table provided in the ORS and reproduced below. You are asked to break down all the different factors that have influenced your overall change in emissions for each source of Scope 3, either positively or negatively. You are asked to break down all these different factors, describe them each in a separate row, and provide the value for the change in overall emissions that is attributed to each of the factors. **A worked example of CC14.3a is included in Box 35**.

For sources that you have only begun to measure in the reporting year you can leave columns 2-4 blank and explain using the comment column; if this is the only source you are measuring you should have selected "No, this is our first year of estimation" in response to question CC14.3, and therefore, would not be presented with this question. In the unlikely event that companies have genuinely not experienced any change in emissions for any of the Scope 3 sources, they should complete the row "Other", specifying "No change" in the text box provided and then enter 0 in column 3 and either of the options from column 4 (to ensure that they are not penalized on disclosure scoring).

Emission reduction activities could arise from a number of different sources. If your emissions for a specific Scope 3 source has changed compared to the previous reporting year due to several emissions reduction activities, you should aggregate the emissions change that occurred due to these activities and provide this information in one row in CC14.3a. Please note that even if companies have experienced no change overall or an increase in absolute emissions for a Scope 3 source, CDP still wants companies to disclose reduction activities.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment

You can complete multiple rows using the "Add Row" button to the bottom right of the table.

- **Source of Scope 3 emissions:** Select from
  - Purchased goods & services
  - Capital goods
  - Fuel- and energy-related activities (not included in Scopes 1 or 2)
  - Upstream transportation & distribution
  - Waste generated in operations
  - Business travel
  - Employee commuting
  - Upstream leased assets
  - Investments
  - Downstream transportation and distribution
  - Processing of sold products
  - Use of sold products

- End-of-life treatment of sold products
- Downstream leased assets
- Franchises
- Other (upstream)
- Other (downstream)

- **Reason:** Select the option that best describes the reason for particular changes in emissions that you have observed between the previous and current reporting years.
  - Emissions reduction activities
    - This refers to changes in emissions that have occurred as a result of proactive emissions reduction initiatives or activities, such as those detailed in response to question CC3.3.
  - Divestment
    - This refers to changes that occur as a result of divestment of certain aspects of the businesses.
  - Acquisitions
    - This refers to changes that occur as a result of acquiring another company/subsidiary/facility.
  - Mergers
    - This refers to changes that occur as a result of business mergers.
  - Change in output
    - This refers to changes that occur as a result of changes (increases or decreases) in your business output (i.e. a product or service); this could be, for example, organic growth, declines in sales due to the global recession, or release of a new product.
  - Change in methodology
    - This refers to changes that occur due to alterations in the way that the inventory is calculated, for example changes in emissions factors used or changes in methodology protocol followed.
  - Change in boundary
    - This refers to changes in the boundary used for your inventory calculation, i.e. changing from financial control to operational control. This option could also apply if you have incorporated facilities into your inventory that were excluded in previous years.
  - Change in physical operating conditions
    - This refers to changes in weather that have a significant influence on how the company operates, but that cannot be accounted for under the other options available, e.g. greater use of fuel.
  - Unidentified
    - Select this option if you are not able to identify the reason for the change in emissions from year to year.
  - Other, please specify
    - Select this option if there is an alternative reason for the change and enter the reason in the text box that appears.

- **Emissions value (percentage)**
    - Enter the change in emissions attributed to the reason (factor) provided in column 2 as a percentage of the Scope 3 source emissions. This value should not be greater than 999 and should not have more than two decimal places. There is no need to enter the % symbol. This value should be calculated as follows:

$$\left[\frac{\text{Change in emissions of the specific Scope 3 source attributed to the reason described in column 2}}{\text{Previous year emissions for the specific Scope 3 source}}\right] \times 100$$

- **Direction of change:** Select from
    - Increase
    - Decrease
    - No change
- **Comment:** Use this text box to provide any additional explanation that is relevant to capture the full complexity of the emissions changes, using no more than 2400 characters.

Box 35: Change in Scope 3 emissions, a worked example

Sources of Scope 3 emissions	Reason	Emissions value (percentage)	Direction of change	Comment
Business travel	Divestment	10	Decrease	We sold off one of our subsidiaries, Company X, during the reporting year. This has affected the emissions in all the Scope 3 categories on which we have previously reported. Business travel emissions have dropped because we now have fewer staff.
Upstream leased assets	Divestment	10	Decrease	We sold off one of our subsidiaries, Company X, during the reporting year. Company X was located entirely in leased buildings and as a result emissions in this category have fallen.
Business travel	Emission reduction activities	2	Decrease	Business travel emissions have fallen because we sold off a subsidiary, Company X, and we now have fewer staff flying on business. Business travel emissions have also fallen due to a staff incentive scheme to encourage less business air travel.

Purchased goods & services	Divestment	10	Decrease	Our output has decreased this reporting year due to the sale of our subsidiary, Company X. This has impacted the amount of goods we purchase from our suppliers.
Purchased goods & services	Change in output	2	Increase	Excluding Company X, the subsidiary that we sold off this reporting year, output from other parts of our business has increased, leading to increased purchasing of goods from our suppliers.
Purchased goods & services	Change in methodology	0.5	Decrease	We have started gathering some emissions data from our suppliers. This data has in some cases replaced the industry average emission factors that we were using and as a result, we have seen a small decrease in our emissions in this category.
Upstream transportation and distribution	Emission reduction activities	15	Decrease	Our upstream transport emissions have reduced by introducing a policy of selecting maritime vessels that are more carbon efficient.

CC14.4: Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

- **Yes, our suppliers**
- **Yes, our customers**
- **Yes, other partners in the value chain**
- **No, we do not engage**

Your selection here will drive the remaining question on this page. You should select all that apply for the reporting year, however if you select “No, we do not engage” do not select any of the other options. Other partners in the value chain are any companies that you work with in your up- or downstream activities that are not your suppliers or customers. For example, you could select this option if you engage with your franchisees on GHG emissions and climate change strategies. Please note that employees can be treated as value chain partners if they are making their own decisions on, for example, how they commute to work. However, if employees are under direction of their manager for business travel then they should not be treated as external to the organization; in this instance the value chain partner is the provider of the business travel, not the employee.

CC14.4a: Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

This question only appears if “Yes, our customers” or “Yes, other partners in the value chain” is ticked in response to question CC14.4.

Please provide your answer in the text box provided in the ORS. Methods of engagement could include, but are not limited to, one to one meetings or written correspondence, collaborative projects, holding training events, advertising etc. Your strategy for prioritizing engagements should detail how you have chosen the parts of the value chain as well as the individual partners to focus your engagement on. Finally, please detail how you have, or propose to, measure success and any positive outcomes achieved in the reporting year.

If you have selected multiple options in question CC14.4 please be clear which value chain partners each part of your response is referring to and include all that you have selected. If you have selected "Yes, other partners in the value chain" please also provide details of which parts of the value chain they are.

The character limit is 5000 characters for this question.

CC14.4b: To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent
This question only appears if "Yes, our suppliers" is ticked.

Please provide your response in the table in the ORS and reproduced below.

Type of engagement	Number of suppliers	% of total spend (direct and indirect)	Impact of engagement
Compliance Active engagement Collaboration/innovation Emissions reduction incentives Other, please specify	Enter a numeric value from 1 to 5000, using no commas and no decimal places.	Percentage field – enter a numeric value up to 100 with up to 2 decimal places and no punctuation	Text field – use no more than 2400 characters. Use this column to show the impact of this engagement, with regard to how you measure the success of this engagement. Please provide examples of positive outcomes achieved, for example, this could include supplier GHG emissions reductions and/or improved climate change strategies.

CC14.4c: Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future
This question only appears if "No, we do not engage" is ticked.

Please use the text box provided, using no more than 5000 characters. Please clearly separate the two elements of the question in your response.

Sign off Module

Pre-population

The question on this page is not eligible for pre-population if you responded last year.

CC15.1: Please provide the following information for the person that has signed off (approved) your CDP climate change response

CDP asks companies to identify the person that has signed off (approved) the CDP response. This information signals to investors that responsibility is being taken for the response and the information contained therein.

In the context of this section the Board (also known as "the Board of Directors" or "the Executive Board") is the group of persons appointed with joint responsibility for directing and overseeing the affairs of the company.

Please provide your response in the table in the ORS and reproduced below.

Name	Job title	Corresponding job category
Text field – use no more than 200 characters	Text field – use no more than 200 characters	Select from: Board chairman Board/Executive board Director on board Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO) Other C-Suite Officer President Business unit manager EHS manager Energy manager Environment/Sustainability manager Facilities manager Process operation manager Procurement manager Public affairs manager Risk manager Other, please specify