

# Technical Note:

## Glossary of terms

**This glossary defines terms that may be unfamiliar to those responding to CDP for the first time. Definitions have been sourced from the GHG Protocol, CDP staff and the IPCC Assessment Reports.**

### **Accuracy**

Relative measure of the exactness of an emission or removal estimate.

### **Activity-related intensity measurement**

This measurement expresses the GHG impact per unit of physical activity. Examples include GHG emissions per tonne of output or unit of production e.g. per square centimeter of semiconductor wafer produced or per finished product produced. Metrics used by service sector organizations include GHG emissions per job completed.

### **Avoided emissions**

Estimate of emissions that would have been released if a particular action or intervention had not taken place. For example, the use of insulation in premises might reduce the consumption of gas to heat the building with the consequential reduction of GHG emissions from the property. In this case, the quantification of estimated avoided emissions should be based on assumptions about the extent to which emissions are reduced through the use of insulation. In order to determine the level of emissions avoided through the use of certain goods or services, it is necessary first to establish what the level of emissions would have been had the goods or services not been used. This level is known as a baseline level. The avoided emissions are quantified by reference to the difference between the baseline level and level of GHG emissions achieved through the use of the goods or services.

### **Biologically sequestered carbon**

Biologically sequestered carbon is carbon that resides in a carbon pool. For example, through photosynthesis, plants convert carbon dioxide in the atmosphere into plant material. The carbon becomes part of the plant and is sequestered within it. The GHG Protocol (Appendix B, page 88) describes the carbon as residing in carbon pools. These pools include:

- Above ground biomass (e.g., vegetation) in forests, farmland, and other terrestrial environments;
- Below ground biomass (e.g., roots); and
- Biomass-based products (e.g., wood products) both while in use and when stored in a landfill.

### **Calculation tools**

Tools that automate the calculation of GHG emissions, either through use of an Excel sheet or an automated calculator.

### **Carbon sequestration**

The collection and long-term storage of carbon dioxide.

### **Certified Emissions Reductions (CERs)**

A unit of emission reduction generated by a CDM project. CERs are tradable commodities that can be used by Annex 1 countries to meet their commitments under the Kyoto Protocol.

### **Consolidation approach**

The identification of companies, businesses, organizations etc. for inclusion within the reporting boundary (see definition of reporting boundary below) of the responding organization is known as the “consolidation approach”. The way in which you report information for the companies that are included within the reporting boundary is known as the “consolidation approach” because, unless stated otherwise, the information you provide in response to the questionnaire should be presented as one “consolidated” result covering all of the companies, entities, businesses etc within your reporting boundary. The GHG Protocol states that two distinct approaches may be used to consolidate GHG emissions; the equity share and the control approaches. Control can be defined in either financial (financial control) or operational (operational control) terms. Specific guidance for CC10 addresses the consolidation approach in more depth.

### **Contractual instrument**

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. Markets differ as to what contractual instruments are commonly available or used by companies to purchase energy or claim specific attributes about it, but they can include energy attribute certificates (RECs, GOs, etc.), direct contracts (for both low-carbon, renewable or fossil fuel generation), supplier-specific emission rates, and other default emission factors representing the untracked or unclaimed energy and emissions (termed the residual mix) if a company does not have other contractual information that meet the Scope 2 Quality Criteria.

### **Conversion to MWh**

The questionnaire requires energy and fuel inputs to be standardized to the units commonly used for measuring electricity consumption (MWh). Please see the guidance for CC11.2 for information on conversion to MWh. Fuel can be measured in terms of its:

- Energy content e.g. in kilojoules (kJ), British thermal units (Btu), or therms;
- Volume e.g. in m<sup>3</sup> or liters; and
- Mass e.g. in metric tonnes or short tons.

### **Double counting**

Two or more reporting companies claiming the same emissions or reductions in the same scope, or a single company reporting the same emissions in multiple scopes.

### **Electric utilities**

CDP has adopted the definition of “electric utilities” used in the IGCC, Ceres and Australian/ New Zealand IGCC electric utilities framework as being “companies that are engaged in the generation, transmission and distribution of electricity”.

### **Emission factor**

An emission factor is a unique value for scaling emissions to activity data in terms of a standard rate of emissions per unit of activity (e.g., grams of CO<sub>2</sub> emitted per liter of fossil fuel consumed). Emission factors allow GHG emissions to be estimated from a unit of available activity data. Emissions factors are sometimes referred to as emission conversion factors

### **Emission intensity**

The ratio of GHGs produced to a financial measure, e.g. turnover or profit, or to a measure of activity, e.g. per metric tonne or unit of output. This differs from “total emissions” which refers to the actual amount of GHGs produced by an organization. Therefore:

### **Emission Reduction Unit (ERU)**

A unit of emission reduction generated by a Joint Implementation (JI) project. ERUs are tradable commodities which can be used by Annex 1 countries to help them meet their commitment under the Kyoto Protocol.

### **Energy**

Energy includes electricity, heat, steam and cooling. Cooling is included in this list because when cooling services are purchased using a district system, the compressor system that produces the cooling may be driven by either electricity or fossil fuel combustion.

### **Equity share**

Equity share is one of the approaches that can be used to consolidate and report GHG emissions. 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 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 that 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.

### **Energy type**

Energy types are defined for the purposes of the information request as electricity, heat, steam and cooling. Cooling is included because when cooling services are purchased using a district system, the compressor system that produces the cooling may be driven by either electricity or fossil fuel combustion.

### **Financial control**

An organization has financial control over an operation where it has the ability to direct the financial and operating policies of that 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.

### **Financial emissions intensity measurement**

This measurement expresses the GHG impact per unit of financial value. Examples of these metrics would be GHG emissions per dollar of profit, turnover or EBITDA. EBITDA stands for Earnings Before Interest, Tax, Depreciation and Amortization. It is a measure of a company's profitability that excludes the potentially distorting effect of financial and accounting decisions (on depreciation, tax, interest etc), which do not directly affect the profitability of a company's operations. This is sometimes known as gross operating profit.

### **Fuel type**

Fuel types include: natural gas; types of coal or coal-derived fuels, such as anthracite, coking coal, coal tar; types of biomass and biofuel; crude oil and crude oil-derived substances, such as residual fuel oil, motor gasoline (petrol), and diesel.

### **Fugitive emissions**

Intentional and unintentional releases such as equipment leaks from joint, seals, packing, gaskets, as well as fugitive emissions from coal piles, wastewater treatment, pits, cooling towers, gas processing facilities, etc.

### **GHG type**

There are various types of greenhouse gases, but the information request focuses on reporting of the seven GHGs covered by the Kyoto Protocol:

- Carbon dioxide (CO<sub>2</sub>);
- Methane (CH<sub>4</sub>);
- Nitrous oxide (N<sub>2</sub>O);
- Hydrofluorocarbons (HFCs) family of gases;
- Perfluorocarbons (PFCs) family of gases;
- Sulphur hexafluoride (SF<sub>6</sub>); and
- Nitrogen trifluoride (NF<sub>3</sub>)

### **Global warming potential (GWP)**

The GHG Protocol 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 CO<sub>2</sub>." By using GWPs, GHG emissions can be standardized to a carbon dioxide equivalent (CO<sub>2</sub>-e). 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 CO<sub>2</sub>. Hence, methane's global warming potential (GWP) over a 100-year period is 28. Carbon dioxide has 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, because of this, CDP recommends that companies please use the latest GWPs given in the Fifth Assessment Report (AR5). This approach is aligned with the GHG Protocol who state the corporation "Shall use 100-year GWP

values from the IPCC and b. Should use GWP values from the most recent Assessment Report, but may choose to use other IPCC Assessment Reports.” The Fifth Assessment Report (AR5) gives the latest GWP values as well as GWPs from the Second Assessment Report (SAR). GWPs are expressed over a number of different time frames. Please use the factors that give the GWP over a 100-year time span. For gases without a value in the SAR column, please use the 100-year value in the seventh column of table 2.14.

### **Greenhouse gas inventory**

A quantified list of an organization’s GHG emissions and sources

### **Grid average emissions factor**

The grid average factor represents the relative contributions that different types of electrical generation make to electricity available from the grid and their associated emission rates. It is primarily used to calculate a location-based Scope 2 figure.

### **Gross emissions**

Gross means total emissions before any deductions or other adjustments are made to take account of GHG mitigation activities, offset credits, renewable energy certificates, avoided emissions from the use of goods and services and/or reductions attributable to the sequestration or transfer of GHGs.

### **Likelihood**

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 occurring. The terms used to describe likelihood are taken from the Intergovernmental Panel on Climate Change’s (IPCC) 2007 reports. They are associated with probabilities, indicating the percentage likelihood of the event occurring. 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**

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. It is not possible to accurately define terms for magnitude as they will vary from company to company. 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.

### **Methodology/method**

The set of instructions that enable a GHG calculation to be made and repeated in a consistent manner, irrespective of the person performing the calculation.

### **Metric tonne of CO<sub>2</sub>**

A metric tonne of carbon dioxide. Please note that a metric tonne is equivalent to 2,204.6lbs. The “long ton”, a term generally used in Britain, is equivalent to 2,240lbs and the “short ton” is generally used in the USA and is equivalent to 2,000 lbs.

### **Metric tonnes of CO<sub>2</sub>e**

Emissions under the “scopes” must be reported in metric tonnes of CO<sub>2</sub>e: CO<sub>2</sub>e stands for carbon dioxide equivalent. A metric tonne of CO<sub>2</sub>-e means one metric tonne of carbon dioxide or an amount of any of the other GHGs with an equivalent global warming potential.

### **Mobile combustion**

Mobile combustion: mobile units that combust (consume) fuels e.g. transport vehicles or mobile equipment such as cranes and tractors.

### **Operational control**

Operational control is one of the control approaches that can be used to consolidate and report GHG emissions. A company has operational control of another company if it, or one of its subsidiaries, has the full authority to introduce and implement its operating policies at the company.

### **Opportunities**

Opportunities can arise due to changes in regulatory, physical climate or other conditions as a result of climate change or climate change policy that have the potential to have a positive impact on your business. Examples include reductions in operating costs due to reduced minimum temperatures, potential new business servicing carbon trading regimes or changes in consumer behavior leading to heightened demand for your product.

### **Process**

Generally, the term “process” implies the means, framework or policy by which a company identifies risks and/or opportunities. This process is likely to differ from company to company and may consist of one or more of the following:

- An in-house system of risk management applied throughout the company to identify operational risks and opportunities (including those associated with climate change);
- A process dedicated solely to the identification of risks and opportunities associated solely with climate change; and
- A process that forms part of the company’s overall approach to governance and/or compliance.

### **Process emissions**

Emissions from physical or chemical processes such as CO<sub>2</sub> from the calcinations step in cement manufacturing, CO<sub>2</sub> from catalytic cracking in petrochemical processing, PFC emissions from aluminium smelting, etc.

### **Program prefixes**

Question numbers in the climate change questionnaire I include the program prefix ‘CC’, e.g. CC3.2. In addition, there are relevant prefixes to sector module questions e.g. Food, Beverage and Tobacco module questions begin with ‘FBT’. Please note that the prefixes ‘W’ and ‘F’ relate to CDP’s water and forests questionnaires, respectively.

### **Protocol**

A record of an agreement, especially one reached through international negotiations. For the purposes of the information request, it means an agreed system for accounting for GHG emissions e.g. the GHG Protocol.

### **Renewable energy**

CDP follows the definition of renewable energy given in the GHG Protocol: “Energy taken from sources that are inexhaustible, e.g. wind, water, solar, geothermal energy and biofuels.”

### **Reporting boundary**

Your reporting boundary represents the owned and/or controlled group, company, companies, businesses or organizations to which your response relates, determined by reference to your chosen “consolidation approach”. References in the information request to “your organization” or “your company” are to the group, company, companies, businesses or organizations within your reporting boundary. Whenever the information request or the guidance refers to “your reporting boundary” it means the reporting boundary you identify in answer to CC8.1. The way in which you identify companies that are included within the reporting boundary is known as the “consolidation approach” because, unless stated

otherwise, the information you provide in response to the information request should be presented as one “consolidated” result covering all of the companies, entities, businesses etc within your reporting boundary.

### **Reporting year**

The latest 12-month period for which emissions data is reported. Any start or end date may be selected for your reporting year as long as it encompasses a full 12 months.

### **Risks (inherent)**

Risks can arise due to changes in regulatory, physical climate or other conditions as a result of climate change or climate change policy that have the potential to have a negative impact on your business. Examples include increases in operating costs due to the imposition of a carbon tax, increased operating costs due to new requirements for refrigeration, or changes in consumer behavior leading to a reduced demand for your product.

### **Scope 1 GHG emissions**

These are direct emissions from GHG sources owned or controlled by the reporting organization.

### **Scope 2 GHG emissions**

These emissions do not physically occur from within the organization’s reporting boundary and are therefore “indirect” emissions. Scope 2 emissions are caused by the organization’s consumption of electricity, heat, cooling or steam brought into its reporting boundary. This category is often called “purchased electricity” because it represents the most common source of Scope 2 emissions.

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. The definitions of location-based and market-based are as follows:

- **Location-based:** A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries
- **Market-based:** A method to quantify scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own.

### **Scope 3 GHG emissions**

An organization’s indirect emissions other than those covered in Scope 2. They are from sources that are not owned or controlled by an organization, but which occur as a result of its activities.

### **Self-produced fuel**

These are fuels produced by assets or activities within your reporting boundary (selected in answer to CC8.1) that are combusted for energy generation. This is common in the oil and gas sector, e.g. refinery fuel gas, associated gas, etc.

### **Standard**

A recognized authority. In the context of the CDP information request, a standard refers to a widely-accepted GHG accounting methodology such as the GHG Protocol Corporate Standard or ISO 14064-1.

### **Stationary combustion**

Fixed units for on-site combustion of fuels e.g. boilers, turbines, ovens, incinerators, dryers, etc.

### **Transferred emissions**

Any amount of GHG emissions (e.g. of carbon dioxide) that are captured and physically transferred within the boundary of the reporting company to a system outside that boundary.

### **Uncertainty**

1. Statistical definition: A parameter associated with the result of a measurement that characterizes the dispersion of the values that could be reasonably attributed to the measured quantity (e.g., the sample variance or coefficient of variation).
2. Inventory definition: A general and imprecise term which refers to the lack of certainty in emissions-related data resulting from any causal factor, such as the application of non-representative factors or methods, incomplete data on sources and sinks, lack of transparency etc. Reported uncertainty information typically specifies a quantitative estimate of the likely or perceived difference between a reported value and a qualitative description of the likely causes of the difference.

### **Verified Emissions Reductions (VER)**

A VER is a unit of greenhouse gas emission reduction that has been verified by an independent auditor, but has not yet met the requirements for verification, certification and issuance of CERs (in the case of CDM) or ERUs (in the case of JI) under Kyoto Protocol.

### **Zero or low carbon electricity**

Certain methods of generating electricity do not emit GHGs or emit relatively low amounts of GHGs compared with other forms of electricity generation (although GHGs are emitted during other phases of their lifecycle, such as in the manufacture, installation and/or maintenance of the generator). Examples of zero or low carbon electricity include nuclear generation and electricity generated by wind, water, solar and geothermal heat. For the purpose of the information request, these methods are referred to as zero or low carbon methods of generation.