CARBON TRUST

Corporate Emissions Assessment Protocol

For the measurement, management, and reduction of organisations' greenhouse gas emissions[1]

[1] Version 1_4

Part 1: Requirements

The Carbon Trust

About the Carbon Trust

The Carbon Trust is an independent company established in 2001 with the support of the UK Government. Its mission is to accelerate the move to a sustainable, low carbon economy by working with business, the public sector, and investors.

The Carbon Trust carries out a wide range of activities, including working directly with business to reduce greenhouse gas emissions, explaining the strategic implications of climate change and investing in new technologies and businesses that will help to tackle climate change.

Foreword

Corporate Emissions Assessment Protocol

The Corporate Emissions Assessment (CEA) Protocol builds on the experience of the Carbon Trust Standard programme in establishing requirements for greenhouse gas (GHG) emission measurement, management and reduction.

The CEA Protocol delivers clear requirements and guidance for organisations seeking to measure and reduce their emissions, and is provided in two parts:

- Part 1: sets the minimum requirements for GHG assessment by organisations; and
- Part 2: establishes country-specific emissions performance requirements over time.

This CEA Protocol is freely available for use by organisations and programme operators to support their continuing efforts to reduce GHG emissions from their activities.

The CEA Protocol has been adopted by the Carbon Trust Standard as the basis for assessing corporate GHG emissions performance for organisations participating in the Carbon Trust Standard programme.

About the Carbon Trust Standard

The Carbon Trust Standard (CTS) is an organisation-level GHG assessment and reduction programme. The CTS was developed by the Carbon Trust in 2007/08 to encourage and recognise good practice in emissions measurement, management and reduction by businesses and public sector organisations.

The Carbon Trust Standard has adopted the CEA Protocol (including both Part 1 and Part 2 of the CEA Protocol) as the basis of GHG measurement and performance assessment[2].

Organisations that are assessed as complying with the requirements of the Carbon Trust Standard and successfully certified may apply to the programme operator (The Carbon Trust Certification, or its accredited and licensed

[2] The CEA Protocol, including both Part 1 (Requirements) and Part 2 (Criteria), may also be adopted by other organisations and programme operators seeking to demonstrate organisation GHG performance over time.

certification partners) for use of the Carbon Trust Standard logo[3].

[3] Use of the Carbon Trust Standard logo, or other claims of conformance with the Carbon Trust Standard is restricted to those organisations that have achieved certification of their GHG emissions performance by the Carbon Trust Certification or its accredited and licensed certification partners.

1 Introduction

Climate change is a major challenge facing the world, and our success in mitigating climate change will be largely determined by our ability to reduce future greenhouse gas emissions. Organisations at all stages in the supply chain have the opportunity to contribute to this mitigation, firstly by understanding their contribution to global GHG emissions, and secondly by using this information to guide action to reduce emissions.

1.1 The Corporate Emissions Assessment Protocol

The Corporate Emissions Assessment (CEA) Protocol is an organisation-level GHG assessment and reduction standard. The CEA Protocol assists organisations in measuring their GHG emissions (Part 1), and establishes a benchmark for organisations seeking to demonstrate and report on GHG emissions management, and change in emissions over time (Part 2). Definitions for key terms used in this Protocol are provided in the Appendix.

1.1.1 Part 1: Requirements

This document, Part 1 of the CEA Protocol, specifies the minimum requirements for organisation emissions reporting, including the scope and boundary of the assessment for organisations seeking to assess their GHG emissions. Implementation of the requirements in Part 1 of the Protocol supports robust and transparent emissions reductions over time.

Part 1 of the CEA Protocol builds on the work of the Greenhouse Gas Protocol Initiative, convened by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), and on ISO 14064. Part 1 of the CEA Protocol adapts this earlier work to make it directly applicable to organisations wishing to demonstrate good GHG emissions performance and reductions in emissions over time.

1.1.2 Part 2: Criteria

Part 2 of the CEA Protocol builds on the requirements specified in Part 1, establishing clear targets for assessing business GHG emissions performance over time, together with requirements for the management of GHG emissions. Country and region-specific performance criteria are provided in Part 2, which will be updated from time-to-time by the Carbon Trust.

1.2 Relationship between the Carbon Trust Standard and the CEA Protocol

The Carbon Trust Standard has adopted the CEA Protocol (including both Part 1 and Part 2 of the CEA Protocol) as the basis of GHG measurement and performance assessment[4]. Obtaining the Carbon Trust Standard requires activities in three key areas detailed in the CEA Protocol:

- Carbon footprint[5] measurement
- Carbon management
- Carbon reduction performance

Organisations that are assessed as complying with the requirements of the Carbon Trust Standard and successfully certified may apply to the programme operator (The Carbon Trust Certification, or its accredited and licensed certification partners) for use of the Carbon Trust Standard logo[6].

[4] The CEA Protocol, including both Part 1 (Requirements) and Part 2 (Criteria), may also be adopted by other organisations and programme operators seeking to demonstrate organisation GHG performance over time.

[5] The term 'carbon footprint' is used to refer to emissions of GHG emissions expressed in carbon dioxide equivalent.

[6] Use of the Carbon Trust Standard logo, or other claims of conformance with the Carbon Trust Standard is restricted to those organisations that have achieved certification of their GHG emissions performance by the Carbon Trust Certification or its accredited and licensed certification partners.

2 Purpose and scope

The CEA Protocol sets out the minimum requirements for organisations seeking to demonstrate GHG performance and long-term GHG management. Part 1 specifies the approach to be taken in measurement of emissions and the calculation of changes in emissions over time, together with management and other requirements.

2.1 Purpose and scope

Part 1 of the CEA Protocol sets out a transparent and rigorous approach to the assessment of emissions that is adaptable to the needs of individual organisations. The boundary of the assessment includes direct and indirect emissions, whether at an individual site or across multiple sites within the same organisation.

Part 1 of the CEA Protocol assesses most scope 1 and 2 emissions (as defined by the Greenhouse Gas Protocol Initiative) from the activities of an organisation; selected scope 3 sources of emissions, such as those arising from business travel, water and waste, may also be included in the assessment (see Section 4.2 for a description of required operational boundaries)[7]. With the exception of some specific areas (e.g. biofuels), the assessment excludes embodied emissions in inputs (e.g. products used by the organisation). The assessment also excludes some downstream emissions, such as those arising from the use of outputs from the organisation (e.g. use phase emissions from energy using products sold by the organisation). Part 1 of the CEA Protocol does not set out to provide a life cycle assessment view of emissions from the organisation. Instead, it provides a method for assessing the emissions performance of the operation of the organisation, and (through the Carbon Trust Certification[8]) recognition of improvement.

Part 1 of the CEA Protocol considers the GHG emissions arising from the activities of the organisation, together with the management techniques and support systems employed by the organisation to deliver long-term emissions reductions. The CEA Protocol does not assess other potential social, economic and environmental impacts arising from the activities of the organisation.

[7] Organisations wishing to achieve certification to the Carbon Trust Standard must conform with the operational boundary requirements defined in both Part 1 & Part 2 of the CEA Protocol. See Part 2 of the CEA Protocol for specific requirements. The operational boundary defined in Part 2 to meet the requirements of the Carbon Trust Standard may require the inclusion of additional emission sources to the minimum defined here, for example the inclusion of business travel emissions at recertification.

[8] Where an organisation claims certification from the Carbon Trust Standard, conformance with both Part 1 & Part 2 of the CEA Protocol must be certified by the Carbon Trust Certification (or a certification partner licensed by the Carbon Trust).

2.2 Guidance documents

Local implementation of the CEA Protocol by programme operators may include the use of separate guidance documents. Where this occurs, the provisions of any guidance documentation must not conflict with the requirements of this Protocol.

3 Principles

Principles establish the overall ethos and framework for Part 1 of the CEA Protocol. They are intended to establish the overall goal of the Protocol, and to guide any interpretation of the Protocol that may be needed when it is being implemented by organisations.

Part 1 of this Protocol establishes requirements that organisations must meet in order to conform to the Protocol:

- **Measurement:** requirements for accurate and consistent GHG emissions (greenhouse gas inventory) measurement;
- **Change**: requirements for determining the change in the GHG emissions of organisations over time;
- **Management:** requirements for good practice in the management of GHG emissions.

These requirements shall be implemented for the specified organisational boundary and within the defined assessment period. In implementing these requirements, organisations must be able to demonstrate that the following principles have been taken into consideration.

1. Relevance: select GHG sources, boundaries of operations, and data and methods relevant to the assessment;
2. Completeness: include all relevant GHG emissions;
3. Consistency: support meaningful comparisons in GHG-related information;
4. Accuracy: reduce bias and uncertainties as far as is practical;
5. Transparency: collect and disclose sufficient data to allow intended users to make decisions with confidence.

(These principles have been adapted from ISO14064-1:2006, Clause 3.)

These principles support both the assessment of organisational emissions, and the assessment of changes in organisational emissions over time. Where this Protocol is used in conjunction with the Carbon Trust Standard, a process of continuous improvement and ongoing reduction in organisational emissions is required[9].

[9] Organisations seeking certification to the Carbon Trust Standard must be able to demonstrate on-going good practice and further reduction in emissions at the point of recertification.

3.1 Relation to other standards

Part 1 of the CEA Protocol draws on and adapts previously published requirements such as the Greenhouse Gas Protocol and ISO 14061-1. When establishing the boundary for assessment, assessing GHG emissions, and assessing the reduction performance, organisations may use the Greenhouse Gas Protocol (primarily chapters 1, 3, 4, 5) and ISO 14064-1 (primarily sections 3, 4, 5) as guidance.

Part 1 of the CEA Protocol establishes additional rules and requirements, beyond those specified in the Greenhouse Gas Protocol and ISO 14064-1. In the case of a conflict between the requirements of the CEA Protocol and the Greenhouse Gas Protocol or ISO 14064-1, the requirements of the CEA Protocol take precedence.

3.2 Definitions and interpretation

Definitions for key terms used in this Protocol are provided in the Appendix. Where a definition given in this document differs from definitions used in other standards, the definition in this document shall be used.

4 Assessment boundary and period

Establishing the boundary of the assessment and the period over which the assessment is made is essential both for the organisation implementing the CEA Protocol and for any users of the information that is made public.

Organisations shall establish the boundary of their emissions assessment, together with the assessment period and baseline. The assessment boundary includes both an organisational boundary (i.e. the parts of an organisation's activities that are included in the assessment) and an operational boundary (i.e. the activities that are included in the assessment), while the period over which the assessment takes place shall also be determined.

4.1 Organisational boundary

Organisations shall specify the organisational boundary for assessment against the requirements of the CEA Protocol.

The organisational boundary may be defined to cover all, or part, of an organisation's operations:

- Where an organisation chooses to apply this Protocol to all of its operations, it shall specify the full name of the organisation and all subsidiary companies which are covered.
- Where an organisation chooses to apply this Protocol to part of its operations, they shall specify the coverage either:
  - On an organisation structure basis (e.g. the Protocol is applied to one or more subsidiaries or operating divisions within an organisation); or
  - On a physical location basis (e.g. the Protocol is applied to one or more physical locations owned or controlled by the organisation).

The inclusion of emissions from jointly owned or operated facilities and operations shall be either on an equity share or control basis.

4.2 Operational boundary

Organisations implementing this Protocol shall, as a minimum, include:

- All on-site fuel consumption within the specified organisational boundary
- All electricity used within the specified boundary
- All heat or steam imported for use within the specified boundary

- All consumption of fuel in vehicles owned or leased by the organisation which are within the organisational boundary and used for the activities of the organisation.
  - Where the boundary is defined on a physical location basis, then fuel consumption in vehicles based at the premises covered by the boundary shall be included.
  - Private use of company cars may be excluded if sufficient data exist to distinguish private and organisation use.

Where an organisation chooses to publish GHG data for subsequent assessment periods, the organisation may choose to report additional emissions assessment data.

Organisations may choose to optionally report additional emissions sources including indirect (scope 3) emissions sources. Where additional reporting is undertaken, the boundaries of the emissions assessment shall be clearly defined[10].

4.3 Baseline and assessment periods

Organisations implementing this Protocol shall nominate:

- An initial baseline period of 12 months, or a multiple of 12 months, over which the baseline emissions of the organisation are calculated, and
- An assessment period (or periods) of 12 months, or a multiple of 12 months, which follows the baseline period and over which comparison against the baseline emissions is carried out.

The change in emissions or emissions intensity of an organisation over time (see Section 6) is determined by reference to the baseline emissions, which will be either:

- For the first assessment period, the baseline period determined when the organisation first implemented the Protocol; or
- For subsequent contiguous assessment periods, the baseline period is the previous assessment period.

4.4 Communication of assessment boundary and results

Where an organisation communicates (to a third party) the result of applying the CEA Protocol, then that organisation must ensure that:

- The information provided is accurate;
- The information is relevant to the organisation making the claim;
- The information is communicated in a clear and non-misleading manner; and
- The boundary of the assessment is clearly described, and relevant to the organisation implementing this Protocol.

[10] Organisations wishing to achieve certification to the Carbon Trust Standard must conform with the operational boundary requirements defined in both Part 1 & Part 2 of the CEA Protocol. See Part 2 of the CEA Protocol for specific requirements. The operational boundary defined in Part 2 to meet the requirements of the Carbon Trust Standard may require the inclusion of additional emission sources to the minimum defined here, for example the inclusion of business travel emissions at recertification.

5 Emissions measurement requirements

Specific requirements for the measurement of GHG emissions from organisations ensure that the results obtained are accurate, relevant and consistent.

Organisations shall report their emissions for the specified organisation boundary, and for the specific assessment period. Where comparison is made between the emissions from the current assessment period and a previous assessment period, consistent assumptions on boundaries and other parameters must be used.

Emissions shall be reported in metric tonnes or kilograms of carbon dioxide equivalent (CO_2e). Where the defined organisational and operational boundary includes emissions of greenhouse gases other than CO_2, the reported emissions assessment shall include all six Kyoto GHG gases and be converted into CO_2e.

5.1 Specific calculation requirements

5.1.1 Data

The emissions assessment, for all data periods, should be based as far as practicable on primary data (e.g. kWh of energy used), with secondary data to be used where primary data are unavailable or impractical.

Organisations shall provide details of the emissions factors used for the calculation of GHG emissions and the calculated total CO_2e arising.

Organisations implementing the CEA Protocol shall demonstrate a robust audit trail for the data provided.

5.1.2 Materiality

Organisations shall include all emissions occurring within the boundary of the assessment that have, or are likely to have, a material impact on the assessment. Immaterial emission sources that are impractical to measure may be excluded from the assessment.

- Each excluded source should not be greater than an estimated 1% of the total anticipated emissions. A source can be defined as a fuel source or a physical site (or combination of both), or company vehicle fleet or group of vehicles.
- The aggregate amount of estimated emissions excluded must not exceed 5% of the anticipated emissions.

At least 95% of the anticipated emissions shall be included and emissions sources that have been measured and fall below the 1% threshold may not be excluded from the reported emissions assessment. Any exclusion and the reasons for the exclusion shall be noted, including details of the estimation calculation performed.

Where errors, omissions or other changes (such as improved measurement of primary or secondary data) result in a material change to the assessment over time, subsequent assessments (e.g. for the purposes of calculating change over time) shall ensure that the impact of these changes is corrected for (see Section 6).

5.1.3 Emissions factors

Emissions factors that are used to convert energy data to emissions data shall be representative of the system supplying the energy. Sources of emissions factors include those:

- Reported in national (government-produced) publications; or
- Derived from IEA data or the GHG Protocol initiative.

Where relevant emissions data is not available from these sources, organisations may use emissions factors published by other recognised authorities.

A single set of current emissions factors shall be used to calculate emissions data for each assessment period being reported. Where emissions factors change year to year (e.g. for the emissions intensity of the electricity grid) the most recent emissions factor should be used for all baseline and assessment periods presented.

5.1.4 Non-CO_2 GHG gases

Conversions of non-CO_2 greenhouse gases to CO_2e shall be undertaken using the latest 100 year Global Warming Potential figures for the relevant gas published by the IPCC.

5.1.5 Renewable energy

Emissions factors specific to renewable energy sources shall be applied only where both of the following conditions can be demonstrated[11]:

- The organisation used the energy (i.e. use of renewable energy generated on-site) or used an equivalent amount of energy of the same type to that generated (i.e. use of renewable energy delivered via an energy transmission network that combines different types of energy generation), and another organisation did not use the energy generated whilst claiming it as renewable;
- The generation of this renewable energy does not influence the emissions factor of any other process or organisation using the same type of energy (e.g. renewable electricity).

Where these conditions are not met, national average energy emissions factors shall be used for the renewable energy.

[Adapted from BSI PAS 2050: 20011]

5.1.6 Combined heat and power (CHP)

The emissions arising from CHP shall be allocated between heat and electricity if either the heat or electricity are imported or exported based on the heat and electricity output and the generation efficiency of each process.

[11] In many situations, the emission factor for renewable energy generation is automatically incorporated into the national average energy emission factor. As a result, were a company to claim a low emission factor for the purchase of renewable electricity (e.g. through the purchase of a "green tariff") that was also included in national reporting, double-counting of the low emissions benefit of the electricity would occur.

The purpose of these requirements is to ensure that double counting does not occur. Where it can be demonstrated that there is no double-counting, organisations implementing the Protocol may include the impact of renewable energy generation in their emissions assessment.

5.1.7 Offsite generation of electricity and heat

Where electricity and/or heat are generated off-site the emissions factor used shall be either:

- The emission factor for electricity and heat imported directly from a stand-alone source (i.e. not part of a larger transmission system) shall be specific to that source (e.g. for purchases of heat from a CHP the emissions factor would be calculated in accordance with 5.1.6).
- For electricity and heat delivered via a larger energy transmission system the emissions factor appropriate to the transmission system (e.g. the average electricity supply emissions factor the country in which the electricity is used).

[Adapted from BSI PAS 2050: 2011]

5.1.8 Exported electricity and heat

Emissions from all on-site generation of electricity and heat shall be calculated and reported.

For organisations whose primary activity is not power generation, the reported emissions for the purpose of assessing reduction performance shall include a deduction for emissions avoided in the electricity or heat network to which it has been exported. Any such reduction shall be on the basis of the average emissions intensity of the network.

Organisations implementing this Protocol should provide evidence that the exported electricity/heat has been used by another organisation (e.g. purchase agreement, sale to the grid).

5.1.9 Biofuels and biomass

Where the organisation makes use of biofuels and biomass (e.g. co-firing of biomass, biodiesel, bioethanol) the reported emissions assessment shall include the GHG emissions arising from the production of the fuel and shall exclude the CO_2 emissions arising from combustion of the biogenic carbon component of the fuel.

[Adapted from BSI PAS 2050: 2011]

5.1.10 Emissions from waste

Where waste (or the combustion of waste or methane arising from waste) results in GHG emissions within the organisational and operational boundary, these shall be included in the emissions assessment as follows:

- Where non-CO_2 emissions arise (e.g. methane leakage from landfill, which is not combusted) these emissions shall be reported and converted to CO_2e as set out in 5.1.4.
- CO_2 emissions arising from the biogenic carbon component of the waste should be assigned a global warming potential of zero.
- CO_2 emissions arising from the fossil carbon component of the waste shall be assigned a global warming potential of 1 and shall be calculated using an emissions factor appropriate to the waste stream (e.g. where methane from landfill is combusted the emissions factor appropriate to methane combustion) [12].

5.1.11 Sale or purchase of project reductions

The sale or purchase of any emissions reduction credits (including voluntary offset schemes, national or international offset mechanisms such as the Clean Development Mechanism, etc.) cannot be used to increase or decrease the assessment of emissions under this Protocol.

5.1.12 GHG removals

Organisations implementing this Protocol may quantify and report any permanent GHG removals (e.g. the impact of long-term carbon capture and storage) within the specified boundary as part of their emissions assessment.

[12] Often waste streams contain mixed fossil and biogenic sources of carbon. Where this is the case, the fossil and biogenic fractions of the waste stream may be assessed separately.

6 Change in emissions over time

Understanding the change in an organisation's emissions over time is key to achieving reductions, and the requirements in this section clarify and standardise the approach to be taken for assessing change in emissions over time. This Protocol supports the assessment of change of both emissions, and emissions intensity.

Organisations may determine:

- The change in emissions of the organisation between the baseline period and a subsequent assessment period, and/or
- The change in emissions intensity of the organisation between the baseline period and a subsequent assessment period.

Both metrics shall be calculated for the specified boundary and reported emissions sources, while the change over time may be expressed as a:

- Absolute change: difference between the emissions or emissions intensity between the baseline and assessment period; or
- Relative change: the percentage change in emissions or emissions intensity between the baseline and assessment period.

Where this Part of the CEA Protocol is used in conjunction with the Part 2 (Criteria) of the CEA Protocol as part of attaining the Carbon Trust Standard, the assessment of changes in emissions and/or emissions intensity over time is a mandatory component of this Protocol.

6.1 Change in emissions over time

Change in emissions over time is assessed by comparison of emissions for the baseline period with the emissions of a subsequent assessment period.

Where a two year assessment period or baseline period is used, an average annual emissions figure (or average annual emissions intensity figure) shall be calculated. These average figures shall be used as the basis of analysis of the change in emissions over time.

6.1.1 Calculating change in emissions over time

The annual change in emissions shall be calculated by subtracting the baseline emissions from the assessment period emissions. Where either or both of the baseline or assessment period emissions are measured over more than one year, they shall be converted to annual average emissions prior to the determination of change.

6.2 Change in emissions intensity over time

Change in emissions intensity over time is assessed by comparison of the emissions intensity for the baseline period with the emissions intensity of a subsequent assessment period.

6.2.1 Assessing emissions intensity

Emissions intensity is calculated by dividing the emissions in a period by an indicator of the organisation's output. The default indicator is revenue (for private organisations) or revenue expenditure for public sector organisations, with the result expressed in terms of tCO_2e/unit revenue (e.g. £, $, €, etc). Revenue figures used for indicators shall relate to the organisational boundary and period assessed, and shall be adjusted to remove the effect of inflation.

The revenue or output data used for calculation of emissions intensity shall relate to the organisational boundary and period assessed. Where emissions assessment data is adjusted to take account of structural changes an equivalent adjustment to any benchmark indicator shall be undertaken.

In circumstances where the default indicator does not reflect changes in the organisation's output and may give a distorted view of the organisations emissions intensity performance, use of an alternative indicator may be made. In these instances assessment of change against an industry-specific output indicator should be undertaken, and the organisation must justify the use of this alternative indicator.

6.2.2 Calculating change in emissions intensity over time

The annual change in emissions intensity shall be calculated by subtracting the baseline emissions intensity from the assessment period emissions intensity. Where either or both of the baseline or assessment period emissions intensities are measured over more than one year, they shall be converted to annual average emissions intensity prior to the determination of change.

6.3 Treatment of boundary changes

The assessment of the changes in emissions over time, or in emissions intensity over time, shall be made on a like-for-like basis between data periods, and shall correct for structural changes in the organisational boundary of the assessment (e.g. divestments or acquisitions) where this change results in a material change in emissions.

Where a change in the boundary of an assessment does result in a material change in emissions, organisations shall report an adjusted emissions figure and emissions intensity indicator (as required) to show a like-for-like comparison adjusting for the boundary changes.

The assessment of changes in emissions over time shall, at a minimum, be based on comparison of the emissions of that part of the organisation which was present in both the current assessment period and baseline period. However, where high quality data are available on emissions sources that are outside the boundary this data may be included in the emissions assessment to enable like-for-like comparison.

Where the change in emissions or emissions intensity over time is being calculated as part of attaining the Carbon Trust Standard, the minimum performance criteria for different countries and regions included in the assessment boundary is specified in Part 2 of the CEA Protocol.

6.4 Public reporting of change over time

Organisations shall record the basis of any change in emissions over time, and provide evidence that the change arises from the organisation's own emissions management actions and not from external factors (e.g. a change in the grid average emissions intensity of electricity).

Where results from this section are publicly communicated, they shall be clearly communicated as being based on either a change in emissions, or a change in emissions intensity (or both), over time.

6.4.1 Reporting a change on an absolute basis

Absolute change is the difference between the emissions, or emissions intensity (or both), between the baseline period and the assessment period.

Example for reporting absolute change:

- *Where an organisation assessed its emissions for the baseline period to be 200tCO_2e and for the assessment period to be 180tCO_2e, then the change in emissions would be reported as a 20tCO_2e reduction.*

- *Where an organisation assessed its emissions intensity to be 3.5kgCO_2e /£ turnover in the baseline period, and 3.0kgCO_2e /£ turnover in the assessment period, then the change in emissions intensity could be reported as a reduction of 0.5kgCO_2e/£ turnover*

6.4.2 Reporting a change on a relative basis

Relative change is the change in emissions, or emissions intensity (or both), between the baseline period and the assessment period, reported as a percentage of the baseline period.

Example for reporting relative change:

- *Where an organisation assessed its emissions for the baseline period to be 200tCO_2e and for the assessment period to be 180tCO_2e, then the change in emissions would be reported as a 10% CO_2e relative reduction.*

- *Where an organisation assessed its emissions intensity to be 3.5kgCO_2e /£ turnover in the baseline period, and 3.0kgCO_2e /£ turnover in the assessment period, then the change in emissions intensity could be reported as a reduction of 14% in the emissions intensity of the organisation.*

7 Emissions management requirements

Qualitative, together with quantitative, assessment of actions to reduce emissions are an important component of long-term emissions abatement. This section sets out the minimum expectations for demonstrating a long-term vision of GHG management and abatement.

Organisations shall provide information and supporting evidence that they have implemented programmes in the following areas.

7.1 Governance

- **Policy**: an in depth corporate policy is in place which documents an organisation's commitment to managing and reducing their carbon emissions from all sources
- **Responsibility**: clear accountability for climate change matters has been assigned, including day-to-day responsibility for emissions/energy management
- **Communication**: clear procedures for communicating of emissions and energy-related performance to relevant stakeholders are in place

7.2 Measurement

- **Accounting process:** procedures for preparing, quality checking and documenting an accurate carbon footprint have been put in place
- **Monitoring**: systematic procedures are in place for actively monitoring and controlling energy and fuel consumption throughout the year
- **Targets**: challenging yet feasible emissions/energy reduction target(s) are in place

7.3 Implementation

- **Operating procedures**: programmes are in place to ensure that the operating procedures of all sites, vehicles and equipment minimise their carbon footprint
- **Investment**: investment in low-carbon initiatives and/or technologies in the past, and well-documented plans for future investment
- **Staff engagement**: awareness programmes for all staff and appropriate training for those with responsibility for emissions management are provided

7.4 Upstream Impacts

- **Supply chain:** a systematic approach to working with suppliers to reduce the carbon footprint across all key categories of purchased goods
- **Procurement:** a low-carbon/energy procurement policy is in place

7.5 Downstream Impacts

- **Customer engagement**: commitment to communicating and interacting with customers on carbon/energy matters
- **Products & services:** low carbon design is a core feature of the product/service development

8 Claims of conformity

When making a public claim over the use of this Protocol, organisations need to indicate the type of verification that has been carried out for the reported results. Two types of verification are possible: self verification or third party verification.

8.1 General

Where an organisation claims to have conformed to the requirements of this Protocol to determine the emissions, or change in emissions, of their organisation, that claim shall be verified. A claim of conformance with this Protocol shall only be made where all relevant provisions of the Protocol have been addressed by the organisation implementing the Protocol.

8.2 Types of verification

There are two types of claims of conformity available for this Protocol: self-verification and third party verification.

8.2.1 Self-verification

An organisation that claims self-verification with this Protocol shall be able to demonstrate that all relevant provisions of this Protocol have been implemented, and shall make relevant supporting documentation available to other interested parties.

8.2.2 Third party verification

An organisation other than the organisation implementing this Protocol may act as a verifier for this Protocol. Where this occurs, the organisation implementing this Protocol shall satisfy themselves that the third party verifier is a competent organisation for verifying the application of this Protocol.

8.3 Statements of verification

All claims of conformity relating to the implementation of this Protocol shall state the type of verification achieved: i.e. whether self-verification or third party verification.

8.4 Period of validity

Verification of results obtained by implementing the CEA Protocol shall be valid for a maximum period of two years.

9 References

Further relevant information on emissions assessment and related issues may be found in the following referenced documents:

- *Greenhouse gas protocol*, 2004: Corporate accounting and reporting standard, WRI and World Business Council for Sustainable Development.
- BS ISO 14064-1:2006, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.*
- IPCC Fourth Assessment Report (2007)
- BS PAS 2050:2011

10 Appendix: Definitions

For the purposes of the CEA Protocol (Parts 1 & 2) the following terms and definitions apply:

A1.1 assessment period

period for which an organisation is assessed as complying with the requirements of the Carbon Trust Standard

A1.2 baseline period

data period, prior to the assessment period, against which an assessment of GHG emissions reduction performance is made

A1.3 carbon dioxide equivalent (CO_2e)

universal unit of measurement for indicating the global warming potential (GWP) arising from different GHGs, expressed in terms of the equivalent amount of carbon dioxide

A1.4 combined heat and power (CHP)

type of generation that delivers both electricity and useful heat (e.g. for heating or processes) as a normal part of its operation

A1.5 control approach

accounting approach to consolidation of GHG emissions based on the organisations' financial or operational control of the operation

A1.6 emissions assessment (carbon footprint)

the greenhouse gas emissions associated directly and indirectly with the activities of an organisation for a specified organisational boundary, operational boundary and time period (also referred to as a greenhouse gas inventory, or carbon footprint)

A1.7 emission factor

amount of GHG emitted, expressed as carbon dioxide equivalent relative to a relevant unit (e.g. $kgCO_2e$ per kWh)

A1.8 emissions reduction credits (emissions offsets)

claiming a reduction in the emissions of an organisation through the purchase (or otherwise acquiring or causing) of a reduction in GHG emissions from another unrelated location or organisation

A1.9 equity share approach

accounting approach to consolidation of GHG emissions based on the economic interest in the activity; typically, the equity share in an operation is aligned with the organisations' percentage ownership of that operation

A1.10 fugitive emissions

emissions that are not physically controlled but result from the intentional or unintentional releases of GHGs

Fugitive emissions commonly arise from the production, processing, storage and use of fuels and other chemicals, often through joints, seals, packing, gaskets, etc., (e.g. hydrofluorocarbon (HFC) emissions during the use of refrigeration and air conditioning equipment)

A1.11 GHG emissions

release of GHGs to the atmosphere

A1.12 greenhouse gas inventory

the greenhouse gas emissions associated directly and indirectly with the activities of an organisation for a specified organisation boundary, operational boundary and time period (also referred to as a carbon footprint)

A1.13 greenhouse gases (GHGs)

six major anthropogenic greenhouse gases identified by the Kyoto Protocol: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O),hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6)

A1.14 global warming potential (GWP)

factor describing the radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time

[BS ISO 14064-1:2006, 2.18]

Carbon dioxide is assigned a GWP of 1, and the GWP of other gases is expressed relative to carbon dioxide over a 100 year time period.

A1.15 organisation

a business or other entity, or part of a business or other entity, that implements this Protocol

A1.16 organisational boundary

the boundary that determines the operations, premises and subsidiaries owned or controlled by the organisation, depending on the consolidation approach taken (equity or control approach)

A1.17 operational boundary

the boundary determining which direct and indirect emissions sources are included within the emissions assessment of an organisation

A1.18 primary data

data obtained by direct measurement

A1.19 process emissions

emissions generated from manufacturing processes

Examples of process emissions include manufacture of cement, aluminium, ammonia and waste processing

A1.20 programme operator

the Carbon Trust Certification or its approved and licensed certification partner(s)

A1.21 secondary data

data obtained from sources other than direct measurement