



Carbon Footprint Reduction Program Rulebook

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1. Introduction

This document provides a description of the rules of the Carbon Footprint Reduction Program as provided by ESG Energy. The goals of the CFRP are to encourage and recognize good practice in carbon measurement, management and reduction by businesses and public sector organizations.

2. Application & Certification Process

Organizations wishing to receive certification through the Carbon Footprint Reduction Program must apply through ESG Energy LLC.

Organizations may apply for certification to cover all or part of their operations. Where an organization chooses to apply for certification to cover all of its operations it should specify the full name of the organization and all subsidiary companies that are covered. Where the organization chooses to apply for certification covering part of their operations they may choose to specify the coverage either:

- On a corporate structure basis (e.g. , one or more, subsidiaries or operating divisions are applying);

OR

- On a physical location basis (e.g. , offices a, b, and c are applying)

The part of the organization selected must make up a meaningful portion of the total organization's carbon footprint.

The certification and seal are only valid for use in association with the part(s) of the organization certified.

For more details on organizational boundary see section 3.2.

2.1. Applicant Segmentation

The Carbon Footprint Reduction program rules are segmented based on the energy consumption on first application of the organization applying for certification. The length of time in which a minimum of ten percent (10%) reduction in carbon emissions must be verified is dependent upon the energy consumption dollar figure prior to starting the certification process:

- If the applicant organization is a participant or if the applicant has annual energy bills of more than \$750,000 then certification will include a requirement for emission reductions taking place within a three year period.
- For applicants with annual energy bills of more than \$75,000 and less than \$750,000, certification will include a requirement for emission reductions taking place within a two year period.
- For applicant with annual energy bills of less than \$75,000, certification will include a requirement for emission reductions taking place within a one year period.

2.2. Certification Process and Period

2.2.1. First certification

Applicants will be awarded certification if they meet three sets of criteria:

- Meet or exceed the carbon measurement criteria (including historical measurement where applicable)
- Meet or exceed the carbon reduction criteria (including historical performance where applicable)
- Score 60% or above against a series of qualitative criteria assessing the organization's effectiveness at managing emissions.

The 90-day period to be used for qualitative assessment will be determined by the applicant (to be referred to as the 'compliance period'). Historical data prior to this period will be required of all organizations (see section 3). Assessment and certification must be completed within 9 months of the end of the compliance period (i.e., within the first 12 months of applying for the certification).

On successful assessment the applicant will achieve certification valid for two years after the end of the compliance period. Certification will be awarded for use only by the certified organization (or the part of the organization which has achieved certification where only part of the organization applied).

2.2.2. Recertification Process

Applicants should apply for recertification prior to the end of an expiring certification period.

Recertification will be assessed using the same organizational structure (see section 3.1) as the previous certification or recertification, unless otherwise specified. Any substantive changes to the organization's structure (e.g. divestments, acquisitions) must be noted at recertification.

Recertification will be assessed based on the performance over the 24-month period from the end of the previous compliance period (to be referred to as the 'recertification compliance period'). It is the intention of the program for certificants to be recertified with a higher percent of carbon footprint reduction as measured against the initial data at the onset of the compliance period. For example, an organization that achieved a 10% reduction in its first two-year certification period makes improvements that result in a 25% reduction as determined from the initial carbon footprint measurement.

On successful assessment the applicant will achieve recertification valid for two years from the end of the recertification compliance period. That is, the new certificate will be valid for the 2-year period immediately following the previous certification period.

3. Carbon Footprint Measurement

Calculation of the carbon footprint should follow the principles of the GHG Protocol and/or ISO14064, subject to additional requirements outlined in this document. All carbon footprints should be calculated in tCO_{2e}.

The GHG Protocol can be found at <http://www.ghgprotocol.org/standards/corporate-standard> and provides standards and guidance for organizations preparing their carbon footprint. An ESG Energy online carbon footprint calculator can be found at <http://www.esg-energy.com/CarbonFootprintCalculator.aspx>.

Organizations may choose to have their pre-certification footprint verified by ESG Energy or a third party auditor.

3.1. Organizational boundary

The organizational boundary defines which parts of the organization will be included in the emissions measurement and how to deal with the inclusion of emissions from joint ventures and subsidiaries.

Ideally the organizational boundaries should include all operations and subsidiaries owned and operated by the applicant organization, but the boundary may also be set at a subsidiary or site level as outlined in section 2.

The inclusion of jointly owned facilities and operations may be determined either on an equity share or control basis, as described in the GHG Protocol. The organizational boundary should be a true and fair representation of the organization's GHG emissions i.e., should include all emissions relating to core operations.

Under the equity share approach, an organization accounts for the GHG emissions from an operation based on its equity share in that operation (i.e., ownership of 25% of a division leads to 25% of the emissions of the division being included in the applicant's footprint).

Under the control approach, an organization accounts for 100% of an operation over which it has control (which can either be defined as financial control, i.e. ability to control financial or operating policies, or operational control, i.e. authority to introduce and implement operating policies).

It is the view of ESG Energy that in many cases, an operational control approach will be a better reflection of the emissions relating to an organization.

For more detail see Chapter 3 of the GHG Protocol

3.2. Operational Boundary and Footprint

According to the GHG Protocol, defining the operational boundary involves identifying **which emission sources** to include in the measurement. In order to help define this, the GHG Protocol has established three scopes of emissions:

Scope 1: direct GHG emissions occurring from sources owned or controlled by the entity, such as onsite fuel combustion or emissions from chemical processes.

Scope 2: GHG emissions from the generation of purchased electricity, heat or steam. These are classified as indirect emissions as they are consequences of an organization's activities, but occur at sources owned or controlled by another company.

Scope 3: other indirect emissions such as business travel, waste disposal, production of purchased materials.

For more detail refer to Chapter 4 of the GHG Protocol.

There are two levels of footprint reduction under the Carbon Footprint Reduction program (see below). The program certifies five ascending reductions: 10%, 25%, 50%, 75% and 100%. The footprint shall include all six GHG gases and be converted into CO₂e.

Level 1 - For applicants with an annual energy bill below \$75K: a 10% reduction is the minimum required to meet the initial certification requirements. The 10% reduction used to meet the initial two-year certification can be used for the first recertification period of two years. After the first recertification, an increase to a minimum 25% reduction (based on the initial carbon footprint calculated at pre-certification) is required for recertification.

Level 2 - For applicants with an annual energy bill above \$75K: a 10% reduction is the minimum required to meet the initial certification requirements. An increase to a minimum 25% reduction (based on the initial carbon footprint calculated at pre-certification) is required for recertification.

3.2.1 Footprint

The following emissions sources must be included for all premises covered by the organizational boundary:

- Electricity consumption
- Natural gas consumption
- Other onsite fuel consumption (e.g., heating oil, diesel fuel, etc.)
- Fuel consumption in vehicles owned by the organization which are based at premises covered by the boundary, or within the organizational boundary and used for business purposes. Personal use of company cars may be excluded if sufficient data exist to distinguish between personal and business use.

- Process emissions (e.g., emissions from the manufacture of chemical or metal products). A list of common process emissions sources by industry is listed in the Appendix.
- Fugitive emissions (e.g., leakage of HFCs from refrigeration or cooling systems, leakage of methane from a landfill operated by the organization). A list of common fugitive emissions sources by industry is listed in the Appendix.
- Emissions from business travel by employees, including public transportation, air travel and business use of private vehicles.
- Additional emission sources the organization wishes to measure

The following emissions sources are excluded:

- Emissions from staff commuting, waste disposal vehicles, transport of purchased goods and outsourced activities.

While the inclusion of leased assets and outsourced activities are not required (see the Appendix for guidance on leased assets), the footprint calculation should be a true and fair representation of the organization's activities.

3.3. Rules for Measuring the Carbon Footprint

3.3.1 Data

ESG Energy's Carbon Footprint Reduction Program Footprint Calculation spreadsheet should be used to provide a summary of the organization's emissions and notes on the data sources. Data captured may be primary or secondary.

Primary data sources are process specific data obtained by direct measurement of the energy or business activities. *Ex: measured fuel used for business travel.*

Secondary data sources are non-process specific data obtained from sources other than direct measurement of the energy or business activities. *Ex: the use of distance travelled to estimate fuel used for business travel.*

Primary data sources are preferable to secondary sources as the data will be more specific and reflective of efficiency and the GHG emissions associated with the process. Organizations are encouraged to develop more accurate footprints over time through increasing the amount of primary data used to calculate the footprint.

Applicants should provide details of the kWh consumption (where applicable) and total CO₂e emissions broken down by emissions source.

The calculated footprint should be based as much as possible on primary data. Secondary data should only be used when primary data is unavailable or impractical. More information is provided in the Appendix.

3.3.2 Minimum threshold

The calculated footprint should include all emissions sources estimated to be more than 1% of the footprint within the defined scope. At least 95% of the anticipated footprint must be included. Any exclusions and reason for the exclusion should be noted.

3.3.3. Discrepancies

Any errors, omissions or other discrepancies in the carbon footprint must be shown to be immaterial to the assessment of compliance with the carbon footprinting and reduction criteria.

3.3.4. Emission factors

All emissions should be calculated using emissions factors reported in EPA or other government publications. When a government publication is not available, emissions factors should be agreed upon with ESG Energy and be based on a published international or industry guideline.

In the US, emission factors are available in the EPA's *Climate Leaders GHG Inventory Protocol*. Global figures are available through the GHG Protocol tools at <http://www.ghgprotocol.org/calculation-tools>

Where emissions factors have changed from those used for any previous certification or recertification, the latest footprint data should be presented using the updated emissions factors with a footnote stating the emissions factors used at a previous certification. For the purposes of the reduction rules the assessment of reduction performance should be made using the updated emissions factors across the whole period.

3.3.5. Non-CO₂ GHG gases

Conversions of non-CO₂ greenhouse gases to CO₂e should be undertaken using the Global Warming Potential figures for the relevant gas published in the *IPCC Second Assessment Report* or national publications.

3.3.6. Renewable energy

Emissions from renewable electricity should be calculated using the five-year rolling average grid emissions factor unless there is evidence of additionality, and the end user can demonstrate that the carbon benefit is claimed by their organizations exclusively (i.e., no double counting).

3.3.7. Combined Heat and Power

The emissions arising from CHP shall be allocated between heat and electricity if either the heat or electricity are imported or exported, according to methodology provided in either the GHG Protocol tool for *Allocation of Emissions from a Combined Heat and Power (CHP) Plant* or EPA's *Climate Leaders GHG Inventory Protocol*.

3.3.8. Exported Electricity/Heat

Emissions from all electricity/heat produced onsite should be reported. However, for organizations whose primary business is not power generation, the assessment of reduction performance should exclude emissions relating to electricity and heat which has been exported. The applicant should provide evidence that the exported electricity/heat has been used by another organization (e.g., purchase agreement, sale to the grid)

3.3.9. Biofuels and biomass

All emissions relating to use of biofuels and biomass should be calculated using emissions factors reported in national publications or default values in the GHG Protocols tools.

This approach means emissions relating to the production of biofuels and biomass are included but emissions relating to the production of fossil fuels are not. This approach is taken because the emissions relating to the production of biofuels/biomass are a relatively high portion of their life cycle emissions.

3.3.10. Offsetting

All footprint calculations should be made exclusive of any purchases of offsets.

Organizations may choose to offset their emissions, but since the program is focused on emission reduction, offsets will not count towards meeting the reduction rules.

3.4. Footprint Presentation

All organizations should provide a final figure for their annual absolute footprint for the relevant boundary and scope in tCO₂e.

4. Reduction Target

4.1 General Rules for Assessing Reduction

The applicant should demonstrate either an absolute or a relative reduction (or both) across the scope of emissions required under section 3 in order to achieve certification.

Assessment must be made on a like-for-like basis factoring in structural changes in the applicant organization (e.g., outsourcing, divestments or acquisitions) where the structural change results in more than a 3% change in emissions. Reduction should be judged based on comparison of the emissions of that part of the organization which was present in both compliance periods.

In all cases an explanation of the reduction should be provided in the qualitative section (see Section 5), and if the reduction is deemed to not have resulted from the organization's own action then certification can be refused.

4.2 Absolute Reduction Rules

Any absolute reduction in emissions compared to the footprint at the prior compliance period should be considered to pass the Carbon Footprint Reduction Program's reduction rule criteria. See sections 4.4 and 4.5 for details.

4.3 Relative Reduction Rules

A relative reduction is a reduction in the carbon intensity of an organization when compared to the organization's revenue or output. In order to meet the program rules, the relative reduction requirement is linked to the absolute reduction requirement indicated below.

Determining the Relative Reduction Rule equivalent to an absolute reduction

The relative reduction allows an organization to account for increases or decreases in production over time. The Carbon Footprint Reduction Program has linked the absolute and relative target by looking at what relative target would be required by a country or region to ensure an absolute emission reduction occurred. For example, if economic growth in a region is 2.5%, then the emissions of that region will only remain flat if emissions per unit of real GDP shrink by approximately 2.5% per year. Therefore, the relative requirement for organizations is that their emissions per unit output or unit of revenue (adjusted for inflation) reduces by the relevant economic growth rate for the region. This method provides an approximation of the reduction in emissions intensity required to maintain stable emissions, though reducing emissions intensity by the same percentage as the growth in economic output will actually yield a slight absolute emissions reduction.

In order for organizations to have a stable target, ESG Energy's Carbon Footprint Reduction Program uses an economic growth figure based on a long-term historical trend and available forecasts and this figure will not be adjusted retrospectively to account for actual economic growth.

OECD: based on a ten-year historical trend of 2.6% annual growth and the OECD two-year forecast of 2.4%, a 2.5% growth figure has been selected for OECD based organizations. This figure will be reviewed every one to two years to ensure its relevance.

Non-OECD: for organizations with significant operations outside the OECD a weighted average of the regional historical and predicted growth figures should be used unless otherwise agreed with ESG Energy.

4.3.1 Revenue Indicators

In most instances, a revenue indicator should be used for establishing a relative reduction. Revenue figures used for indicators must relate to the organizational boundary assessed. *Note: non-profit organizations should use a revenue budget.*

Where a revenue-based indicator is used, for organizations based primarily in the OECD, a carbon efficiency improvement equivalent to over 2.5% per year when comparing to revenue adjusted for inflation demonstrates a relative reduction under ESG Energy's Carbon Footprint Reduction Program. For organizations with significant operations in non-OECD countries, World Bank or national publications should be used to determine an appropriate economic growth rate. Adjustments for inflation, etc., should be made using historical data from a national publication.

4.3.2 Output Indicators

Under some circumstances, revenue will not be a fair reflection of organizational output. In these instances a revenue indicator will be inappropriate for assessing relative reduction, and organizations should assess reduction against an industry specific output indicator.

The output data figures used for use of indicators must relate to the organizational boundary assessed. Where a non-revenue output-based indicator is used, for organizations based primarily in the OECD, a carbon efficiency improvement of over 2.5% per year relative to the output metric demonstrates a relative reduction under ESG Energy's Carbon Footprint Reduction Program. For organizations with significant operations in non-OECD countries, World Bank or national publications should be used to determine an appropriate economic growth rate.

Examples of output indicators are provided in *Appendix B*.

4.4. Initial Certification

Reduction requirements for initial certification depend on the applicant's energy bill segment.

For applicants with an annual energy bill above \$75K or above the CRC threshold. Evidence of an absolute or equivalent relative reduction when comparing the average of the first two year's data (year -2 and year -1) with the footprint of the most recent year (year 0). At a minimum, this must be based on the footprint criteria detailed in section 3.2.1.

For applicants with an annual energy bill below \$75K. Small organizations may elect one of two approaches:

1. Take the same approach as larger organizations (i.e., absolute or relative reduction over two years)
2. Provide only twelve months of footprint data together with evidence of qualified project reductions equating to at least 2% of the applicant's footprint (e.g., for an applicant with a footprint of 100t CO₂e, the project(s) must have quantified reductions of at least 2t CO₂e compared to a usual case).

4.5. Recertification

Reduction is assessed by taking the average absolute footprint or relative indicator for the two-year recertification period and comparing to the average absolute footprint or relative indicator in the initial compliance period.

The reduction values therefore apply to the level of footprint reduction from the initial assessment period.

5. Qualitative Assessment

The applicant should provide evidence that it is acting effectively to respond to climate change through action in the following areas:

- Upper Level Management
- Carbon Accounting
- Carbon Management

A demonstration of compliance with other programs that require similar evidence will be sufficient to achieve compliance with ESG Energy's Carbon Footprint Reduction Program. The specific questions and weightings are detailed in *Appendix E*. Assessment will be made based on the strength of evidence and site visits if required. Assessment will take into account the size of the organization and length of time the organization has been certified.

6. References

6.1 Normative references

The following referenced documents are key to the application of this specification:

- *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.*

Other global references:

- *IPCC Second Assessment Report (1995)*

Other US references:

- *EPA's Climate Leaders GHG Inventory Protocol 2005*

6.2 Terms and definitions

For the purposed of this specification the following terms and definitions apply.

6.2.1. applicant

the organization or part of the organization applying for certification

6.2.2. carbon dioxide equivalent (CO₂e)

measure of the amount of global warming arising from various GHGs, expressed in terms of the amount of carbon dioxide that would have an equivalent global warming potential (GWP)

6.2.3. combined heat and power (CHP)

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

6.2.5. emissions factors

GHG emissions associated with use of a unit of energy or mass

6.2.6. equity share approach

ownership of GHG emissions based on the economic interest in the activity; typically, the equity share in an operation is aligned with the applicant's percentage ownership of that operation

6.2.7. fugitive emissions

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

6.2.8. greenhouse gases (GHGs)

six major anthropogenic greenhouse gases identified by the Intergovernmental Panel on Climate Change (IPCC): carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydroflourocarbons (HFCs), perflourocarbons (PFCs) and sulphur hexafluoride (SF₆)

6.2.9. global warming potential (GWP)

measure of the relative importance of various gases in contributing to global warming

Note: carbon dioxide is assigned a GWP of 1, and the GWP of other gases is expressed relative to CO₂

6.2.10. offsetting

reduction in net emissions associated with a process or product through the purchase (or otherwise acquiring or causing) of a reduction in GHG emissions from another location

6.2.11. organizational boundary

the boundaries that determine the operations & subsidiaries owned or controlled by the applicant, depending on whether the equity or control approach are used

6.2.12. primary data

process-specific data obtained by direct measurement of the energy or business activities

6.2.13. process emissions

emissions generated from manufacturing processes

Note: examples of process emissions include manufacture of cement, aluminum, ammonia and waste processing

6.2.14. renewable obligation certificate (ROC)

tradable emissions certificate demonstrating that renewable electricity has been generated in accordance with the Renewable Obligation Order, 2006

6.2.15. secondary data

non-process specific data obtained from sources other than direct measurement of the energy or business activities